Wind Energy Repowering Program
Altamont Pass Wind Resource Area
(November 1998)

To Applicants for Windpower Development/Redevelopment:

What the Repowering Program Is

The Repowering Program for the Altamont Pass Wind Resource Area (APWRA) consists of the following elements:

- Limitation on Development
- Design Standards & Siting Criteria
- Permit Submittal Requirements
- Standard Conditions of Approval
- Biological Resource Management Plan (BRMP)

Mitigation measures recommended in the Environmental Impact Report (EIR on Repowering a Portion of the Altamont Pass Wind Resource Area) have been incorporated into the requirements of this Repowering Program.

The Program is intended as a guide for permitting repowering projects in Altamont Pass for the next three to five years. It is anticipated that the program will be reassessed and refined once sufficient data from the BRMP's monitoring requirements becomes available. Significant success in reducing avian mortality rates could result in adjusting program requirements to allow for higher production levels of wind energy in the APWRA; alternatively, allowed capacity could be adjusted downward. Further technological advances in turbine design would be incorporated into the refined program.

How the Repowering Program Will Be Used

The Repowering Program will be an administrative tool to guide the conditional use permit process. The Zoning Administrator of each County is responsible for reviewing and acting on the permit proposals. The Zoning Administrator will adopt necessary findings and may conditionally approve or deny a proposed repowering project based on the findings.

Limitation on Development and How it Works

Under the Repowering Program, the total amount of rated capacity in the APWRA may not increase above existing levels. Thus, because of the use of larger, more efficient turbines, applicants for repowering permits are required to retire old turbines with a total capacity equal to the total capacity of the new turbines being installed. The exact replacement ratio depends on the current rated capacity of the turbines involved.

For example, an applicant with 10 currently operating 100-kilowatt turbines has a total existing capacity of 1,000 kW. One approach to meeting the goal of maintaining capacity at existing

levels would be to remove the 10 existing turbines and install two new 500 kW turbines. A replacement of this type would reduce the total number of turbines at a ratio of 1:5. An alternative approach would be the removal of seven existing turbines, the retention of 3 old turbines, and the installation of one new 700 kW turbine. The replacement ratio in this case would be 1:7. Any combination would be suitable as long as the proposed capacity does not significantly exceed existing capacity.

Wind developers with operating turbines in the planning area can participate in the Repowering Program at any time. It is anticipated that applicants without existing operating turbines in the planning area could make private arrangements to retire turbines owned by others in order to qualify for the Repowering Program. Those applicants wishing to install turbines outside the planning area would have to undergo additional environmental analysis but may be able to rely in part on the previously prepared Environmental Impact Report for the Repowering Program.

Developers with approved but not-yet-installed turbines under existing conditional use permits may apply for building permits at any time if they can meet the requirements of their permit. However, the trend has been toward higher capacity turbines, with more reliability and longer service life, and few of the older machines of lower capacity that would comply with the prior permits are being produced at this time. Therefore, some retrofit requirements and all of the mitigation and monitoring contained in the Repowering Program also may be applied to existing permits at the time of their 5-year review.

No new permits other than under the Repowering Program are likely to be granted until the Program has been reevaluated as discussed above and the County determines that an increase in overall capacity in the wind resource area is acceptable.

Design Standards

The three-bladed, upwind, active-yaw, horizontal-axis configuration that was typical of European manufacturers during the 1980s has become predominant in recent years, particularly for utility-scale turbines. Two-bladed models, both upwind and downwind, however, are still available or under development. Most of the U.S. manufacturers active during the 1980s, and responsible for many of the varied designs of those years, have ceased operations. Today's turbine industry, in terms of numbers of companies, is dominated by European firms, and the sole significant U.S. and Japanese manufacturers have adopted the European design. These design characteristics are expected to change as technology evolves but the trend remains toward standardization.

The design characteristics which are considered standards for this Repowering Program consist of the following (see also *Table 1)*:

- rated capacity between 500 and 1,000 kilowatts
- rotor diameter not to exceed 197 feet
- total height (including rotor) not to exceed 291 feet
- rotational speed not to exceed 35 rpm

- tubular tower with internal ladder to nacelle required
- color of tower and blades to be neutral and non-reflective, such as dull white or light gray
- nacelles to be completely enclosed and present negligible perching opportunities.

These and additional design and development standards, siting criteria, and monitoring practices are included in the Avian Impact Avoidance Plan section of the Biological Resource Management Plan (BRMP). Applications for turbines which substantially deviate from these standards will not be approved under the Repowering Program.

Comparison of Existing and New Turbine Design Characteristics in the Altamont Pass Wind Resource Area

Design Characteristic	*Existing Turbines (averages)*	*Advanced Technology Turbines (typical)*
Capacity	40 - 400 kilowatts	500 - 1,000 kilowatts
Axis	horizontal and vertical	horizontal
Rotor orientation	upwind and downwind	primarily upwind
Cut-in speed	7 - 14 mph	6 - 9 mph
Number of blades	two- and three-bladed	primarily three-bladed
Rotor diameter	50 - 60 feet	138 - 197 feet
Tower type	lattice and tubular	tubular, internal ladder to the nacelle
Tower height	60 - 80 feet	114 - 193 feet
Total height (to top of rotor at 12 o'clock position)	85 - 110 feet	200 - 291 feet maximum
Rotational speed	40 - 77 rpm	22 - 35 rpm
Color	white and gray	white and light gray
Nacelles	enclosed and open	fully enclosed
Transmission Lines	above- and below-ground	predominantly below-ground

Source: Alameda County

WIND POWER PROJECT / REPOWERING CONDITIONAL USE PERMIT APPLICATION REQUIREMENTS

These Permit Application Requirements have been prepared by the Alameda County Planning Department and are applicable to all permit applications for new or repowered wind energy projects in the Altamont Pass Wind Resource Area. The Requirements specify the maps, information, surveys and studies that must be submitted as part of your application, and siting, design and capacity standards. The County may adjust the standards for future projects based on the results of monitoring avian collision incidents, the success or failure of remedial actions, and the findings of research efforts. Please contact a County Planner prior to completing your application to ensure that you have the latest information.

The Requirements are based on the County's Repowering Program and the Environmental Impact Report for the Program. Further detail and information on these Requirements may be found in the Repowering Program. Applicants should review the Repowering Program before preparing their conditional use permit application. Additional requirements contained in the Repowering Program may be applicable.

The Applicant shall provide the following materials to the County:

Maps

1. A map showing project location and vicinity at 1" = 2,000' (USGS Scale).

2. A Site Plan with the following specifications: Sheet size not exceeding 24" x 36"; at a scale of 1" = 200' or as agreed by the County; scale and north arrow (up); name/address of land owner and developer; boundaries of site; contours (20' minimum intervals); adjoining streets, railroads (named); transmission lines; houses on site and within 1,000' of site boundary (labeled); site acreage; major point(s) of access to project; schematic location of each existing turbine, turbines to be removed and new turbines, substation, maintenance building, utility line; access to proposed site improvements; distance of nearest improvements to all property lines and residences.

3. An inventory and map of shared above-ground electrical lines.

Information

4. A written description of the site, meteorological conditions, topography, vegetation, existing improvements, existing and adjacent land uses, wind turbines (size, performance, color), rated output and estimated annual output (kWh/\year), visual/aesthetic and safety considerations.

5. A table showing existing turbines, turbines to be removed and new turbines in the format shown in sample Table 1, and design and operation information in the format shown in sample Table 2.

6. A statement from the developer which addresses: (1) his/her qualifications and experience in wind power development; and (2) the following required CUP findings: the use is required by the public need; the use will be properly related to other land use, transportation and service facilities in the vicinity; the use will not materially adversely affect the health of safety of persons residing or working in the vicinity or be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood; and, the use will not be detrimental to the character or performance standards established for the District in which it is to be located.

7. A list of names and addresses for all property owners within 1,000' of the border of the project land parcel.

8. The name, address and phone number of a contact person.

Archeological

9. A preliminary archaeological reconnaissance report by a qualified archaeologist. If a reconnaissance report has already been prepared for the area on which repowering is proposed to occur, the applicant shall submit a copy of the original survey, any cultural resource conditions of approval imposed on the area in question from the previous permit, and information on any resource discoveries that may have occurred previously. Generally, no new survey will be required if the repowering area is addressed in the prior survey. Prior conditions of approval will be carried forward to the new permit.

Endangered Species

10. A reconnaissance-level survey of the repowering project area by a qualified biologist. This survey shall (1) locate and evaluate the types and quality of habitats in the project area; (2) determine the potential for special-status species occurrence; (3) determine the applicable measures in the County's Biological Resources Management Plan (BRMP) that would be required to avoid or minimize impacts; and (4) identify additional biological issues not covered in the BRMP. Compliance with the BRMP is mandatory.

Pre-Permit Acoustical Study

11. An acoustical analysis if there are any sensitive receptors within 5,000 feet of proposed turbines. Sensitive receptors include residences, schools, and passive recreational areas. Residences on land under lease agreements with the wind farm applicant should not be

considered sensitive receptors if noise levels do not exceed 65 dBA. (See the Standard Conditions of Approval for applicable noise standards.)

The analysis should generally follow the approach used in chapter 4.3 of the Draft Environmental Impact Report on the Repowering Program. Specifically, the following should be included in the report:

(a) Location of existing sensitive uses within 5,000 feet of turbines.

(b) Measurements of existing sound levels at noise-sensitive uses, and identification of sources of the existing levels.

(c) Prediction of future sound levels based upon the proposed repowering project (including removal and replacement of turbines) using sound power data for new turbines when replaced turbines are proximate to the receiver.

(d) Determination of impacts based upon the lead County's acoustical criteria and potential for significant increase in noise levels.

(e) Suggested mitigation measures as needed to reduce impacts. These may include, but are not limited to, the following:

(i) use of fewer turbines
(ii) increased setback
(iii) use of quieter turbine models
(iv) modifications to turbine design
(v) obtaining a sound waiver on properties under windfarm easements.

12. A statement that the applicant has advised owners of residences under lease agreements with the applicant that if the development is approved and constructed, noise levels may exceed existing County standards.

Pre-Permit Visual Study

13. A visual study for any repowering project located within ½ mile of sensitive receptors. Sensitive receptors include rural residential enclaves, including Dyer Road, and passive recreation areas, including Vasco Caves Preserve and Brushy Peak Preserve. The study should use mapped analyses and simulations to evaluate the visibility of the proposed turbines from the sensitive receptors. The study should consider the distance of the turbines from viewers, degree of screening, backdropping, and other factors that might affect their relative prominence in the landscapes the viewers see. After the application is filed, the County will undertake specific community input sessions for proposals next to rural residential enclaves to ascertain the public perception of the wind turbine siting proposals, and possible mitigation strategies such as revised siting locations, turbine size

variations, close-range landscape treatments to screen the view, or possible restrictions on new development/repowering in close proximity to sensitive viewers.

Pre-Permit Aviation Study

14. In compliance with East County Area Plan Program 60B, an applicant with a project located within the Byron Airport referral area shall provide the Contra Costa County Airport Land Use Commission (CCCALUC) with a copy of its permit application for review and comment. In addition, such applicant shall provide the County with an aeronautical study prepared by a qualified aviation consultant to determine if the proposed project would create a hazard to navigation or an adverse impact on airport operations. The recommendations of both the CCCALUC and the Federal Aviation Administration (FAA) will be considered in formulating project conditions of approval in addition to the recommendations in the aviation consultant's report. If a proposed project, including any mitigation measures, is determined by the County, in consultation with the CCCALUC and the FAA, to create a hazard to aviation or an adverse impact on airport operations, the County shall not approve the project.

Preliminary Routing Plan

15. A preliminary construction transportation routing plan for evaluation prior to conditional use permit approval. Alternative routes that minimize traffic past local residences and passive recreation areas should be used if available.

Compliance With Capacity Standard

16. A demonstration by the Applicant that the total rated capacity of the proposed repowering project will not exceed the total rated capacity of the turbines being retired (The submittal under Requirement 5 may be used to satisfy this requirement).

Compliance With Siting, Design and Operation Standards

17. A demonstration that the project will comply with the following siting, design and operation standards (The submittal under Requirement 5 may be used in part to satisfy this requirement.):

    (a) Siting Standards: No turbines will be allowed on any slope where the slope gradient is >25%, unless specifically approved by the Technical Advisory Committee (TAC) process described in Section (I)(B)(4) of the BRMP. No turbines will be permitted within a dip or notch (as defined in the BRMP) if the cross-axis of the ridge is less than 300 feet wide and the slope gradient along the

cross-axis is 25% or greater, as indicated in Figure 12 of the BRMP. No turbines will be permitted in a dip or notch if it converges with a draw or canyon, as indicated in Figure 13 of the BRMP. No turbines will be permitted in a dip or notch that is in line with another dip or notch on a parallel ridge in the direction of wind currents, as indicated in Figure 14 of the BRMP. At dips and notches, no turbines will be permitted within a space of at least 200 feet on either side of the lowest point of the dip or notch to maintain a space of at least 400 feet between the lower locations.

(b) Maximum Rotation Speed: The standard maximum rotational speed of new turbines shall not exceed 35 rpm. Variable speed turbines are permitted to exceed this standard under strong wind conditions.

(c) Tubular Towers: New wind turbines must have a tubular tower with no perchable surfaces or appendages.

(d) Interior Tower Access: New towers must only have interior access to the turbine (i.e., ladder to reach the turbine is inside the tower).

(e) Perch-Proof Nacelles: New wind turbines must have a nacelle that has virtually no appendages, edges, or ancillary features that provide a perching surface.

(f) Guy Wires: Turbine designs that include guy wires are not permitted. The use of guy wires associated with meteorological towers is permitted; however, the wires must be of at least 4/0 wire size and include visual markers attached to the wire to increase their visibility.

18. Electrical Lines: New low voltage lines (i.e., 480 volts to 690 volts which service up to 6 MW of turbines) shall be undergrounded unless demonstrated to be infeasible. New medium voltage lines (12 kV to 34.5 kV) less than 1,000 feet in length and when less than 9.5 MW of wind turbines are connected to the line, and associated communication lines, shall be undergrounded unless demonstrated to be infeasible. To increase visibility of wires, a minimum conductor wire size of 4/0 shall be used on all above-ground wires. Infeasibility describes soil, bedrock, or other subsurface or topographical conditions that are considered unsuitable or unsafe for undergrounding, or lines that are shared with another existing project that is not included in the permit process. At such time, however, that both projects sharing a line are included in the permit process, then the line may be considered for undergrounding.

(a) Utility Poles - Existing: Existing utility poles shall be retrofitted using the following guidelines: All jumper wires shall be insulated by an insulating material, the dielectric strength of which is sufficient to withstand the maximum difference of potential at normal operating voltages of the circuit without breakdown or puncture. All exposed terminals (e.g., pot heads, lightening arresters, and

transformer bushings) must be covered by wildlife boots or other insulating materials. All straight, aluminum-type combination arms on riser poles must be replaced with non-conductive material (e.g., fiberglass or wood). Bonding of pole-top devices mounted on non-conductive arms must be done with insulated wire. Grounded exposed brackets located 24 vertical inches or 48 horizontal inches from energized devices or phases, must be insulated or insulating barriers provided. All underground cables on fused cut-out risers must be insulated so concentric ground wires are not exposed. All metal T-end sections on fiberglass cross-arms of fused cut-out risers must be insulated. Any potential pathway from terminal connections, grounding, bonding wires, or ineffective wildlife boots must be corrected. Fused cut-outs must be reoriented to increase the distance between components and decrease the accessibility. Perch deterrents must be installed on poles with hazardous situations, as appropriate. Where fatalities continue to occur, existing perch deterrents must be removed to reduce specific perching hazards, and insulation must be increased. Jumper leads must be oriented in a vertical configuration to discourage bird perching near the jumper lead ends.

(b) Utility Poles - New: If undergrounding is infeasible as described in subsection (g) above, all new utility poles shall be required to use the following guidelines: All new overhead power line construction shall comply with the specifications set forth in "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996" and any additional requirements for existing poles.

WIND POWER PROJECTS - ALAMEDA COUNTY STANDARD CONDITIONS OF APPROVAL

RECOMMENDED CONDITIONS OF APPROVAL

Construction Activities

1. Visual Screening: Any staging areas used by the Permittee shall be visually protected, where feasible, either by the terrain or another form of screening, from local residential areas, local roads, and recreation areas.

2. Coordination With CDFFP: The Permittee shall coordinate with the California Department of Forestry and Fire Protection in conjunction with the County fire agency to implement monitoring of the project site during construction and maintenance as determined necessary by those agencies.

3. Public Works Improvement Plan: A grading, drainage, sedimentation and erosion control plan shall be submitted for review and approval by Alameda County Flood Control and Water Conservation District or the Alameda County Public Works Agency as appropriate in accordance with standard engineering practice.

4. Road and Erosion Control Plan for CCWD Lease Area: To the extent the project is on land leased from the Contra Costa Water District (CCWD), the Permittee shall submit fire, road and erosion control plans for the CCWD-owned lease area to the CCWD for its review concurrent with Alameda County review.

5. Road Maintenance Fee: Construction plans shall be submitted to the County indicating the precise route of access to the property and the term of construction, for the purpose of establishing road maintenance fees for mitigation of construction-period impacts. Permittee shall be responsible for the cost of maintaining the structural integrity of the County road(s) on the access route during the period of construction.

   (a) For the purposes of this condition, the cost of maintaining the structural integrity of the access road(s) shall be determined as follows:

      (i) a rate per turbine-to-be-installed, per mile of County access road(s) on the route, to be determined by the Public Works Agency prior to approval of the building permit.

      (ii) a rate per turbine-to-be-removed, per mile of County access road(s) on the route, to be determined by the Public Works Agency prior to approval of the building permit.

(b) Prior to commencement of any construction activities, including grading and site preparation, the Permittee shall give written notice to the Zoning Administrator with a copy to the Director of Public Works of the commencement date, proposed access route and estimated duration in months of any construction activities.

(c) Prior to commencement of any construction activities, including grading and site preparation, Permittee shall deposit funds with the County Road Fund in an amount equal to the costs determined by the Public Works Agency as specified in Section (a) of these conditions.

(d) Prior to final inspection, or January 1 of the following year, whichever occurs first, where the actual duration of construction differs from the estimate used to compute and deposit funds, the computation shall be adjusted and additional funds deposited, or refunded to Permittee, accordingly.

(e) This condition shall apply to all county routes except Vasco Road and Altamont Pass Road.

(f) If the proposed construction access route includes the I-580/I-680 interchange, Permittee may be assessed a mitigation fee based on operational impacts of the construction trucks. The amount of mitigation fees will be determined by the Public Works Agency and deposited by the Permittee with the County Road Fund prior to the approval of the building permit.

Archaeology

6. Archaeological Resources: The applicant shall inform all personnel connected with the project of the possibility of finding archaeological resources (e.g., human remains, artifacts, bedrock, bone or shell). If during construction such resources are encountered, all work shall be halted within a 30 meter radius of the findings and a qualified archaeologist retained to ascertain the nature of the discovery. Mitigation measures recommended by the archaeologist and approved by the Planning Director shall be implemented.

Any cultural resource conditions of approval imposed pursuant to existing permits for the area being repowered shall remain in force for this permit.

Design and Operations

7. Design of the turbines and all ancillary facilities shall conform at all times and in all respects with the requirements of the Alameda County Repowering Program, EIR, and Permit Application Requirements, unless specifically approved by the Zoning Administrator at a noticed public hearing based on substantial evidence that the variation

is warranted and would not cause significant impacts other than those identified in the Program EIR.

8. Color Treatment: All wind turbines, blades, towers and structures shall be treated so as to blend with the surroundings to the degree feasible by using neutral colors (white or gray). No symbols or writing indicating manufacturer, operator, etc. shall be allowed on the turbine. Experimental or mitigation treatments may be approved by the Zoning Administrator at a noticed public hearing.

9. Electromagnetic Interference: Wind turbines shall be designed, installed and operated so that no disruptive electromagnetic interference is created. If it is demonstrated to the Zoning Administrator that a wind turbine is causing disruptive interference, the operator shall promptly mitigate the interference, which may include discontinued operation of one or more of the wind turbines, and/or bypass of the local communication system being affected.

Fire and Safety Requirements

10. Windfarm Fire Requirements: The Permittee shall be responsible for continual compliance with the Altamont Pass Windfarm Fire Safety Requirements.

11. Safety Setback: New wind turbines shall have a minimum setback from other land uses as stated below:

    (a) From a Building Site upon which a windfarm has not been approved: three times the total height of the wind turbine (to top of blade), or four times the total height of the wind turbine if the ground elevation of the wind turbine is two or more times the height of the wind turbine above the Building Site at the closest point, but in no case less than 300 feet unless a written, notarized and recorded concurrence of the affected property owner is filed with the Zoning Administrator, and provided that in no event shall the wind turbine violate applicable yard setback requirements.

    (b) From a Dwelling Unit: three times the total height of the wind turbine (to top of blade), or four times the total height of the wind turbine if the ground elevation of the wind turbine is two or more times the height of the wind turbine above the Dwelling Unit. The setback may be reduced by a maximum of 50% where a written, notarized and recorded concurrence of the affected property owner is filed with the Zoning Administrator, but in no case shall the setback be less than 500 feet.

    (c) From a public road, trail, recreation area, commercial or residential zoning existing at the time of the issuance of this permit: three times the total height of the wind turbine (to top of blade), or four times the total height of the wind turbine if the

ground elevation of the wind turbine is two or more times the height of the wind turbine above the feature being protected, but in no case less than 500 feet unless it is shown in a report prepared by a qualified professional, that a lesser minimum setback is adequate, in which case the Zoning Administrator may reduce the safety setback to as little as 300 feet.

(d) From a public road, trail or recreation area, or commercial or residential zoning established within the boundary of the windfarm subject to this permit, and subsequent to the issuance of the permit: the Zoning Administrator shall set the appropriate safety setback from such new use for the additional turbines remaining to be installed pursuant to this permit.

(e) From the traveled way of I-580: six times the total height of the wind turbine (to top of blade), or eight times the total height of the wind turbine if the ground elevation of the wind turbine is 2 or more times the height of the wind turbine above the traveled way of I-580 unless it is shown in a report prepared by a qualified professional, that a lesser minimum setback is adequate, in which case the Zoning Administrator may allow a reduction but in no case less than 500 feet.

12. Notification of Occurrence: The Permittee shall notify the County Building Official of any tower collapse, blade throw, fire, or injury to a worker within the wind farm within five (5) days of such occurrence.

Noise Standards, Complaints and Deposits

13. Noise Standards: Wind turbines shall be sited and operated so as to not exceed the County's noise standard of 55 dBA (Ldn) or 70 dBC (Ldn) as measured in both cases at the exterior of any dwelling unit. If the dwelling unit was built subsequent to the wind energy land use in question, the wind turbines shall be exempt from this standard to the extent the repowering will not result in an increase in sound at the dwelling unit above the level with existing or previously installed turbines. If the dwelling unit is on land under lease from the Permittee, the applicable standard shall be 65 dBA (Ldn) and 70 dbC (Ldn).

14. Noise Complaints: In the event a reasonable complaint is received by the Building Official alleging the presence of sound levels from a wind turbine or windfarm exceeding 55 dBA (Ldn) at a dwelling that was existing at the time this permit was issued (or 65 dBA (Ldn) if the dwelling is on land under lease for a windfarm), or 70 dBC (Ldn) as measured at the exterior of the dwelling:

(a) The Building Official shall report this matter to the Permittee and to the Zoning Administrator and upon receipt of such report, this matter shall be brought to hearing pursuant to Section 17.54.650 and may be considered as provided by Section 17.54.030 of the Alameda County Ordinance Code; and

(b) Upon receipt of the report of the Building Official, the Zoning Administrator shall commission a qualified firm to make a site specific study and furnish a report and recommendation on the circumstances, if any, which would render the project in conformance with all applicable noise conditions; the report shall also include a recommendation to the Zoning Administrator who will make the final determination as to whether subsection (d) shall be imposed.

(c) For a minimum 30-day period from the date of notification, at the time and place as may be agreed upon by the parties involved, Permittee shall attempt in good faith to negotiate a resolution of this matter with the party making the allegation; any such resolution shall be reported to the Zoning Administrator in a timely manner; and

(d) Following the review period as provided under subsection (c) and until the conclusion of the revocation procedures as provided by Section 17.54.030, up to one fourth of the wind turbines authorized by this permit to be constructed or maintained that are in closest proximity to the dwelling of the party making the allegation, shall be made inoperative.

The measurement standard for the A and C-weighted scale shall be adjusted by the Zoning Administrator to allow any sound device that is installed on or around the turbine as a mitigation for bird collisions.

Methods for measuring and reporting acoustic emissions from wind turbines and windfarms shall be equal to or exceed the minimum standards for precision described in AWEA Standard, AWEA 2.1 - 1989 titled Procedures for the Measurement and Reporting of Acoustic Emissions from Wind Turbine Generation Systems (WTGS) Volume I: First Tier.

The Zoning Administrator, in consultation with the Alameda County Environmental Health Services Agency, shall establish criteria for noise samples and measurement parameters such as the duration of data collection, time of day, wind speed, atmospheric conditions and direction as set forth in the Wyle Research Report

15. Deposits: An application for a building permit to implement any portion of this Conditional Use Permit or continued operation of the existing windfarm shall be accompanied by the following deposits, or proof that such deposit has been previously paid by the Permittee:

(a) A $2,000.00 cash deposit shall be made for use in the investigation and evaluation of a noise complaint as provided in Condition 14 herein. If all or any part of said cash deposit is depleted by such activities, the Permittee shall restore the balance of the deposit to the original $2,000.00. In the course of the review of this permit

on the fifth anniversary of its issuance, if warranted by the record, the requirement of this $2,000.00 deposit may be deleted and funds returned to the Permittee.

(b) A $10,000.00 deposit shall be made which may inure to the benefit of property owners or residents residing within one half mile of this windfarm if they suffer damage as a result of a violation of the noise standards contained herein. In the course of the review of this permit on the fifth anniversary of its issuance, if warranted by the record, the requirement of a $10,000.00 deposit may be deleted and funds returned to the Permittee.

Aviation

16. FAA Requirements: Where turbine heights exceed 200 feet or turbines are proposed to be located in protected airspace, the Permittee shall comply with FAA project requirements, if any, and notify the Zoning Administrator of such requirements within 30 days.

Insurance

17. Insurance: A Comprehensive General Liability insurance policy in the minimum amount of $1,000,000 and in the form prescribed in the document "STANDARD WINDFARM INSURANCE REQUIREMENTS, ALAMEDA COUNTY PLANNING DEPARTMENT, MARCH 30, 1983," shall be maintained during the term of this permit. Evidence of such coverage shall be provided to the County prior to issuance of any permit implementing this Conditional Use Permit.

Indemnity

18. Hold Harmless Agreement: By exercise of this Conditional Use Permit, the Permittee agrees to defend, indemnify and hold harmless the County of Alameda, its officers, employees, agents and assigns for any and all liability caused by negligent or wrongful acts of the Permittee arising out of the exercise of this Conditional Use Permit, and to pay all claims, damages, judgements, legal costs, adjuster fees, and attorney fees incurred by the County related thereto.

Non-Functioning Turbines

19. Deposit for Removal of Non-Functioning Turbines: The Permittee shall post a deposit in the amount of $20 per turbine for the removal by the County of wind turbines that are no longer functioning, provided such removal becomes necessary.

20. Inoperative Equipment: Any windfarm not in compliance with the criteria below will be subject to Section 15.04.370 et seq. of the Alameda County Ordinance Code relating to abandoned wind turbines, except as modified herein.

(a) A wind turbine or windfarm shall be deemed abandoned for the purposes of this condition if either of the following occurs:

(i) The windfarm has not produced electricity in one year as stated and verified by the annual status reports and there is no demonstrated plan, satisfactory to the Zoning Administrator, to restore the equipment to a productive operating condition; or

(ii) It can be established that more than 50% of the turbines are actively being removed or are in disrepair and there is no demonstrated plan, satisfactory to the Zoning Administrator, to restore the equipment to a productive operating condition.

(b) Upon determination by the Zoning Administrator that either of the above criteria is present on the property, the Zoning Administrator shall give notice to the Permittee.

(c) Within 30 days from the date of the notice by the Zoning Administrator, the Permittee shall either (1) restore any inoperable or abandoned wind turbine to operating condition; or (2) restore the site of such turbine to its preconstruction condition. However, in the event a building permit is required for either action described above, the Permittee shall satisfy this subsection by applying for such building permit within 30 days from the date of the notice, and completing the activities which are the subject of the building permit within 30 days of the issuance of said permit.

21. If the Permittee does not comply with subsection (c), the County shall, in its discretion, take any legal steps necessary, including the use of deposit funds that have been collected, to restore the turbine site to its preconstruction condition.

Modification of Conditions

22. Five-Year Review: Ninety (90) calendar days after the fifth annual anniversary of the initial approval and within ninety (90) days of subsequent fifth annual anniversaries, the Zoning Administrator may, after notice as provided for in the initial hearing, set this matter for hearing for the purpose of modifying any conditions previously imposed, or addition of conditions that may be required to guarantee the continuance of the affirmative findings contained herein. This consideration may include the imposition of new requirements regarding wind turbine operations and equipment on the premises affected by this permit or appropriate guarantees be filed to ensure compliance with conditions herein. Any condition modified or added shall be of the same force and effect as if originally imposed. Review costs shall be borne by the applicant. If the Zoning Administrator declines to set

this matter for rehearing, then the Zoning Administrator may not set this matter for rehearing until the ninety (90) day period following the next fifth annual anniversary.

Recordation of Use

23. Recordation of Use: The Permittee shall reference wind power or associated development on all leases or easements entered into subsequent to the issuance of this permit, and, wherever possible, shall record such leases and easements and provide proof of such recordation to the County.

Annual Status Report

24. Annual Status Report: Following commencement of operation (initial sale of power), Permittee shall submit to the Zoning Administrator, by April 30 of each succeeding calendar year, a brief status report containing at least the following information: description and rated capacity for all equipment installed, relevant meteorological data collected, actual electric power generated to date broken down into appropriate time categories, and compliance with the terms and conditions of this permit.

Termination

25. Termination: This Conditional Use Permit shall expire 25 years from the date originally approved, but may be considered for renewal, and shall remain revocable for cause in accordance with Section 17.54.030 of the Alameda County Ordinance Code.

Compliance With BRMP

26. Compliance With BRMP: The Permittee shall comply with the terms of the BRMP.

Technical Advisory Committee for Avian Issues

27. Technical Advisory Committee: The Permittee will cooperate with the County in resolving avian issues and mitigating potential avian impacts through the Technical Advisory Committee (TAC) process described in section (I)(B)(4) of the BRMP.

Monitoring

28. Monitoring Program: The Permittee shall be required to implement both the short-term and long term monitoring programs and submit the associated reports described in section (I)(B)(3) of the BRMP.

29. Avian Research Studies: The Permittee shall facilitate and otherwise participate in research studies recommended by the Technical Advisory Committee to the County, or in other studies recommended by the County, for the area covered by the Permittee's project.

Remedial Measures for Avian Collisions

30. Remedial Measures for Avian Collisions: In the event that a turbine is determined through the TAC process to be responsible for a disproportionate number of collision incidents, the Permittee shall comply with remedial action initiated by the County for that turbine in accordance with section (I)(B)(5) of the BRMP. If the United States Fish & Wildlife Service files a complaint seeking preliminary injunctive relief under the Endangered Species Act or other applicable federal laws and regulations for which it is responsible, the County will require the owner of the turbine(s) in question to shut down the turbine(s) pending resolution of the request for preliminary injunctive relief. If a final determination is made that there has been a violation of one or more applicable federal laws and regulations, the County will make a finding that the project in question is out of compliance with the permit and will require that the subject turbine(s) be removed or relocated.

Management of Special-Status Species -- Birds

31. Bald Eagle: In order to minimize potential impacts on the bald eagle to the extent feasible, the Permittee shall implement the design, operational, and siting standards described in section (I)(B)(2) of the BRMP.

32. Peregrine Falcon: In order to minimize potential impacts on the peregrine falcon to the extent feasible, the Permittee shall implement the standards described in section (I)(B)(2) of the BRMP.

33. Golden Eagle: In order to minimize potential impacts on the golden eagle to the extent feasible, the Permittee shall implement the design, operational, and siting standards described in section (I)(B)(2) of the BRMP. In addition, in order to avoid or mitigate potential construction-related impacts on the golden eagle, the Permittee shall implement the measures described in section (II)(C)(1)(e) of the BRMP.

34. Prairie Falcon: In order to minimize potential impacts on the prairie falcon to the extent feasible, the Permittee shall implement the design, operational, and siting standards described in section (I)(B)(2) of the BRMP.

35. Ferruginous Hawk: In order to minimize potential impacts on the ferruginous hawk to the extent feasible, the Permittee shall implement the design, operational, and siting standards described in section (I)(B)(2) of the BRMP.

36. Northern Harrier: In order to minimize potential impacts on the northern harrier to the extent feasible, the Permittee shall implement the design, operational, and siting standards described in section (I)(B)(2) of the BRMP.

37. White-Tailed Kite: In order to minimize potential impacts on the white-tailed kite to the extent feasible, the Permittee shall implement the design, operational, and siting standards described in section (I)(B)(2) of the BRMP.

38. Burrowing Owl: In order to minimize potential impacts on the burrowing owl, the Permittee shall implement the design, operational, and siting standards described in section (I)(B)(2) of the BRMP. In addition, in order to avoid or mitigate potential construction-related impacts on the burrowing owl, the Permittee shall implement the measures described in section (II)(C)(6)(e), paragraphs (1) through (3) of the BRMP.

Management of Special-Status Species -- Other

39. San Joaquin Kit Fox: In order to avoid take of San Joaquin kit fox, during all ground disturbance activities, including the removal of existing towers and ancillary facilities, installation of new towers and ancillary facilities, and road construction activities, the Permittee shall implement the measures described in section (II)(B)(1)(e), subsections (1) through (4) of the BRMP.

40. California Red-Legged Frog: In order to avoid, to the extent feasible, impacts on the California red-legged frog by avoiding habitat for this species, the Permittee shall implement the measures described in section (II)(B)(4)(e) of the BRMP.

41. California Alameda Whipsnake: In order to avoid potential impacts to the Alameda whipsnake, the Permittee shall implement the measures described in section (II)(B)(5)(e) of the BRMP.

42. Vernal Pool Fairy Shrimp and Longhorn Fairy Shrimp: In order to avoid potential direct and indirect impacts to the vernal pool fairy shrimp and longhorn fairy shrimp, the Permittee shall implement the measures described in section (II)(B)(6)(e) of the BRMP.

43. California Tiger Salamander: In order to avoid, to the extent feasible, impacts on the California tiger salamander by avoiding habitat for this species, the Permittee shall implement the measures described in section (II)(C)(7)(e) of the BRMP.

44. Southwestern Pond Turtle: In order to avoid, to the extent feasible, impacts on the Southwestern Pond Turtle, the Permittee shall implement the measures described in section (II)(C)(8)(e) of the BRMP.

45. Special Status Plants: In order to avoid or minimize potential impacts on special status plants, the Permittee shall implement the measures described in section (II)(D)(1) of the BRMP.

Management of Biologically Unique Habitats

46. Biologically Unique Habitats: The Permittee shall avoid direct impacts on biologically unique habitats (i.e., riparian, emergent marsh, alkali meadow, or rock outcrop habitats, as defined in sections (III)(A)-(D) of the BRMP). To avoid impacts on such habitats, no ground-disturbance activity is permitted within 200 feet of such habitats unless no other feasible alternative exists. If no other feasible alternatives exist, then a qualified biologist will assist with siting, conducting clearance surveys, and developing other avoidance strategies as needed.

Permit Expiration for Failure to Implement

47. Permit Expiration: Pursuant to Section 17.52.050 of the Alameda County Ordinance Code, this use permit shall be implemented within 3 years of approval or this permit shall be of no force or effect.