15.0 Public Services and Utilities
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15.0 PUBLIC SERVICES AND UTILITIES

15.1 ENVIRONMENTAL SETTING

15.1.1 Public Services

Public services in the Montezuma Wind Project Area and Reconductoring Project Area include police, fire, medical, recreational, and educational services.

Police

Montezuma Wind Project

The Solano County Sheriff’s Office is located in Fairfield and provides protection for unincorporated sections of Solano County, including the Montezuma Wind Project Area. The Solano County Sheriff’s Office Dispatch Center coordinates law enforcement and fire services for the Solano County Sheriff’s Office, Isleton Police and Fire, Dixon Police and Fire, Cordelia Fire Protection District, California Medical Facility, Suisun Fire Protection District, Rio Vista/Delta Fire Districts, Montezuma Fire Protection District, Ryer Island Fire Protection District, Vacaville Fire Protection District, and Solano Community College Police on a 24-hour basis, as well as dispatching for Suisun City Police and Fire during night shifts. The Sheriff’s Dispatch Center also handles coordination of air ambulances for scene calls to all areas of the County, and after-hours problems for Solano Irrigation District, County Roads, Public Works, Communications, Building and Grounds, and numerous others. The Dispatch Center operates with at least two people on duty at all times and answers and transmits on three primary radio channels, seven secondary channels, and a number of other law/fire radios for other agencies. The Dispatch Center also answers 12 business lines, four Nextels, six 911 lines, numerous alarm panels, fax requests, and mobile data computer messages (Solano County 2006). The nearest city police department is in Rio Vista, 6 miles east of the Montezuma Wind Project Area.

Reconductoring Project

The Reconductoring Project Area would be served by the Solano County Sheriff’s Department (discussed above), the Contra Costa Sheriff’s Department, the Sacramento County Sheriff’s Department, and the Antioch City Police Department.

The Sheriff’s Office of Contra Costa County is located in Martinez, California, and provides residents of the unincorporated areas of Contra Costa County with crime prevention and community services. The Sheriff’s Office of Emergency Services (OES) is responsible for disaster preparedness, response and recovery planning for the County. OES coordinates information, resources, and priorities among County agencies, local governments, and special districts. OES serves as a link between the Governor’s Office of Emergency Services and the County’s cities and special districts. In the event of an emergency or disaster, OES coordinates communications and
resources among responding agencies, and facilitates cost-recovery coordination with state and federal agencies.

The Sacramento County Sheriff's Department is located in Sacramento, California. The mission of the Sacramento County Sheriff's Department is the protection of life and property, the preservation of the public peace, and the enforcement of the law.

The City of Antioch is a full-service municipal agency with a population over 100,000. The police department is staffed with 114 sworn and 56 non-sworn employees to represent current staffing levels. The Department is comprised of two divisions: Support Services and Field Services. The Field Services Division includes Dispatch, Patrol, Community Policing, and Traffic Bureaus. The Support Services Division consists of the Administration, Investigations, Narcotics, Records, and Animal Services Bureaus.

Fire

Montezuma Wind Project

The Montezuma Hills Fire District provides fire and rescue services to the Montezuma Wind Project Area. The district operates four fire stations equipped for grass fires, including one at Birds Landing Road; one on Collinsville Road, near Collinsville; one on Shiloh Road; and one in Rio Vista. The district covers an area of approximately 200 square miles, with an estimated population of 1,200, and maintains a staff of 32 trained professionals (Montezuma Hills Fire District 2006). In addition, the Rio Vista Fire Department provides fire and rescue services to the City of Rio Vista and surrounding areas, including the Montezuma Wind Project Area. The department’s total coverage area is approximately 100 square miles, with an estimated population of 5,000 (City of Rio Vista 2004). The department is dispatched by the Solano County Sheriff’s Department and receives as-needed support from the County and State OES.

Reconductoring Project

Within the Reconductoring Project, the City of Antioch is part of the Riverview Fire Protection District consisting of six fire houses, three of which are located within Antioch.

Contra Costa County Fire Protection District is a full-service fire agency with some 406 personnel, including 12 Battalion Chiefs, and approximately 62 civilian personnel. As a member of the California Metropolitan Fire Chiefs Association, the district ranks among the 14 largest fire agencies in the state. Contra Costa County Fire Protection District provides fire and emergency medical services to nine cities and unincorporated areas in the County. Support services include fire prevention, inspections, hazards, investigations, and emergency medical services.

The Sacramento Metropolitan Fire District, “Metro Fire,” provides services through 42 stations and 750 uniformed and support personnel to nearly 600,000 people in a 417-
square-mile area. Metro Fire represents 16 predecessor fire agencies. Some of these fire agencies were founded in the early 1920s to provide fire protection in remote parts of the County. Metro Fire provides response to emergencies in rural, suburban, and urban settings. Firefighters are proficient in wildland firefighting, structural firefighting, crash fire rescue, technical rescue, swift water rescue, hazardous material mitigation, and paramedic medical services. Metro Fire provides fire protection, fire prevention, fire safety education, emergency medical aid, and other emergency response services.

**Medical**

*Montezuma Wind Project*

Major hospitals within Solano County are located in Fairfield, Vacaville, and Vallejo (Solano County Administrator's Office 2003). The Solano Emergency Medical Services Cooperative handles emergency response in the County, including the Montezuma Wind Project Area. The cooperative includes six of the County's seven cities and rural fire districts. Each partner provides logistical and financial support to ensure a swift response to any medical emergency occurring in any part of the County. The Rio Vista Fire Department also provides a minimum of emergency medical technician-level care 24 hours per day (City of Rio Vista 2004).

**Reconductoring Project**

Contra Costa County Emergency Medical Services handles emergency response within Contra Costa County, providing coordination with emergency ambulance providers, non-emergency ambulance providers, law enforcement agencies, fire agencies, training programs, hospitals, and helicopter provider agencies. Major hospitals in Sacramento County include Mercy General Hospital, Sutter Memorial Hospital, and the Kaiser Permanente Sacramento Medical Center and Medical Offices, all located in Sacramento. The hospital within the City of Antioch is Delta Memorial Hospital.

**Recreation**

*Montezuma Wind Project*

Regional parks in Solano County include Sandy Beach Park in Rio Vista and Lake Solano Park in Winters. Dixon, Fairfield, Suisun, and Vacaville maintain their own city parks (Solano County Department of Resource Management 2004). Recreation areas near the Montezuma Wind Project Area are further described in Chapter 16.0, Recreation.

*Reconductoring Project*

Parks in Contra Costa County include: Kennedy Grove Regional Recreation Area, Russellmann Park, Charles Lee Tilden Regional Park, Round Top Regional Park, Briones Regional Park, Brookwood Park, North Richmond Ballpark, and Franks Tract. Antioch Dunes National Wildlife Refuge is located in Contra Costa County near the Recconductoring Project.
Sacramento County's parks and open space provide activities including: hiking, cycling, rafting, kayaking, windsurfing, horseback riding, running, and fishing, with 14,000 acres of open space and recreational habitat including regional parks, boat launches, river accesses, and historical sites.

Education

Montezuma Wind Project

Solano County comprises seven K-12 school districts: Benicia, Dixon, Fairfield-Suisun, River Delta (Rio Vista), Travis, Vacaville, and Vallejo City (Solano County Department of Resource Management 2004). Collectively, the schools serve approximately 71,000 students. There are also many private schools and home or independent study programs (Solano County Office of Education 2006). Students in the Montezuma Wind Project Area are typically enrolled in the Fairfield-Suisun, River Delta, Travis, and Vacaville school districts. The River Delta district provides school bus service to the Montezuma Wind Project Area, as does the special education program of the County, though only for qualifying students (River Delta Unified School District 2004). Colleges in the County include: Solano County Community College in Suisun, University of Phoenix in Suisun City, California Maritime Academy in Vallejo, Touro College, Saint Mary’s College Extended Program in Fairfield, and Chapman University at Travis Air Force Base (AFB) and in Fairfield (Solano County Department of Resource Management 2006; Solano County Administrator’s Office 2003).

Reconductoring Project

The City of Antioch is served by the Antioch Unified School District. In 2001, the district had 19,910 students enrolled. There are 12 elementary schools, three junior high, and two high schools. In addition, there are two continuing education high schools, one charter school (K-8), and 90 students in home school.

Contra Cost County includes five school districts including Antioch Unified School District, Brentwood Union Elementary School District, Knightsen Elementary School District, Liberty Union High School District, and Oakley Union School District


15.1.2 Public Utilities

Public utilities in the Montezuma Wind Project Area and Reconductoring Project Area include water, sewage, solid waste disposal, gas, and electricity.
15.0 Public Services and Utilities

Water

Montezuma Wind Project

Because land in the Montezuma Wind Project Area is suitable for dry-land farming and grazing activities, the farms do not require irrigation or other large-scale water use. Water use in the Montezuma Wind Project Area is, therefore, mostly limited to domestic purposes. According to the Solano County General Plan, unincorporated areas of the County are required to provide most of their own water, largely from on-site domestic wells (Solano County 1992).

Reconductoring Project

The City of Antioch Public Works Department provides maintenance service to Antioch’s roads, parks, marina, open spaces, flood control areas, water and sewer lines, as well as providing safe potable water to residents. All Geographic Information System-related activities throughout the City's different departments, including design, development, and maintenance of spatial databases is managed by the Public Works Department. The Clean Water Program maintains all area basins, storm channels, creeks, culverts, and concrete-lined “V” ditches in open space that handle stormwater run-off, flood control, and erosion control programs.

The Contra Costa Water District (CCWD) relies on the San Francisco Bay Sacramento-San Joaquin Delta as its sole source of water supply. CCWD has implemented comprehensive long-range planning and has invested in new assets and infrastructure replacement.

The Sacramento County Department of Water Resources manages surface water and groundwater resources via the powers of the County of Sacramento and the Sacramento County Water Agency providing services including drainage, flood control, and water supply to various areas in the unincorporated Sacramento County, as well as to the cities of Citrus Heights, Elk Grove, and Rancho Cordova.

Sewage

Montezuma Wind Project

Residences and establishments in unincorporated areas of the County, including the Montezuma Wind Project Area, largely maintain their own sewer systems (e.g., on-site domestic septic tanks) under the authority of the County Health Department (Solano County 1992) (see Chapter 12.0, Hydrology and Water Quality).

Reconductoring Project

In Contra Costa County, the Central Contra Costa Sanitary District protects both the public's health and the water quality of the San Francisco Bay-Delta by collecting and treating wastewater to meet wastewater collection and treatment needs while solving critical water pollution and water resource problems through comprehensive pollution
prevention efforts, a safe disposal program for toxics, and the growing use of recycled water.

In Sacramento County, the Sacramento Regional County Sanitation District (SRCSD) serves unincorporated area of Sacramento County, parts of the cities of Sacramento and Folsom, and the cities of Citrus Heights and Elk Grove. It receives wastewater from three contributing agencies, County Sanitation District 1, the City of Sacramento, and the City of Folsom, and maintains 80 miles of interceptors that convey wastewater to the Sacramento Regional Wastewater Treatment Plant, operated by SRCSD and located in Elk Grove.

**Solid Waste Disposal**

*Montezuma Wind Project*

The Rio Vista Landfill is the closest waste disposal site to the Montezuma Wind Project. Landfills also are present in Sacramento, Vacaville, and the East Bay.

*Reconductoring Project*

In Contra Costa County, the Central Contra Costa Solid Waste Authority holds franchise agreements for the collection, transfer, and disposal of residential and commercial solid waste and for the collection and marketing of residential recycling and green waste for residential and commercial establishments.

The Sacramento Regional Solid Waste Authority (SWA) is a joint-powers authority of Sacramento County and the cities of Sacramento and Citrus Heights. The SWA also regulates commercial solid waste collection by franchised haulers through SWA ordinances.

**Gas and Electricity**

*Montezuma Wind Project*

Pacific Gas and Electric (PG&E) supplies electricity to Solano County, including the Montezuma Wind Project Area. Gas and electrical use in the Montezuma Wind Project Area is mainly residential, and many gas pipelines are present for distribution. Power lines and towers cross the Montezuma Wind Project Area and connect into the Bay Area grid.

*Reconductoring Project*

PG&E supplies electricity to Solano County, Contra Costa County, and Sacramento County, including the Reconductoring Project Area.
Frequency-Based Communications

Montezuma Wind Project

In addition to gas and electric utilities, frequency-based communication signals, including microwave, radio/television, and aircraft navigation signals, traverse the Montezuma Wind Project Area. Because of the height and disturbance of the wind turbines, the blades may affect signal transmission and reception. However, fiberglass blades, as would be used in the Montezuma Wind Project, permit some transmission of frequency-based communication. Background information regarding these communication means is provided below, followed by identification of frequency-based communication paths in the Montezuma Wind Project Area.

Microwave

Montezuma Wind Project

Microwaves are electromagnetic waves that carry telephone, video, digital, and other information to users. Cellular telephone towers are typical examples of microwave communication system components. Microwave signals transmit along lines of sight, providing reliable point-to-point and highly directional communication, particularly for the telecommunications industry. Microwaves also use a higher-frequency band, which increases the capacity and efficiency of the microwave networks. Microwaves are relayed by a series of dish- or antenna-equipped stations. These stations receive and transmit in one direction so as to minimize conflict with other microwave frequencies.

A recent study conducted to identify existing frequency-based communication paths in the Montezuma Hills and surrounding area indicated that an extensive number of profiles cross the Montezuma Hills in the vicinity of the Montezuma Wind Project. Within the Montezuma Wind Project Area itself, several microwave links exist, but only one microwave path actually traverses the site (Evans Associates 2006). The three identified microwave links (all along the same path) that intersect the Montezuma Wind Project Area utilize a frequency of 7 gigahertz (GHz) and are shown in Table 15.1-1. As shown on Figure 15.1-1, the path crosses the extreme southeast corner of the Montezuma Wind Project Area southwest of the intersection of Emigh and Curie Roads.

Electromagnetic interference (EMI) is one of the most common problems in microwave communication. EMI can result from contact between microwave signals and metallic structures such as house siding, large trucks, power lines, other microwave communication stations, and wind turbines.

Large structures also can interfere with “side lobes” emitted by microwave antennas (Evans Associates 2006). A side lobe is a segment of an antenna wave pattern that is located in a direction different from that of the lobe containing the maximum power. Side lobes can pick up signals that are reflected from nearby obstructing objects, even though these reflected signals are not in the main microwave transmission path. This unwanted reception can cause off-axis receiver interference.
## Public Services and Utilities

### Microwave Links that Intersect the Montezuma Wind Project Area

<table>
<thead>
<tr>
<th>Site Name (Secondary Site Name)</th>
<th>Call Sign</th>
<th>Band</th>
<th>Company Site</th>
<th>Worst-Case Fresnel Zones (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garden Highway (Mt. Diablo)</td>
<td>WPZU838 (WPZU839)</td>
<td>7 GHz</td>
<td>NBC Telemundo License Co. - KNTV</td>
<td>30.46</td>
</tr>
<tr>
<td>Garden highway (Mt. Diablo)</td>
<td>WQAL913 (RXONLY)</td>
<td>7 GHz</td>
<td>KQED INC.</td>
<td>30.46</td>
</tr>
<tr>
<td>Mt. Diablo (Garden Highway)</td>
<td>WQAP211 (RXONLY)</td>
<td>7 GHz</td>
<td>KVIE INC.</td>
<td>30.46</td>
</tr>
</tbody>
</table>

Key:
- GHz = Gigahertz.
- m = Meter(s).

## Radio/Television

### Montezuma Wind Project

The Montezuma Wind Project Area receives television and radio signals from Bay Area and Sacramento stations, though signal strength varies depending on receptor location in relation to the hills. Satellites often supplement cable for television access in the Montezuma Wind Project Area. As shown on Figure 15.1-2, only one land mobile station in the Federal Communications Commission’s (FCC’s) database was identified within 2 miles of the Montezuma Wind Project Area. The station identified has an antenna height of 26.8 meters (m) and the station’s call sign is XPXE984, licensed by Nextel of California.

A search of the FCC’s database revealed that no AM (amplitude modulation) radio broadcast facilities are located within the required notification distance of 3 kilometers (km) of the Montezuma Wind Project Area. The closest AM station is KATD in Pittsburg, about 8.1 km from the Montezuma Wind Project Area boundary (Evans Associates 2006).

Also, according to the FCC database, there are no FM (frequency modulation) radio broadcast facilities and no television broadcast facilities located within 2 miles of the Montezuma Wind Project Area (Evans Associates 2006).

## Aircraft Navigation

### Montezuma Wind Project

When invented more than 50 years ago, very high-frequency omni-directional range (VOR) navigational systems transformed the aviation industry (Wood 2004). VOR systems enable pilots to easily navigate from one location to the next. Land-based VOR stations emit high-frequency signals that aircraft receive and use to determine their bearing and distance from the station. Typically, VOR signals are received above altitudes of 1,000 feet (304.8 m) and operate on frequencies between 108 and 118 megahertz (MHz). VOR systems are now supplemented by Global Positioning Systems (GPS).
Figure 15.1-1

Microwave Path Overview
Montezuma Wind Project
Solano County, California
Figure 15.1-2
Land Mobile Sites Near the Project Area
Montezuma Wind Project
Solano County, California
A search of licensee databases revealed that no pertinent airspace navigation facilities or cellular and personal communication services (PCS) sites are located within the Montezuma Wind Project Area (Evans Associates 2006). VOR stations are maintained by the Federal Aviation Administration (FAA) and are located at Travis AFB, Concord, Skaggs Island and Sausalito, and Oakland, from approximately 9 to 40 miles from the Montezuma Wind Project Area. Radar and other military communication systems are also installed at Travis AFB and the U.S. Navy’s Mare Island, which are located approximately 9 miles and 25 miles, respectively, from the Montezuma Wind Project.

Reconductoring Project

Airports located near the Reconductoring Project include: Buchanan Field (about 18 miles outside of Antioch), Travis AFB (about 20 miles outside of Antioch; Fairfield), Metropolitan Oakland Airport (about 35 miles outside of Antioch; Oakland), Rio Vista Municipal (about 15 miles outside of Antioch; Rio Vista), Byron (about 18 miles outside of Antioch; Byron), and Livermore Municipal (about 22 miles outside of Antioch; Livermore).

15.2 REGULATORY SETTING

15.2.1 State

Resource Management Plan for the Primary Zone of the Delta

The Delta Protection Act of 1992 (Public Resources Code Section 29760 et seq.) requires the Delta Protection Commission to prepare, adopt, and maintain a comprehensive long-term resource management plan for land uses within the Primary Zone. Because of the delta’s location between major population areas, its flat terrain, and general lack of development, the delta has a high value as a utility and transportation corridor. Local governments regulate the utilities that serve delta residents and visitors, including potable water, sewage disposal, and solid waste removal, as described above (Delta Protection Commission 2002).

The goal of the resource management plan is to “. . . protect the delta from excessive construction of utilities and infrastructure facilities, including those that support uses and development outside the delta. Where construction of new utility and infrastructure facilities is appropriate, ensure the impacts of such new construction on the integrity of levees, wildlife, and agriculture are minimized.” The Utilities and Infrastructures Element summarizes 12 findings, seven policies, and 12 recommendations regarding utility and transportation corridors, railway rights-of-way, water, solid waste, and sewage (Delta Protection Commission 2002).

15.2.2 Local

Public Services and Utilities

The Solano County Housing Element, part of the General Plan, guides housing and development within the County. According to the Plan, the County “recognizes that the
provision of essential public facilities and services is an important and necessary prerequisite to the maintenance of satisfying living environment” (Solano County 2002). In the Solano County Housing Element Update, the County sets the following objectives and policies (Solano County Department of Resource Management 2005):

G.2 Domestic water for rural development shall be provided principally through on-site individual wells. When individual well systems in an area of the unincorporated County become marginal or inadequate for serving domestic uses, public water service may be permitted in conformance with the General Plan. In such cases, public water service shall be provided and managed through a public agency. If lands proposed for water service are not within the boundaries of an existing public water agency, the Board of Supervisors shall, as a condition of development, designate a public agency to provide and manage the water service. Water facilities shall be designed to provide water service only to the developed areas and those designated for potential development. Such facilities shall be designed to prevent any growth inducing impacts on adjoining designated agricultural and open space lands.

G.3 The County shall continue to work with the local school districts in implementing mechanisms and procedures for mitigating impacts on school facilities resulting from future County development.

Communications Interference

To minimize Montezuma Wind Project interference with existing communications networks, the Solano County Wind Turbine Siting Plan requires that Montezuma Wind:

- Notify owners of frequency-based communication stations and towers within 2 miles of the project;
- Notify the FAA;
- Submit proof of these notifications;
- Take measures to prevent communication interference before installation of wind turbine towers;
- Maintain a distance of 1,000 feet (304.8 m) between wind turbine towers and television/radio receivers or transmitters; and
- Filter or shield wind turbine towers to prevent emission of radio frequency energy.

Section 28.50 of the Solano County Zoning Ordinance also requires that turbines be filtered and/or shielded to prevent the emission of radio frequency energy, which could cause communications interference. The ordinance states that alternative mitigation to such potential interference may be proposed.
15.3 SIGNIFICANCE CRITERIA

For the purposes of the Draft Environmental Impact Report (EIR), public utilities and service impacts are considered significant if the Montezuma Wind Project or Reconductoring Project:

- Results in significant adverse physical impacts on police, fire, medical, recreational, and educational services;
- Exceeds wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Requires expansion or construction of a utilities system, such as a wastewater treatment plant or landfill;
- Requires new or expanded entitlements for water supplies;
- Interferes with existing microwave communication;
- Causes degradation in existing television and radio reception;
- Interferes with existing civilian or military navigation systems; or
- Does not comply with local, state, or federal statutes and regulations related to public utilities and services.

15.4 IMPACT ANALYSIS AND MITIGATION

Montezuma Wind Project

In response to the Notice of Preparation (NOP), one commenter raised concern regarding potential interference with public safety radios. This is discussed below under Impact PSU-4, Interference with Television and Radio Reception. The impact analysis covers the four- to eight-month proposed construction schedule and the long-term operation of the Montezuma Wind Project facilities.

Reconductoring Project

Reconductoring Project activities would be temporary, and would progress along the conductor corridor in sequential intervals. Impacts to public services from reconductoring activities are not anticipated.

Impact PSU-1: Public Services

Montezuma Wind Project

The Montezuma Wind Project could increase demand for police, fire, medical, and educational services; however, the anticipated size of the construction and operational workforce is considerably smaller than past wind projects in the Collinsville-Montezuma Hills Wind Resource Area (WRA) (e.g., Shiloh I). Impacts regarding recreational
services and fire risks are addressed in Chapters 16.0, Recreation, and 17.0, Safety, respectively.

Public access to the wind turbines would be restricted to avoid potential safety hazards, as further discussed in Chapter 17.0, Safety. All turbine towers would be locked, and the substation would be fenced and locked to prevent unauthorized entry. These measures would minimize the need for police surveillance and response.

Construction and operation in the Montezuma Wind Project could increase the demand on the Montezuma Fire Protection District and Rio Vista Fire Department. Given the dry, grassy environment, the WRA is classified as high-risk for grass fires (Solano County Board of Supervisors 1987). During the construction phase, heavy equipment and passenger vehicles driving on vegetated areas before clearing and grading could increase the danger of fire. Heated mufflers could catch surrounding vegetation on fire. In addition, during operation, lightning strikes on wind turbines could create power surges and start a fire (Reynolds 2004). However, to minimize the potential for grass fires, Montezuma Wind would be required to develop and implement a Grass Fire Control Plan, as further described under Mitigation PSU-1.

During construction, the influx of 20 to 30 people may temporarily increase the need for emergency medical services. By restricting access to properly trained personnel, security also would reduce the likelihood of accidents, and thus the need for emergency medical care. Although some accidents may occur during the four- to eight-month period, the small number of additional accidents would not place undue pressure on the existing system. During operation, the small number of full-time staff would result in little change to the existing baseline demand.

Demands on local school districts are not expected to change. As discussed in Chapter 13.0, Land Use and Population, direct population growth would not occur during the construction and operation, or reconductoring phases of the Montezuma Wind Project. Approximately 20 to 30 construction contractors would be employed during Montezuma Wind Project construction, and construction-phase workers would likely commute from cities and metropolitan areas outside the Montezuma Wind Project vicinity (e.g., regional population centers such as Sacramento and the Bay Area).

During operation, the Montezuma Wind Project would employ two to three full-time employees, who may be located in the immediate area, but could also reside in urban centers outside the Montezuma Wind Project Area. No increase in the population of school-age children in the Montezuma Wind Project vicinity is anticipated for the construction or operation phases of the Project.

Impacts on public services are expected to be less than significant, with the exception of fire and emergency service impacts which are considered potentially significant.
Reconductoring Project

Impacts on public services are similar to those identified for the Montezuma Wind Project above. PG&E has incorporated avoidance and minimization measures into the Project design as follows:

1. PG&E has developed, and will implement a Grass Fire Control Plan for use during installation of the reconductoring and tower extensions. Implementation of the plan will sufficiently mitigate increased fire risk.

2. To avoid and minimize potential impacts on existing medical and emergency care services, PG&E will develop and follow a County-approved Health and Safety Plan. PG&E will also notify the Solano Emergency Medical Services Cooperative and the affiliated Rio Vista Fire Department in advance of PG&E Project activities. This would allow the agencies to be prepared for any increase in demand.

Therefore, impacts to Public Services would be less than significant and no mitigation is required.

Mitigation Measure PSU-1: Proper Plans and Notifications

Montezuma Wind Project

1. Montezuma Wind shall develop, implement, and follow a Grass Fire Control Plan for use during construction and operation of the Montezuma project, in accordance with mitigation measure SA-1, which shall include notification procedures and emergency fire precautions. Implementation of a plan shall sufficiently mitigate increased fire risk.

2. To avoid and minimize potential impacts on existing medical and emergency care services, Montezuma Wind shall develop and follow a County-approved Health and Safety Plan, as further described in Chapter 17.0 and required by mitigation measure SA-3b. Montezuma Wind also shall notify the Solano Emergency Medical Services Cooperative and the affiliated Rio Vista Fire Department in advance of Montezuma Wind Project activities. This would allow the agencies to be prepared for any increase in demand.

Implementation of this mitigation measure would reduce this impact to a less-than-significant level.
Impact PSU-2: Public Utilities

Montezuma Wind Project

The Montezuma Wind Project could increase demand for water, sewage, solid waste disposal, gas, and electrical services.

Based on Montezuma Wind’s existing infrastructure (access roads, substation and switchyard), impacts on public utilities are expected to be less than significant. During construction, portable restrooms would be provided by an appropriate contractor for use by the construction crews, in accordance with Division of Environmental Health requirements. The restroom contractor also would either replace the portable restrooms periodically or arrange for them to be emptied in the appropriate manner. Construction refuse and solid waste generated from the construction activities would be stored at the temporary staging area and periodically disposed of at the Rio Vista Landfill. Because of the temporary nature of construction, the Montezuma Wind Project is not expected to have a significant impact on the Rio Vista Landfill.

The construction contractor would provide drinking water to the construction crews from an off-site source. Water for the watering trucks would be obtained from local water suppliers in the area. Because many of the residences in the Montezuma Wind Project Area rely on wells for their drinking water supply, special care has been taken to avoid impacts on these wells. Construction of the Montezuma Wind Project would not damage or disrupt on-site wells supplying domestic water. Montezuma Wind has sited the wind turbines at least 1,000 feet from any residence with domestic wells. In addition, no gas or electricity would be required to power the construction equipment. Portable generators would be used on-site as needed.

During the operation phase of the Montezuma Wind Project, employees would use the temporary facilities located in the temporary staging area. If needed, existing facilities at the High Winds operations and maintenance (O&M) building could be used. The existing High Winds O&M facility has the capacity to service additional staff and would not have to be upgraded. Water in the bathroom is provided by an on-site water tank and drains to an on-site septic system. Drinking water is provided by a bottled-water delivery service. Current gas and electricity supplies to the existing O&M building are also sufficient to support the additional staff. Therefore, no impacts on water, sewage, and energy services from construction or operation would be expected.

The Montezuma Wind Project would connect to the Vaca-Dixon-Contra Costa 230-kilovolt Line 2, located within the PG&E system grid controlled by CAISO. Connection to this grid would not cause any disruptions within the PG&E grid or to any residences in the area. This impact is considered less than significant.

Reconductoring Project

Construction procedures similar to those discussed above for the Montezuma Wind Project would be used during the Reconductoring Project. The Montezuma Wind Project would connect to the Vaca-Dixon-Contra Costa 230-kilovolt Line 2 located within
the PG&E system grid controlled by CAISO. Connection to this grid would not cause any disruptions within the PG&E grid or to any residences in the area. This impact is considered less than significant. No mitigation is required.

**Impact PSU-3: Interference with Microwave Transmissions**

*Montezuma Wind Project*

It is unlikely that the wind turbine towers will interfere with existing microwave communication paths located in the Montezuma Wind Project Area. As shown on Figure 15.1-1, only one microwave path (with three links) traverses the far southeast corner of the Montezuma Wind Project Area. For this path, there is no “potential blockage” regardless of the placement of the turbines; the antennas at the endpoints of the links are of sufficient height above ground to prevent a wind turbine of 125-m overall height (from ground level to the tip of the blade) from penetrating the 0.6 first Fresnel zone (Evans Associates 2006).

In the analysis of the microwave paths in the vicinity of the Montezuma Wind Project Area, all paths were calculated at their widest point to allow for additional space for their accommodation in wind turbine siting (Worst-Case Fresnel Zones [WCFZs]). As shown in Table 15.1-1, the three links are licensed to NBC Telemundo License Co. (KNTV), KQED Inc., and KVIE Inc., but results show that no impacts are anticipated on these communication paths. Montezuma Wind will ensure that wind turbine towers are sited outside the WCFZs identified within the Montezuma Wind Project Area during micrositing. The potential for interference with communication pathways exists and these impacts are potentially significant. Mitigation measures are provided below.

*Reconductoring Project*

No impacts to microwave communication paths are expected to occur during installation or operation or the Reconductoring Project. No mitigation is required.

**Mitigation Measure PSU-3: Notification and Siting**

*Montezuma Wind Project*

1. Prior to issuance of building permits, Montezuma Wind shall notify all owners of frequency-based communication stations and towers within 2 miles of the Montezuma Wind Project. Wind turbine towers shall be sited to avoid potential conflict with microwave communication signals.

2. Prior to issuance of building permits, Montezuma Wind shall notify all microwave station owners within 2 miles of the Montezuma Wind Project Area.

3. In the event that a complaint is received regarding microwave or land mobile pathway interference, Montezuma Wind shall appropriately and satisfactorily resolve receiver interference through coordination with owners of frequency-based communication stations and towers. Possible
actions include installation of high-performance antennas at nearby microwave sites, if required.

By implementing this mitigation, the possible permanent, localized impacts on microwave communication would be reduced to less than significant.

**Impact PSU-4: Interference with Television or Radio Reception**

**Montezuma Wind Project**

As previously sited, one land mobile tower, Nextel of California, is located within 2 miles of the Montezuma Wind Project boundary. Although rotating turbine blades may cause some instances of minor disruption in service areas, the Montezuma Wind Project is not expected to cause significant disruption to this land mobile service regardless of the final turbine configuration. A search of the FCC’s database revealed no AM facilities within the required notification distance of 3 kilometers (or approximately 2 miles as stated above) beyond the Project area’s boundaries. The AM radio station nearest to the project area is KATD in Pittsburg. The KATD transmitter site is about 8.1 kilometers from the nearest Montezuma area boundary. There should therefore be no reasonable expectations of disruptions in transmitted radiations on the AM band due to the presence of the turbines. Occasionally, depending upon ground conditions, local AM receivers may experience slight signal changes due to local effects. There are no FM or TV broadcast facilities within 2 miles of the Montezuma area boundaries, according to the FCC database.

Even if turbines are constructed within 2 miles, significant disruption of this land mobile service is not expected. However, there can be occasional instances of service areas disrupted by rotating turbine blades in the path between the transmitter and receiver.

Impacts from interference with broadcast facilities are potentially significant and mitigation measures are provided below.

**Reconductoring Project**

No impacts to television or radio reception are expected during the Reconductoring Project. No mitigation is required.

**Mitigation Measure PSU-4: Notification and Siting**

**Montezuma Wind Project**

Prior to issuance of building permits for the Montezuma Wind Project, Montezuma Wind shall notify all television and radio station owners within 3 kilometers (approximately 2 miles) of the Montezuma Project Area.

By implementing this mitigation, the possible permanent, localized impacts on frequency-based communication would remain less than significant.
Impact PSU-5: Navigational System Interference

Montezuma Wind Project

The Solano County Wind Turbine Siting Plan states that a 100-foot (30.5-m) tall wind turbine tower would have to be within 1 mile of a VOR station to cause potential interference. Because the Montezuma Wind Project turbines will be located approximately 9 miles from the nearest VOR station at Travis AFB, no interference is expected. Thus, no mitigation is proposed.

15.5 REFERENCES


Solano County. 1992. Solano County Housing Element, Part of the Solano County General Plan. Solano County, California.


