4 Cumulative Impacts

4.1 CEQA Requirements

Section 15130(a) of the State CEQA Guidelines requires a discussion of the cumulative impacts of a project when the project’s incremental effect is cumulatively considerable. Cumulatively considerable, as defined in CEQA Guidelines Section 15065(a)(3), means that the “incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” The State CEQA Guidelines Section 15355 defines a cumulative impact as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

4.2 Cumulative Impact Approach

CEQA Guidelines Section 15130 identifies two basic methods for establishing the cumulative environment in which a project is considered: the use of a list of past, present, and probable future projects or the use of adopted projections from a general plan, other regional planning document, or a certified EIR for such a planning document. This cumulative analysis uses a combination of the “list” approach and the “projections” approach to identify the cumulative setting. The effects of past and present projects on the environment are reflected by the existing conditions in the project area.

In the case of the proposed Solano 4 Wind Project, the project site and surrounding area have been modified from its natural conditions by human activity including ranching beginning in the 1840s. Starting in late 1980s, the Solano County Wind Resource Area (WRA) was established and multiple wind farms were constructed in the WRA to exploit the strong winds on the area’s hilltops and ridges. Currently the older wind projects are undergoing repowering with fewer, more efficient turbines.

A list of probable future projects is provided below. Probable future projects are those in the project vicinity that have the possibility of interacting with the project to generate a cumulative impact and either:

1. are partially occupied or under construction;

2. have received final discretionary approvals;

3. have applications accepted as complete by local agencies and are currently undergoing environmental review, or

4. have been discussed publicly by an applicant or otherwise have become known to the lead agency, provided sufficient information is available about the project to allow at
least a general analysis of environmental impacts and an evaluation of the likelihood of implementation.

The analysis also considers planning efforts that address regional environmental issues, such as water quality improvement programs, and potential effects associated with climate change. These plans, programs, and effects are discussed in relevant resource discussions below.

4.3 Cumulative Setting

4.3.1 Geographic Scope

The geographic scope of the cumulative analysis was defined with consideration to the resource being examined, the location of the project, and the type of project. For example, air pollutant emissions generated by construction activity would generate criteria pollutants that would affect the air quality of the entire air basin. Ambient air quality is regulated at the regional level by the Bay Area Air Quality Management District and the Yolo-Solano County Air Quality Management District, which must prepare attainment plans for criteria pollutants that exceed national and state ambient air quality standards. Consequently, the plans and policies approach to cumulative analysis is best suited for characterizing the cumulative condition related to air quality.

On the other hand, intervening topography and distance between operating WTGs to the nearest receptor are site specific factors that attenuate noise levels. In this circumstance, the list approach is best suited for identifying projects with potential cumulative impacts. Given the variability in the nature of cumulative effects, a combination of the two methods has been used to identify related projects and evaluate cumulative impacts. Table 4-1 lists the cumulative impact analysis methodology applied to each impact category.

When the effects of the project are considered in combination with those other past, present, and probable future projects to identify cumulative impacts, the other projects that are considered may also vary depending on the type of environmental effects being assessed. Table 4-1 presents the general geographic areas associated with the different resources addressed in this analysis.

4.3.2 Project List

Table 4-2 provides a list of past as well as ongoing and probable future projects that would affect the local area and that meet the requirements stated above. The listed projects are in the project vicinity and have the possibility of interacting with the proposed Solano 4 Wind Project, to generate related impacts. This list of projects was utilized in the development and analysis of the cumulative settings and impacts for each resource topic. Past and current projects in the project vicinity were also considered as part of the cumulative setting as they contribute to the existing conditions upon which the proposed Solano 4 Wind Project, and each probable future project’s environmental effects also is described; these projects are included in Table 4-2.
Table 4-1  Geographic Scope of Cumulative Impacts

<table>
<thead>
<tr>
<th>Resource Topic</th>
<th>Geographic Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics</td>
<td>Local (project site and surrounding public viewpoints)</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Regional (pollutant emissions that affect the air basins) and immediate project vicinity (pollutant emissions that are highly localized)</td>
</tr>
<tr>
<td>Biological Resources</td>
<td>Regional and local</td>
</tr>
<tr>
<td>Archaeological, Historical, and Tribal Cultural Resources</td>
<td>Local (limited to project site), with regional implications</td>
</tr>
<tr>
<td>Geology and Soils</td>
<td>Local</td>
</tr>
<tr>
<td>Greenhouse Gas Emissions and Energy</td>
<td>Global (for greenhouse gas emissions) and regional (for energy)</td>
</tr>
<tr>
<td>Hazards and Hazardous Materials</td>
<td>Local (immediate project vicinity)</td>
</tr>
<tr>
<td>Hydrology and Water Quality</td>
<td>Regional and local</td>
</tr>
<tr>
<td>Land Use</td>
<td>Regional</td>
</tr>
<tr>
<td>Noise</td>
<td>Local</td>
</tr>
<tr>
<td>Transportation and Traffic</td>
<td>Regional and local</td>
</tr>
</tbody>
</table>

Source: Compiled by AECOM in 2019

Table 4-2  Cumulative Project List

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Description</th>
<th>Project Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caltrans SR 12 Corridor Improvement Project</td>
<td>The long-range vision includes recommendations to add a lane in each direction on SR-12 in the area of Fairfield and Suisun City, construct a four-lane divided highway from SR-113 to SR-160 and replace movable bridges at the Rio Vista and Mokelumne River crossings. For the balance of the corridor, an enhanced two-lane highway is recommended that includes median barriers, inside shoulders, full 12' lanes, outside shoulders and strategically located acceleration lanes that provide passing opportunities.</td>
<td>Planned</td>
</tr>
<tr>
<td>Battery Storage</td>
<td>PG&amp;E's Vaca-Dixon sodium sulfur battery energy storage system at the PG&amp;E Vaca-Dixon substation serves to supply a variety of power grid functions. 2MW/14MWh Vaca-Dixon sodium sulfur battery storage system The objective is to analyze various energy storage use scenarios and gain knowledge on how future systems can be implemented within the power grid came online in 2014 providing energy services to PG&amp;E and ancillary services to the California ISO markets. In the event of the power disturbance or outage, both energy storage systems can provide up to seven hours of backup power to the facility and the grid. Moreover, the Vaca-Dixon system was intended to test applications of energy storage such as power quality, frequency regulation, and other ancillary services.</td>
<td>Planned</td>
</tr>
<tr>
<td>Wind Resource Area</td>
<td>The Wind Resource Area contains eight separate wind energy facilities with a combined 607 WTGs.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Compiled by AECOM in 2019 based on information provided by SMUD
4.4 Cumulative Impact Analysis

For purposes of this EIR, the proposed Solano 4 Wind Project, would result in a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant, and the incremental impact of implementing the proposed Solano 4 Wind Project, is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or

- the cumulative effects of related projects (past, current, and probable future projects) are already significant, and implementation of the proposed Solano 4 Wind Project, makes a considerable contribution to the effect. The standards used herein to determine a considerable contribution are that either the impact must be substantial or must exceed an established threshold of significance.

Significance criteria, unless otherwise specified, are the same for cumulative impacts and project impacts for each environmental topic area. This cumulative analysis assumes that all mitigation measures identified in Sections 3.1 through 3.11 to mitigate project impacts are adopted. The analysis herein analyzes whether, after adoption of project-specific mitigation, the residual impacts of the project would cause a cumulatively significant impact or would contribute considerably to existing/anticipated (without the project) cumulatively significant effects.

4.4.1 Aesthetics

Since 1987, when Solano County first designated the Montezuma Hills region as a wind resource area. Large-scale transmission towers and WTGs have become established landscape elements within the Montezuma Hills viewshed. The wind energy facilities occupy approximately 88 percent of the WRA’s acreage, and 607 WTGs operate within the area (see Table 3.1-1 in Section 3.1, “Aesthetics”). Wind energy development has substantially altered the rural, agricultural character of the region. The turbines dominate formerly open views of rolling grassland and draw the attention of sensitive viewer groups. Sensitive viewer groups that have been affected by the existing projects include residents in the vicinity of the wind resource area, motorists driving along local roads, motorists driving along scenic roadways SR 12 and SR 113, and visitors to the wind resource area, including visitors to the Sacramento River, Delta islands, Suisun Marsh, and Suisun Bay.

Visual changes during operation of the project, including the presence of taller WTGs would not be noticeable to residents, recreationists, and motorists in the area. The proposed WTGs would be slightly taller than the existing WTGs in the area but the number of WTGs would be reduced from current conditions. The mean height for the existing WTGs is 396 feet; the mean height for the largest of the WTGs proposed for the Solano 4 Wind Project is 591 feet. All transmission infrastructure associated with the project would be placed underground. Implementation of Mitigation Measures 3.1-1a and 3.1-1b
would reduce potential visual effects. Therefore, the impact of the proposed project on scenic vistas and the visual character of the site and adjacent scenic roadways would be less than significant.

Although there may be cumulative changes in views, the project’s contribution toward this visual change is not cumulatively considerable. Project construction and operation would not substantially degrade the overall visual character or quality of the area as a whole. As stated above, large-scale transmission towers and WTGs have become established landscape elements within the Montezuma Hills viewshed. The proposed project would result in a minor change to the visual setting, and the change would be in character with the existing visual environment. The addition of 22 WTGs, 10 WTGs in Solano 4 East and 12 WTGs in Solano 4 West, would not represent a substantial increase in WTGs compared to the existing 607 WTGs in the project area. Therefore, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact related to visual character.

Project operation would introduce permanent sources of light, mainly to comply with FAA safety lighting requirements. Implementation of Mitigation Measure 3.3-2, which requires use of an Aircraft Detection Lighting Systems (ADLS) as defined in AC 70/7460-1L CHG 1 Chapter 14, would greatly reduce the night sky impacts of lighting. The FAA has issued a Determination of No Hazard for the project and approved use of the ADLS which would minimize the potential for light and glare impacts.

Due to FAA safety requirements, wind energy facilities, including existing and planned facilities, in the wind resource area are required to install synchronized red lights on some of the turbines. However, the project would not contribute to this impact because the use of ADLS would avoid lighting project WTGs except during times when an aircraft is detected entering the zone. Therefore, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative visual impact related to new permanent sources of light.

4.4.2 Air Quality

Air quality is inherently a cumulative impact, as current emission levels and attainment status are a result of past and present projects. The cumulative setting for air quality is the Sacramento Valley Air Basin (SVAB) and San Francisco Bay Area Air Basin (SFBAAB). The SVAB and SFBAAB is designated as nonattainment for federal and State ozone standards and PM10, and PM2.5 standards. Each additional project within the SJVAB and SFBAAB has the potential to cause a net increase in emissions that would contribute to this cumulative air quality impact. Construction activities throughout the region would emit criteria air pollutants from earthmoving activities and construction equipment. The operation of past, present, and future projects would contribute criteria air pollutant and precursor emissions to the region that when added to the other emissions occurring within the region. Pollutant emissions, collectively could cause an exceedance of California ambient air quality standards (CAAQS) and national ambient air quality standards (NAAQS).
Yolo-Solano Air Quality Management District (YSAQMD) attains and maintains air quality conditions in northeastern Solano County and Bay Area Air Quality Management District (BAAQMD) regulates air pollutant emissions in the southwestern portion of the county. Regional and local criteria air pollutant emissions and associated impacts were assessed in accordance with YSAQMD- and BAAQMD- recommended methodologies. YSAQMD and BAAQMD considers projects that would generate air quality emissions that exceed applicable thresholds of significance to be cumulatively considerable.

Project construction activities would emit NOX and PM10 at levels that could exceed YSAQMD and BAAQMD daily emissions thresholds for these pollutants. Construction would occur over a 14-month period, with several construction phases occurring simultaneously at several points. In addition, given the size and characteristics of the project, which would involve substantial grading activity, fugitive dust emissions would contribute to an exceedance of these thresholds and could violate applicable air quality standards. Implementation of Mitigation Measure 3.2-1 would reduce NOX, PM10, and PM2.5 emissions associated with project construction. However, even with these mitigation measures, the project’s construction emissions of NOX would exceed applicable thresholds during certain months of construction. Thus, the proposed project’s contribution to this significant cumulative impact would be cumulatively considerable and the cumulative impact associated with short-term construction activities would be significant and unavoidable.

Operation of the proposed project and the other wind energy facilities in Solano County would reduce the County’s dependence on fossil fuels, reduce regional and statewide emissions of ozone precursors and other criteria pollutants, and would have a beneficial cumulative effect on long-term regional air quality.

4.4.3 Biological Resources

The cumulative setting for biological resources is the Solano County WRA, an area that encompasses more than 40,000 acres along the western edge of the Sacramento–San Joaquin River Delta. The WRA formerly supported a native California prairie plant community, but due to a long history of livestock grazing and cultivation, nonnative annual grassland has replaced the original plant community of perennial bunchgrasses. In part because of the transformation from native landscape to the current altered landscape, wildlife abundance and diversity are somewhat limited in the WRA. The landscape generally is monotypic (i.e., annual grassland or dryland farming), is mostly treeless, and supports limited wetlands or other distinctive biological communities. The few trees in the WRA are mostly nonnative (primarily Eucalyptus sp.) and are associated with rural farmsteads. Other habitats, such as wetlands, are uncommon; most of these are seasonal and highly disturbed by agricultural practices and grazing. Overall, currently very little native vegetation exists in the WRA, and therefore the avifauna and other wildlife in the WRA also generally lacks the abundance and diversity of surrounding areas.

The net permanent impact of project construction on vegetation communities would be 43.82 acres for the 136m WTG option or 39.56 acres for the 150m WTG option. Most of
these permanent impacts would occur on grazed, actively farmed, or fallow agricultural lands, which are abundant throughout the WRA. Temporary impacts on these habitat types would be greater than permanent impacts (208.07 acres for the 136m WTG option or 187.41 acres for the 150m WTG option). The temporary construction impacts on these habitat types would not differ substantially from the ongoing agricultural disturbance that is a constant feature of land use on the project site. Areas disturbed by temporary construction would be restored to former conditions with implementation of a revegetation and restoration plan. Because the project-related loss of wildlife habitat would be small, and because these habitats are abundant throughout the project area, this impact would be less than significant. Therefore, the project would not result in a cumulatively significant impact on the WRA’s plant communities and wildlife.

The total impact of project construction on waters of the United States differs between the 136m WTG option and the 150m WTG option. If the 136m WTG option were selected, the total impact on waters of the United States associated with the proposed project would be up to 0.10 acre (approximately 0.07 acre of temporary impacts and 0.03 acre of permanent impacts). If the 150m WTG option were selected, the total project impact on waters would be up to 0.12 acre (approximately 0.09 acre of temporary impacts and 0.03 acre of permanent impacts). Regardless of WTG size (i.e., 136m or 150m), the project would result in permanent fill of up to 0.03 acre of swales. The actual disturbance acreage would be refined during site design and engineering and permitting and would likely be reduced, because project components would be sited to avoid and minimize impacts on wetlands and other waters of the United States where possible. Compensatory mitigation would be provided to offset impacts on wetlands and other waters of the United States. Because these impacts are small, and because Best Management Practices and compensatory mitigation would avoid, minimize, and mitigate for these impacts, the project’s construction impacts on wetlands and other waters of the United States would be less than significant. Therefore, the project would not result in a cumulatively significant impact on wetlands and waters of the United States.

Operation of the project would result in an impact on birds and bats through mortality from direct collision with WTG rotor blades. Golden eagles are present in the WRA and although they have not been recorded nesting in the WRA since 2012, they occur with some regularity and could be injured or killed by project WTGs. Regional populations of special-status raptors and other special-status birds have greater potential than common species to be adversely affected by project operation because of their smaller population size and vulnerable status. Bat species such as hoary bats are also vulnerable to mortality and injury due to operation of the project. Average predicted annual mortality rates for special-status raptor species are low overall, and generally much less than one individual per year.

SMUD will design and operate the project to minimize potential operational impacts on birds and bats by adhering to impact avoidance and minimization measures, including those described the SMUD Solano Wind Bird and Bat Conservation Strategies (SMUD 2013), and SMUD’s Eagle Conservation Plan (SMUD 2014). To offset potential project impacts on eagles, SMUD will retrofit electrical utility poles that present a high risk of
 electrocution to eagles, consistent with requirements described in the USFWS eagle take
permit that SMUD will secure. SMUD will monitor bird and bat fatalities during the first
year of operation and will undertake adaptive management measures avoid, minimize,
and mitigation operational impacts on special-status birds or bats. With implementation
of the adaptive management and compensatory mitigation measures, impacts on special-
status raptors and other special-status birds and bats would be reduced to less-than-
significant levels because bird and bat collision risks would be minimized with the
proposed adaptive management strategies, and project-related bird and bat fatalities
would be offset with compensatory mitigation such as habitat acquisition and other
conservation efforts. Thus, the proposed project’s contribution to cumulative impacts on
resident and migratory birds and bats, including special-status species, would be less
than cumulatively considerable with mitigation

4.4.4 Archaeological, Historical, and Tribal Cultural Resources

The project area is located in the Sacramento–San Joaquin Delta (Delta), a region where
rapid alluvial and colluvial deposition has occurred over the last 10,000 years, resulting
in the presence of deeply buried archaeological deposits throughout much of the region.
In addition, the project area is located primarily within the ethnographic boundaries of the
Patwin; however, the Plains Miwok occupied both banks of the Sacramento River from
Rio Vista to Freeport. During the 19th and 20th centuries, urbanization and intensive
agricultural use in the region has caused the destruction or disturbance of numerous
archaeological sites and tribal cultural resources. From the latter half of the 20th century
to the present, regulations protecting cultural resources have substantially reduced the
rate and intensity of these impacts. However, even with these regulations, cultural
resources, including archaeological and tribal cultural resources, are still degraded or
destroyed as cumulative development in the region proceeds. This is a significant
cumulative impact.

The proposed project, in combination with other development in the region, could
contribute to the loss of significant cultural resources. Because all significant cultural
resources are unique and non-renewable members of finite classes, all adverse effects
or negative impacts erode a dwindling resource base. The loss of any one archaeological
site affects all others in a region since these resources are best understood in the context
of the entirety of the cultural system of which they are a part. The boundaries of an
archaeologically important site extend beyond the project site. As a result, a meaningful
approach to preserving and managing cultural resources must focus on the likely
distribution of cultural resources, rather than on project or parcel boundaries. The cultural
system is represented archaeologically by the total inventory of all sites and other cultural
remains in the region. Proper planning and appropriate mitigation can help to capture and
preserve knowledge of such resources and can provide opportunities for increasing
understanding of the past environmental conditions and cultures by recording data about
sites discovered and preserving artifacts found. Federal, State, and local laws can protect
these resources, in most instances.
The proposed project will include earthmoving activities and grading during site construction. There are no known unique archaeological resources identified with the project site as a result of previous cultural resource investigations and no impacts to historic resources would occur. No tribal cultural resources have been definitively identified within the project site boundaries. However, the lack of previously recorded archaeological resources and the lack of surface indications do not preclude the possibility that significant subsurface archaeological resources or human remains could be inadvertently encountered and damaged during construction. In addition, AB 52 consultation has not yet been completed; therefore, tribal cultural resources may exist at the project site and could be affected by the project. Because archaeological resources tribal cultural resources are non-renewable, any significant impacts to these resources have a cumulative effect on archaeological and tribal cultural resources in the region. Implementing mitigation measures described in Section 3.4, “Archaeological, Historical, and Tribal Cultural Resources,” would ensure that any archaeological features and tribal cultural resources, or human remains encountered during construction would be treated in an appropriate manner under CEQA and other applicable laws and regulations. Thus, the proposed project’s contribution to cumulative impacts on archaeological and tribal cultural resources would be less than cumulatively considerable with mitigation.

4.4.5 Geology, Soils, Paleontological Resources, and Mineral Resources

Geology and Soils

Each cumulative project site has its own unique geologic considerations. Adherence to all relevant plans, codes, and regulations with respect to construction would avoid cumulative impacts related to exposure to geologic hazards. Therefore, no additive effect would result from construction of the proposed project, and the project would not contribute to any cumulative impact related to geology or soil instability.

The geographic scope of cumulative impacts related to geology and soils includes only projects immediately adjacent to the project site. Construction of related projects would likely include vegetation removal, grading, staging, trenching, excavation, and other activities that would result in the temporary and short-term disturbance of soil and would expose disturbed areas to storm events. Related projects would comply with the State Water Resources Control Board’s, the Central Valley Regional Water Quality Control Board’s, and San Francisco Bay Regional Water Quality Control Board’s National Pollutant Discharge Elimination System permits for construction activity, adhere to all applicable codes and regulations, and implement recommendations contained in project-specific geotechnical reports. It is anticipated, therefore, that any potential impacts associated with geologic and soil conditions would be mitigated within the respective sites of these projects. As such, the future cumulative condition for geology and soils within the affected environment would not be adverse, relative to existing conditions. Therefore, a cumulatively significant impact would not occur.

The project has the potential to result in erosion or loss of topsoil during decommissioning, rehabilitation, and construction activities; however, implementation of Mitigation Measure
3.5-1 would reduce potential impacts by requiring preparation of a stormwater pollution prevention plan (SWPPP) and implementation of best management practices (BMPs) to minimize potential topsoil loss and soil erosion. In addition, because the project could be located on unstable or expansive soils, implementation of Mitigation Measures 3.5-2 and 3.5-3 would reduce hazards associated with unstable or expansive soils by requiring preparation of a site-specific geotechnical report and implementation of measures to stabilize on-site soils. Therefore, the proposed project’s impact associated with geology and soils is less than cumulatively considerable with mitigation.

**Paleontological Resources**

Fossil discoveries resulting from excavation and earthmoving activities associated with development are occurring with increasing frequency throughout California. The value or importance of different fossil groups varies depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions, such as part of a research project. Unique, scientifically important fossil discoveries are relatively rare, and the likelihood of encountering them is specific to a site and based on the type of specific geologic rock formations found underground.

The Montezuma Formation, which makes up the majority of the Montezuma Hills between Collinsville and the city of Rio Vista, is a quaternary deposit. The Montezuma Formation is highly fossiliferous. Sixteen vertebrate fossil localities in the county have been recorded from this formation. Fossils typical of this formation represent Rancholabrean-age terrestrial faunas, and range from microvertebrate tooth and limb fossils of rodents, birds, amphibians and reptiles, to larger fossils from animals such as horse, deer, bison, and mammoths. This formation has a high paleontological sensitivity. Therefore, there is a potential for uncovering additional similar fossil remains during construction-related earthmoving activities of the related projects. This is considered a potentially significant cumulative impact.

The project has the potential to result in degradation or destruction of paleontological resources during decommissioning, rehabilitation, and construction activities. Mitigation Measure 3.5-4 would reduce the proposed project’s impact associated with potential damage to or destruction of unique paleontological resources to a less-than-significant level by requiring an analysis of potential on-site paleontological resources, and implementing measures to identify, treat, and avoid adverse effects on such resources as needed before construction. The proposed project’s impact associated with potential damage to unique paleontological resources during earthmoving activities is less than cumulatively considerable with mitigation.

**4.4.6 Greenhouse Gas Emissions and Energy**

Greenhouse gas (GHG) emissions from past, present, and future projects create a significant cumulative impact. Significance thresholds can be developed by federal or
State regulatory agencies or by air districts, but these thresholds and their related goals are ultimately designed to effect change at a global level. Although the analysis provided in Section 3.6, “Greenhouse Gas Emissions and Energy,” focuses on the proposed project and is project specific, it also is considered cumulative because it is only as a contribution to a cumulative effect that the project specific emissions have environmental consequences. As discussed in Impact 3.6-1 and 6.6-2 of Section 3.6, impacts of the proposed project related to GHG emissions are less than cumulatively considerable, and the proposed project would not result in a cumulatively significant incremental contribution to impacts related to GHG emissions.

The increased demand for electrical supplies is a byproduct of development in the SMUD service area. Energy is consumed for heating, cooling, and electricity in homes and businesses; for public infrastructure and service operations; and for agriculture, industry, and commercial uses.

Solano County and cities within the region implement general plans and other policy documents that include goals and policies to reduce energy demands through the use design features, building materials, and building practices and encourage the use of renewable energy sources. Therefore, individual projects would not result in a significant cumulative impact related to energy resources. As described in Impact 3.6-3, the proposed project would not result in inefficient, wasteful, and unnecessary consumption of energy resources during construction. Once completed, the project will serve as one of SMUD’s power generating facilities and would increase SMUD’s overall power generation capacity. There is no significant cumulative impact, and the project would not result in a cumulatively significant incremental contribution to a significant cumulative impact related to the wasteful, inefficient, excessive, and unnecessary consumption of energy.

4.4.7 Hazards and Hazardous Materials

Impacts related to the transport, use, or disposal of hazardous materials and hazards to the public or environment because of upset and accident conditions are primarily site-specific. The impacts of the proposed project would not combine with impacts from related projects such that a cumulatively significant impact associated with hazards or hazardous materials could occur.

The proposed project would involve the storage, use, disposal, and transport of hazardous materials (such as asphalt, fuel, lubricants, and solvents) to varying degrees during construction. The storage, use, disposal, and transport of hazardous materials are extensively regulated by various federal, State, and local agencies. Mitigation Measures in Section 3.7, “Hazards and Hazardous Materials,” require preparation and implementation of various plans to address environmental training; hazardous substance control and emergency response; spill prevention, control, and countermeasures; and hazardous materials. Related projects would be subject to the same regulations implemented by federal, State, and local agencies, which are specifically designed to protect the public health. In general, wind energy facilities do not require the use and
storage of significant quantities of hazardous materials. Therefore, there is **no cumulative impact**.

During grading, trenching, and other ground-disturbing activities, project construction crews could encounter subsurface hazardous materials related to farming and natural gas extraction. Such an accidental disturbance could produce a release to the environment, causing a hazard to the public. Implementation of mitigation measures included in Section 3.9 would reduce impacts to a less-than-significant level by requiring preparation and implementation of various plans to reduce potential impacts on workers and the environment associated with the release of subsurface hazardous materials. Thus, the proposed project **would not contribute to any significant cumulative impacts**.

Regarding impacts on air traffic, the FAA concluded that the cumulative impact of the proposed WTGs, when combined with other proposed and existing structures, is not considered to be significant. The study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposed WTGs affect the capacity of any known existing or planned public-use or military airport. (FAA 2019).

In addition, the project site is not located in a State Responsibility Area designated as a High or Very High Fire Hazard Severity Zone. However, during the hot summer months, the project area is highly susceptible to grass fires. Mitigation measures in Section 3.9 require preparation and implementation of a grass fire control plan and emergency access plan. Implementing these mitigation measures and adhering to all applicable regulations would reduce potential impacts of project construction related to wildland fires to a **less-than-significant** level. Thus, the proposed project **would not contribute to any significant cumulative impacts**.

### 4.4.8 Hydrology and Water Quality

Local hydrology, drainage, and water quality conditions are often affected by regional activities, in addition to local activities and related projects. Past and present projects from Sacramento and San Joaquin Counties (e.g., urban, roadway, and infrastructure development) to the Sacramento–San Joaquin Delta (water supply diversions, agricultural diversions, flood control projects, urban development, river channelization) affect hydrology and water quality conditions in Solano County.

Five subwatersheds are contained within, or partially located in, the project area. Montezuma Slough is located west of the northwestern portion of the project site and has the largest drainage area. All drainages ultimately flow to the Sacramento River. The project site is immediately north of the Sacramento River, east of the confluence with the San Joaquin River. West of the project area, the Sacramento River flows through Suisun Bay and eventually discharges to San Francisco Bay.
Decommissioning of existing wind energy facilities, project construction, and future project decommissioning or repowering activities would require the grading and movement of soil. Such activities could result in erosion, sedimentation, and discharge of other nonpoint-source pollutants to stormwater, which could then drain off-site and degrade local water quality. Implementation of mitigation measures contained in Section 3.9, “Hydrology and Water Quality,” would reduce this impact to a less-than-significant level by requiring preparation and implementation a SWPPP and associated BMPs, an environmental training program, a hazardous substance control and emergency response plan, and a spill prevention control and closures plan. Just as with the proposed project, related projects would be required to adhere to applicable requirements designed to prevent significant water quality impacts. Therefore, implementation of related projects would not result in a cumulative impact, and the project would result in a less-than-cumulatively-considerable incremental contribution to temporary, short-term construction-related water quality impacts.

4.4.9 Land Use

Cumulative development within the region would result in a significant change in land use, and individual projects would need to be considered in context of their compliance with adopted land use plans. The County is unaware of any broadscale and sustained future inconsistencies with the General Plan or other regional plans that would generate significant cumulative impacts. The proposed project is generally consistent with the Solano County General Plan. Land use inconsistencies are not physical effects in and of themselves and combinations of policy inconsistencies would not rise to the level of a physical effect. Cumulative effects of the physical changes related to the project are discussed in the other topics in this section. No cumulatively considerable impacts would occur.

4.4.10 Noise

Noise impacts are normally localized and attenuated rapidly with distance. Proposed construction areas are located mostly far from existing noise-sensitive receptors, the only closest receptor being approximately 275 feet from where construction activities (underground cabling) would occur. Most noise-generating construction activity would be performed during daytime hours, when construction noise is exempt from noise standards by the Solano County Draft Noise Ordinance. Short-term construction noise impacts are less than significant.

No related projects are proposed in the vicinity of the project site. Therefore, no construction projects would occur simultaneously in a way that would create cumulative construction noise impacts and no cumulative impact would occur.

4.4.11 Transportation and Traffic

The vehicular traffic generated by the proposed project would be present primarily during the construction period. This traffic would consist of worker trips to and from the project
area, the transport of construction material, and equipment deliveries. In total, the project would generate 15,525 trips over the course of construction, with a peak construction traffic volume of approximately 250 trips per day. After construction has been completed, operation and maintenance activities for the project would require approximately six round trips per day, using pickups or other light-duty trucks. Construction and operational traffic would be routed primarily along Interstate 80; Interstate 680; SR 160; SR 12; SR 113; Kaiser Road in the City of Napa; and local roadways in the vicinity of the project site, including Shiloh Road, Collinsville Road, Talbert Lane, Stratton Road, Birds Landing Road, and Montezuma Hills Road.

With some exceptions, heavy trucks that would transport project components would exceed standards for the height, width, length, and weight of regular vehicles as outlined in the California Vehicle Code. Obstruction of traffic flows and impairment of emergency access are also potential impacts associated with the hauling of heavy project components. Mitigation Measures in Section 3.11, “Transportation and Traffic,” require working with Caltrans, the County, and the City of Napa to determine the lowest hourly traffic flows and develop a traffic control plan specifying transporter travel times and days. These measures require a plan for notifying the public regarding affected roadways before the transporters’ travel days, and for modifying local roadways to enable transporter access. The measures would also maintain emergency access during transport of WTG components and throughout the construction period. Therefore, implementing mitigation measures in Section 3.11 would reduce construction-related traffic impacts to a less-than-significant level.

A review of the cumulative project list found that most related projects would not create vehicular trips that would overlap with those of the proposed project to create a cumulatively significant traffic impact, because those projects either do not generate substantial traffic volumes or would not use the same road segments for construction trips. In addition, the Caltrans SR 12 Corridor Improvement Project is currently a planned project, and no timeframe has been identified for implementation of this project. For these reasons, implementing the related cumulative projects would not be expected to result in a cumulatively significant impact, and the project would result in a less-than-cumulatively-considerable incremental contribution to temporary, short-term construction-related traffic impacts.