Aircraft Traffic and Military Aviation

Figure 4.16-1 identifies the airport and aviation facilities within the proposed project area. As shown, the closest airport to the project site is an unpermitted private airstrip located 0.25 mile from the project’s water parcel and 1.2 miles northwest of the boundaries of the wind turbine development area. This two-runway airport is privately owned and is not open to the public, and currently has not activated local land use permits (Airport-Data, 2011). California City Municipal, the next closest airport (16.6 miles southeast of the project site), is open to the public and has a single runway (AirNav, 2011a). For the 12-month period ending May 12, 2010, this airport averaged 102 aircraft operations per day (AirNav, 2011a). Tehachapi Municipal, also a public single-runway airport, is located 20 miles southwest of the project site. For the 12-month period ending May 12, 2010, this airport averaged 30 aircraft operations per day (AirNav, 2011b). The Mojave Air and Space Port has three runways, is accessible for public use, and is 20 miles from the project site. For the 12-month period ending May 13, 2010, this airport averaged 48 aircraft operations per day (AirNav, 2011c). Meadows Field Airport, located in Bakersfield, has two runways and can accommodate large planes. This airport is 50 miles from the project site. For the 12-month period ending December 31, 2008 (most recently published statistic), this airport averaged 344 aircraft operations per day (AirNav, 2011d). Additionally, a number of small, private airstrips can be found throughout eastern Kern County.

Nearby military installations that have aircraft overflights above the proposed project site include China Lake Naval Air Weapons Station (NAWS) to the northeast and Edwards Air Force Base (AFB) to the southeast of the project. The project site falls inside the boundaries of the Special Use Airspace of the Joint Service Restricted R-2508 Complex. This complex is considered an extension of the airspace of the military installations within the complex (Edwards AFB, China Lake NAWS, and Fort Irwin/National Training Center) and covers 20,000 square miles.

Using the longitude and latitude of the site center point, the proposed project was run through the California Military Land Use Compatibility Analysis (CMLUCA) database to determine if the site is located within 1,000 feet of a military installation, is located within military based special use airspace, or is located beneath a military designated low-level flight path (CMLUCA, 2011). Based on the CMLUCA report, the proposed project is located within special use airspaces and beneath an area designated for low-level military flight paths (CMLUCA, 2011).

4.16.3 Regulatory Setting

Federal

Department of Defense

The Department of Defense Office of Economic Adjustment prepared a Joint Land Use Study (JLUS) in March 2008 regarding the R-2508 Complex, which was a collaborative planning effort between active military installations, surrounding counties and cities, and other affected agencies in the area. The JLUS process is managed by the California Governor’s Office of Planning and Research. The JLUS is not an adopted plan but rather a recommended set of compatibility guidelines that can be implemented by local jurisdictions, Native American tribal governments, agencies, and organizations to guide their future compatibility efforts. While the strategies in the JLUS are not mandatory obligations, they were developed with representatives of the stakeholders involved, thereby providing a set of strategies designed to meet local needs.
As described below, for projects with components that would exceed the height limits set forth for the R-2508 Complex, Section 4 of the Kern County Airport Land Use Compatibility Plan (ALUCP) requires military consultation to confirm that the project would not interfere with military communications or airspace.

Federal Aviation Administration (FAA)

The FAA regulates aviation at regional, public, and private airports. The FAA regulates objects affecting navigable airspace. According to 49 Code of Federal Regulations Part 77.13, any person/organization who intends to sponsor any of the following construction or alterations must complete the two-part FAA form 7460 for FAA approval of the following (FAA, 2011):

- Any construction or alteration exceeding 200 feet above ground level;
- Any construction or alteration:
  - Within 20,000 feet of a public use or military airport, which exceeds a 100:1 surface from any point on the runway;
  - Within 10,000 feet of a public use or military airport, which exceeds a 50:1 surface from any point on the runway; and
  - Within 5,000 feet of a public use heliport, which exceeds a 25:1 surface.
- Any highway, railroad, or other traverse way whose prescribed adjusted height would exceed the above noted standards;
- When requested by the FAA; and
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

State

California Department of Transportation (Caltrans)

The Caltrans has jurisdiction over State highways and sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on highways. The following Caltrans regulations apply to potential transportation and traffic impacts of the proposed project (Caltrans, 2011b and 2011c):

California Vehicle Code (CVC), division 15, chapters 1 through 5 (Size, Weight, and Load).
Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.

California Street and Highway Code §§660-711, 670-695. Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery, includes regulations for the care and protection of State and county highways and provisions for the issuance of written permits, and requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.
Local

Kern County General Plan (KCGP)

The policies, goals, and implementation measures in the KCGP for transportation applicable to the project are provided below.

Chapter 2. Circulation Element

2.1 Introduction

Goals

- **Goal 4.** Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.
- **Goal 5.** Maintain a minimum Level of Service (LOS) D for all roads throughout the County.

2.3.3 Highway Plan

Goals

- **Goal 1.** To carry out this plan in a manner consistent with needs and standards of the County.
- **Goal 2.** This plan proposes to improve access to Kern County using all available methods of transportation.
- **Goal 3.** This plan sets up a simple way for protecting road right-of-way. Protecting corridors for future transportation facilities is the most important transportation planning activity in any high growth area.
- **Goal 4.** To reserve right-of-way to meet future road needs that result from development allowed by land use plans.
- **Goal 5.** Maintain a minimum LOS D.

Policies

- **Policy 1.** Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and midsection lines. This is because the road centerline can be determined by an existing survey.
- **Policy 2.** This plan requires, as a minimum, construction of local road widths in areas where the traffic model estimates little growth through and beyond year 2010. Where Planning Department’s growth estimates indicate more than a local road is required, expanded facilities shall be provided. The timing and scope of required facilities should be set up and implemented through the Kern County Land Division Ordinance. However, the County shall routinely protect all surveyed section lines in the Valley and Desert Regions for arterial right-of-way. The County shall routinely protect all mid-section lines for collector highways in the same regions. The only possible exceptions shall be where the County adopts special studies and where Map Code 4.1 (Accepted County Plan) areas occur. In the Mountain Region where terrain does not allow construction on surveyed section and mid-section lines, right-of-way width shall be the size shown on the diagram.
map. No surveyed section and mid-section "grid" will comprehensively apply to the Mountain Region.

- **Policy 3.** This plan's road width standards are listed below. These standards do not include State highway widths that would require additional right-of-way for rail transit, bike lanes and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis.

  - Expressway [Four Travel Lanes] Minimum 110 foot right-of-way
  - Arterial [Major Highway] Minimum 110-foot right-of-way (County Standard 110-feet);
  - Collector [Secondary Highway] Minimum 90-foot right-of-way (County Standard 90-feet);
  - Commercial-Industrial Street Minimum 60-foot right-of-way (County Standard 60-feet);
  - Local Street [Select Local Road] Minimum 60-foot right-of-way; (County Standard 60-feet).

**Implementation Measure**

- **Implementation Measure A.** The Planning Department shall carry out the road network Policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.

2.3.4 Future Growth

**Goals**

- **Goal 1.** To provide ample flexibility in this plan to allow for growth beyond the 20 year planning horizon.

**Policies**

- **Policy 2.** The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below LOS D. Utilization of the California Environmental Quality Act (CEQA) process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space, and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build off-site transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.

- **Policy 4.** As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along State routes are necessary then roads shall be built to Caltrans standards. Developers shall locate these roads (width to be determined by the
Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.

- **Policy 5.** When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.

- **Policy 6.** The County may accept a developer’s road into the County’s maintained road system. This is at Kern County’s discretion. Acceptance would occur after the developer follows the above requirements.

**Implementation Measures**

- **Implementation Measure A.** The County should relate traffic levels to road capacity and development levels. To accomplish this Roads Department and Planning Department should set up a monitoring program. The program would identify traffic volume to capacity ratios and resulting level of service. The geographic base of the program would be traffic zones set up by Kern Council of Governments.

- **Implementation Measure C.** Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.

**2.5.2 Airport Land use Compatibility Plan (ALUCP)**

**Goals**

- **Goal 1.** Plan for land uses that are compatible with public airport and military bases and mitigate encroachment issues.

**Policies**

- **Policy 1.** Plan for land uses that are compatible with public airport and military bases and mitigate encroachment issues.

- **Policy 2.** To the extent legally allowable prevent encroachment on public airport and military base operations from incompatible, unmitigated land uses.

**Implementation Measures**

- **Implementation Measure A.** Review discretionary land use development applications within the airports influence area and the military base operating area as shown in the ALUCP for consistency.

- **Implementation Measure B.** Coordinate and cooperate with airport operators, the County Department of Airports, the California Department of Transportation, Division of Aeronautics, affected cities, Edwards Air Force Base, NAWS China Lake, and the U.S. Department of Defense on ALUCP, review of land use applications, public education and encroachment issues.
Chapter 4. Safety Element

4.6 Wildland and Urban Fire

- **Policy 4.** Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.

**Kern County Airport Land Use Compatibility Plan**

The purpose of the ALUCP is to establish procedures and criteria by which the Kern County and affected incorporated cities can address compatibility issues when making planning decisions regarding airports and the land uses around them. The following Kern County ALUCP policies apply to potential transportation and traffic impacts of the proposed project:

**Section 3.3.1 (Height Limits).** The criteria for limiting the height of structures, trees, and other objects in the vicinity of an airport shall be set in accordance with Part 77, Subpart C, of the Federal Aviation Regulations and with the United States Standard for Terminal Instrument Procedures (TERPS).

**Section 3.3.4 (FAA Notifications).** Proponents of a project which may exceed a Part 77 surface must notify the FAA as required by FAR Part 77, Subpart B, and by the California State Public Utilities Code Sections 21658 and 21659.

**Section 3.3.5 (Other Flight Hazards).** Land use characteristics which may produce hazards to aircraft in flight shall not be permitted within any airport's influence area. Specific characteristics to be avoided include:

a. Glare, distracting lights, or light patterns which could be mistaken for airport lights;

b. Sources of dust, steam, or smoke which may impair pilot visibility;

c. Sources of electrical interference with aircraft communications or navigation; and

d. Any use, especially landfills and certain agricultural uses, which may attract large flocks of birds; and

e. Any light or series of lights which may cause visual discomfort or loss of orientation during critical phases of flight.

**Section 4.17.2 (Military Aviation Encroachment).** Because of the extreme flying capabilities and needs of military aircraft, military officials have concerns about land development that compromises the mission of the installations. The concern for encroachments on military aviation involves balancing the need to preserve the present and future flight operation capabilities to meet mission requirements with the public health, safety, quality of life and economic stability of neighboring communities. The following are identified areas to be reviewed for compatibility issues:

**Towers** - Obstructions such as cellular towers, radio towers, television towers, and wind turbines that penetrate into airspace become a hazard to flight safety. Concentrated numbers of such structures can result in the loss of a route as useable for testing and training operations.

**4.17.3 Notification.** China Lake NAWS and Edwards AFB both shall be notified of development that falls within any of the following categories:
• Any structure within 75 miles of the R-2508 complex that is greater than 50 feet tall;
• Any project within 50 miles of R-2508 that emit radio and communications frequencies;
• Any environmental document or discretionary project within 25 miles of the military installation boundaries; and
• Any project that would create environmental impacts (e.g. visibility, elevated obstructions) within 25 miles of the R-2508 complex.

Kern County Zoning Ordinance

The Wind Energy (WE) Combining District (Chapter 19.64) contains development standards and conditions (Section 19.64.140) that would be applicable to the siting and operation of wind turbine generators (WTGs). The following provisions apply to transportation and traffic issues related to the proposed project.

Chapter 19.64 WE Combining District

The WTGs would need to conform to the height requirements for the proposed project area as defined by Section 19.64 of the Kern County Zoning Ordinance. Specifically, the ordinances states:

19.67.160.G: Wind generator machine and associated meteorological tower overall height shall not exceed six hundred (600) feet and is subject to Section 19.08.160(B). For the purposes of this chapter, machine height shall be measured as follows:

1. Overall machine height of horizontal axis machines shall be measured from grade to the top of the structure, including the uppermost extension of any blades.
2. Machine height of vertical axis or other machine designs shall be measured from grade to the highest point of the structure

19.08.160 (B): Notwithstanding any other provisions in this title, within the area depicted in Figure 19.08.160, no zone modification or zone variance may be approved, and no building permit may be issued where a zone modification or zone variance is not required, for any structure or building that exceeds the maximum permitted heights shown in Figure 19.08.160 unless the military authority responsible for operations in that flight area first provides the planning director with written concurrence that the height of the proposed structure or building would create no significant military mission impacts.

Figure 19.08.160, Military Review Zones

Due to military air traffic restrictions, the WTGs would need to conform to the height requirements for the proposed project area as defined by Figure 19.08.160 of the Kern County Zoning Ordinance. The project site is located across several of the military review zones as depicted in Figure 19.08.160, including green (no review requirement), yellow (all structures over 500 feet), and red (wind turbines and communications towers over 80 feet and all other structures over 100 feet). Without military review, those structures falling within the red zone, which includes the eastern portion of the site, would be limited to 80 feet above ground elevation for wind turbines and communications towers and 100 feet for all other structures. Figure 3-4 (refer to Section 3.0, Project Description) shows military review requirements for the proposed project site.