

EXHIBIT C

ALTAMONT PASS WINDFARMS FIRE REQUIREMENTS

ADOPTED 9-22-2005

I. APPLICABILITY

- A. **Intent.** It is the intent of these conditions to provide a reasonable level of fire safety for the operations of wind turbines, related equipment and associated activities in fire hazardous areas.
- B. **Scope.** These conditions shall apply to all property, buildings, structures, operations, and facilities which are owned, leased, operated, maintained or under your control.
- C. **Responsibility.** It is the responsibility of the company to assure all employees and all contractors are informed and adhere to state and local codes and regulations and these conditions of approval.

II. DEFINITIONS

- A. **ACFD** is the Alameda County Fire Department. ACFD is a local fire district governed by the Alameda County Board of Supervisors. This district has responsibility for preventing and suppressing fires within their jurisdiction which includes the majority of the unincorporated areas of Alameda County and includes lands which also fall within the responsibility of CDF.
- B. **CDF** is the California Department of Forestry and Fire Protection. CDF is a state department having the financial responsibility of preventing and suppressing fires on lands defined by statute which includes the majority of wildlands in the unincorporated area of Alameda County.
- C. **SRA** is State Responsibility Area. This is land which in CDF has the financial responsibility of preventing and suppressing vegetation fires as defined by statute.
- D. **Hazardous Fire Area** is land which is covered with grass, grain, brush or forest, whether privately or publicly owned, which is typically referred to as rural or agricultural lands and includes all State Responsibility Areas.
- E. **Hazardous Operations** are those operations and activities which occur anytime flammable vegetation exist and which normally produce sparks or flames such as welding, grinding, cutting, and mowing.

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F. **High Fire Danger** exist anytime flammable ground vegetation exist and any one of the following conditions exist:

1. Air Temperature is 90 degrees Fahrenheit or greater.
2. Wind Speed is 8 miles per hour or greater.
3. Relative Humidity is 20% or less.

Exceptions:

- (1) When wind speeds are 15 mph or less and the relative humidity is greater than 60%.
- (2) When Wind speeds exceed 15 mph and the relative humidity is greater than 80%

G. **Very High Fire Danger** exists during the declared fire season when any one of the following conditions exist:

1. Winds are 25 mph or more.
2. Relative humidity is less than 15%.

Exception: When relative humidity is greater than 80%.

III. BUILDINGS AND STRUCTURES

A. **Clearances.** All buildings and structures which are owned, leased, operated, maintained or under your control which are upon or adjoining hazardous fire areas shall be maintained with an effective firebreak by removing and clearing away flammable vegetation and combustible growth from within 30 feet of such buildings or structures.

Additional clearances of up to 100 feet may be required by CDF or the ACFD if, after inspection, such clearances are deemed necessary.

B. **Clearances.** Where buildings or structures are located closer to property lines than the minimum clearances required, clearances shall be made up to the property line, and efforts shall be made to gain permission to clear flammable vegetation from the adjoining property line as necessary to meet the clearance requirements.

If permission is not granted by the adjoining property owner, proof that such permission was requested and denied shall be presented to the Alameda County Fire Department, along with the name, address and phone number of the adjoining property owner.

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Note: Clearance requirements for wind turbines are in Section VI and requirements for electrical collection, transmission, and distribution lines are in Section IV.

- C. **Location.** New buildings and structures shall be set back from property lines a distance equal to the minimum vegetation clearance distance requirement.

Reduction in setbacks may be permitted where the adjoining property owner has provided for an allowance which would permit proper clearances to be provided.

- D. **Chimneys.** Chimneys and stovepipes used with fire places or heating appliances in which solid or liquid fuel is used shall be maintained with a spark arrester and, any portion of any tree or combustible vegetation which extends within 10 feet of the outlet of the chimney or stovepipe shall be removed.

Spark arresters shall have an area not less than four times the net free area of the chimney it serves. Spark arresters shall be constructed of a heavy wire mesh having openings which will not permit the passage of a sphere having a diameter larger than 1/2 inch nor block the passage of a sphere having a diameter less than 3/8 inch. Spark arresters shall be adequately supported and secured.

- E. **Roofs.** The roof of any structure shall be maintained free of leaves, needles, or other dead vegetative growth, and any tree or other combustible vegetation which is adjacent to or overhangs any building shall be maintained free of dead or dying wood.

- F. **Roofs.** All new roofs or re-roofing exceeding 50% of the roof area shall be done with a minimum Class B fire resistant roof assembly.

- G. **PRC 4290.** All construction shall meet the requirements of the Public Resource Code 4290, Title 14, Division 1.5, Chapter 7, California Code of Regulations concerning but not limited to addressing, access roads and water supply. Where ACFD fire codes and standards are more restrictive, then their provisions shall apply.

IV. ELECTRICAL COLLECTION, TRANSMISSION AND DISTRIBUTION LINES

- A. **Pole and Transmission Tower Clearance.** Electrical lines which are owned, leased, operated, maintained, or under your control which are located upon or adjacent to hazardous fire areas shall maintain around

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and adjacent to poles supporting a non-exempt switch, fuse, transformer, lightning arrester, line junction, dead end, or corner pole, an area free of flammable vegetation for a distance of not less than 20 feet in diameter except as noted in the next paragraph.

A tear drop shaped clearance of 10 feet minimum, with 20 foot minimum down wind and/or up-slope from the pole is acceptable. Additional clearance may be required when conditions demonstrate that 20 feet in diameter is inadequate.

Where existing clearance practices are greater than 20 feet in diameter, the minimum clearances being provided by the current practice shall be maintained.

Lines used exclusively as telephone, telegraph, messenger call, alarm transmission or other lines classed exclusively as communication circuits are exempt.

- B. **Conductor Clearances.** Conductors on poles or transmission lines, shall be provided with clearances as specified in the Public Resource Code, Section 4293. For conductors of 750 volts or less, a minimum clearance of two feet shall be maintained.
- C. **Exempt Hardware.** Where exempt hardware exists as defined by Title 14, California Code of Regulations, Section 1258, such hardware shall be utilized on all new and replacement parts.
- D. **Standards.** All new construction shall be constructed to the minimum requirements of the National Electrical Code and for overhead transmission lines the CA Public Utilities Commission General Order 95 and where financially and practically feasible, all electrical installation should go underground.

V. AVIAN ELECTROCUTION PROTECTION

- A. **Existing Overhead Power Lines.** Riser poles, corner poles, poles with pole top transformers, capacitor banks and metering sets shall be equal to or exceed the following:
 - 1. All jumper wires shall be insulated with a minimum 5 kV rating.
 - 2. All exposed terminals shall be covered by approved wildlife boots.

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3. All straight combination arms on riser poles shall be made of non-conductive material. Aluminum type material is prohibited.
 4. Bonding of pole top devices mounted on non-conductive arms shall be done with insulated wire.
 5. Poles with a history of electrocutions shall be modified on a case by case basis within 30 days from the date of the electrocution event.
- B. **New Overhead Power Lines.** New overhead power lines shall meet all the requirements noted in Section V-A items 1 through 5, and as follows:
1. Compliance with PG & E standard #061149 Raptor-Protected Primary Construction Wood Pole Distribution Lines except as modified herein to require bonding of pole top devices mounted on non-conductive arms with insulated wire.
- C. **Additional Measures.** Where these measures or equivalent have not prevented bird electrocution, windfarm companies shall take additional measures, as necessary, to reasonably prevent the electrocution of birds.
- D. **Alternate Means.** Alternate means of protection providing the same practical effect as these requirements may be utilized upon approval by the Zoning Administrator and fire authorities.

VI. WIND TURBINES

- A. **New Windtowers.** Newly constructed windtowers which are not totally enclosed shall be provided with a yaw damper or other approved method which will prevent the over-twisting of pendent cables.
- B. **Existing Windtowers.** Existing windtowers, which are not totally enclosed, shall be provided with a twisted pendent cable sensor shutdown or a yaw damper system whenever the windtower is re-deployed or rebuilt.

Existing windtowers which have a history of nine or more "visits/services" with 45 twists in any twelve month period shall have a yaw damper or twisted pendent cable sensor shutdown installed no later than August 1, 1994.

Existing windtowers which have a history of six to eight "visits/services" with 45 twists in any twelve month period not equipped with a yaw damper or twisted pendent cable sensor shutdown shall be maintained free of

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flammable vegetation to a distance of not less than thirty feet from around the base of the tower measured from the outer legs of the tower.

When a row of windtowers has a history of two or more pendent twist visits/services with 45 twists in any twelve month period per windtower, then every tower in the row shall have a yaw damper or a twisted pendant cable sensor shutdown no later than May 15, 1995.

- C. **Clearances.** Vegetation clearances around wind turbines and their associated electrical component such as panel boxes and transformers may be required by CDF or the Alameda County Fire Department when clearances are determined necessary by the fire agency because of actual or potential fire risk associated with the equipment. Such clearances shall be adequate to mitigate the risk which necessitate the clearances.

VII. **MACHINES AND POWER TOOL USAGE**, other than vehicles and turbines.

- A. **General Provisions.** Any time flammable vegetation exist, no person shall operate any motor, engine, welding, cutting, grinding, or other tool or equipment from which a spark, fire or flame may originate without meeting all of the following requirements:
 - 1. Vegetation clearances of 15 feet shall be provided in all directions around the area of operation.
 - 2. A serviceable round point shovel at least 46 inches in length and a minimum 5 gallon water backpack fire pump shall be maintained within 25 feet of the operation.
 - 3. A radio or equivalent shall be available at the operation site in which to report emergencies.
- B. **Hazardous Operations Prohibited.** Any time flammable vegetation exist, operations, such as welding, grinding, cutting, and mowing and other activities which normally produce sparks or flames shall not be permitted during periods of high or very high fire danger.
- C. **Hazardous Operations Precautions.** Any time flammable vegetation exists, and such hazardous operations are not prohibited because of high or very high fire danger, such operations may be permitted if the requirements of item VII-A are met as well as the following:

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1. A fire watch shall be maintained on the ground within 25 feet of the hazardous operation. The function of this person during the hazardous operation is to watch for fires.
2. The person maintaining the fire watch shall be equipped with a radio or similar device for reporting emergencies, a minimum 46 inch long round point shovel, and a 5 gallon backpack water pump.
3. An additional round point shovel and 5 gallon backpack water pump shall be available within 50 feet of the hazardous operation.
4. In addition to the normal 15 foot clearance requirements, an additional 15 feet of clearance or wetting down of vegetation shall occur. The water utilized for wetting the area shall not be from water required for the backpack water pumps, and the area shall be maintained wetted throughout the operation. Where practical, welding curtains or screens shall also be utilized.
5. When possible, welding, cutting and spark producing operation shall occur at grade level. When such is not possible welding curtains or screens shall be used around the operation and so installed to prevent sparks or slag from traveling beyond the cleared area at ground level.

D. **Spark Arresters.** Spark arresters shall be installed and maintained on the exhaust system(s) of any internal combustion engine.

VIII. GENERAL FIRE SAFETY MEASURES

A. **Vehicles.** All field work vehicles, including sub-contractors, shall be provided with a means for reporting emergencies and shall have at least one round point shovel at least 46 inches in length, one 5 gallon backpack water pump, and a minimum 1A5BC fire extinguisher.

Vehicles not engaged in field operations and which do not routinely access the site need not comply.

B. **Vehicles.** Vehicles shall not travel off-road or upon roads which have not been maintained free of flammable vegetation during periods of very high fire danger except when necessary because of an immediate hazard to life or property. Vehicle travel during lesser levels of fire danger shall only occur when operationally necessary.

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Vehicles which travel over flammable vegetation shall have adequate ground clearance so as to prevent any part of the exhaust system or exhaust emissions from coming in contact with the flammable vegetation. Vehicles shall not be parked "at idle" at any time over flammable vegetation.

- C. **Vehicles.** Approved spark arresters shall be installed and maintained on the exhaust system of any internal combustion engine that is or will be used in a hazardous fire area unless such as a muffler as defined by the Vehicle Code, or has a turbo charge engine where all exhaust gases pass through the rotating turbo wheel, and there is no exhaust by-pass to the atmosphere, and the turbo charge is in effective mechanical condition.
- D. **Fire Tools.** A fire tool cache shall be maintained at each maintenance or supply building as necessary to assure all vehicles, including sub-contractors' vehicles, are equipped with the fire protection items specified by these conditions of approval when entering a hazardous fire area.
- E. **Orientation.** Prior to the fire season, and upon hire of new employees or sub-contractors, an orientation concerning fire hazards, fire safety, emergency notification procedures, use of fire safety equipment and fire safety rules and regulations, including those noted in the conditions of approval shall be provided by the company for those employees who may work in the fire hazardous areas.
- F. **Smoking.** Smoking shall not be permitted in hazardous fire areas except in vehicles parked in areas cleared of flammable vegetation and in designated smoking areas at building sites.
- G. **Debris Clearance.** All areas of the windfarms, except those areas specifically designated and maintained for such items, shall be kept clear of construction, maintenance, and miscellaneous parts and debris so as to minimize hazards to emergency vehicle operations and emergency personnel.
- H. **Mowing.** Mowing is considered a hazardous practice when flammable vegetation exists and should only occur when vegetation is nonflammable.
- I. **Unforeseen Problems.** Any installation which results in a fire hazard shall be addressed by the company and measures taken to prevent or mitigate the problem. The Alameda County Fire Department or CDF may require measures to mitigate or correct any such problems based on objective fact.

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- J. **Maintenance/Inspections.** Fire safety requirements and conditions shall be maintained at all times. Inspections and reviews shall be provided in order to maintain compliance with fire safety requirements and conditions.
- K. **Reasonable Measures.** Nothing in these conditions are intended to diminish the responsibility of the windfarm companies from taking any additional reasonable and prudent measures necessary to preclude the ignition and rapid spread of fire.

IX. IDENTIFICATION/SIGNAGE

- A. **Roads.** A road identification and mapping plan shall be developed and implemented in cooperation with the County, CDF, ACFD, landowners, and windfarm companies. Such mapping shall include water supply locations, buildings and other major features.

All gates, main entrances, through roads, intersecting roads, road junctions, "y's", and "t's", shall be identified with approved signage. Identification of minor spur roads is optional and shall be determined in the field.

- B. **Addresses.** All buildings or building groups shall be identified with addressing in accordance with the county address sequence. Addresses shall be clearly posted on buildings, entrance gates, or next to roadway entrances so as to be clearly visible from both travel directions along the roadway. Posting shall be as approved by the ACFD.

X. ROAD ACCESS/FIRE BREAKS

- A. **Roads.** New access roads shall be provided in accordance with Public Resource Code 4290, Title 14, Division 1.5, Chapter 7, California Code of Regulations, and the ACFD codes and standards. Where possible, roads shall be placed so as to take advantage of the topography in order to maximize the effectiveness of the roads as a fire break.
- B. **Approvals.** New roads shall have plans submitted to the ACFD for review and approval prior to construction.
- C. **Clearances.** All main and through roads, and those roads designated as required fire breaks shall be maintained free of flammable vegetation.
- D. **Maintenance.** All required roads shall be maintained accessible to fire apparatus, and shall be determined upon development of the mapping plan.

XI. WATER SUPPLIES.

- A. **Water Storage.** Year-round water supplies of not less than 5000 gallons capacity shall be provided for fire fighting purposes in strategic locations within the site. Such locations shall be noted on the road map plan. The number and location of such water supplies shall be determined in cooperation with the landowners, CDF, ACFD, and windfarm company.

XII. ANNUAL FIRE PREVENTION PLAN.

- A. **Required Plan.** On or before April 15th of each year the company shall file a current copy of its fire prevention plan with the ACFD and the Department of Forestry and Fire Protection. The ACFD and/or CDF may review this plan and if necessary require modification. The elements of the plan, as a minimum, shall include:
1. A description of the operating area along with a map showing major access routes, significant hazards, fire fighting water supply locations, and a 24 hour emergency contact phone number.
 2. An analysis of fire causes going back a period of no less than two years. List any trends indicated by the fire causes along with a plan of correction/proposed solutions for preventing these fire causes. Provide an implementation and completion date for all plans of correction.
 3. Procedures pertaining to reporting of emergencies, curtailment of hazardous activities during high and very high fire danger periods, weather monitoring for establishing the fire danger, and company action plan for fire suppression.
 4. Your training/orientation program for your employees and contractors pertaining to fire safety, suppression, and emergency notification.
 5. A list of state and local fire laws applicable to your operations, and any conditions of approval pertaining to fire safety along with your company operating procedures which indicate your compliance with these laws and/or conditions of approval.

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6. Staffing and equipment assignment and inventories as follows:
 - a. Company emergency incident manager and 24 hour contact phone number.
 - b. General staff responsibilities and specialist responsibilities.
 - c. Available motorized equipment for fire fighting and support operations.
 - d. Location, type, and number of fire fighting tools and equipment.

XIII. FEES

- A. **Existing Fees.** Plan submittal and plan review; construction and installation inspections; permits; and regular inspections shall have fees paid to the County providing such services in accordance with the department's adopted fee schedule.
- B. **Water/mapping Fees.** Fees, based on the reasonable costs, for developing and implementing the water supply plan and road mapping requirements, shall be provided for by the windfarm companies to the agency incurring the costs.

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