

## **APPLICANT'S STATEMENT**

### **HALUS POWER SYSTEMS WIND TURBINE**

**February 28, 2012**

Halus Power Systems is requesting approval of a Variance to allow an 80-foot tall, single wind turbine to be located in the interior of their property at 2539 Grant Avenue, San Leandro, CA.

#### **ZONING AUTHORITY**

Pursuant to Section 2-706.A.32 "Telecommunications Antennae and/or Alternative Tower Structures up to sixty (60) feet in height" are permitted in the I-G Zoning District. Therefore, a variance is required. The proposed tower would be an "accessory use" to the primary manufacturing/ R&D use in the building and on the site.

#### **BACKGROUND**

Halus Power Systems, a San Leandro "green technology" company, and North America's leading supplier of remanufactured wind turbines, moved to its current 5 acre San Leandro facility at 2539 Grant Avenue in 2010. The company also designs and manufactures wind turbine components including digital and mechanical control systems. In addition, the company also engages in significant research and development activities to increase the energy efficiencies of wind technologies and equipment. This R&D is done independently and in partnership with other industry leaders and requires the testing of these new technologies on functioning turbines.

Halus Power Systems currently employs 10 people and has plans for significant growth in coming years. It is precisely the type of company envisioned and supported by the City's General Plan, the State of California, Alameda County and East Bay Green Corridor Initiative policies. The following is brief list of some of those policies:

#### **STATE, LOCAL AND REGIONAL POLICIES REGARDING WIND ENERGY**

- California Government Code Section 65893.
  - (a) The Legislature finds and declares all of the following:
    - (1) Wind energy is an abundant, renewable, and nonpolluting energy resource.
    - (2) Wind energy, when converted to electricity, reduces our dependence on nonrenewable energy resources, reduces air and water pollution that result from conventional sources burning fossil fuels, and reduces emissions of greenhouse gases.
    - (3) Distributed generation small wind energy systems also enhance the reliability and quality of electricity delivered by the electrical grid, reduce peak power demands, increase in-state electricity generation, diversify the state's energy supply portfolio, and make the electricity supply market more competitive by promoting consumer choice.

(4) Small wind energy systems designed for onsite home, farm, and small commercial use are recognized by the Legislature and the State Energy Resources Conservation and Development Commission as an excellent technology to help achieve the goals of increased in-state electricity generation, reduced demand on the state electrical grid, increased consumer energy independence, and nonpolluting electricity generation.

- California Government Code Section 65897:  
It is the policy of the state to promote and encourage the use of distributed renewable energy systems and to limit obstacles to their use, and it is the intent of the Legislature that local agencies encourage the installation of distributed renewable energy systems by removing obstacles to, and minimizing costs of, permitting distributed renewable energy systems.
- California Public Resources Code Section 25300.  
(a) The Legislature finds and declares that clean and reliable energy is essential to the health of the California economy and of vital importance to the health and welfare of the citizens of the state and to the environment.
- California Public Resources Code Section 26001:  
The Legislature hereby finds and declares all of the following:
  - (a) It is essential that the state, in cooperation with the federal government, use all practical and commercially feasible means to promote the prompt and efficient development of energy sources which are renewable or which more efficiently utilize and conserve scarce energy resources.
  - (b) The promotion of energy sources which reduce the degradation of the environment and which protect the health, welfare, and safety of the people of this state is in the public interest and serves a public purpose.
  - (c) It is essential that the state, in cooperation with the federal government, use all practical and commercially feasible means to promote the development and commercialization of advanced transportation technologies to conserve energy, reduce air pollution, promote economic development and jobs, and protect the health, welfare, and safety of the people of the state.
- California Public Resource Code Section 25695  
In enacting this chapter, the Legislature hereby finds and declares all of the following:
  - (a) The development and commercialization of energy technologies and energy conservation is a vital element in meeting the state's energy needs.

## **EAST BAY GREEN CORRIDOR POLICIES**

- Support local green businesses in a way that expands markets and/or removes barriers;
- Leads to Green Corridor economic development and high quality job creation;
- Connects to workforce training for a variety of wage and skill levels, providing career ladders for low income wage earners whenever possible;
- Improves the environment and quality of life by reducing greenhouse gas emissions and toxicity, improving water conservation, or conserving natural resources.

## **SAN LEANDRO GENERAL PLAN**

- Section 7.03 Sustainable Manufacturing  
Promote environmentally sustainable manufacturing practices by San Leandro businesses and focus business attraction efforts on clean, environmentally friendly businesses.

## **SAN LEANDRO CLIMATE ACTION PLAN**

- Section 3.3 Goal: Increase residential, commercial and industrial renewable energy use  
“On-site renewable energy systems offer another important lever for reducing emissions...To encourage on-site renewable energy, one common strategy employed by other local governments is to offer expedited permitting procedures for renewable generation and green buildings.”

## **DETAILS OF THE PROPOSAL**

To continue its leadership in the area of renewable energy and to grow in San Leandro, Halus Power Systems requires an on-site wind turbine. The turbine will allow the company to do on-site research and development to continue the development of more efficient technologies. The addition of the wind turbine will allow the company to grow in San Leandro and improve its competitive position in the wind energy field. The wind turbine will also reduce or eliminate the dependence upon fossil fuel-based sources for the energy demands of their factory and office building.

### **Turbine Structure Details**

*(Note: Exhibit A attached, includes typical design and structural details for the turbine. Precise engineering calculations will be designed by a registered structural engineer based upon a geotechnical analysis of existing soil characteristics. The design will comply with all building and seismic codes. Details will be submitted as part of the building permit application.)*

### **Location:**

The proposed turbine would be located as shown on Exhibit B, with a minimum setback of 100' from the nearest property line or structure.

Dimensions:

**Height:** 80 feet in height to top of structure as shown in Exhibit A attached. Blades would extend 20 feet from the structure.

**Diameter:** The below grade concrete structural foundation will be approximately 20 feet in diameter. The foundation design loads will be designed by a registered structural engineer. The portion of the foundation that will be above ground and visible will be approximately 8 feet in diameter (to support the 6 foot diameter tower) and approximately 1 foot above finished grade.

Operations: The turbine will operate at times when wind conditions are suitable. The blades will rotate at a maximum of 44 revolutions per minute (rpm's) unlike smaller turbines with direct current (DC) power that can operate in excess of 300 rpm's. The slower blade rotation makes it operate quietly and with no impact to bird populations as the blades are clearly visible due to their slow speed. We have attached noise information for a similar (but slightly larger and louder model), which shows that the noise levels are below the standard industrial noise levels for the property at it's property lines.

Energy Generation: The proposed turbine will generate a peak of approximately 50 kW of electricity, which will significantly reduce Halus Power System's dependence on electricity created from fossil fuels. The annual production is expected to be about 75,000 kWh's, which is very close to current electrical consumption of the current operations. This is a specific goal of the San Leandro Climate Action Plan.

Noise: As noted above, the proposed turbine will operate quietly with fewer noise impacts than other allowable and ubiquitous noise-generating equipment in the I-G Zoning District. Noise levels for the proposed turbine will not exceed 55 dBA and will therefore be well below the ambient noise levels in the area and significantly lower than the noise levels illustrated on Table 6.1 and Figures 6.2 and 6.3 of the City's General Plan. In addition, the property is located near and significantly affected by the aviation noise of aircraft approaching the Oakland International Airport. [Please refer to Exhibit D for Noise Specifications]

Design /Aesthetics: The proposed wind turbine will be located on a "mono-pole" in the interior of the site. The mono-pole design reduces the profile and visibility of the structure, especially when compared to the "lattice-structure" design of the nearby electrical high tension wires.

(Another important benefit of the proposed mono-pole design is that it creates no opportunities for birds to perch and thereby reduces the risk to bird populations.)

Exhibit C includes a number of photo simulations showing the location of the proposed turbine tower from various vantage points. The applicant used a crane arm elevated to 80 feet in height. The end of the crane arm simulates the height of the top of the turbine tower. A 20-foot extension pole was placed at the end of the crane arm to simulate the length of the turbine blades. In the proposed location and given the many other tall structures including PG&E high tension lines and a recently approved cell phone antenna pole, the proposed wind turbine will create no adverse visual impacts. Further, for many, the view of a wind turbine is considered an attractive and interesting addition to an industrial areas and a reminder of the City's commitment to alternative energy sources.

Compliance with Building Codes: The proposed wind turbine will comply with all building codes including electrical, mechanical, structural, seismic and civil engineering requirements.

Compliance with applicable Federal Aviation Administration requirements: The proposed wind turbine will comply with all requirements of the Alameda County Airport Land Use Commission. An application has been submitted to the County for approval of the wind turbine. According to Cindy Horvath, Alameda County Planner, the proposed turbine is unlikely to be denied by the County or the FAA. The City's approval of the project will include a condition of approval requiring compliance with all conditions of approval of Alameda County and the FAA.

Environmental Review: The analysis of potential environmental impacts and the answers to the Environmental Checklist in Exhibit C, demonstrate that the proposed project will not have a significant effect on the environment.

## **ZONING**

The property is located in the I-G zoning district, San Leandro's most intensive industrial zoning district.

## **SURROUNDING LAND USES**

Properties in the vicinity include an adjacent recycling operation, warehousing and distribution facilities, the Ora Loma Sanitary District wastewater operations, a PG&E

electrical sub-station and large high-tension electrical lines. In addition, an 80-foot tall cellular telephone tower is located to the southwest. The Heron Bay residential community is located to the north across San Lorenzo Creek Storm water Drainage Channel. A row of tall trees along the property at the creek edge provides a substantial visual screen obstructing the view of the property from the homes.

### **ZONING APPLICATION REQUEST – HEIGHT VARIANCE**

Pursuant to Zoning Code Section 2-706-32: “Telecommunications Antennae and/or Alternative Tower Structures up to sixty (60) feet in height” are permitted in the I-G Zoning District. This application is seeking a Variance to allow a tower structure of 80 feet. This tower would be an “accessory use” to the primary manufacturing/ R&D use in the building and on the site.

### **ANALYSIS/DISCUSSION**

The variance for the proposed wind turbine is appropriate, necessary. It is an important step in meeting the City’s Climate Action Plan. It is also important from a land use and economic development perspective. Halus Power Systems is an important example of “green” businesses that want to locate in San Leandro. The types of research and development that the wind turbine will promote, could result in significant growth in employment and tax revenue to the City. In order to approve the Variance, the Board of Zoning Adjustments must approve required findings. The findings for approval can be made in the affirmative as follows:

1. That because of special circumstances or conditions applicable to the subject property, including narrowness and shallowness or shape, exceptional topography, or the extraordinary or exceptional situations or conditions, strict application of the requirements of this Article would result in peculiar and exceptional difficulties to, or exceptional and/or undue hardships upon, the owner of the property;

**The subject property is a “panhandle lot” with no visibility from Grant Avenue. Views from the north are obscured by the row of tall trees that have been planted along the southern property line. Access to the property is from a 576-foot long driveway. The location of the wind turbine would minimize any view from the street or nearby properties. A height of 80 feet, which is necessary for the turbine to function properly and efficiently, is easily accommodated on this particular site due to the property’s shape and location.**

2. That the relief may be granted without substantial detriment to the public good, without substantial impairment of affected natural resources, and without significant detriment or injury to property or improvements in the vicinity of the development site or to the public health, safety or general welfare; and

**No detriment to the public good will occur as a result of this Variance. The proposed wind turbine will be located at the interior of the 5-acre site and the site**

**itself is virtually invisible from nearby properties. Further, it will be located a minimum of 100 feet from any property line or structure. Therefore no detriment, impairment or injury to property or the public health, safety or general welfare will result.**

3. That granting the application is consistent with the purposes of this Code and will not constitute a grant of special privilege inconsistent with limitations on other properties in the vicinity and in the same zoning district.

**The approval of this application is consistent with City, State and County policies related to the promotion of renewable energy sources and the City's General Plan and Zoning Code. It would not constitute a grant of special privilege since those policies would apply to all properties in the vicinity.**

