JOHN ELIAS BALDACCI
GOVERNOR

STATE OF MAINE
DEPARTMENT OF CONSERVATION
LAND USE REGULATION COMMISSION
22 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0022

PATRICK McGOWAN
COMMISSIONER

COMMISSION DECISION
IN THE MATTER OF

TransCanada Maine Wind Development, Inc.
Zoning Petition ZP 709
Preliminary Development Plan

Findings of Fact and Decision

The Maine Land Use Regulation Commission, at a meeting of the Commission held on March 5, 2008, at Orono, Maine, after reviewing the application and supporting documents submitted by TransCanada Maine Wind Development, Inc. (hereinafter "TransCanada") for Zoning Petition 709 and Preliminary Development Plan, public and Intervenor comments, agency review comments and other related materials on file, pursuant to 12 M.R.S.A. § 681, *et seq*. and the Commission's Standards and Rules, finds the following facts:

1. Petitioners: TransCanada Maine Wind Development, Inc.
c/o Verrill Dana, LLP
One Portland Square
Portland, ME 04112-0586

Plum Creek Maine Timberlands, LLC
49 Mountain Avenue
Fairfield, ME 04937

2. Completed Petition Accepted for Processing: April 25, 2007

3. Public Hearing: October 2 and 3, 2007

4. Public Hearing Record Closed: October 22, 2007

5. Location of Proposal: Kibby Township, Franklin County (rezoning)
Skinner Township, Franklin County (rezoning)
Chain of Ponds Township, Franklin County (roads)
Jim Pond Township, Franklin County (transmission line)
Coplin Plantation, Franklin County (transmission line)
Wyman Township, Franklin County (transmission line)

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Kibby Mountain: centroid - 70 31'57.02" W, 45 23'53.01" N
Kibby Range: centroid -70 34'6.04" W, 45 20'25.94" N

6. Current Zoning: (P-MA) Mountain Area Protection Subdistrict
(P-SL) Shoreland Protection Subdistrict
(P-WL) Wetland Protection Subdistrict
(M-GN) General Management Subdistrict

7. Proposed Zoning: (D-PD) Planned Development Subdistrict

8. Total size of area to be rezoned: Series A (Kibby Mountain) 810 acres (Map FR017)
Series B (Kibby Range) 1,557 acres (Map FR013)

9. Waterbodies located within the watersheds or viewshed, but not within the parcel to be rezoned.

Flagstaff Lake is a management class 2, resource class 1A, accessible, undeveloped lake with outstanding fisheries and wildlife values and significant scenic and shore character.

Jim Pond is a management class 2, resource class 1A, accessible, undeveloped lake with outstanding fisheries, wildlife and scenic values and significant shore character.

Hurricane Pond is a management class 7, resource class 2, inaccessible, undeveloped lake with significant wildlife value.

Douglas Pond is a management class 7, resource class 3, inaccessible, undeveloped lake.

Chain of Ponds is a management class 2, resource class 1A, accessible, undeveloped lake with outstanding fisheries, wildlife, scenic and physical values and significant shore and cultural character.

Gold Brook, Kibby Stream, the Northwest Inlet to Jim Pond, and the North Branch of the Dead River are Class A flowing waters. The West Branch of Spencer Stream is a Class AA flowing water.

10. Administrative History:

- Pre-application conference: September 7, 2006;
- Application submitted (Vol. I – IV): January 7, 2007;
- Transmission line application submitted (Vol. V – part of ZP 709): April 13, 2007;
- Response to completeness check by staff: April 20, 2007;
- Petitioners' application accepted as complete for processing: April 25, 2007;
- Petitioners submitted information regarding post-construction avian and bat

mortality studies and information regarding conservation package: June 4, 2007;
- Pre-hearing conference: June 25, 2007;
- Petitioners' response to agency review comments: July 25, 2007;
- Pre-filed testimony submitted by Petitioners and Intervenors: August 28, 2007;
- Site visit-LURC Commission and staff: September 6, 2007;
- Pre-filed rebuttal testimony: September 11, 2007;
- Petitioners submission regarding modified re-zone area: October 1, 2007;
- Public hearing: October 2, 3, 2007;
- Submittal of post-hearing comments and record closed: October 22, 2007;
- Submittal of Findings of Facts and Conclusions of Law by Parties: November 21, 2007; and
- Deliberative sessions held January 14, 2008

Proposal

11. *Rezoning.* The Petitioners propose to rezone approximately 2,367 acres[1] to a (D-PD) Planned Development Subdistrict for the purpose of developing the 132 megawatt (MW) Kibby Wind Power Project ("Kibby Project" or "Project"). The area is currently zoned (P-MA) Mountain Area Protection Subdistrict, (1,495 acres) (P-SL) Shoreland Protection Subdistrict (34 acres), (P-WL) Wetland Protection Subdistrict (18 acres) and (M-GN) General Management Subdistrict (872 acres). The P-WL and P-SL are within the P-MA and M-GN zoned areas. The land to be re-zoned is owned by Plum Creek Maine Timberlands, LLC (hereinafter "Plum Creek"), a co-applicant to this proceeding. The boundaries of the proposed D-PD Subdistrict are a subset of the total area over which TransCanada has an easement agreement ("Option Agreement for a Wind Development Easement" – See Finding of Fact #15B) which would vest them with exclusive wind development rights.

12. *Project Summary.* The Kibby Project would be a 132 MW wind energy Project consisting of forty-four (44) turbines located along two ridgeline areas in the Boundary Mountains in Kibby and Skinner Townships, Franklin County, Maine. The first ridgeline is located along the southern portion of Kibby Mountain (highest elevation of 3,387 feet[2] with proposed turbine locations ranging from 2,511 to 3,134) and is referenced as the "A Series" or "Kibby Mountain." The second proposed area consists of a wish-bone shaped ridge area along Kibby Range (highest elevation of range is 3,287 with proposed turbine locations ranging from 2,507 to 3,210 feet in elevation) which is otherwise referenced as the "B Series." Approximately 810 acres of rezoning are proposed for the A Series and 1,557 acres for the B Series.

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[1] In its initial application, Petitioner requested approval to rezone a total of 2,825 acres (910 acres on Kibby Mountain and 1,915 acres on Kibby Range). Through continuing project refinement, Petitioner reduced the size of the proposed rezone area and now proposes to rezone 2,367 acres (810 acres on Kibby Mountain and 1,557 on Kibby Range). There is no change in the location of roads, turbines or other project features associated with reduction of the rezone area.

[2] Petitioner testified that the peak elevation is 3,638 feet, which is the highest point on the northwest portion of Kibby Mountain; however the turbines proposed for Kibby Mountain are in the southern portion, which has a highest peak elevation of 3,387 feet.

The Petitioners would construct a new substation ("Kibby Substation") in an area located between the Kibby Mountain and Kibby Range ridgelines. The Kibby Substation would be located on Wahl Road at an approximate elevation of 1,800 feet and would house transformers and connection points for incoming and outgoing power lines. The Substation would encompass approximately 3 acres within a fenced area. In addition, TransCanada would construct an Operation and Maintenance Building ("O&M Building") to house the Project control center and to store tools, spare parts, and other maintenance equipment. The O&M Building would measure approximately 3,600 square feet and occupy a 1-acre lot.

The Kibby Substation would connect to the existing Bigelow Substation in Carabassett Valley by a 115-kV electric transmission line approximately 27.6 miles in length, 17.2 miles of which would be located in the LURC jurisdiction. The transmission line corridor will consist of a 150-foot wide cleared right-of-way, pole structures, conductor wire, guy wires, and anchors.

A. 10.4 miles of the 115 kilovolt (kV) transmission line are within the jurisdiction of the Maine Department of Environmental Protection (MDEP), which has permitted that section of the line [DEP Permit # L-23811-24-A-N and L-23811-TH-B-N dated October 12, 2007]. The towns of Eustis and Carrabassett Valley have had the opportunity to review the portion of the line within MDEP's jurisdiction. The wetland impacts proposed for the entire Project, including both the turbines with associated development and the 115 kV transmission line, will be separately reviewed by the U.S. Army Corps of Engineers ("USACE").

B. The relevant review criteria contained within the Commission's statute [12 MRSA, Sections 685-A(8-A) and 685-B(4)], Comprehensive Land Use Plan, and Land Use Districts and Standards, are attached as Appendix A, and incorporated herein by reference.

13. *Existing conditions.* The Project is sited on and surrounded by land that has historically and is currently utilized for forest management activities. Both the higher and lower elevations in the Project area have been harvested, with active harvesting generally below 2,700 feet in elevation. These areas are accessible under an open access policy for recreational use, including hunting and fishing. Commercial and industrial activities are generally limited to those associated with commercial forestry operations.

A. There are no permanent residences located on the Project site or in its immediate vicinity. The closest residence is located approximately 1.2 miles southwest of the nearest proposed turbine location. A seasonal camp is located approximately 2 miles north of the Project site, on the western side of Kibby Mountain. Several seasonal camps are also located along the Chain of Ponds. The Town of Eustis is eight miles from the development site, and the closest point of the Appalachian Trail is 15.5 miles away.

B. The Project area experiences relatively significant commercial and other motorized use that is compatible with the proposed development.

C. In March 2006, the Petitioners installed three 197-foot meteorological data collection towers on the ridges within the Project area (see Development Permit DP 4728, eight towers were permitted, however only three were installed at the time the record closed); one tower on Kibby Mountain and two on Kibby Range.

Petition to Rezone

14. *Financial capacity and estimated costs.* TransCanada is a wholly owned subsidiary of TransCanada Corporation. The proposed wind farm would be financed by TransCanada Corporation, as evidenced by a letter (dated April 3, 2007) from Executive Vice President and Chief Financial Officer Gregory A. Lohnes, stating a commitment to advance or fund the development of the Project. A copy of TransCanada's 2006 Annual Report was submitted to substantiate the company's assets of over $24 billion and an "A3" credit rating by Moody's Investor Service, cash flow of $2 billion, and net income of $900 million from continuing operations.

A. *Estimated cost*. TransCanada submitted an estimate of the development costs of $270 million, of which the turbines would constitute $166 million, and the 115 kV transmission line would be $20 million. The reminder would be for the collector line system and substation ($15 million), the turbine foundations and turbine installation ($18 million), roads ($28 million), and other indirect costs ($23 million).

B. *Decommissioning.* TransCanada proposes to put in place a parental guaranty to fund any necessary decommissioning activities associated with the Project. Finding of Fact #39 provides a summary of the proposed decommissioning plan.

15. *Title, right, or interest (TRI)* . TransCanada possesses an option to acquire the exclusive right to develop a wind power facility on the land proposed for rezoning in Kibby Twp. and Skinner Twp. Co-applicant Plum Creek owns the land in fee.

A. A 1992 easement granted to U.S. Windpower, Inc. ("U.S. Windpower") by S.D. Warren grants the right to develop any "activities related to wind energy conversion and collection of electric power", including construction of wind turbines, transmission lines, substations, and any other activities that are reasonably needed to develop the wind power facility (the "Easement"). TransCanada possesses an option to acquire the Easement and would exercise the option after a permit is granted.

(1) In 1992, S.D. Warren, then the fee owner of Kibby and Skinner townships, granted a wind development easement to U.S. Windpower for 68,400 acres in Kibby and Skinner Townships.

(2) In 1997, the easement was assigned to the Enron Wind Development Corporation and shortly thereafter Enron released all but 3,767 acres (including the proposed Project area) back to S.D. Warren.
(3) In 1998, S.D. Warren transferred the fee interest in the property to an entity subsequently named Plum Creek Maine Timberlands, LLC.
(4) In 2002, Enron assigned the Easement to the current holder, GE Wind Energy, LLC, who then granted an option to acquire the easement to TransCanada Energy, Ltd.
(5) In 2006, TransCanada Energy Ltd. assigned the option to the Petitioner.

B. With respect to activities associated with the wind farm (use of existing roads, construction of new access roads, construction and maintenance of staging areas, batch plant and operations and maintenance building, and construction and operation of a portion of the 115 kV transmission line) that will take place outside the proposed D-PD Subdistrict in Jim Pond Twp., Coplin Plt., Chain of Ponds Twp., and Wyman, Twp TransCanada submitted sufficient documentation of TRI..

C. The 115 kV transmission line would travel south from the wind turbine site through Kibby Township, Jim Pond Township, Eustis, Coplin Plantation, Wyman Township, and Carrabassett Valley. TransCanada's TRI agreements within each town are listed below:

- Kibby Township: As noted above, TransCanada has an Option to acquire the Easement, which includes the right to construct the transmission line, from GE Wind Energy, LLC for land in Kibby Township.
- Jim Pond Township and Coplin Plantation: As noted above, TransCanada has a Purchase Agreement for easement rights with landowner Kennebec West Forest LLC for the transmission line in Jim Pond Township and Coplin Plantation.
- Wyman Township: TransCanada has three separate agreements with fee owners in Wyman Township for the transmission line. For land owned by Gardiner Land Company, TransCanada has a Purchase Agreement for easement rights for the transmission line and associated road access and construction. TransCanada has obtained legislative approval for an easement for two tracts of land owned by the State of Maine; one tract runs parallel to the northern side of the Boralex Corridor, the second tract is a 150-foot wide corridor between the Appalachian Trail and the border between Wyman Township and Carrabassett Valley. In Wyman Township, TransCanada's transmission line would be located along the north side of the existing Boralex right-of-way, just to the west of Route 27 it would be installed underground and would traverse the westerly Route 27 road shoulder within the Public Right-of-Way for a short distance before entering the Central Maine Power (CMP) Bigelow Substation.
- Eustis and Carrabassett Valley are located within the jurisdiction of MDEP who will review the portions of the transmission line that passes through these towns.

16. *Technical experience*. TransCanada is a wholly owned subsidiary of TransCanada Corporation, which is a major developer of energy infrastructure in Canada and New England. Aside from wind energy development, TransCanada Corporation has been involved with two hydropower projects, 11 natural gas power generation projects, fifteen natural gas pipeline projects (including the Alaska Highway Pipeline Project from Prudhoe Bay), a major transmission line in the western U.S., a nuclear power plant, and a coal-fired power plant.

    A. In addition, TransCanada is managing its eastern assets under TransCanada Power Marketer Limited (TCPM) as an energy provider and marketer to the New England States, with offices in Massachusetts. This office has detailed knowledge of the New England Independent System Operators (ISO-NE) rules and works closely with the New England Power Pool (NEPOOL).

    B. With respect to wind energy development experience, TransCanada is the majority owner of Cartier Wind Energy Inc. Cartier is in the process of developing six wind energy Projects in Quebec, of which the first located at Baie des Sables (109.5 MW) went into operation in 2006, providing energy to the Hydro-Quebec grid. This Project is one of the largest in Canada.

    C. Specific to the proposed Kibby Project, TransCanada retained experienced contractors from Maine and New England, including AMEC Earth & Environmental and TRC Environmental to oversee the environmental permitting, Jean Vissering for the visual assessment, Woodlot Alternatives [now Stantec] for the avian and bat assessment, Michael Theriault Acoustics for the sound assessment, James W. Sewall Company for topographic surveys, Plisga & Day for land surveys, AMEC, S.W. Cole Engineering, Inc., and White Construction Inc., USA for engineering and construction, Gilman and Briggs for rare pant searches and natural plant community assessment, Farr Consulting for the air emissions displacement analysis, Dr. Charles Colgan for the economic assessment, Barton & Gingold for public relations, and Verrill Dana as legal counsel. TransCanada also retained Garrad Hassan, a leading wind energy consulting firm, to assess the wind resource at the development site.

17. *Demonstration of Need*. The Petitioners assert that the proposed wind farm would provide benefits to Maine by generating energy using a renewable indigenous resource, helping to improve air quality. The Petitioners assert that the proposed wind farm would also provide socioeconomic benefits.

    A. The proposed wind farm would provide 250 jobs during construction and 10 jobs to operate and maintain the facility. This area of Maine has a 5.6% unemployment rate.
    B. The proposed wind farm would provide a substantial tax payment to Franklin County and State of Maine.

C. The proposed wind farm would help to increase the diversity of energy resources in Maine. Forty percent (40%) of Maine's energy is supplied by natural gas, which drives up the price, causes an unstable and expensive market, and makes the power supply unreliable. In addition, the demand for energy produced using renewables in the New England region is high.

D. The proposed wind farm would produce approximately 357 million kilowatt-hours (kWh) of energy per year, which is equivalent to the energy consumed by 50,000 Maine homes.

E. The amount of pollution (in tons/year) that would be displaced by operation of the proposed wind farm would be 200,000 of carbon dioxide (CO_2), 350 of sulfur dioxide (SO_2), and 90 of nitrogen oxides (NO_x). The emission reduction benefits would extend into the future, with the potential for the proposed wind farm to replaced approximately five million tons of CO_2 over the 25-year Project life span.

F. The Petitioners assert that because of the approval of the Kenetech Wind Project at the proposed site in 1995, LURC found there was a demonstrated need for a wind power Project in that area.

18. *Global warming and consistency with state energy and environmental policies*. The Petitioners note that the current understanding of global warming is that it is largely being caused by human activities, such as the burning of fossil fuels that lead to increased levels of CO_2 and other greenhouse gases in the atmosphere. The Petitioners further note some of the expected adverse effects of global warming, including sea level rise threatening coastal communities and infrastructure, contamination of drinking water supplies, destruction of coastal wetlands, and increased storm surges and flooding of low-lying areas. Global warming will also lead to severe droughts and floods, increased levels of ozone, changes in forest composition, increased occurrence of disease, increased toxic algae blooms in coastal areas, and extinction of species unable to adapt.

A. International recognition of this problem is inherent in the ratification of the 1997 Kyoto Protocol by 165 countries so far. Although the U.S. has not signed the Kyoto Protocol, it has committed to reducing the "greenhouse gas intensity" of the U.S. The Energy Policy Act (EPACT, 2005) creates provisions to assist in the development of renewable energy, including windpower, including the Production Tax Credit (PTC).

B. The Petitioners summarized State, regional, and federal policies designed to mitigate the effects of global warming, including incentives to develop renewable energy sources (such as wind power), and requirements to reduce the amount of energy produced by fossil fuels and the level of emissions by target dates. The Regional Greenhouse Gas Initiative (RGGI, 2005), of which Maine was a signatory, acknowledged the dangers of global warming. The New England

Climate Coalition warned that climate change will be particularly adverse to this region. Up to 60% of Maine's hardwood forests would be replaced by plant communities typical of the more southern areas of the U.S. High elevation spruce/fir forests would be reduced by up to 40% to 50%. Among other things, economic costs specific to New England due to global warming could also include a decline in the skiing industry and fall foliage-related tourism. New Hampshire, Connecticut, New Jersey, Delaware, New York, and Vermont were also signatories of the RGGI.

The RGGI also proposes the first mandatory cap and trade program to reduce CO_2 emissions in the U.S. In 2009, a cap would be placed on CO_2 emissions from certain power plants to achieve a reduction of 10% by 2019, and resulting in an overall reduction by 2020 of 17%. Because there is no technology to 'scrub' or 'capture' CO_2, even with the ability to trade credits for producing renewable energy, the region must reduce emissions. Reducing emissions will require significant construction of wind farms and other zero-emission generators.

C. The Petitioners note that Maine has been applauded as a leader in responding to the threat of global warming. In 2003, Maine signed into law "*An Act to Provide Leadership in Addressing the Threat of Climate Change*", requiring the state to reduce its level of emissions. Also in 2003, the Maine Energy Resources Council (MERC) adopted a statement of its energy principles, acknowledging the importance of competitively priced energy to the wellbeing of Maine's citizens, asserting that Maine should work toward providing energy to its Maine customers at the lowest possible cost, and that Maine should continue to develop indigenous renewable energy resources.

   In 2004, the *Maine Wind Energy Act* was adopted, which among other things directed Public Utilities Commission (PUC) to study the impacts and potential of wind power in Maine. Also in 2004, the MDEP completed its Climate Action Plan, identifying measures that need to be taken to reduce emissions over both the short-term and the long-term.

   In 2005, Maine's *Act to Enhance Maine's Energy Independence and Security* was signed into law [35-A MRSA, Section 3210-C] requiring the state to increase renewable energy production by 10% by 2017, and authorizing the PUC to accept long-term contracts for new capacity with the objective of reducing and stabilizing electricity costs in the state. Also in 2005, PUC issued its report to the legislature, finding that there is substantial potential in Maine for development of wind power.

D. The ISO-NE has determined that the region's energy production must be diversified to increase stability. At present, 40% of New England's energy is provided by natural gas. Over-reliance on natural gas has driven up electricity prices, and caused price volatility and reliability risks. Also, ISO-NE determined that the region will only have reliable natural gas supplies only through 2010. In

2006, ISO-NE recommended that New England diversify its power generation fuel mix using renewable resources such as wind.

E. *Marketing of green power*. The Petitioners state that there has been increased market demand for power produced by renewable sources. A number of Maine universities and businesses are participating in the Green Power Partnership, which is a national voluntary organization intended to reduce environmental impacts by purchasing green power. Also driving the demand for renewable energy is the availability of Renewable Energy Credits (RECs), in particular tradable RECs implemented as a part of a state's RPS. Maine is a part of the ISO-NE grid, and as such RECs are interchangeable throughout the region. Maine's RPS includes compliance-driven RECs.

19. *Consistency with the CLUP*. The Petitioner asserted that the proposed wind Project would be consistent with the Commission's Comprehensive Land Use Plan (CLUP), citing the following:

A. Principle Values – The CLUP (pp. 114) describes the principle values of LURC jurisdiction as the economic value of the land for food and fiber production; diverse and abundant recreational opportunities, primarily for primitive pursuits; diverse, abundant, and unique high-value natural resources; and natural character values, and discusses the balancing of development with these values. The Petitioner asserts that the proposed wind Project would be consistent with these values as follows:

1) The value of the land for fiber production would continue since, of the 2,367 acres proposed for rezoning, fewer than 60 acres will be removed from timber harvesting, and the remaining land in and outside of the proposed D-PD Subdistrict would continue as a working forest. Additionally, the construction of new roads and upgrades to existing roads will enhance the suitability of the area for forest management activities (Finding of Fact #19,B,4).
2) The value of the land for primitive recreational opportunities would continue since the proposed Project area has relatively low recreational use as compared to other nearby areas, according to historical recreational information and surveys conducted by the applicant. The surveys also indicate that the dominant recreational uses are unlikely to be negatively affected by the proposed Project (Finding of Fact #46,C).
3) The value of the land for diverse, abundant, and unique high-value natural resources would be maintained for the following reasons: no identified features or areas of natural significance will be affected by the proposed Project; the Project was designed so as to avoid or minimize direct impacts to vernal pools, wetlands and other water resources; the visual impact on the viewshed from important water resources in the area (Flagstaff Lake and Chain of Ponds) is minimal due to the topography and terrain of the Project site and surrounding features; scenic resources are screened due to the topography of the Project site and the complex surrounding terrain(Finding of

Fact #46,B&D); and, because the geology and ecology of the Project site is of a kind typically found at lower elevations, the special features intended to be protected by the P-MA Subdistrict are not found at the Project site (Finding of Fact #20,B,5).

4) The land's natural character values (including remoteness) would be maintained due to the following Project factors: proximity to transportation corridors, accessibility by motor vehicles, proximity to developed areas, and relatively close proximity to existing infrastructure. These aspects distinguish the site from more remote areas of the jurisdiction. In addition, the Project would not erode the remote character of the jurisdiction by contributing to residential sprawl and is relatively proximate to the fringe of the jurisdiction.
   - Proximity to transportation corridors: The Project site is located between State Routes 27 and 201, both of which are heavily-traveled thoroughfares and key access points into Canada. All of the proposed turbines will be located within 7.7 miles of Route 27.
   - Accessibility by motor vehicles: The Project site is readily accessible by vehicle via the Gold Brook Road, the Spencer Bale Road, and lesser-travelled private roads off of the Gold Brook Road, with secondary access from the Wahl Road (Finding of Fact #24,A). In response to Friends of the Boundary Mountain's ("FoBM") statement that the presence of major roads does not mean that an area cannot be considered remote (Finding of Fact #63,I), TransCanada stated that, while the presence or absence of roads and accessibility by motor vehicles are not by themselves determinative of remoteness, they are an important consideration in evaluating an area's overall sense of remoteness.
   - Proximity to developed areas: The Project is located eight miles from Eustis and approximately 16 miles from the Canadian town of St. Augustin-de-Woburn. The Project site also is 16 miles from the development subdistricts in Coburn Gore. In response to FoBM's assertion that distance from developed areas is not an important factor in the concept of remoteness (Finding of Fact #63,I), TransCanada stated that the Project site is less remote and more developed than many other areas of the jurisdiction.
   - Proximity to existing infrastructure: The Project site is relatively close to existing infrastructure such as roads, transmission lines, and utility substations when compared with other areas of the jurisdiction. The Project is located adjacent to an existing road network, relatively close to existing transmission lines, and in proximity to an existing utility substation.
   - Proximity to fringe areas: TransCanada states that the Project is located in an area near the fringe of the jurisdiction in that there is only one unorganized township (Jim Pond Township) between Kibby Township and the organized Town of Eustis and that Kibby Township is adjacent to the Canadian town of St. Augustine-de-Woburn, PQ, which has local land use controls and is in that respect similar to an organized town in Maine.

- Sprawl: TransCanada states that the development and infrastructure improvements associated with a wind farm do not lend themselves to residential development, but rather, wind facilities are more compatible with the current uses of the Project area for timber harvesting and forest management activities. Additionally, TransCanada states that LURC regulations mandate that any development gained by rezoning an area to a D-PD Subdistrict cannot be used as the basis for any subsequent rezoning to allow development in the vicinity of the Project, and as such, the Project will essentially serve as a barrier to development migrating beyond the Project area and into locations further away from existing development.

B. Specific Goals and Policies of the Commission - The Petitioners assert that the proposed wind power Project would be consistent with the CLUP's specific goals and policies (p. 135) as follows:

1) Air Resources - The Petitioners assert that the Project would enhance air quality by displacing emissions from fossil fuel-fired power plants totaling approximately 200,000 tons of CO_2, 90 tons of NO_x, and 350 tons of SO_2 annually. The Petitioners also assert that the Project is consistent with the State's energy policy, specifically with respect to the development of alternative energy sources pursuant to the State's RPS and the Regional Greenhouse Gas Initiative.

2) Cultural, Archaeological and Historical Resources – The cultural resource surveys completed for the Project site concluded that there are no known unique, rare or representative cultural resources within the Project area. The Maine Historic Preservation Committee has reviewed TransCanada's study and concurs that no further archaeological survey work is required for the proposed wind turbine, associated access road areas, or transmission line (Finding of Fact #47 and #55)

3) Energy Resources - The Petitioners state that the proposed Project, and wind power in general, is environmentally sound and socially beneficial in that the production of wind energy produces zero CO_2, NO_x, and SO_2 emissions.
   a) Encourage energy conservation and diversification (CLUP p. 136): The Petitioners state that the Kibby Project would exemplify the use of indigenous renewable resources by using wind energy in a region where that resource is plentiful, and that the Project would generate 357 million kWh of electricity per year. The Petitioners state that this use of an indigenous energy resource satisfies the local, regional and global need to reduce fossil fuel emissions and meets federal, state and Commission policy objectives. The Petitioners also note that the Project would contribute to Maine's energy self-sufficiency.
   b) Protect environmentally sensitive areas (CLUP p. 136): In connection with its site selection process, TransCanada conducted engineering

reconnaissance, surveys and data analysis in order to design the Project so as to avoid environmentally sensitive areas. Of the seven named and several unnamed potential ridgeline locations previously approved by the Commission for a wind energy generation facility in connection with the Kenetech Project, TransCanada selected two as being appropriate for development in connection with the currently proposed Project. In addition, TransCanada proposes to use site-specific construction techniques to minimize any potential environmental impact and to ensure the protection of the most sensitive natural features of the area.

4) Forest Resources - The Petitioners state that the proposed Project would have little or no negative impact on the continued use of the area for the production of wood fiber, noting that the proposed upgrades to existing roads and construction of new roads will enhance ongoing and future forest management activities in the region. Of the 2,367 acres proposed for rezoning fewer than 60 will be developed with permanent structures, leaving the remaining acreage forested or otherwise available for commercial harvesting activities. The Petitioners also note that the air quality benefits of the Project would lead to increased forest health and productivity, resulting in a benefit to forest resources.

5) Geologic and Mountain Resources – TransCanada completed a Class C Medium High-Intensity Soil Survey for the Project site that indicated the area can support the Project by avoiding the most vulnerable areas (steep slopes and hydric soils) and by incorporating appropriate soil erosion control measures. TransCanada consulted with the State Soil Scientist in designing the road system and associated construction techniques in order to minimize any potential adverse impact on geologic resources. The State Soil Scientist indicated a preference that roads not be built in mountain areas, but agreed that the road-building techniques proposed by Petitioners were adequate to protect against soil erosion and adverse hydrologic flow (Finding of Fact # 50).

   With regard to mountain resources, of the 2,637 acres in the Project area, only 218 acres above 2,700 feet would be cleared during construction. Of those 218 acres, only 29.4 acres would remain unvegetated following construction of the Project. The Petitioner has designed and sited the Project to avoid the highest elevation areas of Kibby Mountain and the Kibby Range. In particular, no development is proposed on the northwest portion of Kibby Mountain (highest elevation of 3,638 feet), the highest elevation point in the Project ridgeline is on the southern portion of Kibby Mountain at 3,387 feet, with the highest turbine located at 3,134 feet. Likewise, while the Kibby Range has a peak elevation of 3,287 feet, the highest turbine would be located at 3,210 feet. In addition, the Petitioner has agreed as part of this Project not to exercise its exclusive wind development rights for the higher elevation areas associated with the so-called C Series and D Series (Findings of Fact # 26).

The soils and site analysis conducted by the Petitioners show that the peaks and ridgelines affected by the Project do not contain the same sub-alpine forest types, talus, granite out-crops, steep slopes, or rocky barren summits typically associated with the P-MA subdistrict. Instead, the forest vegetation of the Project area has a greater affinity with lower elevation forests than the vegetation typically found in Maine's higher mountains. Specifically, the woods at the Project site are typical of the northern coniferous forests of the region, rather than of the subalpine forests sought to be protected by the P-MA Subdistrict. As a result, the development proposed for the Project area would not compromise the sorts of high mountain values that are traditionally associated with other high mountains and the characteristics the P-MA Subdistrict is intended to protect.

6) Recreational Resources - The Petitioners commissioned a recreational use survey which indicated that the majority of recreational users come to the area for uses such as hunting, snowmobiling, ATV-riding, and fishing. While the hiking trail to the fire tower on the summit of Kibby Mountain does receive some use, there is not a developed trail network in or around the Kibby Project area. The recreational use survey submitted by Petitioners found that the majority of those surveyed indicated that the wind Project would have either a "low" or "very low" impact on their recreation experience in the area. In addition, numerous survey respondents indicated that they believed that the wind Project would have either a neutral or positive impact on recreational opportunities (Finding of Fact # 46,C).

   The Petitioners state that the Project would be buffered from federal, state, and locally designated recreation facilities in the region due to the site design and the topography of the land base. The Petitioners also state that the Project would not limit or restrict access to existing recreation facilities, many of which depend on the open lands policy of the underlying landowner. Finally, the Petitioners also assert that the new and upgraded roads proposed in connection with the Project would enhance access for the traditional recreational uses of the area.

7) Wetland Resources - TransCanada conducted wetland, vernal pool, and stream delineation and mapping surveys of the Project area, which were observed by site visits from LURC staff, representatives of USACE, MDEP, and the State Soil Scientist. TransCanada modified its initial proposal based upon these surveys in order to avoid and minimize potential impacts on wetland resources. Direct wetland fill is limited to less than 1.5 acres, primarily associated with small encroachments due to road construction, where grade and safety considerations preclude avoidance. TransCanada noted that some cutting of vegetation in forested wetlands and at stream crossings would be necessary in connection with installation of collector lines, resulting in some level of permanent wetland alteration. TransCanada also stated there would be temporary impacts to wetlands during the construction phase, but these impacts

would be limited by mitigation measures. TransCanada also proposes to take measures necessary to minimize and mitigate any impacts to wetlands along roadways and those associated with stormwater runoff (Finding of Fact #44,C).

20. *Best reasonably available site*. TransCanada asserts that the proposed Project site is the best reasonably available because it represents a premiere wind resource that is located in an area otherwise suitable for development of commercial-scale wind power under LURC's environmental and other standards. The Petitioners submitted materials on the following siting criteria: (1) the wind resource; (2) proximity to the regional transmission system; (3) compatibility with existing land uses; (4) environmental impacts; (5) constructability; and (6) community support.

A. Wind Resource: The Petitioners state that the wind resource is the single most important criterion for development of a successful wind power Project, and stated that the Boundary Mountains of Maine represent one of New England's premiere wind resources. Estimates of the wind resource in the U.S. Wind Atlas are expressed in wind power classes ranging from Class 1 (poorest) to Class 7 (best), with each class representing a range of mean wind power density or equivalent mean speed at specified heights above the ground. Localized conditions at the Kibby Project site have been measured as a Class 6 wind resource averaged across the site, and the long term average wind speed across the turbine locations is 8.5 meters per second (m/s). The Petitioners submitted results of a wind data analysis prepared by Garrad Hassan, an international leader in the field of wind energy assessment, in support of its demonstration of the wind resource at the Project site. The Garrad Hassan report cited the elevation of the ridges when compared to the Quebec plains to the west and the perpendicular north-south orientation of the ridges as factors that contribute to the strong wind resource at the site.

The Petitioners also assert that small changes in wind speeds translate to large changes in energy output. Specifically, the Petitioners illustrated that a 14% increase in wind speed translates to a 54% increase in power. The energy produced per turbine significantly increases when average wind speeds increase from 7.5 m/s to 8.5 m/s and, as a result, the Project footprint and therefore environmental impacts can be reduced in locations that are characterized by greater wind speeds.

B. Proximity to Transmission: The distance to existing roads and transmission lines is a major factor when evaluating the development potential of a site. The entire northern portion of Maine is constrained by a lack of transmission lines or connection to the ISO-NE grid, leaving western, eastern, and southern Maine to be looked at for possible sites. Most of northern Maine is further constrained by the lack of a good wind resource. The Kibby Project requires construction of approximately 27 miles of new 115 kV transmission line to connect it to the Bigelow Substation. The Petitioners state that the distance is neither unreasonable from a Project development standpoint, nor would it result in undue

environmental impacts. The Petitioners also submitted a map of the transmission infrastructure in Maine, which demonstrates that the Kibby Project site is relatively close to existing 115 kV transmission line infrastructure.

C. Compatibility with Existing Land Uses: The determination of the suitability of a potential site for development is dependent upon the nature and extent of environmental resources in the area and the ability, through siting and design, to avoid and minimize potential impacts to those resources. The proposed site for the Kibby Project would not adversely impact high value recreation or scenic areas or conservation areas that would be incompatible with wind development. In addition, the Project is compatible with existing land management activities, which would continue virtually unimpeded by the wind farm (Finding of Fact #19,B,4).

   Maine is second nationwide in the amount of privately owned conservation lands; it also contains approximately 1.2 million acres of publicly owned open space. Therefore, when the wind resource map is superimposed over a map of Maine's public and private conservation areas, many potential sites are eliminated. Other factors taken into consideration for siting were various routes for new transmission lines, land ownership, construction costs, visual impact, proximity to public resources, public acceptance, wildlife and habitat impacts, and the need to cross other ridgelines to gain access to the more remote sites; once these factors are all considered, the remaining number of sites in Maine with development potential is small.

D. Constructability: Constructability is another criterion for determining suitability of a site for wind-power development. TransCanada has sited and designed the Project to minimize the amount of cut and fill. Similarly, site constraints such as steep slopes and erosive soils would be addressed through construction measures developed in consultation with the Maine State Soil Scientist. TransCanada also eliminated two of the potential ridgelines from development due to, among other things, the existence of conditions that presented significantly greater construction challenges due to steep slopes, fewer roads, and other conditions.

E. Community Support: A key consideration in suitability of a site for development is the existence of community support. The Petitioners assert that the successful permitting and support for the prior Kenetech Project was an indication of both community and regulatory support for the Kibby Project. Outreach by TransCanada with landowners, communities, conservation environmental organizations, local business interest, and other stakeholders demonstrated that there was support for the Kibby Project; these outreach efforts also allowed TransCanada to incorporate goals of stakeholders into the Project plan. The Conservation Law Foundation, the Appalachian Mountain Club, Maine Audubon and the Natural Resources Council of Maine have each intervened in support of the Project. In addition, the Franklin County Commissioners, the Franklin County Chamber of Commerce, the Greater Franklin Development Corporation, the Towns

of Eustis and Kingfield, and the Local Interests Supporting Kibby Wind have also expressed their support for the Project (Finding of Fact #66 and #67). This broad-based support was an important factor in TransCanada's determination of the overall suitability of the Project site.

F. Previous Siting: Another consideration for the Petitioners in the selection of this site for the proposed wind farm is that the site was previously identified by Kenetech Wind Power, Inc. for wind power development. In 1995, these sites, along with other ridgelines in the region, were rezoned to a D-PD Subdistrict, and the associated Preliminary Development Plan was approved by LURC (reference Zoning Petition ZP 536). Known as the Kenetech proposal, the approval was for up to 761 turbines on 30.5 miles of ridgeline on eight mountains, to be installed in two approximately equal phases. However, Kenetech did not submit the Final Development Plan, and the D-PD Subdistrict subsequently expired. The wind farm currently proposed by the Petitioners would be located on two of the areas previously granted approval by LURC. This proposal would entail development of approximately ¼ to 1/3 of the area previously approved for development. Due to improved technology, the 44 proposed 3 MW turbines would produce an equivalent amount of energy as phase I of the Kenetech Project using four hundred (400) 300 kW turbines.

21. *Substantially equivalent level of protection*. The majority of the acreage that would be rezoned is currently (M-GN) General Management Subdistrict. Protection Subdistricts within the area to be rezoned are (P-MA) Mountain Area Protection, (P-WL) Wetland Protection, and (P-SL) Shoreland Protection. A large percentage of the acreage would not be developed and impacts to Protection Subdistricts would be minimized or avoided.

A. P-MA Subdistricts: The following activities would be conducted within the P-MA zone: improvements to existing and construction of new roads sufficient for construction and operation of the Project; installation and operation of 32 of the 44 wind turbines, and installation and operation of 34.5 kV collector transmission lines. Approximately 29 acres of the P-MA Subdistrict would be permanently impacted, and an additional approximately 189 acres of the P-MA Subdistrict would be cleared during construction and then allowed to revegetate.
TransCanada has completed surveys to assess site conditions and to develop appropriate construction techniques that would reflect those site conditions and minimize impacts to the environment. TransCanada states that they would continue to work with the Maine State Soil Scientist and appropriate resource agencies to ensure proper erosion control structures and engineering methods are used where hydrologic connection should be maintained and in areas of steep slopes or hydric soils.
The impacts associated with the Project are consistent with uses that are currently allowed by permit or special exception in the P-MA zone. The Petitioners state that although the wind turbines are not a use allowed in the P-MA zone, based on the extensive resource characterization, avoidance, minimization and mitigation,

the environmental and resource impacts associated with construction and operation of the turbines proposed here would be substantially equivalent to what the reasonably anticipated environmental and resource impacts would be with downhill ski area recreation facilities, level C roads, and utility facilities, which are allowed by special exception. (Soils, erosion control, and drainage are discussed in Finding of Facts #40, #42, and #43).

B. P-WL Subdistricts. Areas currently zoned (P-WL) Wetland Protection Subdistrict would be afforded substantially the same level of protection. The impacts within the proposed D-PD Subdistrict would include 1.42 acres of (P-WL) Wetland Protection Subdistrict (0.1 acres P-WL1 wetland, 0.94 acres P-WL2 wetland, and 0.38 acres of P-WL3 wetland); these impacts would be minimal. The Petitioners state that the Project would result in impacts to the P-WL that are consistent with the types of impacts associated with level C road projects and utility facilities, which are allowed by special exception in the P-WL subdistrict. Wetlands, including vernal pools, and streams are discussed in Finding of Fact #44,C.

C. P-SL Subdistricts: Areas currently zoned (P-SL) Shoreland Protection Subdistrict would be afforded substantially the same level of protection. Project impacts to streams would be limited to access roadway construction across one perennial and several intermittent stream channels within the B Series construction area. In such locations, each crossing location has been selected to minimize the area of potential impact to the stream and associated wetland resources, and will follow crossing standards as set forth in 10.27,D. The Petitioners state that the Project would result in impacts to the P-SL subdistrict that are consistent with the types of impacts associated with level C road projects and utility facilities, which are allowed by permit in the P-SL subdistrict.

22. *Site planning and design.* Planning and site design measures have been implemented that would minimize impacts on the environment. Specifically, the Project design incorporates erosion and sedimentation control and temporary and permanent storm water management measures (Finding of Facts #42 and #43), road construction techniques to maintain proper hydrology and soil conditions and address soil limitations were developed in consultation with the Maine State Soil Scientist (Finding of Fact # 40), and impacts to scenic resources have similarly been minimized due to careful site selection and design (Finding of Fact #46B&D).

Cut and fill has been minimized in the road layout and turbine site selection process. For example, two-thirds of the turbine sites are located on relatively flat areas, which reduces the need for cut and fill. Similarly, roads were designed to avoid steeper areas where possible. The Project planning and design also would minimize impacts on wildlife, vegetation, wetlands and other environmental resources. Finally, the Petitioners are not pursuing development on ridges where potential environmental impacts would be greatest.

23. *Availability of services.* In regard to the need for public services, the Petitioners asserted that the Project would be self-sufficient and would not place an undue burden on public services. The Petitioners submitted a letter dated May 9, 2007 from the Franklin County Commissioners stating that the Project "will have little, if any impact on any municipal or county services".

    A. Fire suppression: The Eustis/Stratton fire department has one fire station, a volunteer fire chief, and 15 volunteer firefighters. The Maine Forest Service also provides response to forest fires in the area. The Petitioners submitted a letter dated May 9, 2007 from the Franklin County Commissioners stating that "[a]ny need for police or fire protection services is expected to be minimal and consistent with the services currently provided in this region." The Petitioners also submitted a letter dated February 9, 2007 from the Eustis Fire Chief stating that his fire crews were responsible for fires and rescues in the Project area and did not anticipate that the Project would increase their workload.

    B. Solid waste disposal: The solid waste provisions for this Project are similar to methods employed for construction of access roads and other construction sites in the area. Construction wastes would be disposed of in existing permitted landfills; no on-site landfill areas are planned. Portable refuse containers would be used within the construction area for collection of solid waste material, the containers would be monitored and emptied periodically by Project personnel. Clearing related wood waste would be either chipped and used on site for sediment control berms, or chipped and broadcast on-site within the cleared areas. Stumps would be cut to ground level and left in place; excess stumps would be few enough in number to be incorporated into the larger fill areas located along the ridgeline.

    C. Police: The town of Eustis/Stratton is served by both the Franklin County Sheriff's office and the Maine State Police at all times. Duties are regionally divided among the two departments; on an alternate weekly basis, one department serves the northern half of the county and the other, the southern half. The Petitioners submitted a letter dated October 22, 2007 from the Franklin County Sheriff's Department stating that it and the Maine State Police will respond to incidents within the Project area.

    D. Emergency medical services: The closest hospital to Eustis/Stratton is Franklin Memorial Hospital in Farmington, approximately 45 miles away. Ambulance service for the area is provided by Franklin Memorial Hospital. In a letter dated August 8, 2007, the Franklin County Emergency Management Agency confirmed that the Kibby Project would not require any additional resources than those already in place. The Agency also noted that road upgrades resulting from the Project would improve access for first responders called to other incidents.

    E. Community benefit: To the extent it is relevant to review criteria, in public testimony Earl "Jay" Wyman, Jr., the First Selectman of Eustis, stated that Eustis

would receive a significant community benefit package from the Project that would be used to fund schools, the fire department, and other public services.

24. *Site access and traffic flow*.

A. Site access: The Kibby Project would primarily be accessed from Route 27. An extensive network of logging roads exists on the Plum Creek property. Although this is private land, these roads are used not only by Plum Creek for logging and related activities, but also by other forest management companies and land owners (e.g., Domtar, the Passamaquoddy Nation, State of Maine, and the general public) to access properties further to the north.

The Project would utilize an existing road network that, in addition to Route 27, includes the following private roads: Gold Brook Road (also named Beaudry Road); Wahl Road (which provides access to the Kibby Range area); Spencer Bale Road (which provides access to the Kibby Mountain area); Hurricane Road (which provides access to a section of a collector line), and several unnamed logging roads. From Route 201, access exists by way of the Spencer Road.

B. Traffic flow: The Petitioners stated that additional traffic related to the Kibby Project would be small compared to the exiting traffic related to timber harvesting in the area. Road upgrades associated with the Project would improve traffic safety and benefit travelers driving through the area. There would be a Construction Control Center at the intersection of Route 27 and Gold Brook Road that would contain approximately 150 parking spaces to accommodate worker vehicles during construction. Construction personnel would be expected to travel to and from the site on Routes 27 and 16 and would not appreciably burden those roadways. The Petitioner would co-ordinate with the Maine Department of Transportation (MDOT) to provide any additional traffic control personnel or equipment required to avoid or minimize impacts from construction-related traffic.

The majority of construction traffic would occur on Gold Brook Road, Wahl Road, Spencer Bale Road, and other access roads within the Project area. The Project would include its own concrete batch plant so that concrete trucks would not need to travel along Route 27. At the peak of construction, 200 to 250 workers would be travelling to and from the construction site. Once construction is complete, a workforce of approximately 10 people would be travelling to and from the Project site. During the operation of the Project, there would be very limited circulation of traffic.

C. Transportation of turbines to the site: The wind turbine generator components would be transported from the Port of Quebec to the Kibby Project site. Turbine components would be individually trucked to the site, with an average of 10 truck trips per day. The Petitioners estimate that 220 of these heavy-haul loads would travel to the site via Route 27. A routing review has confirmed this route has no overhead obstructions and is suitable for the delivery vehicles. TransCanada

proposes to continue working with MDOT and other appropriate agencies to obtain all necessary permits and to minimize impacts to roads and other users.

25. *Reduction of pollution, waste and energy consumption.* The Petitioners state that the Kibby Project will be a source of renewable energy that will result in a reduction of greenhouse gas emissions, and is consistent with state energy and environmental policy. Air emissions during construction of the Project will include dust and vehicle emissions related to excavation, road construction, and concrete pouring, which will be temporary and typical of similar construction Projects.

    In response to FoBM's statement that the Project would not displace fossil fuel emissions but would replace energy from other renewable sources (Finding of Fact #63,H), TransCanada described the analysis it had undertaken and testified that the analysis utilized a methodology consistent with that which major utilities, grid operators, public utility commissions, and environmental regulators throughout New England utilize. Although it did not attempt to quantify the avoided emissions that would result from the Project, the DEP stated that wind energy would displace fossil fuel-fired generation in the regional power pool and as such would improve air quality and climate impacts in Maine and the region.

26. *Conservation Agreement.* To the extent it is relevant to review criteria, TransCanada has entered into a Conservation Agreement with Maine Audubon, the Natural Resources Council of Maine, and the Appalachian Mountain Club (the "Conservation Agreement"). The Agreement involves TransCanada foregoing its wind development rights on additional lands above 2,700 located near the Project area. Upon exercise of its option agreement, TransCanada would hold exclusive wind development rights to four ridges located in Franklin County, including Kibby Mountain (the "A Series"), Kibby Range (the "B Series"), Caribou Mountain (the "C Series"), and an unnamed ridge located south of Caribou Mountain (the "D Series"). As part of the Conservation Agreement, TransCanada would forego using its exclusive rights to develop wind power facilities on the C and D Series and the northern portion of the A Series. All of the land is above 2,700 feet and TransCanada and AMC stated that these areas have greater ecological value than the areas proposed for development.

27. *Transmission Congestion.* TransCanada and Boralex Stratton Energy ("Boralex" - a 50 MW biomass-fueled facility located in Stratton, Maine) agree that the existing transmission line between the Bigelow and Wyman substations, which connects generation in that area to the regional transmission grid, would not be able to accommodate the full output of the Project and the Boralex Stratton Energy plant at all times and under all operating conditions. TransCanada stated, however, that there would be no transmission congestion in the winter months and only a handful of hours of potential congestion during the summer months. Boralex estimated that there could be more than 200 hours of congestion during the summer months. Boralex also stated renewable congestion is not a trivial detail that applies to a handful of hours. Boralex states congestion could have direct consequences to the

existing renewable base in Maine, and that it must be reviewed in the aggregate for new renewable generation proposals, not on a case-by-case basis.

TransCanada stated that use of the ambient and conductor temperature limits established in the ISO-NE Planning Procedure No. 7, which are consistent with prudent industry practice, on the transmission line from the Bigelow substation to the Wyman substation would practically eliminate concerns about transmission congestion due to the Kibby Project and full-time operation of the Boralex Stratton Energy plant.

Both TransCanada and Boralex stated that they were working cooperatively to minimize the impacts of transmission congestion.

TransCanada asserts that the presence or absence of transmission congestion is not relevant to the demonstrated need criteria or any other regulatory criteria to be applied by the Commission. TransCanada also asserts that congestion is a market place issue and that there are economic incentives for generators to relieve congestion. The PUC has stated that the rules of ISO-NE create economic incentives for relieving transmission congestion, and concurred that generators have an economic incentive to solve transmission congestion (Finding of Fact #54).

Preliminary Development Plan

28. *Summary*. The Petitioners propose a 132 MW wind power electrical generation facility consisting of 44 turbines, electrical transmission lines, access roads, and other associated uses and structures (see Findings of Fact #29 to #35, below**).** Seventeen (17) of the turbines would be located on Kibby Mountain in Kibby Township and Skinner Township (Series A), and twenty-seven (27) of the turbines would be located on Kibby Range in Kibby Township (Series B). The areas to be developed with turbines would range from 2,507 to 3,210 feet in elevation. Within the proposed D-PD Subdistrict, a total of 11.2 miles of ridgeline would be developed, of which 9.2 miles would be within the existing P-MA Subdistrict. Outside the proposed D-PD Subdistrict, a total of 1.9 miles of ridgeline would be developed, of which 1.7 miles would be within the existing P-MA Subdistrict.

29. *Turbines*. A total of forty-six (46) possible turbine sites have been identified, with forty-four (44) of those sites proposed for development. Thirty-two (32) proposed turbine sites are within the area that is presently P-MA Subdistrict, and twelve (12) are within an area that is presently M-GN Subdistrict.

    A. Specifications: The turbines would be 3 MW Vestas V90 turbines, and would operate between wind speeds from 9 mph up to 56 mph. The base of each turbine would be 13.5 feet in diameter. At the extended tip of the blade, the turbine would be 410 feet high, with a hub height of 263 feet, and a blade length of 144 feet. The rotor swept area would be 295 feet in diameter, with the revolutions per minute (rpm) from 8.6 to 18.4. The spacing between the turbines would be the equivalent

of the height of two (2) to four (4) turbines. There are no guy wires or external ladders associated with the wind turbines.

B. Lighting: The Federal Aviation Administration (FAA) requires that structures over 200 feet high have aircraft warning lights, that the turbines at the end of each turbine string be lit, and that there be no more than 2,500 foot intervals in between turbines[3]. For the Kibby Project, lights would be mounted on nacelles located approximately one-half mile apart around the perimeter of the site, and would consist of a slow pulsing red light. The review of this Project by the FAA and a final determination of the lighting scheme has been completed for an earlier Project layout, review and lighting scheme determination for the layout proposed is expected to be completed prior to Final Development Plan approval.

C. Foundations: Depending on the type used, the diameter of the foundation would range from 18 feet to 65 feet wide. Three possible types of foundation would be used, depending on site-specific conditions: gravity, socket, and rock-anchored. The rock-anchored type of foundation would require the least excavation or blasting, and the gravity type would require the most. Preliminary site work suggests that the most likely type to be used would be the socket type. The final foundation type for each turbine would be chosen after conducting the geotechnical borings, and will be further discussed as a part of the Final Development Plan.

D. Blasting: Blasting may be necessary to remove rock for the turbine foundations. The Petitioners submitted blasting specifications that would be used in road and turbine construction, if necessary. As part of the Final Development Plan Petitioners would submit a blasting plan, prepared in accordance with applicable provisions of MDEP rule 06-096 CMR 375 and the federal requirements, as referenced in the Commission's Chapter 13, Section 26,E, as part of its Final Development Plan.

E. Turbine and crane pads: Each turbine site would require clearing of approximately one acre. A small portion of that land would be leveled, compacted and prepared for the turbine foundation and a permanent crane pad. The cleared area would be used for staging the turbine components and crane boom during assembly. Once construction is complete, the staging area would be allowed to revegetate. In areas where the crane can travel between sites, the cleared area for crane boom assembly may not be required. The turbine sites selected for the Kibby Project were primarily where widths were adequate at or near the tops of ridges, and the grades for each turbine pad were designed to minimize both cuts and fills. The location within the designated pad area will be further refined based on site-specific conditions during final design with respect to the Final Development Plan.

[3] U.S. Dept. of Transportation/Federal Aviation Administration; Federal Aviation Technical Note Development of Obstruction Lighting Standards for Wind Farms (2005); and "Obstruction Marking and Lighting" Advisory Circular AC 70/7460-1K, Chapter 13 (February 2, 2007)

30. *Roads*. A total of 17.4 miles of new gravel roads would be constructed. Of this, 14.0 miles would be within the proposed D-PD Subdistrict: 11.1 miles within the existing P-MA Subdistrict, and 2.9 miles below 2,700 feet in elevation. Outside the proposed D-PD Subdistrict, 3.4 miles of new roads would be constructed: 2.7 miles within the existing P-MA Subdistrict, and 0.7 miles below 2,700 feet in elevation. The roads would avoid excessive steep areas, and would have an overall slope of no more than 10%. The Petitioners state that specific design measures for Project roads as recommended during consultations with the State Soil Scientist would be selected for use in particular areas for the Final Development Plan.

    A. Ridgeline roads: During construction, the ridgeline roads for access between turbines would be 34 feet wide, narrowed to 20 feet wide after construction.

    B. Disturbed area: During construction, the total area to be disturbed for the turbine pads and roads would be 329 acres. Of these, 272 would be temporary alteration, leaving 55 acres permanently altered.

    C. Access roads: Spur roads built to gain access to the Project ridgelines will be 20 to 25 feet wide with pull-off areas.

    D. Existing roads: Gold Brook Road, Wahl Road, and Spencer Bale Road would be widened to 25 feet, pull-off areas would be added, and crossings would be upgraded as needed. Some slopes and curves would be straightened. The total area to be disturbed to improve the existing access roads would be 28 acres. All of the improvements to existing roads occur in areas that are below 2,700 feet and are zoned M-GN.

    E. Crossings: One (1) perennial and several intermittent stream channels within the B Series construction area would be crossed. Each crossing location has been selected to minimize the area of potential impact to the stream. (Findings of Fact #21,C and #44,C).

31. *34.5 kV transmission lines*. The electrical collection system that would connect the individual turbines to a single exit power line consists of two corridors: one corridor connecting the A Series turbines to the Kibby Substation and another corridor connecting the B Series turbines to the Kibby Substation. Together, the collector systems would be approximately 3.9 miles long and would be above-ground lines. The majority of the collector system corridor would run adjacent to the ridgeline roads connecting the turbines. Outside the roadways within the proposed D-PD subdistrict, 3,868 feet (0.73 miles) of line would be installed, of which 906 would be within the existing P-MA Subdistrict, and 2,962 feet would be below 2,700 feet in elevation. The collector lines that are not adjacent to a road would be located in an approximately 60-foot corridor. Within the corridor, the system would consist of two three-phase 34.5 kilovolt cable systems on 60-foot poles. Once construction is completed, the collector corridor would be allowed to revegetate with low–growing species. The total

disturbance area for the collector lines would be 29 acres, of which 19 acres would be temporary and 10 acres would be permanent.

32. *Operation and Maintenance (O&M) building and Kibby substation*. The Operation and Maintenance building, which would store operation and maintenance tools, equipment, a company vehicle and spare parts would be located in an area (zoned M-GN) near the intersection of Route 27 and Gold Brook Road. The building would be approximately 3,600 square feet, occupy an approximately 1-acre lot, and would house office and workspace for approximately 15 workers. Communications equipment would be located at this location, as well as a potable groundwater well and septic system. A preliminary soil suitability study for the proposed O&M building was conducted, and a soils report documenting the presence of suitable soils for the proposed septic system would be included in the Final Development Plan.

    The Project would include construction of the Kibby Substation on Wahl Road. The Substation will house the 34.5 kV to 115 kV step-up transformers and would be placed within a 215 foot by 415 foot fenced-in area. The total disturbed area associated with construction of the substation will be 3 acres. Perimeter lighting and equipment lighting would be provided at the substation, but normally be shut off. Lighting would be set up to be turned on manually or by motion sensors to allow for inspection and repairs.

33. *115 kV transmission line*. A total of 27.6 miles of 115 kV transmission line would be installed to connect the proposed wind farm with the existing Bigelow substation in Wyman Township. 17.2 miles of the transmission line would be located within LURC jurisdiction, and 10.4 miles of the line would be within the jurisdiction of the MDEP, which has permitted that section of the line (Finding of Fact #12A). The line would start at the new substation in Kibby Twp., extending through Jim Pond Twp., Eustis, Coplin Plt., Wyman Twp, and ending in Carrabassett Valley at the Bigelow Substation.

    A. Clearing: The total area to be cleared for the 115 kV transmission line within LURC's jurisdiction would be 290.25 acres.

    B. Corridor: The transmission line corridor would be 150 feet wide, except for the area where it would be located adjacent to the Boralex transmission line in Wyman Twp., where it would be 100 feet wide.

    C. Title, right, and interest: TRI for the 115 kV transmission line corridor is described above in Finding of Fact #15C.

34. *Temporary activities*. During construction, several activities requiring structures, soil disturbance and clearing would be required. All would be located outside the proposed D-PD Subdistrict, and would be within the M-GN Subdistrict.

A. Gravel: Gravel needed for road and turbine construction would be derived from material excavated on-site and processed at one of three temporary rock-crushing plants.

B. Lay-down areas: Two lay-down areas totaling 18 acres (8 acres for Series A, and 10 acres for Series B) would be used during construction for storage of equipment and supplies. At the conclusion of construction, these areas would be allowed to revegetate.

C. Control Area: A construction control area would be located at the junction of Route 27 and Gold Brook Road. Access to the control area would be from the Gold Brook Road. The control area would include construction trailers, parking area with space for 150 vehicles, a potable water well, porta-potties or a combined septic system, and temporary communication system. Setbacks would be appropriate from natural features; additional details about those features would be provided in the Final Development Plan.

D. Concrete batch plant: A concrete batch plant and material storage area would require an area of 1.5 acres in size, and would be located adjacent to the construction control center on Route 27. Concrete work associated with the Project is anticipated to require 28,000 gallons of water per day, to be drawn from the well at the construction control center. A water storage tank would be used so that demand on the well could be regulated.

E. Rock Crushers: Three temporary rock crusher/storage areas are proposed: two would be approximately 25 acres in size with one located near Series A, and one located near Series B. The third rock crusher area would be located between the two and would be approximately 3 acres in size. At each of the two larger rock crusher/storage areas, 3 acres would be required for the rock crusher, and 20 acres would be required for storage. All three of these areas would be allowed to revegetate after construction is completed.

35. *Meteorological towers*. Permanent meteorological towers would be incorporated into the Project at locations to be determined for ongoing wind monitoring. Permanent towers would be co-located within turbine clearings and will not require any additional cleared area.

36. *400 foot setback from D-PD Subdistrict boundary*. Except as noted below, the turbines would be set back at least 400 feet from the boundary of the proposed D-PD Subdistrict. Turbines A-13, A-20, and B-15 would be set back 378 feet, 386 feet, and 216 feet, respectively. The setbacks were measured from the extended tip of the rotor blade. Plum Creek (co-applicant and abutting land owner) stated in a letter dated September 27, 2007 that they do not object to the location of the turbines less than 400 feet from the edge of the rezone area.

37. *Construction sequence*. Construction of the Kibby Project would occur over two construction years; most types of construction efforts would be curtailed during winter months through the end of the spring mud season, with work recommencing once suitable ground conditions for heavy loads are available.

    Construction of the Kibby Project would include the following activities:
    - Preparation of the construction site (site mobilization);
    - Transportation of the equipment and construction workers;
    - Clearing and grubbing for the construction of the access roads, improvement of the existing roads and preparation of the work areas;
    - Construction of concrete foundations;
    - Installation of the wind turbines;
    - Installation of the electrical lines and construction of the transformer substation; and
    - Rehabilitation of the work areas.

    The Petitioners would use construction mitigation measures, including without limitation, the following: erosion and stormwater management measures; dust suppression; delineation of sensitive habitat and wetland areas; implementation of spill prevention and control plans; and signage and other measures for traffic control and communication with local officials to ensure ongoing activities are known. Construction sequence will be further addressed in the Final Development Plan.

38. *Clearing.* Clearing for the Kibby Project is divided into several categories as listed below:

    A. Total: The cumulative area of disturbance for the turbine strings, new access roads, and 34.5 kV collector lines would be 333.4 acres, of which 261 acres would be temporary alteration. Approximately 72.4 acres would remain permanently altered.

    B. Above 2,700 feet: The total size of the area to be cleared above 2,700 feet in elevation would be 218.4 acres, with 189 acres being temporarily cleared and 29.4 acres permanently cleared. Clearing above 2,700 feet is associated with 32 of the 44 wind turbines, associated electrical collector system, ridgeline roads, and access roads.

    C. Below 2,700 feet: The Project would also require clearing of 115 acres below 2,700 feet. Of the 115 acres, 72 acres would consist of temporary clearing and 43 would be permanent clearing. The permanent clearing below 2,700 feet is associated with 12 of the 44 wind turbines, construction of new access roads, improvements to existing access roads, a portion of the collector system corridor, the Kibby Substation, and the Operations and Management Building. The temporary clearing would include lay-down areas, rock-crushing facilities, a concrete batch plant, a construction control center, and a portion of the collector system corridor.

D. Transmission line: The total area to be cleared for the 115 kV line corridor in LURC jurisdiction would be 290.25 acres. Within this area the tree canopy would be permanently removed, but except for access ways, the shrub layer would be maintained.

39. *Decommissioning plan.* The Petitioners stated that the Project is expected to, at a minimum, produce low cost zero-emission power for the duration of its anticipated 25 year life. In addition, the Petitioners anticipate that the Project would be re-powered at the end of the initial 25-year time period, thus extending its operating life for at least an additional 25 years. However, it is possible that the Project could become economically unfeasible as a result of equipment fatigue (aging) and associated replacement costs, in which case decommissioning would be necessary.

In the event the Project should become economically unfeasible and require decommissioning, TransCanada has agreed to take all appropriate steps and incur necessary costs associated with dismantlement, removal and disposal of the following Project components: nacelles (electricity producing component), blades and towers, all above-ground collector system structures, the substation and the portion of the transmission line between the Project and the Bigelow Substation that is not used by other Projects. TransCanada would put in place a parental guaranty to fund any necessary decommissioning activities associated with the Project. To further secure the guaranty, TransCanada would provide a Letter of Credit from a financial institution of investment grade standing if TransCanada's own credit rating falls below investment grade. As proposed, the amount of the Letter of Credit would be based on the net cost (after consideration of the value of the turbines or parts) of decommissioning and would be assessed by a qualified third-party engineering firm that is mutually agreeable to TransCanada and LURC. Evidence of the financial mechanisms to ensure timely removal of the turbines and associated structures would be submitted as a part of the Final Development Plan.

40. *Soils.* The Petitioners conducted a Class C Medium Intensity Soil Survey ("Class C") for the Project, which focused on areas with proposed roads, laydown areas, turbine construction sites and other areas with potentially significant soil disturbances associated with construction of the proposed facilities and access roads. The Petitioners mapped the topography of the Project area using 5 foot contours.

A. State Soil Scientist: The Petitioners met with the Maine State Soil Scientist several times to discuss approaches to be used to maintain slope hydrology, stabilize soils on steep slopes at high elevations, and to determine the level of soil mapping required for various aspects of the Project.

B. Design measures: The Petitioners determined that the soils in the Project area are appropriate for the proposed development, but noted various erosion control and engineering design measures needed to accommodate site limitations including, but not limited to, steep slopes, seepage areas, wetlands, and drainage swales. The Petitioners stated that, to the extent possible, the Project has been designed to

avoid or minimize impacts to all such areas. In addition, the State Soil Scientist recommended and the Petitioners stated that they intend to hire a third-party field engineer with local knowledge of soil conditions as part of a geotechnical team to determine specific construction techniques.

C. Septic System: A septic system would be required for the Operations and Maintenance building associated with the Project. The building would be an approximately 3,600-square foot metal-sided building, with a potable water system and septic system to accommodate 15 workers. The Petitioners noted that a preliminary suitability assessment of the soils suggests that the site would adequately support a septic system. Further, the Petitioners stated that all relevant LURC and Maine Plumbing Code criteria would be addressed in the Final Development Plan.

41. *Phosphorous loading.* Ridgelines associated with the Project are located within watersheds of two great ponds, Jim Pond and Flagstaff Lake. The Petitioners state that the Project would not contribute significantly to flows within the watershed, and that they designed the Project with phosphorus control in mind through the use of vegetated buffers. The Petitioners also state that the vegetated buffers would be effective for phosphorus removal and would be designed in accordance with the MDEP's Best Management Practices (BMP) Manual.

The Petitioners conducted preliminary calculations to determine the quantity of phosphorous that would be exported from the Project using treatment factors as recommended by the DEP. The preliminary computed phosphorous export rates, after treatment through buffers, would not exceed the allowable rates provided by the MDEP. Jeff Dennis from MDEP reviewed Petitioners' phosphorus analysis and concluded that it is likely that the phosphorus allocations can be met (June 26, 2007 MDEP Review Comments at Exhibit # 2.b.2). The Petitioners would submit a Stormwater Management Plan and associated phosphorus allocation calculations with the Final Development Plan.

42. *Stormwater Management Plan.* Depending on the specific location and use, the Petitioners propose to use one of the three following types of vegetated buffers as part of their stormwater management plan: a buffer with a stone-bermed level lip spreader; a buffer adjacent to the downhill side of a roadway; and a ditch turn-out buffer. During construction, regular inspections would be conducted to ensure stormwater management systems are functioning as intended. After construction, the Petitioners would conduct periodic inspections of roads and stormwater management systems to determine the need for maintenance or improvements. Stormwater management will be further addressed in the Final Development Plan.

43. *Erosion and sedimentation control plan (E/S Plan).* Temporary and permanent erosion control measures would be used during construction to treat sediment-laden runoff before leaving the site and to prevent erosion. Temporary measures would include sediment barriers, sediment traps and temporary diversion berms. Permanent

measures would include level spreaders, culvert outlet protection and diversion channels. Disturbed areas would be stabilized with seeding or Erosion Control Mix to control erosion during the Project's operational life. Erosion control features would be inspected on a regular basis throughout construction. When final stabilization is established (70% cover in seeded areas) temporary erosion and sediment control measures would be removed. In addition, an on-site engineer would make field observations through the construction effort and adjust specific techniques, as appropriate, to respond to field observations. The Petitioners would submit a detailed erosion and sedimentation control plan with the Final Development Plan.

Environmental assessment

44. The proposed Project is located in an area consisting primarily of mixed softwoods and northern hardwoods in the valleys, and spruce-fir on the summits. All of the forest communities found in the Project area occur within the Spruce-Fir-Northern Hardwoods Forest Ecosystem, a common and widespread ecosystem throughout Northern Maine (Gawler and Cutko 2004). Young regenerating forest stands occur throughout the project area and are common up to 2,700 feet in elevation. Above 2,700 feet, forest stands in the Project area are typically in later stages of regeneration with some stands approaching or in a mature successional state.

A. S3 ranking: The northernmost portion of the Project site was originally mapped within a Fir-Heartleaved Birch Subalpine Forest, ranked S3 by the Maine Natural Areas Program ("MNAP"). An S3 ranking by MNAP or the Maine Department of Inland Fisheries and Wildlife (MDIFW) means that the community is rare in Maine, but is not known to be imminently imperiled. Subsequent field investigation by MNAP determined that the majority of this area did not meet the characteristics of this habitat type and the MNAP mapping was subsequently corrected. A very small area of S3 habitat would be encroached upon by the Project, but MNAP determined that this would be inconsequential (Finding of Fact #53). Therefore, the Project would not significantly impact mapped habitat.

B. Wildlife: The Petitioners asserted that, to the extent practicable, the Project has been designed to reduce the potential for adverse impact to wildlife. Since August 2005, the Petitioners have consulted numerous times with MDIFW and the United States Fish and Wildlife Service (USFWS) to identify potential animal species and habitats of interest in the Project area and along the proposed transmission corridor. In addition, Petitioners' consultants have conducted a full range of environmental studies to identify and assess ecological habitats and to develop appropriate measures for minimizing impacts to sensitive resources, in consultation with MDIFW and USFWS, as well as other agencies and stakeholder groups.

No Essential Wildlife Habitat was identified by MDIFW in the wind power development area or along the transmission line corridor. One inland waterfowl and wading bird habitat ("IWWH") area (defined as Significant Wildlife Habitat) ranked as having a moderate value is located approximately 650 feet from an existing access road that will serve the A Series of wind turbines on Kibby Mountain. One deer wintering yard (DWA 060027) is crossed in two locations, and several IWWH areas (rated low in value) are crossed by the proposed transmission corridor. The Petitioners have consulted with MDIFW to understand better the value of each individual area. Since the cover and hydrology of these areas will not be adversely affected by the construction and operation of the transmission line, MDIFW has concluded that the value of those habitats will not change as a result of the project.

(1) Avian and bat monitoring - The Petitioners relied on studies conducted for the prior Kenetech project, including avian surveys capturing two full migratory seasons (Spring and Fall) in the mid-1990's. The results of these studies were reviewed with LURC, MDIFW and USFWS to develop protocols for additional avian and bat surveys. In consultation with these agencies and other stakeholder groups, including Maine Audubon, the Petitioners conducted: Fall 2005 and Spring 2006 nighttime migration radar surveys; Fall 2005 and Spring 2006 morning migrant surveys; Fall 2005 and Spring 2006 daytime migration surveys; Spring 2005, Spring 2006 and Spring 2007 raptor nest surveys; Spring 2006 breeding bird surveys, with a particular focus on detecting Bicknell's thrush; and Spring 2006 and Fall 2006 acoustical bat surveys.

(a) Migration survey results - The studies concluded that migration does occur through the Project area, although not at levels identifying it as a major migratory corridor. Passage rates observed were generally well within the range observed at similar studies throughout the Northeast. The higher elevations at which nighttime passerine migration was determined to occur throughout the area resulted in small percentages observed at rotor heights, again consistent with the results of similar studies conducted throughout the Northeast. Turbines are not proposed to be located in areas where daytime migratory patterns were strongest.

(b) Avian survey results - The avian studies conducted by Petitioners concluded that species of special interest, including Bicknell's thrush, bald eagles, peregrine falcons and golden eagles, do not nest in the Project area, and that the Project site does not contain habitats well suited for such use. No federally listed or Maine state-listed species were found within the Project area during the breeding bird survey.

Rusty blackbirds, a State species of special concern, were observed during Spring and Summer at various locations. However, Project elements have

been designed to avoid wetlands areas with suitable rusty blackbird habitat.

In response to FoBM's concern that this area may be a future habitat for Bicknell's thrush (Finding of Fact #63,A), the Petitioners stated that the possibility of future breeding would depend on the development of suitable habitat in the future, which, if it did occur, would not likely be influenced by the presence of the Project, given its linear character. In addition, there is considerable suitable habitat for Bicknell's thrush in the northern part of Kibby Mountain, the western ridge of the D-Series and Caribou Mountain, all of which would be protected from future wind development.

In response to FoBM's concerns that the surveys were insufficient (Finding of Fact #63,A), the Petioners stated that the Intervenor's witness conceded the following on cross-examination: (1) the species not observed during the morning migrant survey was indeed frequently observed during the remaining surveys, (2) the nighttime and daytime migration (passage rate) surveys were much more relevant than the morning migrant surveys with respect to predicting avian impacts; and (3) with respect to those surveys, Petitioners had "done a good job." Additionally, Maine Audubon, as well as MDIFW and USFWS expressed a high degree of confidence in Petitioners' avian studies, with Maine Audubon indicating that they had "a lot of confidence in the accuracy of those reports." MDIFW further characterized Petitioners' avian studies as "a standard for which to ask other projects to adhere to."

(c) Bat surveys - The bat studies conducted by Petitioners concluded that species of special interest do not nest in the Project area. Species of bats known to occur in the project vicinity were detected, though in relatively low numbers.

(d) Impact Assessment - Wind turbines are large and extend above the forest canopy. Therefore, the potential exists for injury or mortality resulting from collisions with the structures. The Petitioners' impact assessment relied on a review of literature on avian and bat impacts at operating wind energy facilities across the U.S. Petitioners cited studies reporting fatality rates ranging from 0 to 4.5 fatalities/turbine/year with most reported rates being less than 2 fatalities/turbine/year. The Petitioners asserted that, based on the avian surveys conducted, no characteristics of the site would suggest that it would present a unique or unusual risk to avian species. Further, the literature suggests that wind turbines present an extremely small risk compared to other sources of mortality.

In response to FoBM's assertion that risks of collisions were understated (Finding of Fact #63,A), the Petitioners stated that the incidents cited by

FoBM actually involved tall communication towers, supported by guy wires, with lighting that pre-dated current FAA guidance aimed at reducing collision risk, and were not applicable to wind turbines of the design proposed.

In response to questions regarding the perceived lack of data on avian mortality data from operating wind power projects, the Petitioners referenced data from the National Academy of Sciences ("NAS 2007"). This study involved a review of 31 bird-collision studies at wind-energy facilities. The NAS study concludes that there is "no evidence that fatalities caused by wind turbines results in measurable demographic changes to bird populations in the U.S.," and represent an insignificant fraction of human-caused avian mortality, or about 0.003 percent of human-caused avian deaths.

(e) Post-construction Monitoring - The Petitioners have committed to developing and implementing post-construction monitoring protocols as determined by MDIFW in consultation with the U.S. Fish and Wildlife Service. The Petitioners have also committed to establishing appropriate response measures in the event of a high mortality incident, including conducting a root cause analysis. Specific timelines would be established for review with MDIFW if a significant mortality event were to occur. In the event of an incident, Petitioners have committed to working with MDIFW, to understand the causes (weather, season, location, or other factors) of the incident and to identify and implement an appropriate response action.

(2) Mammals: Of the 49 mammal species that were identified as potentially occurring in the Project area, The Petitioners' consultants noted evidence of 30 by tracks, sign, calls, or direct observation. MDIFW and USFWS identified Canada lynx, the northern bog lemming, the yellow-nosed vole, and the rock shrew as specific mammals of interest that may be occurring in the area. Most of the observed species, however, are common, including moose, red squirrels and beaver. Potential habitat for the northern bog lemming was identified, but this area would not be directly impacted by the Project.

Mammal trapping surveys, targeting the protected species of rock shrew, yellow-nosed vole, and northern bog lemming had been conducted for the former Kenetech project in the mid-1990's. The Kenetech surveys did not identify these species. Petitioners consulted with MDIFW and USFWS who concurred that additional trapping surveys would not be an appropriate means of protecting potential species in the project vicinity. Rather, habitat identification and avoidance would be the preferred means of ensuring potential impact was minimized. No potential habitat of the yellow-nosed vole or the rock shrew was identified within the Project footprint area. One area of suitable habitat for the northern bog lemming was identified along the

B Series ridgeline and, as a result, this area, along with its contributing sub-watershed, will be completely avoided by Project development.

Petitioners' consultants, in cooperation with MDIFW and USFWS, conducted Canada lynx tracking surveys in the vicinity of the Project area during winter 2005-2006. No evidence of Canada lynx was observed during the surveys.

(a) Impact Assessment - The Petitioners' impact assessment has determined that the Project would result in a net loss of some forested upland, and the conversion of some areas of the forest to earlier successional habitats. Although there would be clearing of approximately 435 acres of land associated with the wind turbine portion of the project, most of that impact would be temporary in nature, with a permanent impact of approximately 89 acres associated with the proposed rezoning. Additional woodland conversion would occur in association with the 115 kV transmission line corridor, but as is typical with utility corridors in Maine, the corridor would remain in a vegetated state and is not expected to result in undue impacts to habitat or wildlife. In general, given the existing character of the Project landscape, no habitat conversion would occur that is incongruous with that which is already extant, occurring or impending in the Project vicinity as a result of longstanding forest management activities. Habitat conversions in the P-MA zones would be isolated to the discrete, linear turbine locations along access roads; this configuration would minimize disruption of the forest habitats. For these reasons, Petitioners asserted that impacts to mammal habitat would be minimal.

The Petitioners also asserted that, once operational, the wind turbines would likely have no significant impact on mammal populations in the project area. It would not be likely that small mammals such as deer mice, voles, and shrews would avoid the wind turbine locations due to vibration, sound, or changes in habitat characteristics. Rather, more diverse areas on the ridgelines may increase the use of turbine clearings by small mammals. Large mammals, which tend to be highly mobile, far-ranging, and hold large territories, would not be expected to be impacted. Wide, relatively undisturbed forest would be found between turbines, which would leave adequate travel corridors for those mammals wishing to avoid the wind turbine clearings. The Petitioners anticipate that local wildlife populations would adapt and respond to project-related activities that are inherent to local landscapes. Correspondence from MDIFW and USFWS indicates concurrence that no significant impact is anticipated.

(b) Mitigation - When the potential habitat for the northern bog lemming was first identified, the Petitioners expanded wetland delineation efforts in the area. A series of hydraulically connected wetlands that have a dominance of sedges and sphagnum moss as ground cover were delineated. To avoid potential impacts to the identified habitat, one turbine and road segment

were eliminated and all Project elements were relocated to outside of a 250-foot buffer zone around the wetland complex, through consultation with MDIFW and USFWS. As a result, the potential habitat is avoided and a watershed that includes 26 acres of combined wetland and upland has also been avoided to protect the habitat and ensure that the hydrology associated with the potential habitat is not altered.

(3) Amphibians and Reptiles: Studies to identify reptiles and amphibians were completed for the Kenetech project, and observations of reptiles and amphibians were specifically included in Petitioners' vernal pool surveys conducted in the field. No particular species of concern or the need for formal surveys were identified by MDIFW or USFWS.

(a) Surveys - Observations of reptiles and amphibians were made throughout the Spring, Summer, and Fall of 2005 and 2006 during various field activities. Although conditions for reptiles and amphibians are relatively inhospitable in the wind turbine ridgeline area, 11 species of amphibians and three species of reptiles were observed by Petitioners' consultants. These findings are consistent with those from the Kenetech project. The most common species observed were the American toad, red-backed salamander, wood frog and garter snake. No federal or state-listed rare, threatened, or endangered species used as indicators of significant vernal pools were observed.

(b) Impact Assessment – The Petitioners' impact assessment concludes that no significant impacts to reptiles or amphibians are expected to result from the Project. Wetlands and vernal pools (where reptiles and amphibians spend a significant percentage of their life cycle) will be substantially avoided. Project correspondence with MDIFW and USFWS did not identify specific concerns with respect to reptile or amphibian species.

(c) Mitigation - Beyond avoidance of wetlands and vernal pools to the maximum extent practicable, no specific mitigation measures have been proposed by Petitioner or requested by MDIFW or USFWS with respect to impacts to reptiles and amphibians.

C. *Wetlands and streams*. The Petitioners have identified and delineated wetlands, streams and vernal pools in the Project area and have designed the Project to minimize impacts to those areas.

(1) Surveys: The Petitioners noted that although wetlands were delineated as part of the former Kenetech project, the age of available information did not reflect current regulations or land conditions. Therefore, the Petitioners undertook a comprehensive field delineation effort. Petitioners' wetlands surveys used the 1987 USACE wetland delineation manual's three-parameter approach and encompassed the wind power Project area and the entire length

of the transmission line corridor. The Petitioners considered this to be the delineation methodology most suited to defining resources that would be reviewed by LURC, the MDEP and the USACE.

The Petitioners held in-field consultations with LURC, USACE, the Maine State Soil Scientist, and (separately) the MDEP to confirm the wetland delineation methodology and field interpretations. Pre-delineation training, use of a standardized methodology and quality control through spot-checks of the delineations provided assurance that a consistent standard was applied throughout the delineation effort. Several of the wetlands delineated along sideslopes of the ridgeline were the result of alterations associated with forest management activities and not considered high value resources. Nevertheless, because delineation methodologies do not distinguish the cause of the wetland creation, such areas were identified and avoided to the maximum extent practicable.

Under LURC rules, vernal pools are treated as wetland resource areas without special status. However, as discussed above, vernal pools are breeding areas for several species of amphibians and may also provide habitat for other rare animals. Due to the multiple jurisdictions under which the Project would fall, the Petitioners completed distinct surveys to identify areas defined as vernal pools under MDEP and USACE definitions.

(2) Impact Assessments: Direct wetland and stream impacts have largely been avoided for the Kibby Project. Unavoidable impacts within LURC jurisdiction total less than 1.5 acres. The turbine access roads comprise most of the wetland impact as terrain considerations limit flexibility in roadway alignment. The turbine access roads would impact approximately 0.1 acres of P-WL1; 0.9 acres of P-WL2; and 0.4 acres of P-WL3 wetlands. The turbine clearings themselves would impact approximately 0.02 acres of P-WL2 and less than 0.01 acre of P-WL3 wetland. The portion of the transmission line within LURC jurisdiction would impact less than 0.02 acres of P-WL2 and less than 0.01 acre of P-WL3 wetland. The collector lines would not directly impact wetlands, and direct Project impacts to streams would be limited to access roadway construction across one perennial and several intermittent stream channels within the B Series construction area. In such locations, each crossing location has been selected to minimize the area of potential impact to the stream and associated wetland resources, and would follow crossing standards as set forth in the Commission's Land Use Districts and Standards Section 10.27, D. The majority of each of these wetland impacts is relatively small in relation to the overall size of the associated wetlands impacted, as most of the wetland encroachment occurs on the edges of the impacted wetlands as opposed to bisecting the wetlands.

No direct wetland impact to state-significant vernal pools is proposed, and no filling of wetlands defined as vernal pools would occur. Right-of-way

clearing associated with the transmission line would result in alteration of some wetland areas that support vernal pools. Design measures have been incorporated by Petitioners to maintain the character of the vernal pools and associated buffer areas so as to allow the vernal pools to maintain their current values.

(3) Mitigation: The Petitioners have adjusted the Project layout as a result of the delineation efforts. The Petitioners have also attempted to avoid wetland and stream impacts on the transmission line routing and pole placement. The transmission line design incorporates structures spanning wetland and stream areas to the maximum extent practicable, and has been designed to maintain a minimum setback of 100 feet from all perennial streams and wetland areas where possible. As the Project's final layout is refined, the Petitioners anticipate further reduction in wetland impacts.

D. *Rare plants.* The Petitioners have identified rare plants in the Project area and has designed the Project to minimize impacts to those areas.

(1) Surveys: Beginning in August 2005, Petitioners consulted with MNAP, MDIFW, and USFWS to identify potential plant species and natural communities of interest. On the basis of that information, a rare plant survey was conducted by the same consultant (Mr. Arthur Gilman) who conducted similar surveys for the Kenetech project. The surveys identified three S2-ranked state-listed species in the Project area: auricled twayblade (none on the windpower site, two locations along the transmission line corridor), lesser wintergreen (one location within the windpower site and one along the transmission corridor) and boreal bedstraw (numerous sites within the windpower site and none along the transmission corridor).

(2) Impact Assessments: Petitioners assert that since all three rare plant species are located near waterbodies or in wetlands and avoidance of such areas is a Project priority, potential impacts to these species is limited. The wetlands within which auricled twayblade and lesser wintergreen were observed are proposed to be avoided or spanned by the Project's transmission line. Boreal bedstraw, although rare in Maine, is relatively abundant in the project vicinity. This plant was identified in several patches within five wetlands on the windpower site that may be impacted. Given its frequent occurrence in the Project area, and the fact that Project encroachment on the wetlands where this plant may be found would occur on the edges of those wetlands as opposed to completely filling or bisecting them, the Petitioners assert that no significant impact would occur. MNAP has indicated that they concur that no significant impact would occur in a letter dated September 27, 2006.

(3) Mitigation: The Petitioners have developed mitigation measures to avoid or minimize impact to rare plants, including the following: flagging the areas where these species occur within 50 feet of proposed project activities;

marking the sites with appropriate signage during construction; adding proper notation of avoidance areas on site plans and long-term vegetation management plans; and conducting post-construction monitoring of the areas. The Petitioners assert that they would continue working with the MNAP and MDIFW to ensure that all appropriate protections for rare plant species are incorporated into the Final Development Plan.

45. *Habitat Fragmentation.* Fragmentation is the division of land into smaller and smaller patches that become more and more isolated from each other and from larger forested areas. These smaller patches are believed to be of lower quality, consequently providing less suitable habitat for native wildlife populations. The Petitioner asserts that due to longstanding forest management activities in the area, the landscape below 2,700 feet is constantly changing, with mature forest stands being actively cut, while regenerating stands inherently grow toward maturity. Forests in P-MA zones, while typically in later stages of regeneration and in some cases at or approaching maturity, have been altered by logging activities in the past century. In general, the landscape in the Project vicinity represents lands that are already altered, fragmented or degraded.

    The Petitioners also assert that the Project elements are generally narrow and linear in configuration, representing narrow breaks in the forest vegetation and would not result in the separation or isolation of the surrounding forest stands. The transmission collector line corridors would be maintained as shrub-dominated habitats, within a landscape that already contains a high occurrence of perpetually young, regenerating forest and clearcuts. The Petitioners' impact assessment concluded that the Project would not incur fragmentation impacts beyond that which already exists, is occurring or impending in the dynamic landscape in the Project area.

    In response to FoBM's assertion that fragmentation concerns were not addressed adequately (Finding of Fact #63,A), the Petitioner noted that the studies cited by FoBM are not relevant to transmission lines, and stated that the Project would not cause fragmentation stress on wildlife species in view of the species' current adaptations to the dynamic landscape in the broader Project area that continue to occur as a result of longstanding and ongoing forest management practices.

46. *Visual and recreational assessment.* The Petitioners assert that the Kibby Project would not result in any undue adverse impacts to scenic or recreational resources since the Project is located on two relatively undistinguished ridges and the complex surrounding terrain makes these ridges and the proposed turbines difficult to see from most areas. In addition, the Petitioners state that the turbines are well removed from the more scenic and popular recreational resources in the Project vicinity.

    A. Visual Assessment Methods: The Petitioners contracted Jean Vissering Landscape Architecture in Montpelier, Vermont ("Jean Vissering") to conduct a visual impact assessment of the Project. In addition, Stone Environmental provided Geographic Information System (GIS) mapping assistance and James Zack of X-tra Spatial

Productions, LLC prepared photographic simulations and terrain modeling programs to determine visibility in areas of complex terrain. Two methodological approaches were used to assess the aesthetic impacts of the proposed Project. First, visual assessment methodologies were used to examine the existing scenic resources of the Project site and surroundings followed by an evaluation of the effects the proposed development would have on these resources. For the purposes of evaluating potential impacts from the Kibby Project, the typical 10-mile radius study area as recommended by the National Research Council and the United States Forest Service was increased to a 15-mile study radius. Second, the Petitioners evaluated the visual impacts of the Project on specific resources identified in the CLUP, Subchapter III Land Use Standards, including scenic character. Additionally, Petitioners assessed the Project's impacts under the criteria set forth in Chapter 315 of the MDEP's regulations.

As part of the visual assessment, Petitioners prepared viewshed mapping and conducted field work. Potential impacts were assessed from major travel routes such as Routes 27 and 6 and Gold Brook Road, from logging roads, and scenic and recreational viewing areas. Photographic simulations were prepared from five of the areas identified as most visually sensitive: Route 27, Sarampus Falls Picnic Area, Kibby Mountain Fire Tower, Eustis Ridge, and Avery Peak in the Bigelow Range. The Petitioners identified areas of visual sensitivity through its recreational use survey results and comments received from participants at two Petitioner-sponsored Open Houses, including comments from members of FoBM and others in opposition to the Project. The Petitioners also consulted local hiking guidebooks, the Maine Atlas and Gazetteer, and identified views from wilderness and natural areas, historic and residential sites when assessing visual impact. FoBM members specifically requested that Petitioners consider views from the Kibby Mountain summit (fire tower) and Petitioners hike Kibby Mountain with members from FoBM to identify areas of concern.

B. Visual Assessments and Designations of Landscape Significance: Since the CLUP identifies the Appalachian Trail (AT) and the Bigelow Preserve as two "major public lands within the jurisdiction used for recreational purposes" and the appendices to the CLUP contain lists of lakes and ponds of high value, the Petitioners included specific locations, as listed below, in their detailed visual assessments.

- *Bigelow Preserve* - Portions of the Bigelow Preserve along Flagstaff Lake are located within the 15-mile study area. The visibility from lakeside campsites would be minimal and from a distance of over 15 miles. The Project (ridges) would be visible from Safford Brook campsite from a distance of 20 miles.

- *Bigelow Range* - Prominent peaks such as the Horns (16.5 miles), West Peak (17.5 miles) and Avery Peak (18 miles) would not be visually degraded by the Project and, where visible, would be seen with a backdrop of more distant mountains, thereby further diminishing the Project's prominence. The Project

would only be visible from these locations under the clearest of weather conditions.

- *Attean Pond, Pierce Pond and Spencer Lake* - The Project would not be visible from Attean Pond, Pierce Pond and Spencer Lake.

- *Jim Pond* - Jim Pond is one of the larger and more accessible ponds in the vicinity (5.1 miles) of the Project. Relative to other ponds in the area, there are more extensive views of portions of the Project from Jim Pond. The Project would not be visible from the general boat access areas (located on the western and southeastern shores) but would be visible from about three-quarters of the pond. Project views would occupy a small portion of overall views around the pond, which includes several foreground hills, wetlands and views to Round and Bag Pond Mountains.

- *Cathedral Pines and Flagstaff Lake* - Flagstaff Lake is the largest and most heavily used lake in the region and is considered an important regional resource. Visual impacts from this resource would be minimal due to its distance from the Project (10-20 miles) and the limited visibility of the Project, especially from campgrounds and beach areas. There would be no views from the campsites, swimming areas, or docks at Cathedral Pines Campground, which is located approximately 10 miles from the closest turbine. In addition, views at the edge of Cathedral Pines Campground are oriented toward the Bigelow Range. Further, although there are occasional views of Kibby Range and Kibby Mountain from Flagstaff Lake, they are frequently behind trees and seen at distances from 10-20 miles away.

- *Crosby Pond* - Crosby Pond, located in Coburn Gore, is located approximately 10 miles from the proposed Project. A small portion of six turbines may be seen from the Pond due to intervening ridges.

- *Tim Pond* - The visual impacts from Tim Pond would be minimal. Views are possible from a small portion of the southern end of the pond with a maximum of 18 turbines visible behind foreground hills. The combination of the ponds distance (11 miles) and the intervening landscape minimize the visual impact from this resource. No turbines would be visible from Tim Ponds Sporting Camps, located on the Pond's northern shore.

- *Eustis Ridge* (Porter-Nideau Road) - A few areas along Porter-Nideau Road would have a view of most of the Kibby Range turbines. The turbines would be visible from about 8 miles away but would not be dominant in the distant views; they would appear as part of a larger landscape setting including landforms, water features and vegetation patterns. In addition, lights would be visible on clear nights from a considerable distance away.

- *Hiking Trails* - The major and most significant hiking trail of regional significance is the Appalachian Trail, which is located more than 15 miles from the Project site. Although no portion of the AT is located within the 15-mile study area, potential impacts to this resource were considered because of its regional and national significance. The Project would be visible only from the open summits within the Bigelow Preserve at distances ranging from 15 miles (Cranberry Peak) to 20 miles (Little Bigelow). Other scenic viewpoints along the AT, including Saddleback Junior and Mount Abraham are located 25 miles or more from the Kibby Project.

  In addition to potential views from the AT, Petitioners evaluated viewshed impacts from three mountains in the Kibby Project vicinity that provide opportunities for day hikes with good views at the top: Kibby Mountain (0.6 miles north of the Project site); Tumbledown Mountain (4.5 miles northeast of Kibby Mountain) and Snow Mountain (6.5 miles west of the Project site). Although not a major hiking destination, the Kibby Mountain summit viewpoint was evaluated as a sensitive viewing area because of its proximity to the Project (less than 1 mile from the site).

- *Kibby Mountain Fire Tower* - Views from the fire tower on Kibby Mountain would include the full sweep of the Project within a narrow arc of the entire 360 degree panorama. Turbines would be located at distances ranging from 0.6 miles at the closest point to about 6.5 miles away at the furthest point. The fire tower is identified in the AMC Hiking Guide and is noted there and by FoBM for its outstanding and extensive views. The area does not, however, experience heavy use. Views of numerous undeveloped mountains within the panorama would remain from the tower. The top of Kibby Mountain is the only vantage point from which Project infrastructure (roads, site clearing, etc.) would be clearly visible, and existing logging roads and clear cuts are currently visible from this vantage point.

- *Kibby Range and Kibby Mountain* - The Petitioners state that Kibby Range and Kibby Mountain are not particularly distinctive mountains in either form or vegetative patterns, and that these mountains, in contrast to the distinctive profiles of Tumbledown Mountain, Sisk, or Antler Hill, do not have distinguishing rock outcrops or scree slopes that make them visually notable. The Boundary Mountains tend to be slightly lower and more rounded in form than the mountain ranges in the south. The contrast in scenic quality between the Boundary Mountains and the Bigelow or Longfellow ranges is apparent. Specifically, high alpine meadows, rocky ridges and opportunities for extended views are all characteristic of the Bigelow and Longfellow Ranges, not the Boundary Mountains. Thus, while the Boundary Mountains in general and Kibby Mountain in particular have scenic and important values, they do not have regionally scenic significance, nor do they have the traits more common to mountain areas of regional scenic significance.

The Petitioners further state that although the Project would have some visual impacts on scenic resources within the Project viewshed, the impacts would not be unduly adverse. The reasons stated for this are that throughout the viewshed, the complex system of numerous surrounding mountains limits visibility from most viewpoints, and as a result, the Project is most often seen intermittently through the region and its general prominence from sensitive viewing areas is relatively low. Specifically, views from the numerous lakes and ponds in the Project vicinity are limited and the Project would not constitute a dominant element in any view. Also, Project infrastructure (roads, transmission lines etc.) would be minimally visible off site.

C. Recreational Assessment Methods: In an effort to assess the level of recreational use at the site, the Petitioners reviewed information previously gathered as a part of the former Kenetech application and conducted additional surveys at the site and in the general Project area. Assessments conducted as part of the Kenetech application (between October 1991 and September 1992) indicated that overall, the site vicinity was considered to have a relatively low level of recreational use compared to other nearby areas. The relatively low recreational use of the site was thought to occur because the area has relatively few lakes and ponds, giving rise to less fishing use than in other nearby areas; no designated trails are located on the property; and many mountains are located in the region that are of equal or greater value for recreational purposes. The Petitioners determined that an updated assessment of recreational use of the site and vicinity was appropriate.

The Petitioners used two methods to assess the recreational use of the area and evaluate impacts of the Project on those recreational uses. First, between August and November, 2006, Petitioners conducted an anecdotal survey, which consisted of interviews of the following individuals: twenty-four local business owners/representatives in Eustis/Stratton; twenty local contacts known to use the general area for recreational purposes; six governmental and non-profit organizations with knowledge of recreation and tourism in the area; and additional people who contacted the Project's toll-free number and other local individuals referred by initial contacts.

The Petitioners state that, although not a statistically based survey, the interview process, which used the same set of questions each time, provides a basis for understanding how the Project area is used and provides information on general perceptions in the community about wind energy and previous energy related projects in the region. The majority of people interviewed reported that they were familiar with the recreational uses in the area and generally characterized the area as being moderately used, particularly in comparison to other areas in the vicinity, such as Sugarloaf. The top five most frequently mentioned uses of the general Project area were: hunting (42); snowmobiling (38); fishing (35); hiking (26); and off-road vehicle use (21).

In addition to the anecdotal study described above, the Petitioners conducted a second on-site recreational survey from late spring through early fall of 2006. The main objectives of the more formal on-site survey were to:

1) Determine the number of individuals entering Gold Brook Road, therefore, potentially using the Project site for recreation during the summer and the peak fall hunting season of 2006;

2) Identify the recreational activities being pursued; and

3) Collect information regarding user-perceived impacts of the Project on recreation activities.

At least 43% of the users surveyed in the course of the on-site survey were passing through the Project area to other destinations. The most popular Summer activities included fishing, camping, and scouting for moose, while the most popular Fall activities included moose hunting and bird hunting. The overwhelming majority of respondents in the on-site survey indicated that a proposed wind power project would either have a positive impact or no impact on their recreation experience. The recreational use of the area is consistent with the Project's proximity to Route 27 and Gold Brook Road, which connects Route 27 on the south to Route 201 on the north.

D. Effect on the Landscape and Recreation: The Project is located in the Boundary Mountains, which although part of the Appalachian Mountains, are separated from the ridges (the "Longfellows") to the southeast by the Dead River Valley. The Longfellows and the Bigelow Range contain many of Maine's highest peaks and the AT. There are no mountains over 4,000 feet in elevation within the 15-mile study area; there are, however, 17 named mountains over 3,000 feet, including Kibby Mountain. The major recreational and visual focal points within the surrounding area are Flagstaff Lake and the Bigelow Range, both of which are near the southern edge of the 15-mile study area. The majority of the land surrounding the Project is privately owned and managed for timber. Access roads that have been built to accommodate timber harvesting are also a dominant feature of the landscape.

Stratton, located about 15 miles from the Kibby Project, is the largest village (population 700) within the study area and homes in Stratton Village are not expected to have any view of the Kibby Project. In addition, there are few year-round residences located within 5 miles of the Project and no permanent residences or camps within ½ mile of the Project with views. The closest residence is 1.2 miles away along Route 27 and would not have views of the Project. Concentrations of residential development occur primarily along Route 27 in Eustis, on Eustis Ridge, Tim Pond Road and around Stratton village. Two houses along the Eustis Ridge are expected to have views of the Project. A seasonal camp located on Kibby Mountain would not have views of the Project and visibility is expected to be

limited to camps along Chain of Ponds. Despite its close proximity to Route 27, the Chain of Ponds is used recreationally for canoeing and camping.

Petitioners demonstrated that while potential views from the Chain of Ponds exist, actual views would be only of the extreme tips of 1-3 turbine blades. The potential for views increases slightly if paddling down the Chain of Ponds with the greatest chance of seeing turbines from Lower Pond. The views from this location would also consist only of the tops of several turbines, which would only be visible from the southwest edge of the pond. No views would be visible from any campsite or from Maine Reserve Lands around the Ponds.

The Petitioners evaluated potential views from public ways, including Routes 27 and 16 and demonstrated that there would be no views from Route 16 and very limited views from Route 27. One rest area is located along Route 27 in the vicinity of the Project, at Sarampus Falls, an overlook area is located at Natanis Pond. Limited views of a small portion of the project (5 turbines) would be visible from the Sarampus Falls Rest Area. The Petitioners state that these would be unlikely to detract from the scenic waterfall that is the focal point of this location. The Kibby Project would not be visible from the Natanis Pond Overlook Area. Views while traveling along Route 27 would result in only quick glimpses of the Project from a few locations. Significant viewpoints exist on the Gold Brook Road, which has existing views of extensive logging activity and related debris. The turbines would not be visible from Spencer Road, a private logging road north of the Project site which is considered one of the more scenic stretches of backcountry within the viewshed area.

47. *Historic and archeological assessment*. The Project site was reviewed in the early 1990s by the Maine Historic Preservation Commission ("MHPC"), the Penobscot Nation, the Passamaquoddy Tribe, the Aroostook Band of Micmac Indians, and the Houlton Band of Maliseet Indians in connection with the prior Kenetech Project. The Petitioners submitted copies of correspondence sent to the MHPC and tribes to determine the need for additional archaeological, historical, and tribal study of the area. As per standards applied by MHPC, a Phase 0 survey for PreContact period archaeological sites was conducted in the area in 1993, and a re-examination was conducted in 2005. Both studies found an absence of archaeological sites, with low archaeological sensitivity for PreContact period sites.

After its initial review, the MHPC agreed that no further archaeological survey work was necessary for the proposed turbine areas and road access area. MHPC did request additional surveys for three locations along the proposed 115kV transmission line. The Petitioners and MHPC confirmed a study plan for the transmission line surveys, which were subsequently completed and submitted to MHPC for review. The Petitioners concluded in its report that no further studies were required. MHPC concurred with the conclusions in a letter dated August 31, 2007.
The Petitioners have further proposed that if archaeological or historical resources are encountered during excavation, construction-related work in the vicinity would cease,

Petitioners would notify the MHPC, and an assessment would be conducted by a professional archaeologist. If significant resources are confirmed, the Petitioners stated that measures would be identified to avoid or minimize impacts to those resources. The Petitioners further committed to consulting with MHPC and informing LURC during and at the conclusion of any investigation.

48. *Sound Assessment*. Petitioners conducted a sound assessment to consider potential noise impacts from operation of the Project. The assessment consisted of the following: (1) identifying noise-sensitive receivers in the vicinity of the Project site; in this case the nearest sensitive noise receptor is a single-family residence located 1.2 miles away from the Project (the nearest population center, Eustis/Stratton, is approximately 8 miles away); (2) a prediction of Project facility noise levels using three-dimensional, computer-generated modeling techniques; and (3) comparing the Project noise levels to governmental standards such as residential sound level standards established by HUD (65 A-weighted decibels (dBA)) and EPA Noise Control Act standards (55 dBA outdoor and 45 dBA indoor) as well as a comparison to LURC noise standards applied in a D-GN zone (65 dBA daytime and 55 dBA nighttime).

The sound level analysis assumed a worst-case operation scenario, namely, 48 turbines (the Project will include only 44) operating simultaneously, non-stop, and at maximum output. Adjustments were made for the reduction of sound through distance, absorption through the air, absorption and reflection by the ground, and topographical shielding. The Petitioners provided a set of modeling calculations in its application. The Petitioners also provided a full noise assessment, including maps showing noise level contours.

Petitioners assert that the proposed rezone area is well-buffered and located entirely within privately-owned commercial forestry lands. The noise analysis submitted by the Petitioners shows sound levels occurring during worst-case assumptions are 35 dBA or less at the nearest sensitive receptor. The noise analysis submitted by the Petitioners also demonstrates that projected noise levels would exceed 55 dBA in only a limited number of locations at the edge of the proposed D-PD zone (on land owned by Plum Creek, a co-applicant on the petition to rezone); more distant areas would experience substantially less noise.
The Petitioners anticipate construction noise levels would be at or below current ambient noise levels experienced in the surrounding area and that the any period of potentially increased noise levels would not be for an appreciable amount of time. The Petitioners state that construction would occur mostly during daylight hours, and that the Project's distance from noise-sensitive areas would act as a buffer to ensure that there would be no significant adverse noise impacts resulting from construction.

Review Comments

State and federal agencies

49. *Maine Department of Inland Fisheries and Wildlife (MDIFW).* MDIFW reviewed the petition, commenting as follows:

A. The application reflects the Petitioner's frequent contacts with MDIFW and the avian and bat radar and acoustical studies were undertaken as recommended. MDIFW agrees with applicant's conclusions that no unusual risk or undue impact would occur.

B. MDIFW concurs with the assertion that no suitable habitat was found within the project area for Bicknell's Thrush and that there is no anticipated threat to the species.

C. The discussion of post-construction avian and bat monitoring is limited, and a detailed plan will need to be developed and approved as part of the Final Development Plan. The Petitioners responded that they have committed to developing and implementing a post-construction monitoring program in consultation with MDIFW.

D. The application needs further consultation and planning to avoid or minimize effects upon Inland Waterfowl and Wading Birds Habitat and the crossing of one Deer Wintering Area. MDIFW anticipates that the Final Plan would appropriately respond to their recommendations.

E. Many streams have potential to be impacted by the proposed transmission line crossings. MDIFW recommends the following: some level of buffering (not necessarily 100 feet) should be provided for the intermittent streams, all culverts should be 1.2 times the width of the stream crossing and follow BMP's, and work should be conducted in the July 1 to September 15 timeframe to protect spawning of brook trout. The Petitioner responded that they would work with MDIFW on a case-by-case basis to determine the level of protection necessary for intermittent streams and restrictions necessary for streams important for brook trout spawning.

50. *Maine State Soil Scientist.* The Maine State Soil Scientist reviewed the petition and expressed no objections to the rezoning. He stated that the proposed development site is a sensitive ecological area with significant soil, slope and hydrology limitations to overcome, but that the applicant has demonstrated an understanding of these limitations and a willingness to incorporate appropriate BMPs as recommended by experts in the field to overcome these limitations. He further stated that adverse impacts from construction of the road could be overcome through the use of specific engineering techniques put in place during the road's construction, and that techniques such as "rock-sandwiching" would address issues regarding structural

failure, storm water runoff, equipment use, and erosion. He further went on to give specific recommendations as follows:

A. Soils report did not show soils with oxyaquic conditions; these should be identified and shown where possible as separate map units on the development plan.

B. The petitioners did not specify the time of year construction would occur, but as a general rule, see comment below, construction should not be undertaken when the soil is frozen or saturated.

C. Deep road cuts should be minimized to the extent possible to avoid stormwater problems, minimize clearing at turbine sites, appropriate draining techniques should be used when existing roads and trails are rebuilt or improved, 3”-4” stone should be used when building “rock sandwiches”, when upslope and downslope interceptors are used at the same site groundwater should be reconnected via a rock sandwich, and the applicant should include a typical cross-section for a road built on a steep slope where large rock is used as a base.

D. If organic horizons are removed and stockpiled, then the stockpiled material must be appropriately located.

E. If soil disturbance is proposed for the purpose of providing access to MET towers, hay bales, erosion control mix or Gator Guard should be used rather than silt fences; final erosion control should be erosion control bark or replacement of original organic duff; and when crossing wet areas laying down slash would be a good technique to provide necessary bearing strength.

F. For the transmission line, construction on very poorly drained soils should be undertaken in the winter when the soil is frozen; for poorly drained soils, winter construction or during the driest months (July-September) is acceptable; slash should be used for crossings in small wet areas when groundwater is present; sediment traps should be made by using staked hay bales, erosion control mix berms or fabric socks; and erosion control mix should be used instead of loam and seed for permanent stabilization of disturbed areas.

G. ATV use over sections of the transmission line that have very poorly drained soils should be restricted.

The Petitioners responded to the comments by the State Soil Scientist and agreed to make the recommended changes where possible and stated they would continue to consult with the State Soil Scientist for the Final Development Plan submittal.

51. *Maine Department of Environmental Protection (MDEP).* MDEP stated that given the facts that the Petitioners would super elevate access roads and that ditch turnouts and level spreaders would be used to distribute runoff, it is likely that the

phosphorous allocation can be met for this project. However, LURC should consider how best to insure that the elevated roads can be maintained and are not accidentally graded with a crown in the future.

The Petitioners responded that they would continue to consider phosphorous control issues and would include advanced design details in the Final Development Plan.

52. *U.S. Army Corps of Engineers (USACE).* USACE commented that they consider temporary mats across streams and wetlands "fill" and that these need to be included in the application to the USACE, and a discussion of potential indirect (secondary) or cumulative impacts from the project should be included in the application.

A. USACE also noted the difficulty in comparing the alternatives to this project's purpose and need, suggesting that the stated purpose be "developing a mountain top windpower facility in western Maine" to allow for a broader range of alternatives.

B. The applicants should assess potential indirect impacts to vernal pools using the Calhoun & Klemens guidelines. The Petitioners stated that they would work with the USACE to establish proper guidelines for this project.

C. Which option for financial assurance for decommissioning to be used should be determined in consultation with the Attorney General's office.

D. It is unclear whether the applicant proposes compensatory mitigation for the unavoidable impacts to aquatic resources; this should be included in the USACE application. The Petitioners responded that they would address this in the Final Development Plan submittal and in the USACE application submittal.

The Petitioners responded to the USACE's concerns by stating that they intend to work with the USACE in developing agreeable approaches to their concerns for submittal of their application to the USACE.

53. *Maine Natural Areas Program (MNAP).* MNAP reviewed the petition and determined that there would be some limited but inconsequential impacts to the rare plants and natural community (Fir-heart-leaved birch subalpine forest – S3) located in the current proposed project area. They further stated that they had no reservations about the project being approved.

54. *Maine Public Utilities Commission (MPUC).* The MPUC stated that they have no responsibility or expertise in environmental or land use, and take no position on whether LURC should approve the Project. MPUC commented on the need for diversified generation, and the characteristics of wind power as it relates to system stability and reliability.

A. Due to the current dependence on natural gas in New England, the natural gas facilities set the ISO-NE clearing price approximately 60% of the time, making natural gas availability a crucial factor in reliability, stability, and cost.

B. The addition of diverse (non-gas) resources in Maine will be beneficial for the following reasons: As more non-gas generation is added, cheaper gas and non-gas resources will set the clearing prices in a greater number of hours – reducing both the level and volatility of electricity prices in the region; to the extent new generation is constructed in Maine, the benefit to Maine consumers is more direct in that the result would be lower prices within the Maine zone; and a reduction in the region's reliance on natural gas would result in a more secure system.

C. While wind power is intermittent by nature and cannot always be relied on during peak demand, the addition of wind power to the grid will add reliability to the system as a whole. The system counts wind capacity at a devalued rate to account for its intermittent nature.

55. *Maine Historic Preservation Commission (MHPC).* The MHPC has reviewed the Petitioners' reports and concurs with the Petitioners' conclusions that no further archaeological survey work is necessary for the proposed turbine areas, road access area, or transmission line. MHPC also recommended that the underground option be utilized at the transmission line crossing of Route 27 near the Appalachian Trail. The Petitioners have stated that the transmission line crossing at Route 27 would be installed underground.

56. *National Park Service (NPS).* NPS stated that they do not have concerns about the Appalachian Trail for this project since the Petitioners have agreed to the underground installation of the transmission line crossing of the AT.

Public Hearing

57. *Administrative history of the hearing.*

A. Zoning Petition ZP 709 was accepted for processing on April 25, 2007, and a review period ending on June 8, 2007 was established. On July 25, 2007, the Petitioner submitted additional information to the file in response to LURC staff and other agency review comments.

B. The Commission granted a public hearing for Zoning Petition ZP 709 on May 2, 2007. The deadline for requesting Intervenor status was set for May 21, 2007. The date of the hearing and location were set at a later date.

C. On June 6, 2007, Intervenor status was requested by and granted to six Parties. The Parties granted such status included the Appalachian Mountain Club (AMC), Maine Audubon Society (MAS), Independent Energy Producers of Maine

(IEPM), Conservation Law Foundation (CLF), Natural Resources Council of Maine (NRCM), and Friends of the Boundary Mountains (FoBM). The National Park Service (NPS) and Local Interests Supporting Kibby Wind Power (LIS) requested and were recognized as government agencies. The American Lung Association of Maine (ALAM) requested and received status of Interested Party, and participated in the hearing. One group voiced opposition to the petition, four voiced support, and the remainder did not state a position.

D. The Pre-hearing conference was held on June 25, 2007, and a Pre-hearing Conference Memorandum and Order was issued thereafter by the Presiding Officer.

E. Pre-filed written comments were submitted by the Parties on August 28, 2007, and pre-filed rebuttal comments were submitted by the Parties on September 11, 2007.

F. The public hearing was held on October 2 and 3, 2007, at the Sugarloaf Grand Summit Conference Center in Carrabassett Valley, Franklin County.

G. Post-hearing written comments were submitted by the Parties and the record closed on October 22nd, 2007.

H. Findings of Facts and Conclusions of Law were submitted by the Parties on November 21, 2007.

I. A deliberative session was held on January 14, 2008 at the St. Paul's Center in Augusta where the Commission directed staff to draft a decision for approval.

Testimony (including pre- and post- hearing comments submitted by the Parties)

58. *TransCanada Maine Wind Development, Inc.* Statements made by the Petitioners in pre-filed testimony, at the hearing, and in post-hearing comments have been incorporated into Findings of Fact #11 to #48.

59. *American Lung Association of Maine (ALAM).* Interested Party ALAM testified that they support the Kibby project because of the effect the project can have on improving air quality. The two major air quality problems affecting Maine are ozone and fine particle pollution, which act as respiratory irritants and impair lung function. The benefits of windpower are real, quantifiable and extremely important; the Kibby project would prevent dozens of tons of NOx per year from entering the atmosphere. Maine's best wind resources are in the western mountains and Kibby is one of the few opportunities for large-scale significant wind power in Maine.

60. *Independent Energy Producers of Maine (IEPM).* Intervenor IEPM testified that state, regional, and federal energy policies clearly demonstrate the need for renewable power Projects such as the Kibby Project. The group provided evidence such as the State's goal for new renewable capacity resources in the:

- 2006 "*Act to Enhance Maine's Energy Independence and Security*" [P.L. 2005, ch. 677];
- 2007 "*Joint Resolution Expressing the Legislature's Support for the Installation of Wind Power Generating Facilities in the State"* [S.P. 631];
- 2004 "*Maine Wind Energy Act*" [P.L. 2003, ch. 665, §§3,4];
- Renewable Portfolio Standard (RPS) requirements established in the 1997 Restructuring Act [35-A M.R.S.A., §3201 et seq.];
- 2007 addition to the RPS "*An Act to Stimulate Demand for Renewable Energy"* [P.L. 2007, ch. 403 (L.D. 1920)];
- Prioritization of wind power in the Department of Environmental Protection's Climate Action Plan; and
- Statement in MPUC's letter dated May 2, 2007 to the Legislature's utilities committee in support of development of wind power, among others.

A. IEPM also asserted there is significant market demand for wind power in Maine, and that demand for the product far outstrips supply. Additionally, IEPM concluded that wind power will displace fossil fuel generation, will not burden the grid, and is consistent with the energy and air resources sections of the CLUP.

B. In conclusion, IEPM stated that the location of wind facilities is extraordinarily site specific, and there are few sites in Maine that would be economically viable for reasons such as quality of wind resource, proximity to transmission lines, and the site's terrain and orientation to the wind resource. The Kibby site meets the test of balancing the overall benefits with the evaluation of unreasonable impacts.

61. *Conservation Law Foundation (CLF).* Intervenor CLF testified that they have been a consistent supporter of new renewable energy Projects such as wind energy. CLF stated that the Kibby Project is necessary for Maine to meet its statutory obligations to reduce green house gas emissions and increase sources of renewable energy. CLF discussed the currently available methods for meeting Maine's Climate Action Plan including clean coal, carbon sequestration, nuclear power, increased efficiency in transportation, and wind power. CLF concluded that wind power is a key step in halting climate change, and that full consideration must be given to siting wind power Projects in places that are well-suited in terms of availability of wind and proximity to transmission facilities, such as the Kibby Project.

    In post-hearing testimony, CLF stated that the only valid issue for opposition to the Kibby project is the visual impact, and that those impacts are subjective and not sufficient to deny the zoning change. They further stated that the real threat to the mountains is not the visual impact from the turbines, but climate change, which wind power projects such as Kibby may help avert.

62. *Natural Resources Council of Maine (NRCM).* Intervenor NRCM testified in support of the petition, stating that the Kibby project conforms to the Commission's evaluation criteria and policies, Maine's energy policies, and the public interest. NRCM compared Kibby to the earlier approved Kenetech project and stated that the

evaluation criteria utilized by the Commission in 1995 have remained essentially unchanged, and that the Kibby project would have substantially less site impacts than Kenetech. NRCM testified that the Kibby project meets LURC criteria for best reasonable available site, no undue adverse impacts on existing uses and values, and meets the demonstrated need criteria. NRCM further stated that the Kibby project would help meet state energy policy and statutory requirements as well as being a significant public benefit by displacing fossil fuel generation and reducing air pollution.

63. *Friends of the Boundary Mountains (FoBM).* Intervenor FoBM testified in opposition to the petition. The main arguments presented by FoBM are summarized as follows:

A. No undue adverse impact: The Petitioners have not shown there would be no undue adverse impact to wildlife resources, remote qualities, scenic qualities and primitive recreation opportunities, and the Petitioners have not shown the proposal will fit harmoniously into existing natural environment. Specific concerns are noted below:

- The current lack of suitable Bicknell's thrush habitat in the Project area does not preclude creation of suitable nesting habitat in the future.

- Reliability of the avian studies are questionable because two bird species not expected to occur in the Project area were noted, and during one of the morning migrant surveys, a common bird species was not observed.

- The risk of avian collision with wind towers had been understated by Petitioners.

- Fragmentation impacts were not adequately considered since the transmission line corridor passes through forested upland areas in later stages of regeneration, approaching maturity.

B. D-PD Subdistrict: The proposal does not meet purpose and intent of the D-PD framework since numerous project elements and activities are to be permitted and located outside the area proposed for rezoning to D-PD.

C. P-MA Subdistict: Many of the areas proposed for rezoning from a P-MA subdistrict are not appropriate for development with regard to slopes and soil suitability. The project cannot provide substantially equivalent protection to the scenic and recreational values of the P-MA zone since it would wholly transform both branches of the Kibby range and three quarters of Kibby Mountain from undeveloped ridgeline to industrial sites. The project should be directed to a location where it will not degrade the scenic values and recreational uses.

Also, the change of subdistrict from P-MA to D-PD is not consistent with the Natural Resources Protection Act (NRPA).

D. Values of jurisdiction: A wind power project in the proposed location and scale is alien to the principle values of the jurisdiction. The large structures would cause the back country character to disappear.

E. Landscape significance: Mountains are a limited resource in Maine and the concentration of mountains in the boundary region makes it a significant resource that should be protected from development. Further, the region is distinctive for its high and distinctive peaks, and there are significant rocky outcrops with visual and aesthetic significance.

F. Scenic values: The site of the proposed project has scenic views that rival those from any of the region's highest peaks. From outside the project area, many of the towers would be as visible throughout the region as the highest mountain peaks are, and views from the fire tower on Kibby Mountain would include the full sweep of the proposed project. The towers would also be visible from many prominent locations and vantage points as far out as twenty miles, including many waterbodies such as Flagstaff Lake, Jim Pond, Tim Pond, Crosby Pond and Kennebago Lake which is the location of one of Maine's oldest and most famous fishing camps.

G. Fringe: The Project is not consistent with the CLUP (p.131), which provides that new energy facilities "are best located in areas on the fringe of the jurisdiction with good existing road access but low natural resource values."

H. Emission reductions: The project site is located in the western Maine subarea of the New England grid where it may displace other renewable sources of electricity (such as Boralex) rather than fossil fuel powered sources, in which case emissions from fossil fuels would not be reduced at all.

Mr. Weingarten of FoBM disputed TransCanada's assertions that the project would help meet the global and national need to prevent greenhouse gas emissions. He cited statements from references such as Jon Boone: wind plants produce little energy relative to demand and what they do produce is incompatible with standards of reliability and cost characteristic of our electricity system. Mr. Weingarten cited several studies and articles during his testimony which refuted wind power's ability to supply adequate energy or to offset fossil fuel emissions and later submitted copies of the referenced documents in post-hearing comments. Mr. Weingarten concluded by noting that reducing energy consumption and using clean coal technology is the answer to global warming and air pollution.

I. Remoteness: The proposed project site qualifies as remote because public services are not readily available in the project area and the transmission line requires 27.7 miles of line with very little of it located along existing utility rights

of way or roads. The townships proposed to be developed have no permanent structures except those related to timber harvesting and a few remote camps.

The presence of major haul roads and their associated logging-road networks does not mean that an area cannot be considered remote, and that although the Project site is close to existing development, it is nevertheless in a remote setting. Distance is not an important factor in the concept of remoteness, since regulations dealing with remote ponds, camps and cabins require distances ranging from 1,000 feet to one-quarter mile from accessible roads. This demonstrates that remote values can exist very close to accessible areas.

J. The Petitioners have not demonstrated that the Project depends upon a particular resource at the site. There are other available sites, including ones located below 2,700 feet, and the Project does not depend upon a particular natural feature available at the proposed site.

64. *Appalachian Mountain Club (AMC).* Intervenor AMC testified in support of the Kibby project stating that on balance, the benefits of the project outweigh the known and potential impacts. AMC testified that windpower projects should be evaluated in the larger landscape in which they lay, and that the northern Boundary Mountains do not rise to the level of primary high-value mountain areas in Maine. AMC also stated that it believes the project satisfies all of LURC's regulatory standards including consistency with the CLUP, and specifically the no undue adverse impact and substantially equivalent protection criteria, when the project is considered in combination with the conservation agreement between AMC and the applicant. In summary, AMC believes that the Kibby project will make a substantial contribution to renewable energy in Maine, is well-sited and avoids the core areas of the northern Boundary Mountains, will have no undue adverse impacts on ecological, recreational or scenic values, and will provide enhanced protection to the other associated high-value peaks under the conservation agreement.

65. *Maine Audubon Society (MAS).* Intervenor MAS testified in support of the Kibby project stating that the applicant has taken appropriate steps to meet the no undue adverse impact standard from a wildlife and wildlife habitat view. Specific impacts that were avoided are as follows: Subalpine Fir Heart-Leaved Birch community impact will be insignificant, no significant wildlife habitat was identified within the area to be rezoned, project avoided Northern Bog Lemming habitat and avoided and mitigated impacts to Bicknell's Thrush habitat, applicant showed no undue adverse impact to migratory birds and bats through radar studies and surveys, and project will not have impacts within the core interior roadless areas. Finally, MAS noted that the decommissioning plan as proposed by the applicant is important in avoiding future unnecessary hazards to migratory wildlife.

66. *Local Interests in Support (LIS).* Government Agency LIS testified in support of the Kibby project stating that it would benefit Franklin County in the forms of jobs, taxes paid to community, support of local establishments, and improvements to nearby

recreational resources. LIS also stated that they are proud to be part of the solution to climate change and helping Maine to become energy independent. LIS does not consider the area of the project to be remote, but rather a backyard for local residents in which to recreate and work. In summary, LIS stated that the Kibby project is a good clean project that will make a great addition to Franklin County.

In post-hearing testimony, LIS responded to statements made by a local resident during the hearings that the applicant had only held public meetings at the local motel and bar. LIS stated that the applicant had held several well-publicized open meetings in town at formal locations such as the town office as well as more informal locations such as the Stratton Plaza and Tranquility Lodge, a local restaurant and bar.

Public comment

67. *Support*. Letters were received in support of the proposed Kibby project from individuals, businesses and professionals, members of several organizations, and several State representatives and senators. The Town Selectmen of the Towns of Eustis, Kingfield and Carrabassett Valley expressed support as well as the Franklin County Commissioners and the Franklin County Chamber of Commerce. The majority of letters voicing support were sent by Maine residents.

In summary, those expressing support noted: wind farms would be a visually attractive method for producing electricity; wind farms would help reduce reliance on fossil fuels and nuclear energy; development of wind power is an important part of the solution toward decreasing global warming; visibility of the turbines will not be great due to the local terrain; and wind power is an inexhaustible clean source of energy; Kibby mountain has an outstanding wind resource; developing alternative energy sources is a global imperative; wind power is the most technologically and economically viable source of new renewable power in Maine; and Maine should be a leader in developing renewable energy.

Furthermore, the Kibby project would provide jobs, increase the tax base, and be in a location well-suited for the proposed use; logging operations on the parcel could continue, and there is much favorable response from local residents.

A. *State Representatives and Senators*. Representatives Timothy Carter, Kenneth Fletcher, Jon Hinck, Larry Bliss, and Glenn Cummings as well as Senators Phil Bartlett and John Nutting expressed support on the basis of job creation and the importance of increasing the use of renewable energy sources to generate electricity and reduce the impacts of fossil fuel usage. They also cited the State's energy policy goal of increasing renewable generation capacity to 10% by 2017.

B. *Towns of Eustis, Kingfield and Carrabassett Valley*. The towns expressed support by stating that it is time for a clean, renewable energy resource and the project's advantages of job creation, economic benefits and clean energy outweigh any disadvantages. Carrabassett Valley further stated that it is strongly committed to providing renewable "green" energy to its residents and guests.

C. *Franklin County Chamber of Commerce and Commissioners*. These organizations expressed support by stating that the project is in line with their environmental and economic policies as well as the existing forestry operations in the area. Both entities cited the significant amount of taxes to be paid by the applicant as well as jobs created that would benefit the local community. The Chamber stated that diversifying energy resources is important to the long term economic health of New England and to mitigate climate change.

68. *Opposition*. Letters were received in opposition to the proposed Kibby project from members of the public, the majority of whom are Maine residents.

In summary, the issues raised in opposition included: the visual impact as observed from Chain of Ponds, Cathedral Pines and Flagstaff Lake; the need to preserve the Mountain Area Protected Subdistrict; the industrialization of pristine wilderness should not be allowed; the negative impact to a scenic byway (Route 27); fear that if this project is approved, many more will submit applications; concern that the project would change the character and appeal of region; concern that the project would provide little electrical power and no economic benefit; the need to protect the undeveloped nature, remoteness, ecological soundness, scenic quality and primitive recreational opportunities of Maine; that there are many other places to chose for wind power such as Bath, Portland and Biddleford; and that LURC should protect remote wilderness areas beyond the corridor of the Appalachian Trail.

Furthermore, the Kibby project would negatively impact tourism and local property values, and that new jobs in the area would not be filled by local workers. Also, it was noted that a state-wide plan for wind power should be developed before evaluating the Kibby project.

A. *Duluth Wing.* Mr. Duluth Wing commented that the Kibby Project would be seen from Flagstaff Lake, Eustis Ridge and the Dead River across from Cathedral Pines Campground and presented photographs illustrating these views. He also noted that red pulsating lights would be visible from these locations at night.

Conclusions

Based on the above Findings, the Commission concludes that:

1. Some Project elements, namely a portion of the collector and transmission lines, substation, operations and maintenance building, new roads and upgrades to existing roads, are proposed for locations outside of the proposed D-PD Subdistrict, and those elements are permitable in the existing M-GN Subdistrict. It is preferable to locate those elements at the proposed lower elevation areas to minimize possible impacts to more sensitive areas found on steeper slopes within the proposed D-PD Subdistrict. Therefore, the lower elevation activities proposed for permitting in the existing M-GN subdistrict and the proposed change of subdistrict from (M-GN) General Management Subdistrict, (P-MA) Mountain Area Protection Subdistrict, (P-WL)

Wetland Protection Subdistrict, and (P-SL) Shoreland Protection Subdistrict to (D-PD) Planned Development Subdistrict are consistent with the standards for district boundaries, the Commission's Comprehensive Land Use Plan, and the purpose, intent, and provisions of Title 12, M.R.S.A., Chapter 206-A.

2. *Consistency with the standards for district boundaries.* In accordance with Section 685-A(8-A) of the Commission's statute, the criteria for amending a land use district boundary, the proposed D-PD Subdistrict is consistent with the Commission's standards for district boundaries.

   In the description of the D-PD Subdistrict [Section 10.21,G,2,b of the Commission's Land Use Districts and Standards], provision is made for commercial wind power facilities, allowing such development to be located in a D-PD Subdistrict. Furthermore, the Commission's Comprehensive Land Use Plan (pp. 58 to 59), states that "wind power sites are most appropriately zoned to the (D-PD) Planned Development Subdistrict." The CLUP (p. 59), lists four factors to be considered during the rezoning and site development process for windpower sites: visual impacts, soils impacts, wildlife impacts, and technical feasibility. The Petitioners have demonstrated that the site and the design of the proposed Project would not cause an undue adverse impact to visual, soils, or wildlife, and the Project is technically feasible at the site proposed (also see Conclusions #3,A and #5, below).

3. *Consistency with the Comprehensive Land Use Plan (CLUP).* The Petitioners have demonstrated that because of its location and design, the proposed Project would provide an indigenous source of renewable energy and be consistent with the values, goals, and policies identified in the CLUP. In particular, the CLUP promotes multiple uses of land in the jurisdiction that are compatible with traditional uses, including forestry, agriculture, and recreation. The Project would not substantially interfere with the use of the parcel and the general area near the development site for forest management activities, or with the dominant recreational uses including, but not limited to, hunting, fishing, ATV-riding, camping, hiking and snowmobiling. The Project would maintain the existing high value natural resources and natural character of the area.

   A. The CLUP lists four principle values of the jurisdiction (p. 114.):
      - Economic value for food and fiber production
      - Diverse and abundant recreational opportunities
      - Diverse, abundant and unique high value natural resources and features
      - Natural character values, including a largely undeveloped forest remote from population centers

      (1) The Project is consistent with the principal value of maintaining the economic benefit of the jurisdiction for fiber and food production; the project would not prevent forestry activities from continuing within the rezoned parcel, except for the limited acreage encompassed by and immediately surrounding the

development. The improved road system proposed for the development would also serve to facilitate the on-going timber harvesting.

(2) The Project is consistent with the principal value of maintaining diverse and abundant recreational opportunities, primarily for primitive pursuits, as the Project area has a relatively low level of recreational use and the dominant current recreational uses would not be negatively affected by the Project.

(3) The Project is consistent with the principal value of maintaining diverse, abundant and unique high-value natural resources and features in the jurisdiction, as there are few sensitive resources present within the area to be rezoned, and the Project has been designed to either avoid or have a low level of impact on the sensitive resources that are present, such as high mountain soils and wetlands. The visual impact on the viewshed is minimal due to the topography and terrain of the Project site and scenic resources are screened due to the topography of the Project site and the complex surrounding terrain. The wildlife habitat and use of the development area were assessed to assure that these resources would be adequately maintained (see Conclusion #5, below, for additional discussion).

(4) The Project is consistent with the principle value of maintaining the jurisdiction's natural character values, including remoteness. The Commission considers the concept of "remoteness" as not being simply defined as a distance from settled areas but rather as being measured in relative terms based upon the facts and circumstances associated with each particular location. Thus, a decision on the remoteness of a specific development site must take into account many factors and consider how those factors balance in the overall landscape of the jurisdiction. In this case, the project site is relatively close to existing centers of population, for example it is 8 miles from Eustis. Further, the Project site is relatively close to existing infrastructure—such as a major state highway (Route 27) serving as an arterial between Maine and Canada, transmission lines, and a utility substation—when compared with other areas of the jurisdiction. Finally, while most development is preferably located adjacent to compatible development, the concept of adjacency does not strictly apply in the D-PD redistricting context, as the intent of the D-PD Subdistrict is to allow for large-scale developments separated from existing development. Thus, the Project is consistent with maintaining natural character as the site lacks attributes typically associated with more remote areas near the core of the jurisdiction, such as a sense of remoteness from settled areas, utility infrastructure, and major state highways.

B. The CLUP also lists three broad goals (p. 134):

- Support and promote the management of all the resources, based on the principles of sound planning and multiple use, and ensure the continued availability of outstanding quality in water, air, forest, wildlife and other natural resource values of the jurisdiction.

- Conserve protect, and enhance the natural resources of the jurisdiction for food and fiber production, nonintensive outdoor recreation and fisheries and wildlife habitat.
- Maintain the natural character of certain areas having significant natural values and primitive recreation opportunities.

The Project will not have a negative impact on the three broad goals of the Commission. The impacts of the Project on these goals are discussed in greater detail in Conclusion #5 below.

C. The CLUP lists specific goals and policies (pp. 135 – 140)

(1) The Project is consistent with the goals and policies of the CLUP regarding Air and Energy Resources. In particular, the Project would be consistent with Maine's recent laws and polices supporting and promoting renewable energy development, especially windpower. The proposed Project would also be consistent with efforts, as noted in the CLUP (pp. 58 to 59), to site wind power facilities in areas that would have the least possible environmental impact while still allowing the facility to be at a location where the wind resource necessary to produce a viable Project is available.

(a) In particular, one air resources policy of the CLUP is to "encourage state, federal, and international initiatives directed at reducing emissions of air pollutants" in order to help attain the goal to "protect and enhance the quality of air resources throughout the jurisdiction". The Project is environmentally sound and socially beneficial in that the production of wind energy produces zero CO_2, NO_x, and SO_2 emissions, and would be consistent with the goals Maine has set under its Renewable Portfolio Standard (RPS) and the Regional Greenhouse Gas Initiative (RGGI).

(b) Several of the CLUP's policies for the use of the jurisdiction's energy resources would be met by the proposed Project. The goal stated in the CLUP for energy resources is to "provide for the environmentally sound and socially beneficial utilization of indigenous energy resources where there are not overriding, conflicting public values which require protection". The Project would be an indigenous, renewable energy source that would be sited in an environmentally sound manner, and would contribute to Maine's energy self-sufficiency. The Project would also meet economic and environmental needs in the community, the region, the State, and globally for alternative energy projects. In addition, the proposed Project would be consistent with the policy to "allow new or emerging technologies which do not have an undue adverse impact on existing uses and natural resources". Site-specific construction techniques will be used to minimize any potential environmental impact and to ensure the protection of the most sensitive natural features of the area. (see Conclusion #5).

4. *Demonstrated need in the community or area.* The Petitioners have demonstrated that there is a need for the proposed Project, both within the area for which it is proposed and the state.

   A. The temporary and permanent jobs that would be created would be economically beneficial to Franklin County. Local town and county agencies testified to the importance of these jobs to the county. In addition, the property tax payments by the Project would provide substantial support for the tax base of the area.

   B. With respect to the need for the Project on a state level, Maine laws and policies recently enacted in regard to increasing the amount of power generated by renewable sources such as wind, and the support for wind power development by the MPUC and by legislature provide evidence that there is a general need and support for wind power development in the state (see Conclusion #3,C for additional discussion). This conclusion is further supported by the support for this Project expressed by IEPM, CLF, AMC, MAS, NRCM, LIS, the Franklin County Commissioners, the Towns of Eustis, Kingfield and Carrabassett Valley, several State representatives and senators, and several other Maine organizations.

5. *No undue adverse impact to existing uses or resources.* A comprehensive assessment of the natural resources in the Project area has been conducted and the Project has been designed to minimize impacts to sensitive resources. The Project is compatible with the dominant recreational uses in the area, and while the Project would have some visual impacts on scenic resources within the Project viewshed, the impacts would not be unduly adverse. The Project site does not pose a significant risk to wildlife populations. The support expressed by several environmental organizations, including AMC, MAS, NRCM, and CLF for the Project further suggests that the potential for undue adverse impacts is low.

   A. Wildlife resources. Thorough and detailed surveys of avian and bat activity in the Project area have been conducted in consultation with LURC, MDIFW, USFWS and stakeholder groups, and the results of these surveys and subsequent impact assessments demonstrate that the Project site does not pose a significant risk to avian or bat populations. The Petitioners have also committed to a post-operational monitoring program to be developed and implemented in consultation with MDIFW to further insure no significant risk to bird and bat populations would be unaddressed.

   The potential for adverse impact to mammal populations and habitat has been evaluated with respect to potential habitat loss or conversion and disturbance effects and no significant impacts are expected to occur. An assessment on the impacts to reptiles and amphibians has been made and no federal or state-protected species were identified. Development in wetland and vernal pool areas have been avoided to the extent possible, so that impacts to reptiles and amphibians have been minimized. The Petitioners' impact assessment on forest fragmentation concluded that the Project would not incur fragmentation impacts

beyond that which already exists, is occurring or impending in the dynamic landscape in the project area.

B. *Wetland resources and special natural areas*. Detailed surveys for rare plants have been conducted and three S2-ranked state-listed species were observed in the Project area: auricled twayblade, lesser wintergreen, and boreal bedstraw. All identified rare species are located near waterbodies or in wetlands, and since avoidance of these areas has been minimized to the extent practicable by the Project design, potential impact to these species has been limited. Specific avoidance and mitigation measures have been proposed and MNAP has indicated concurrence that no significant impact to rare plants will occur.

A comprehensive delineation of all jurisdictional wetland resources within the Project area has been conducted in consultation with LURC, the Maine State Soil Scientist, MDEP, and USACE, and direct stream and wetland impacts have been avoided and minimized.

C. *Water and soil resources.* The Project would not cause unreasonable soil erosion or reduction in the capacity of the land to absorb and hold water. The Project has been designed in consultation with the Maine Soil Scientist to ensure that all Project features can be constructed in a protective manner. MDEP evaluated the project and did not express concern for phosphorus loading potential. Therefore, an undue adverse effect on the water quality of surrounding streams and lakes is unlikely. However, the petitioner did not include in the Preliminary Development Plan the phosphorus allocation calculations for the amount of phosphorus loading expected. The Final Development Plan should include the calculations for phosphorus allocation expected due to the project, and specify the buffering proposed. The erosion control and storm water management plans, including the buffering proposed for phosphorus control, submitted in the Final Development Plan should be consistent with the MDEP's Chapter 500 Stormwater Rules General Standard (Finding of Facts #42 and 43).

D. *Recreational and scenic resources*. While certain recreation areas would be affected by the scenic impact of the Project, overall the affect on the viewshed would not be unduly adverse. The views from the lakes and ponds in the Project area are limited and the Project would not constitute a dominant element in any view. Overall, the proposed Project would be consistent with Section 10.25,E,1 of the Commission Land Use Districts and Standards.

(1) Several factors indicate the Project would not have a negative effect on the recreational resources of the area. One factor is that based on the results of the anecdotal recreational use survey conducted by the Petitioners, the majority of recreational users indicated they come to the area for uses such as hunting, snowmobiling, ATV-riding, and fishing; none of which would be impeded by the Project. While the hiking trail to the fire tower on the summit of Kibby Mountain does receive some use, there is not a developed trail network in or around the Kibby Project area. Also, the Project would be

buffered from federal, state, and locally designated recreation facilities in the region due to the site design and the topography of the land base, and would not limit or restrict access to existing recreation facilities. Finally, the new and upgraded roads proposed in connection with the Project would enhance access for the traditional recreational uses of the area.

(2) With respect to the visual impact to the Kibby Mountain and Kibby Range ridgelines, a financially viable facility requires the turbines to be sited on or near the summit, and therefore some affect on the scenic character of the ridgeline is inevitable. To limit the effect, permanent clearing, grading, and filling have been minimized to encompass only approximately 72.4 acres in total, cuts and fills have been minimized, and the areas temporarily cleared during construction would be allowed to become re-vegetated. The Project would have some visual impacts on scenic resources within the Project viewshed, but the impacts would not be unduly adverse. Throughout the viewshed, the complex system of numerous surrounding mountains limits visibility from most viewpoints. As a result, the Project would most often be seen intermittently through the region and its general prominence from sensitive viewing areas is relatively low, so that the overall effect on the scenic character of the ridgeline is further lessened. Project infrastructure (roads, substation, and transmission lines) would be minimally visible off site.

(3) The FAA requires that all structures over 200 feet in height be lighted for aviation safety, and a lighting plan has been developed for the Project in consultation with FAA that would have the least possible impact on the night sky for viewers on the ground while still providing the required measure of avian safety. Mechanisms that would minimize this effect include the use of shields, only lighting a subset of the 44 turbines, and the use of slow on-off pulsing red lights. The visual impact to the viewshed is not expected to be unduly adverse. The Petitioner must submit the final lighting plan approved by FAA with the Final Development Plan for review.

(4) An assessment of the visual impacts to specific locations designated to be of landscape significance found that most areas would have no or only slight visual impacts. Of note was the designation of Flagstaff Lake and Cathedral Pines. Flagstaff Lake is the largest and most heavily used lake in the region and is considered an important regional resource. Visual impacts from this resource are minimal due to its distance from the Project (10-20 miles) and the limited visibility of the Project. There would be no views from the campsites, swimming areas, or docks at Cathedral Pines Campground, which is located approximately 10 miles from the closest turbine. Assessments were made from several other designated areas such as Jim Pond, Tim Pond, Bigelow Preserve and various hiking trails. Views of the Project from these locations would be minimal and occupy a small portion of overall views.

E. *Cultural, archaeological, and historic resources*. The Petitioners have been consulting with the MHPC to assure that all cultural, archaeological and historic resources in the Project area have been, or will be, identified prior to construction. Archaeological studies were completed for both the area to be rezoned and the

transmission line. MHPC has agreed with the Petitioners' conclusions that no further studies are required. The Petitioners have further proposed that if archaeological or historical resources are encountered during excavation, construction work would cease, MHPC would be notified, and a full assessment would be made before continuing.

F. *Forest Resources.* The Project would have no adverse impact on the continued use of the area for the production of wood fiber, and the proposed upgrades to existing roads and construction of new roads would enhance ongoing and future forest management activities in the region. The majority of the acres proposed for rezoning would be left undeveloped, leaving it available for commercial harvesting activities.

G. *Mountain Resources*. The Project would not have an undue adverse effect on the mountain resources of Kibby Mountain and Kibby Range. Of the 2,637 acres in the Project area, only 218 acres above 2,700 feet will be cleared during construction, and only 29.4 acres of that would remain unvegetated. The Project has been designed and sited to avoid the highest elevation areas of Kibby Mountain and the Kibby Range. While a portion of the Project would be located within a currently zoned P-MA subdistrict, the soils and site analysis conducted revealed that the peaks and ridgelines affected by the Project do not contain the same sub-alpine forest types, talus, granite out-crops, steep slopes, or rocky barren summits typically associated with the P-MA subdistrict. Instead, the forest vegetation of the Project area has a greater affinity with lower elevation forests than the vegetation typically found in Maine's higher mountains. As a result, the development proposed for the Project area would not compromise the sorts of high mountain values that are traditionally associated with other high mountains and the characteristics the P-MA Subdistrict is intended to protect.

6. *Section 10.21,G,8 of the Commission's Land Use Districts and Standards.*

A. *Best reasonably available site.* Section 10.21,G,8,b(3) of the Commission's Land Use Districts and Standards, states " the Commission shall ensure that the proposal utilizes the best reasonably available site for the proposed use". While the Commission acknowledges that there are other wind power sites in Maine, including ones located below 2,700 feet, the Petitioners demonstrated that the site proposed for the Project is the best reasonably available site. The Project site hosts an outstanding wind resource and is otherwise appropriate for development based on the environmental and other criteria that have been met for rezoning the site to a D-PD Subdistrict. (Also see the discussions in Conclusions #3, #4, and #5, above.)

B. *Substantially equivalent level of protection.* Section 10.21,G,8,b(2) of the Commission's Land Use Districts and Standards, states " the Commission shall ensure that the proposal incorporates, where the land proposed for inclusion in the D-PD Subdistrict is in a protection subdistrict, a substantially equivalent level of

environmental and resource protection as was afforded under such protection subdistrict". In the case of the proposed Project, the majority of the land to be rezoned is currently (M-GN) General Management Subdistrict, with areas of (P-WL) Wetland Protection Subdistrict, (P-MA) Mountain Area Protection Subdistrict and (P-SL) Shoreland Protection Subdistrict within the proposed D-PD Subdistrict boundaries.

(1) Areas currently zoned (P-MA) Mountain Area Protection Subdistrict would be afforded substantially the same level of protection. The Project activities in the P-MA zone include construction, use and maintenance of roads that meet the definition of Level C Road Projects and, therefore, are allowed in the P-MA zone by special exception, and the construction, operation and maintenance of electrical collector lines that meet the definition of Utility Facilities and therefore are also allowed in the P-MA zone by special exception. Although the wind turbines are not a use allowed in the P-MA zone, based on the extensive site investigation, avoidance, minimization and mitigation, the environmental and resource impacts associated with construction and operation of the proposed turbines are substantially equivalent to what the reasonably anticipated environmental and resource impacts would be with activities allowed in the P-MA, for example downhill ski area recreation facilities, Level C Roads, and Utility Facilities.

(2) The Petitioner's proposed wetland impacts have been avoided and minimized to the extent possible, and would meet the standards for wetland alterations provided in Section 10.25,P,2 of the Commission's Land Use Districts and Standards.

(3) Areas currently zoned (P-SL) Shoreland Protection Subdistrict would be afforded substantially the same level of protection. Project impacts to streams would be limited, and each crossing location has been selected to minimize the area of impact and would follow crossing standards as set forth in 10.27,D. The Project would result in impacts to the P-SL subdistrict that are consistent with the types of impacts associated with level C road Projects and utility facilities, which are allowed by permit in the P-SL subdistrict.

7. *Financial capacity and decommissioning.* TransCanada has demonstrated that it has the financial capacity to construct and operate the Project and fund any required decommissioning costs. To further secure the guaranty, TransCanada proposes a Letter of Credit from a financial institution of investment grade standing if TransCanada's own credit rating falls below investment grade. As proposed, the amount of the Letter of Credit would be based on the net cost of decommissioning and would be assessed by a qualified third-party engineering firm that is mutually agreeable to TransCanada and LURC.

8. *Sound Assessment.* There are no residences or other sensitive receptors that would experience unacceptable noise levels as a result of operation of the Project. The noise levels during construction of the Project would be consistent with noise levels currently occurring in the Project area, and the Project's distance from noise-sensitive

areas would act as a buffer thereby minimizing potential noise impacts associated with construction.

Conditions

Therefore, the Commission **APPROVES** Zoning Petition ZP 709 and the Preliminary Development Plan submitted by TransCanada Maine Wind Development, Inc. and Plum Creek Maine Timberlands, LLC to rezone 2,367 acres from (M-GN) General Management Subdistrict, (P-MA) Mountain Area Protection Subdistrict, (P-WL) Wetland Protection Subdistrict, and (P-SL) Shoreland Protection Subdistrict to (D-PD) Planned Development Subdistrict, per the attached map, for a 44 turbine wind farm, subject to the findings of fact contained herein and the following conditions which generally, but not comprehensively, outline the materials that must be submitted for review and approval with the Final Development Plan:

1. All uses allowed by permit within this Preliminary Development Plan require approval under a Final Development Plan, in accordance with Section 10.21,G,10 of the Commission's Land Use Districts and Standards. Only those uses and structures approved in the Final Development Plan may be allowed in the D-PD Subdistrict, except that:

   A. All uses previously allowed without a permit, or allowed with out a permit subject to standards, in a (M-GN) General Management Subdistrict, (P-WL) Wetland Protection Subdistrict, (P-MA) Mountain Area Protection Subdistrict, or (P-SL) Shoreland Protection Subdistrict shall continue to be allowed within those portions of the (D-PD) Planned Development Subdistrict that met the description of such M-GN, P-WL, P-MA or P-SL Subdistricts on the effective date of this decision.

   B. In accordance with Section 10.06, A of the Commission's Land Use Districts and Standards, "the description of permitted uses herein does not authorize any person to unlawfully trespass, infringe upon or injure the property of another, and does not relieve any person of the necessity of complying with other applicable laws and regulations."

   C. Unless otherwise granted permit approval, all activities and uses proposed in the Final Development Plan must meet the standards of Sections 10.25 to 10.27 of the Commission's Land Use Districts and Standards (as may be amended from time to time).

2. The Petitioners shall submit all exhibits and statements required for the Final Development Plan in (a) Section 10.21,G,10 of the Commission's Land Use Districts and Standards, and (b) the conditions of Zoning Petition ZP 709.

   The Petitioners must incorporate in the Final Development Plan:

A. In consultation with the state and federal agencies any recommendations agreed to by the agencies and the Petitioner during the review of the proposed Preliminary Development Plan as reflected in the record, including, but not limited to, the Maine State Soil Scientist, Maine Department of Inland Fisheries and Wildlife, and the Maine Historic Preservation Commission;

B. Proposals or agreements made with state agencies in testimony presented by the Petitioners; and

C. The materials required by the Commission in the following conditions:

(1) The Petitioners must submit with the Final Development Plan a proposal to evaluate the contribution of the Project to the State's environmental and energy policy objectives.

(2) Detailed erosion, sedimentation, and storm water control plans must be submitted. The final engineered plans for the roads must incorporate, where appropriate, the "rock sandwich" and other designs recommended by the State Soil Scientist. Petitioners shall also include with the Final Development Plan a copy of the Stormwater General Permit Notice of Intent to File submitted to the Maine Department of Environmental Protection, or if not yet available, indicate when this notice will be submitted. Seepage and drainage swales that have been located during field investigations must be identified on the site plans. The final construction plans must include provisions to monitor the type of rock to be used for fill material, to test the pH, and ensure that excessively acidic runoff to streams does not occur.

(3) The estimated phosphorus loading and allocation for this site and any buffering treatments proposed must be submitted. Alternatively, approval by the MDEP for the phosphorus loading potential for the Project may be submitted. Provisions for phosphorous control must meet the standards of Section 10.25,L of the Commission's Land Use Districts and Standards, and the MDEP's Chapter 500 Stormwater Rules General Standard.

(4) If applicable, a detailed plan for winter construction, including work under frozen or saturated conditions, must be submitted.

(5) The final turbine lighting scheme, as determined and approved by the Federal Aviation Administration, must be submitted. If not yet available, Petitioners shall indicate when it expects such approved plans to become available.

(6) The locations of any on-site gravel pits to be used for construction of roads, turbine or crane pads, or other areas of the project requiring fill. Proposed on-site gravel pit(s) must meet the relevant provisions of Section 10.27,C of

the Commission's Land Use Districts and Standards, or alternatively if such provisions cannot be met, specification of which standard cannot be met and how the intent of the standard will be provided for.

(7) The final areas of wetland alteration, including the type(s) of impact must be submitted. The total wetland impact area must also be broken out P-WL1, P-WL2 and P-WL3 wetland impacts. The wetland alterations proposed must meet the standards of Section 10.25,P,2 of the Commission's Land Use Districts and Standards.

(8) The location of any proposed stump dumps, and detail sufficient to determine that the dump would meet the provisions of Section 10.25,H, of the Commission's Land Use Districts and Standards.

(9) If on-site concrete production is proposed in the Final Development Plan, then the details for the temporary batch plant locations, equipment to be used, materials to be stored on site, and wells to be drilled, locations of test wells to be monitored, and pump test results must be submitted. The period of time the wells would be used, and plans to discontinue the wells must be included.

(10) A Spill Prevention Control and Countermeasures Plan for the proposed Project, including but limited to the concrete batch plans, the Operations & Maintenance building, and the substation, must be submitted with the Final Development Plan.

(11) A blasting plan prepared in accordance with MDEP rule 06-096 CMR 375 and the federal requirements, as referenced in the Commission's Chapter 13, Section 26,E, must be submitted.

(12) Documentation of final right, title and interest for the Project elements outside of the D-PD zone.

(13) A soils report documenting the presence of suitable soils for the proposed septic system

(14) *Post-construction monitoring and third party inspection.*

(a) A proposal for a third party inspection program to provide oversight during construction to assure erosion control measures and storm water management measures are correctly applied, and to assure that wetlands and other on-site natural resources are properly protected. The individual(s) chosen for the program must have knowledge of local soil conditions and have experience in high elevation road construction.

(b) A proposal for a third party inspection program and schedule for post-construction monitoring of permanent erosion and storm water control measures must be submitted. Alternatively, Petitioners shall submit the timeline for submission of such plan and a description of the key elements of such a plan.

(c) A post-construction avian and bat mortality monitoring and assessment plan consistent with the commitments reflected in the Preliminary Development Plan application.

(15) A decommissioning plan consistent with the commitments reflected in the Preliminary Development Plan application, including a means for ensuring adequate funding would be available for decommissioning when and if decommissioning is required, such means, however, to be secured through a letter of credit, or through a parental guarantee with a contingent letter of credit, to be determined at the discretion of the Commission.

(16) Complete documentation and description of all proposed structures (collector and transmission lines, substation, operations and maintenance building, new roads and upgrades to existing roads) and temporary activities (lay-down areas, concrete batch plant, rock crushers, control area with parking, gravel pit, stump dump) located outside the proposed D-PD zone for LURC review and approval according to all applicable Statutory, Regulatory, and CLUP criteria for development in the existing M-GN Subdistrict.

3. This zoning petition and Preliminary Development Plan is approved only upon the above stated conditions and findings of fact, and remains valid only if the Petitioners comply with all of these conditions and as otherwise provided in the Preliminary Development Plan, and only if a Final Development Plan is submitted and approved by the Commission in accordance with this decision and otherwise in compliance with the Commission's statute and regulations.

4. In accordance with Section 10.21,G,8,c(3) of the Commission's Land Use Districts and Standards, if no Final Development Plan has been submitted within eighteen months of the date of issue of this decision, or a time extension for good cause is approved, the zoning shall revert to the original Commission zoning in existence immediately prior to this decision.

In accordance with 5 M.R.S.A. section 11002 and Maine Rules of Civil Procedure 80C, this decision by the Commission may be appealed to Superior Court within 30 days after receipt of notice of the decision by a party to this proceeding, or within 40 days from the date of the decision by any other aggrieved person.

DONE AND DATED AT ORONO, MAINE THIS 5th DAY OF MARCH, 2008.

By:_____
Catherine M. Carroll, Director

This change in subdistrict designation is effective on March 20th, 2008.

APPENDIX A
Review Criteria

Comprehensive Land Use Plan (CLUP, 1997)

1. *Natural Resources (Chapter 3).*

A. *Air resources (pp. 24 and 25).* "Non-local sources of air pollution are principally population and industrial centers on the east coast, in the Midwest, and in southern Canada. These areas generate suspended particulate matter, sulfur dioxides, carbon monoxide, hydrocarbons, heavy metals, and nitrogen oxides, all of which are transported long distances in the atmosphere.

The Commission has no authority to control sources of air pollution outside its jurisdiction, but it has a vested interest in tracking air quality because of its potential to affect other natural resources."

"Maine forests bear the chemical signature of exposure to air pollutants, but the long-term effects on forest health and productivity are still unknown. Air pollution delivers elevated levels of nitrogen, sulfur, ozone, heavy metals, *carbon dioxide* [emphasis added], and other compounds to forest ecosystems."

B. *Energy resources (pp. 40 to 41).*
"Windpower is the subject of considerable interest in Maine. Maine's wind resource is considerable, and much of it occurs along high mountaintops and ridgelines within the jurisdiction. These winds have the potential to power wind energy technologies that appear to compete with more traditional energy sources.

The Commission on Comprehensive Energy Planning, directed by the Legislature to make recommendations for a state energy policy, completed its work in 1992. This Commission noted that the state's energy policy should address the cost, reliability, environmental impact, and economic impact of energy Projects. It stated that the goal of the state's energy policy should be to meet the state's energy needs with reliable energy supplies at the lowest possible cost, while at the same time ensuring that energy production is consistent with Maine's goals for a healthy environment and a vibrant economy. The Land Use Regulation Commission supports this goal and will try to advance it in its review of potential energy Projects."

C. *Mountain resources (pp. 58 to 59).*
"While many of the jurisdiction's mountain areas have excellent wind energy resources, wind turbines and associated infrastructure have the potential to compromise the values the P-MA zone is designed to protect. Proposed windpower sites are most appropriately rezoned to the Planned Development (D-PD) Subdistrict, and a number of issues deserve particular attention during the rezoning and site development process. They include:

- Visual impacts. Turbines and power lines sited on mountaintops and ridgelines have the potential to be visible from long distances away.
- Soils impacts. Many soils in mountainous areas are extremely sensitive to disturbance. Construction of access roads on steep slopes is probably the biggest potential threat.
- Wildlife impacts. Birds flying into turbine blades is a major concern.
- Technical feasibility. Large-scale windpower generation is an untested technology in harsh climates such as Maine's.

In light of the limited mountain resources and their value, it is unlikely that all such areas will be considered suitable for rezoning and associated development by the Commission. The Commission has also determined that off-site measures may not be an appropriate means of mitigating adverse impacts identified for particular proposals."

D. *Recreation resources (p. 61).* "Outside the areas managed by the North Maine Woods, recreational opportunities are available on most larger tracts managed for forestry purposes, although landowner policies on public access vary. Private roads, some with checkpoints, others un-gated, provide access to most of these areas."

2. *Development (Chapter 4, p. 97*). "The Commission has a dual mandate with respect to conservation and development in the jurisdiction. It must reconcile the need to protect the natural environment and other important values from uses that cause degradation with the need for traditional, resource-based uses and reasonable new economic growth and development."

3. *Development (Chapter 4, p. 114).* The CLUP states four principal values that define the jurisdiction's distinctive character:

A. "The economic value of the jurisdiction for fiber and food production, particularly the tradition of a working forest, largely on private lands. This value is based primarily on maintenance of the forest resource and the economic health of forest products industry.

B. Diverse and abundant recreational opportunities, particularly for primitive pursuits.

C. Diverse, abundant and unique high-value natural resources and features, including lakes, rivers and other water resources, ecological values, scenic and cultural resources, coastal islands, and mountain areas and other geologic resources.

D. Natural character values, which include the uniqueness of a vast forested area that is largely undeveloped and remote from population centers."

4. *Development (Chapter 4, p. 131), Siting of Unwanted Land Uses and New Technologies.*

"While the Commission is concerned about the potential site-specific impacts of such facilities, it is also concerned that they be located in areas where they will have the least impact on the jurisdiction's principal values. Generally speaking, they are best located in areas on the fringe of the jurisdiction with good existing road access but low natural resource values."

5. *Goals and Policies for the Future (Chapter 5).*

A. The Commission's broad goals (p. 134):
(1) "Support and promote the management of all the resources, based on the principles of sound planning and multiple use, to enhance the living and working conditions of the people of Maine, to ensure the separation of incompatible uses, and to ensure the continued availability of outstanding quality water, air, forest, wildlife and other natural resource values of the jurisdiction.
(2) Conserve, protect and enhance the natural resources of the jurisdiction primarily for fiber and food production, non-intensive outdoor recreation and fisheries and wildlife habitat.
(3) Maintain the natural character of certain areas within the jurisdiction having significant natural values and primitive recreation opportunities."

B. Natural resources (pp. 135 to 140):
(1) Air resources
(a) Goal: "Protect and enhance the quality of air resources throughout the jurisdiction."
(b) Policy: "Encourage state, federal and international initiatives directed at reducing emissions of air pollutants."
(2) Energy resources
(a) Goal: "Provide for the environmentally sound and socially beneficial utilization of indigenous energy resources where there are not overriding, conflicting public values which require protection."
(b) Policies:
(i) "Encourage energy conservation and diversification and the use of indigenous renewable resources to increase the state's energy self-sufficiency.
(ii) Prohibit energy developments and related land uses in areas identified as environmentally sensitive where there are overriding, conflicting environmental and other public values requiring protection.
(iii) Permit new energy developments where their need to the people of Maine has been demonstrated and they are sited, constructed and landscaped to minimize intrusion on natural and human resources.
(iv) Allow new or emerging energy technologies which do not have an undue adverse impact on existing uses and natural resources."

(3) Forest resources
(a) Goal: "Conserve, protect and enhance the forest resources which are essential to the economy of the state as well as to the jurisdiction."
(b) Policy: "Discourage development that will interfere unreasonably with continued timber and wood fiber production, as well as primitive outdoor recreation, biodiversity, and remoteness, and support uses that are compatible with these values."

(4) Wildlife and fisheries resources
(a) Goal: "Conserve and protect the aesthetic, ecological, recreation, scientific, cultural, and economic values of wildlife and fisheries resources."
(b) Policy: "Protect wildlife habitat in a fashion which is balanced and reasonably considers the management needs and economic constraints of landowners."

(5) Scenic resources
(a) Goal: "Protect scenic character and natural values by fitting proposed land use activities harmoniously into the natural environment, and by minimizing adverse aesthetic effects on existing uses, scenic beauty, and natural and cultural resources."
(b) Policy: "Regulate land uses generally in order to protect natural aesthetic values and prevent incompatibility of land uses."

C. Development goals and policies (pp. 140 to 142)

(1) Location of development
(a) Goal: "Guide the location of new development in order to protect and conserve forest, recreational, plant or animal habitat and other natural resources, to ensure the compatibility of land uses with one another and to allow for a reasonable range of development opportunities important to the people of Maine."
(b) Policies:
(i) "Provide for a sustainable pattern of development consistent with historical patterns which directs development to suitable areas and safeguards the principal values of the jurisdiction, including a working forest, integrity of natural resources, and remoteness.
(ii) In areas which are not appropriate as new development centers, allow for planned developments which depend on a particular natural feature, subject to site plan review."

(2) Economic development
(a) Goal: "Balance the economic benefit that Maine people derive from the natural resource-based industries of the Commission's jurisdiction, especially the maintenance and creation of quality jobs, with protecting the environmental quality and special values of this area."
(b) Policies:
(i) "Encourage those forest and recreation industries and other resource-based enterprises which further the jurisdiction's tradition of multiple use without diminishing its principal values."

(ii) "Allow new or emerging technologies, but limit the scale or application of these technologies where necessary to allow time for the Commission to evaluate the technology and its impacts."

C. Infrastructure

(1) Goal: "Ensure that infrastructure improvements are well planned and do not have an adverse impact on the jurisdiction's principal values."

(2) Policy: "Require that communication towers be dismantled and removed from the site when such towers are unused for an extended period of time."

Statute

6. Pursuant to Section 685,A,8-A of the Commission's statute, a land use district boundary may not be adopted or amended unless there is substantial evidence that:

A. The proposed land use district is consistent with the standards for district boundaries in effect at the time, the comprehensive land use plan and the purpose, intent and provisions of this chapter; and

B. The proposed land use district satisfies a demonstrated need in the community or area and has no undue adverse impact on existing uses or resources, or a new district designation is more appropriate for the protection and management of existing uses and resources within the affected area.

7. Pursuant to Section 685,B(4) of the Commission's statute, the Commission shall approve no application, unless:

A. Adequate technical and financial provision has been made for complying with the requirements of the State's air and water pollution control and other environmental laws, and those standards and regulations adopted with respect thereto, including without limitation the minimum lot size laws, sections 4807 to 4807-G, the site location of development laws, Title 38, sections 481 to 490, and the natural resource protection laws, Title 38, sections 480-A to 480-Z, and adequate provision has been made for solid waste and sewage disposal, for controlling of offensive odors and for the securing and maintenance of sufficient healthful water supplies;

B. Adequate provision has been made for loading, parking and circulation of land, air and water traffic, in, on and from the site, and for assurance that the proposal will not cause congestion or unsafe conditions with respect to existing or proposed transportation arteries or methods;

C. Adequate provision has been made for fitting the proposal harmoniously into the existing natural environment in order to assure there will be no undue adverse effect on existing uses, scenic character and natural and historic resources in the area likely to be affected by the proposal. In making a determination under this

paragraph regarding development to facilitate withdrawal of groundwater, the Commission shall consider the effects of the proposed withdrawal on waters of the State, as defined by Title 38, section 361-A, subsection 7; water-related natural resources; and existing uses, including, but not limited to, public or private wells, within the anticipated zone of contribution to the withdrawal. In making findings under this paragraph, the Commission shall consider both the direct effects of the proposed withdrawal and its effects in combination with existing water withdrawals;

D. The proposal will not cause unreasonable soil erosion or reduction in the capacity of the land to absorb and hold water and suitable soils are available for a sewage disposal system if sewage is to be disposed on-site; and

E. The proposal is otherwise in conformance with this chapter and the regulations, standards and plans adopted pursuant thereto.

The burden is upon the applicant to demonstrate by substantial evidence that the criteria for approval are satisfied, and that the public's health, safety and general welfare will be adequately protected. The Commission shall permit the applicant to provide evidence on the economic benefits of the proposal as well as the impact of the proposal on energy resources.

The Commission's Land Use Districts and Standards

8. Pursuant to Section 10.21,G of the Commission's Land Use Districts and Standards,

A. Section 10.21,G,2,b: A D-PD Subdistrict proposed for predominantly commercial and/or industrial land uses shall include at least 50 contiguous acres and, except wind energy generation facilities, shall contain a minimum of 30,000 square feet of gross building floor area.

B. Section 10.21,G,2: In any of the above cases, no development, other than access roads and utility lines shall be less than 400 feet from any property line. (This dimension may be increased or decreased, at the Commission's discretion, provided good cause can be shown.) Furthermore, the Project shall be reasonably self-contained and self-sufficient and to the extent practicable provide for its own water and sewage services, road maintenance, fire protection, solid waste disposal and police security.

C. Section 10.21,G,8: The Preliminary Development Plan shall include: Evidence that the proposal conforms with the Commission's Comprehensive Land Use Plan and the purpose and description of a Planned Development as contained herein; evidence showing that the permit criteria set forth in 12 M.R.S.A. §685-B(4) will be satisfied; and the submission of various written and illustrative documents, as described hereinafter. Prior to any decision relative to such application, the staff shall make known its findings and recommendations, in writing, to the

Commission and a public hearing shall be held in accordance with Chapter 5 of the Commission's Rules and Regulations.

The following items are required to be submitted with any Preliminary Development Plan application:

Written Statements

(1) A legal description of the property boundaries proposed for redistricting, including a statement of present and proposed ownership.

(2) A statement of the objectives to be achieved by locating the development in its proposed location distant from existing patterns of development. As it is a general policy of the Commission to encourage new development to locate with or adjacent to existing development, the rationale for promoting development away from such locations must be well documented. The statement should describe why the site is considered the best reasonably available for the proposed use(s). The fact that the applicant owns or leases the property shall not, of itself, be sufficient evidence to satisfy this last requirement.

(3) A reasonably complete development schedule and construction program that indicates when the Project and stages thereof will begin and be completed. The schedule is to specify what percentage of the total Project is represented by each stage and what buildings, floor areas and land areas are included in each such stage.

(4) A statement of the applicant's intentions with regard to future selling, leasing or subdividing of all or portions of the Project. The statement should describe the type of covenants, restrictions or conditions that are proposed to be imposed upon buyers, lessees or tenants of the property.

(5) Statements to satisfy the Commission that the Project is realistic, and can be financed and completed. Such statements shall demonstrate that the applicant has the financial resources and support to achieve the proposed development and that a sufficient market exists for the goods and/or services the development will provide.

(6) A statement of the environmental impact of the proposed development which sets forth the reasonably foreseeable adverse effects and measures to be taken by the applicant to minimize such effects.

(7) A general statement that indicates how the natural resources of the area will be managed and protected so as to reasonably assure that those resources currently designated within protection subdistricts will receive protection that is substantially equivalent to that under the original subdistrict designation.

Maps

(8) A location map (drawn on a USGS topographic map base or Commission Land Use Guidance Map) that indicates the area for which a D-PD Subdistrict designation is sought. This map should show all existing subdistricts.

(9) A map showing existing site conditions including contours at 10 foot intervals, water courses, unique natural conditions, forest cover, swamps, lakes, ponds, existing buildings, road boundaries, property lines and names of adjoining property owners, scenic locations and other prominent topographical or environmental features.

(10) A soils map of at least medium intensity that covers those portions of the site where any development is proposed. The description should use the soil group designations utilized in the Subsurface Waste Water Disposal Rules or the USDA Soil Series names.

(11) A site plan that shows the approximate location and size of all existing and proposed buildings, structures and other improvements, including roads, bridges, beaches, dumps, wells, sewage disposal facilities, storm drainage, cut and fill operations and general landscape planting. The plan should show the approximate proposed lot lines, the location of open spaces, parks, recreational areas, parking areas, service and loading areas and notations of what is proposed to be in common or private ownership.

(12) A map or description of the approximate type, size and location of proposed utility systems including waste disposal, water supply, and electric and telephone lines. Where a public water supply, and/or a central sewage collection and/or treatment system is proposed, evidence shall be required to show that these facilities will meet applicable governmental requirements and that the soils are suitable for such sewage disposal system.

D. Section 10.21,G,8,b: Within 90 days after the close of the record of the public hearing, the Commission may approve, approve with conditions, or deny the application in writing. In making this decision, the Commission shall ensure that the proposal:

(1) Conforms with the objectives and policies of the Comprehensive Land Use Plan and 12 M.R.S.A. §206-A;
(2) Incorporates, where the land proposed for inclusion in the D-PD subdistrict is in a protection subdistrict, a substantially equivalent level of environmental and resource protection as was afforded under such protection subdistrict;
(3) Utilizes the best reasonably available site for the proposed use;
(4) Conserves productive forest and/or farm land;
(5) Incorporates high quality site planning and design in accordance with accepted contemporary planning principles;
(6) Envisions a Project that is reasonably self-sufficient in terms of necessary public services;
(7) Provides for safe and efficient traffic circulation; and
(8) Utilizes the best practical technology to reduce pollution, waste and energy consumption.

E. Section 10.21,G,8,c: Approval or Denial of Preliminary Development Plan

(1) If, after weighing all the evidence, the Commission approves the Preliminary Development Plan application, the D-PD Subdistrict shall be designated on

the official district map and recorded in accordance with the provisions of Section 10.04. Simultaneously with such approval, a preliminary development permit will be issued. The preliminary development permit may contain such reasonable conditions as the Commission deems appropriate and will specify the conditions for approval of the Final Development Plan. The terms of the preliminary development permit will be in writing and shall be deemed to be incorporated in the D-PD Subdistrict.

(2) Within a maximum of 18 months following a Commission decision to designate an area as a D-PD Subdistrict, the applicant shall file a Final Development Plan containing in detailed form the information required in Section 10.21,G,10 below. At its discretion, and for good cause shown, the Commission may extend the deadline for filing of the Final Development Plan.

(3) If the applicant fails for any reason to apply for final approval by submitting a Final Development Plan within the prescribed time, the D-PD Subdistrict designation shall be deemed to be revoked and the original subdistrict(s) shall again apply.

9. Section 10.25 of the Commission's Land Use Districts and Standards

A. *Section 10.25,C: Technical and Financial Capacity*. The standards set forth below must be met for all subdivisions and commercial, industrial, and other non-residential development.

(1) The applicant shall retain qualified consultants, contractors and staff to design and construct proposed improvements, structures, and facilities in accordance with approved plans. In determining the applicant's technical ability, the Commission shall consider the size and scope of the proposed development, the applicant's previous experience, the experience and training of the applicant's consultants and contractors, and the existence of violations or previous approvals granted to the applicant.

(2) The applicant shall have adequate financial resources to construct the proposed improvements, structures, and facilities and meet the criteria of all state and federal laws and the standards of these rules. In determining the applicant's financial capacity, the Commission shall consider the cost of the proposed subdivision or development, the amount and strength of commitment by the financing entity, and, when appropriate, evidence of sufficient resources available directly from the applicant to finance the subdivision or development.

B. *Section 10.25,E: Scenic Character, Natural and Historic Features.*

(1) *Scenic Character.*

(a) The design of proposed development shall take into account the scenic character of the surrounding area. Structures shall be located, designed and landscaped to reasonably minimize their visual impact on the surrounding area, particularly when viewed from existing roadways or shorelines.

(b) To the extent practicable, proposed structures and other visually intrusive development shall be placed in locations least likely to block or interrupt scenic views as seen from traveled ways, water bodies, or public property.

(c) If a site includes a ridge elevated above surrounding areas, the design of the development shall preserve the natural character of the ridgeline.

(2) *Natural Features.*

If any portion of a subdivision or commercial, industrial or other non-residential Project site includes critically imperiled (S1) or imperiled (S2) natural communities or plant species, the applicant shall demonstrate that there will be no undue adverse impact on the community and species the site supports and indicate appropriate measures for the preservation of the values that qualify the site for such designation.

(3) *Historic Features.*

"If any portion of a subdivision or commercial, industrial or other non-residential Project site includes an archaeologically sensitive area or a structure listed in the National Register of Historic Places, or is considered by the Maine Historic Preservation Commission or other pertinent authority as likely to contain a significant archaeological site or structure, the applicant shall conduct an archaeological surveys or submit information on the structure, as requested by the appropriate authority. If a significant archaeological site or structure is located in the Project area, the applicant shall demonstrate that there will be no undue adverse impact to the archaeological site or structure, either by Project design, physical or legal protection, or by appropriate archaeological excavation or mitigation."