Amendment

Final Environmental Impact Report

Shiloh II Wind Plant Project

April 2007

Prepared for: Solano County Department of Resource Management

Comment Letter 5

Solano County
Airport Land Use Commission
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John Foster
Chairman

November 28, 2006

Mr. Dan Mahoney, Chairman
Solano County Planning Commission
675 Texas Street, Suite 5500
Fairfield, CA 94533

Subject: **Shiloh II Wind Plant Project – Shiloh Wind Partners LLC (enXco)**
Airport Land Use Commission Determination (ALUC-05-05)
Use Permit (U-05-25)

Attn: Chairman Mahoney

The Solano County Airport Land Use Commission (ALUC), at its regular meeting of November 9, 2006, found the proposed Shiloh II Wind Plant Project (ALUC-05-05) to be consistent with the Travis AFB Land Use Compatibility Plan (LUCP) of 2002. 5-1

The ALUC further found the consistency analysis contained in the Draft EIR for the Shiloh II Wind Plant Project to be adequate, provided the following are included in the Final EIR:

1) That the following mitigation measure is added:

LU-1b(c) - FAA Notification - Applicant shall provide evidence that notification to FAA has been provided, pursuant to FAA CFR Part 77, Paragraph 77.13(a)(1), including the outcome of this notification and any conditions required by the FAA, prior to the installation of each wind turbine and meteorological tower. 5-2

2) That the Final EIR address the following concerns expressed by the Commission:

a) Potential turbine impacts on the new digital radar to be installed at Travis AFB in 2008;

b) Potential turbine impacts on weather radar (on-plane) at low-level flights; 5-3

c) Potential daytime visual affects (disorientation, distraction or reflection) to pilots from rotating turbine blades.

Sincerely,

Ronald E. Glas
Principal Planner

The following Section is revised as shown. Underlined text shows additions and ~~strikethrough~~ shows deletions.

5. Responses to Comments from the Airport Land Use Commission (November 28, 2006)

The comments below are specific to the Shiloh II Wind Project.

5-1 Consistency with the Travis AFB Land Use Compatibility Plan of 2002

The Solano County Airport Land Use Commission (ALUC) has found the Shiloh II Wind Project to be consistent with the Travis AFB Land Use Compatibility Plan (LUCP), which is hereby noted and requires no response.

5-2 Federal Aviation Administration Notification

The Airport Compatibility Subcommittee of the Solano County ALUC has found the Shiloh II Wind Project to be consistent with the Travis AFB LUCP, subject to compliance with the following recommendation:

> LU-1b(c) – Federal Aviation Administration (FAA) Notification – Applicant shall provide evidence that notification to FAA has been provided, pursuant to FAA CFR Part 77, Paragraph 77.13(a)(1), including the outcome of this notification and any conditions required by the FAA, prior to the installation of each wind turbine and meteorological tower.

Mitigation Measure LU-1b in Chapter 13 "Land Use" of the Draft EIR at page 13-21 has been updated to include this recommended measure (see Section 2 of this Final EIR).

On November 6, 2006, the FAA issued a "Determination of No Hazard to Air Navigation" for each of the proposed Shiloh II wind turbines and meteorological towers based on the use of 67-meter (m) and 80-m REpower turbines. It should be noted that since the issuance of these determinations, Shiloh II proposed to use a taller 68-m turbine in place of the previously proposed 67-m turbine, resulting in a one meter height increase. Because the proposed 68-m turbines would be installed at the same locations as was proposed for the 67-m turbines and analyzed in the Draft EIR, conform to the height restrictions of Travis Air Force Base (refer to the discussion in Chapter 13 "Land Use" of the Draft EIR at page 13-19), and would be the same color, it is anticipated that the use of the 68-m turbine would not change the FAA's determination of no hazard. Nevertheless, Shiloh II is required to re-notify the FAA of this change and, per Mitigation Measure LU-1 at page 13-21 in the Draft EIR and as revised in Section 2 of this Final EIR, must furnish Solano County with a determination of affect from the FAA for use of the 68-m turbines and the final siting of wind turbines and associated facilities. This documentation must be received by Solano County prior to installation of any turbines. Shiloh II would be required to adhere to conditions required by the FAA.

5-3 ALUC Comments

The ALUC commented that the following questions be addressed in the Final EIR:

a) What are the potential turbine impacts on the new digital radar to be installed at Travis AFB in 2008?

In 2006, the Department of Defense prepared a Report for the Congressional Defense Committee called "The Effect of Windmill Farms on Military Readiness." The report discusses the effects of wind farms on air defense, missile warning radars, and military readiness. The report concludes that although wind turbines located in the line of ~~site~~ sight of a radar system can adversely affect a radar's ability to locate and track airborne objects, the impact would depend on the number and location of turbines. Therefore, a conclusion about a wind project's impacts on existing and future radar systems has to be made on a case-by-case basis.

Because of the height of the proposed turbines, the Shiloh II Wind Project requires review and authorization by the FAA to determine impacts on air navigation. A review of the Shiloh II Wind Project's potential impacts to airspace was conducted by the FAA per Title 14 of the Code of Federal Regulations, *Part 77, Objects Affecting Navigable Airspace*. The primary objective of the FAA's aeronautical study is to ensure that the proposed project under review would not jeopardize the safety of air navigation by causing an electromagnetic or physical encroachment that would adversely affect normal airspace operations. The aeronautical study is conducted, in part, in accordance with the FAA *Order 7400.2F, Procedures for Handling Airspace Matters* (February 16, 2006), which requires an obstruction evaluation to identify whether the proposed project would have an adverse affect on:

- Existing and proposed public-use or military airports or other aeronautical facilities;
- Existing visual/instrument flight rule aeronautical departure, arrival and in-route operations, procedures and minimum flight altitudes;
- Physical, electromagnetic interference with existing or proposed air navigation systems, communication, radar and control systems; and
- Airport capacity (including cumulative impacts).

The FAA conducted an aeronautical study for the Shiloh II Wind Project. As part of that study, according to the FAA (Merritt 2006), the evaluation process included coordination with a combination of nine military and civil agencies and an evaluation of radar (both military and FAA). Of these agencies, the Department of Defense was consulted by the FAA and represents the interests of Travis AFB. The FAA Airports Division looks at impacts on all nearby public use airports and plans on file for these airports; the Flight Procedures Division evaluates impacts on all standard instrument approach procedures,

federal airways, minimum safe altitudes, etc.; and the FAA Frequency Management group looks at electronics and frequency intermods.

As a result of their aeronautical study, the FAA determined that the Shiloh II Wind Project would not have an adverse effect on air navigation and on November 6, 2006, issued a "Determination of No Hazard to Air Navigation" for each of the proposed turbines ~~and meteorological towers~~. Relevant government agencies were also notified of the Shiloh II Wind Project through the FAA and CEQA processes. ~~No evidence has been presented by any of these agencies that the proposed turbines would have a significant adverse impact on the operation of any future radar Travis AFB may install.~~

Subsequent to completion and distribution of the Final EIR, comments were received from Travis AFB in a letter dated March 8, 2007 and at the Solano County Planning Commission hearing of March 15, 2007 for the Shiloh II project. According to Travis AFB, the existing wind turbines in the wind resource area are affecting the performance of their existing radar equipment, and this concern extends to their planned radar equipment and the installation of any additional wind turbines in the area. A resolution of these radar concerns will be addressed through the County's use permit process for the Project.

The Shiloh II and Montezuma Wind project developers, together with Travis AFB staff, have settled on a process to resolve the late-reported radar issues of Travis AFB. That process includes the development of a written agreement between Travis AFB and the wind project developers that must be executed before any new wind turbines for either project are built. The agreement will provide the framework for implementing radar solutions including the responsibilities of the wind project developers to the satisfaction of Travis AFB. If the radar issues are not resolved to the satisfaction of Travis AFB, an agreement will not be executed and no new turbines would be installed, delaying the Shiloh II and Montezuma Wind projects until effective radar solutions can be found. Travis AFB and the wind project developers support the inclusion of the agreement as a condition of approval for the use permit for the respective wind projects. This arrangement assures that no new turbines will be installed unless the radar concerns of Travis AFB have been resolved.

b) What are the potential turbine impacts on weather radar (on-plane) at low-level flights?

Studies from the British Wind Energy Association show that potential impacts on airborne weather radar at low flight levels are generally limited to situations when airplanes are physically shadowed by the turbines, so the further the turbines are from an airfield and the higher the altitude of the airplane with respect to the turbines, the less interference should occur (M.M. Butler and D.A. Johnson 2003).

In their aeronautical study, the FAA considered how the proposed Shiloh II Wind Project could affect low flight levels and the visual flight rule (VFR) when visibility conditions are at or near VFR weather minimums. FAA staff reviewed the Shiloh II Wind Project's distance from flight paths in the area and concluded that the Shiloh II Wind Project

would not interfere with a significant volume of low level flights under VFR weather minimums. In addition, the FAA reviewed the Shiloh II Wind Project's potential impact on flights when under instrument flight rule and determined that under various weather conditions, the Shiloh II Wind Project would not have an adverse impact.

c) What are the potential daytime visual affects (disorientation, distraction or reflection) to pilots from rotating turning blades?

As part of the aeronautical study, the FAA's Flight Procedures Division evaluated standard instrument approach procedures, federal airways, minimum safe altitudes, etc., and by issuance of the "Determination of No Hazard to Air Navigation", the FAA concluded that the moving turbine blades would not adversely affect aeronautical navigation. Therefore, since the Shiloh II Wind Project received a "Determination of No Hazard to Air Navigation" from the FAA, this Final EIR concludes that the Shiloh II Wind Project would not have a significant impact on flights in the area under foreseeable circumstances and conditions.

Overall, the FAA is the authority responsible for ensuring aeronautical safety. The FAA aeronautical study process includes consultation with applicable government agencies, including the Department of Defense. The FAA "Determination of No Hazard to Air Navigation" is the final conclusion about whether a project would or would not have an adverse effect on aeronautical safety.

REFERENCES

M.M. Butler and D.A. Johnson. 2003. Feasibility of Mitigating the Effects of Wind Farms on Primary Radar.

Federal Aviation Administration. 2006. William E. Merritt., Air Traffic Organization, Obstruction Evaluation Service, Airspace Specialist, Engineering, Email Communication to Ken Solomon on November 27, 2006.