

5.6 Energy Conservation

This section identifies and evaluates issues related to energy conservation in the context of the Proposed Project and alternatives. This section discusses the physical and regulatory setting; the criteria used for determining the significance of environmental impacts; and potential impacts associated with construction, operation, and maintenance of the Proposed Project.

5.6.1 Setting

Regional and Local Setting

California's energy system includes electricity, natural gas, and petroleum. According to the California Energy Commission (CEC), California's energy system generates 71 percent of the electricity, 12 percent of the natural gas, and 38 percent of the petroleum consumed or used in the state. The rest of the state's energy is imported, and includes electricity from the Pacific Northwest and the Southwest; natural gas purchases from Canada, the Rocky Mountain states, and the southwest; and petroleum imported from Alaska and foreign sources (CEC, 2011).

Electricity

The production of electricity requires the consumption or conversion of energy resources including natural gas, coal, water, nuclear, and renewable sources such as wind, solar, and geothermal. Of the electricity generated in California, 61.1 percent is generated by natural gas-fired power plants, 0.8 percent is generated by coal-fired power plants, 11.7 percent comes from large hydroelectric dams, and 9.3 percent comes from nuclear power plants. The remaining 17.1 percent in-state total electricity production is supplied by renewable sources including solar and wind power (CEC, 2013). Electricity is generated and distributed via a network of high voltage transmission lines commonly referred to as the power grid.

Southern California Edison (SCE) is the local public utility and energy supplier in the Proposed Project area, and produces and purchases electricity from both renewable and nonrenewable resources. SCE serves approximately 14 million people in a 50,000 square-mile area of central, coastal, and Southern California (including Fresno, Imperial, Inyo, Kern, Kings, Los Angeles, Madera, Mono, Orange, Riverside, Santa Barbara, San Bernardino, Tulare, Tuolumne, and Ventura counties) (SCE, 2013 and 2014).

The Moorpark System is the electrical distribution system in the Proposed Project area and is comprised of the 220/66/16 kilovolt (kV) Moorpark Substation; approximately eleven 66/16 kV distribution substations; various 66 kV customer-dedicated substations and pole-top substations; various 66 kV subtransmission lines; and 16 kV, 4 kV and 2.4 kV distribution circuits (SCE, 2013).

Customers in the communities of western Simi Valley, Moorpark, Thousand Oaks, Newbury Park, Westlake Village, Agoura, Agoura Hills, Oak Park, Hidden Hills, Topanga Canyon, Calabasas, Malibu, and portions of eastern unincorporated Ventura County as well as portions of

western unincorporated Los Angeles County comprise the Electrical Needs Area (ENA), which is currently served by two substations within the Moorpark System: the Newbury Substation and Pharmacy Substation. Customers in the ENA would be served by the Proposed Project.

Regulatory Setting

Federal

Energy Policy Act of 2005

The Energy Policy Act of 2005 (the Act) seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under the Act, consumers and businesses can obtain federal tax credits for purchasing fuel-efficient appliances and products, including buying hybrid vehicles, building energy-efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

State

State of California Integrated Energy Policy

In 2002, the Legislature passed Senate Bill 1389, which required the CEC to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for Zero Emission Vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

The CEC adopted the 2013 Integrated Energy Policy Report on February 20, 2014. The 2013 Integrated Energy Policy Report provides the results of the CEC's assessment of a variety of issues, including:

- ensuring that the state has sufficient, reliable, and safe energy infrastructure to meet current and future energy demands;
- monitoring publicly-owned utilities' progress toward achieving 10-year energy efficiency targets; defining and including zero-net-energy goals in state building standards;
- overcoming challenges to increased use of geothermal heat pump/ground loop technologies and procurement of biomethane;
- using demand response to meet California's energy needs and integrate renewable technologies;

- removing barriers to bioenergy development; planning for California’s electricity infrastructure needs given potential retirement of power plants and the closure of the San Onofre Nuclear Generating Station;
- estimating new generation costs for utility-scale renewable and fossil-fueled generation;
- planning for new or upgraded transmission infrastructure;
- monitoring utilities’ progress in implementing past recommendations related to nuclear power plants;
- tracking natural gas market trends;
- implementing the Alternative and Renewable Fuel and Vehicle Technology Program; and
- addressing the vulnerability of California’s energy supply and demand infrastructure to the effects of climate change; and planning for potential electricity system needs in 2030 (CEC, 2014a).

Title 24 Building Energy Efficiency Standards

Title 24, Part 6, of the California Code of Regulations (CCR) is the California Building Code governing all aspects of building construction. Included in Part 6 of the Code are standards mandating energy efficiency measures in new construction. Since its establishment in 1977, the building efficiency standards (along with standards for energy efficiency in appliances) have contributed to a reduction in electricity and natural gas usage and costs in California. The standards are updated every 3 years to incorporate new energy efficiency technologies. The latest update to the Title 24 standards became effective July 2014. The standards regulate energy consumed in buildings for heating, cooling, ventilation, water heating, and lighting. Title 24 is implemented through the local planning and permits processes (CEC, 2014b).

Local

Ventura County General Plan

The California Public Utilities Commission (CPUC) General Order No. 131-D explains that local land use regulations would not apply to the Proposed Project. However, for information purposes, the following goals and policies identified in Section 1.9 Energy Resources (Ventura County, 2013) would otherwise be applicable to the Proposed Project and alternatives:

Goal 4: Encourage increased fuel efficiency of vehicles and decreased number and length of vehicle trips.

Policy 1: Discretionary development shall be evaluated for impact to energy resources and utilization of energy conservation techniques.

5.6.2 Significance Criteria

Appendix F of the California Environmental Quality Act (CEQA) Guidelines provides guidance for assessing energy conservation-related impacts of projects. The appendix identifies the following means to achieving the goal of energy conservation:

- decreasing overall per capita energy consumption;
- decreasing reliance on natural gas and oil; and
- increasing reliance on renewable energy sources.

Based on Appendix F, energy conservation-related environmental impacts would be considered significant if a project would:

- a) Result in substantially inefficient or wasteful consumption of energy;
- b) Affect local and regional energy supplies to the point that additional capacity of those energy supplies would be required;
- c) Adversely affect peak and base period demands for electricity and other forms of energy;
- d) Conflict with existing energy standards;
- e) Adversely affect existing energy resources; or
- f) Result in substantial transportation energy use requirements with no efficient transportation alternatives.

5.6.3 Applicant Proposed Measures

SCE does not identify any applicant proposed measures to address issues related to energy conservation impacts.

5.6.4 Impacts and Mitigation Measures

Approach to Analysis

The energy conservation analysis qualitatively assesses potential impacts of the Proposed Project related to construction-related diesel and gasoline consumption from both construction equipment and transportation and from operation-related diesel and gasoline consumption.

a) Result in substantially inefficient or wasteful consumption of energy.

Impact 5.6-1: Construction, operation, and maintenance would result in the consumption of energy. *Less than significant* (Class III)

Construction-related energy expenditures would include both direct and indirect uses of energy, primarily in the form of diesel and gasoline fuel. Direct energy use would include the consumption of petroleum for operation of construction vehicles and equipment. Indirect energy use includes the energy required to make the materials and components used in the Proposed Project construction. This includes energy used for extraction of raw materials, manufacturing, and transportation associated with manufacturing.

Construction-related energy consumption would represent irreversible consumption of finite natural energy resources during the 10 months of construction activity. The precise amount of

construction-related energy demand is uncertain. Even so, construction activities would not result in long-term depletion of non-renewable energy resources and would not permanently increase reliance on energy resources that are not renewable. Construction activities would not reduce or interrupt existing electrical or natural gas services due to insufficient supply, nor would they interrupt existing local SCE service. Proposed Project-specific construction-related energy demands would not be expected to have a significant adverse effect on energy resources. Implementation of APM AIR-1, which is described and analyzed in Section 5.3, *Air Quality*, would further ensure that fuel energy consumed in the construction phase would not be wasted through unnecessary idling or through the operation of poorly maintained equipment. Therefore, energy consumption by construction activities would result in less-than-significant impacts pertaining to inefficient or wasteful consumption of energy (Class III).

Energy consumption required for Proposed Project operation and maintenance would be minimal. Energy would be required in the form of electricity from the SCE grid for occasional maintenance activities, and in the form of fuel for periodic visits by inspection and maintenance vehicles. The amount and form of energy required for operation and maintenance activities would be neither inefficient nor wasteful. Impacts from operation and maintenance of the Proposed Project on the consumption of energy would be less than significant.

Mitigation: None required.

b) Affect local and regional energy supplies to the point that additional capacity of those energy supplies would be required. (Beneficial Impact)

The Proposed Project would be located within SCE's service territory and would transmit energy to the regional power grid. The Proposed Project would contribute to meeting projected local peak demand electricity needs. Consequently, the Proposed Project would have a beneficial impact on local and regional energy supplies because it would ensure that current energy needs are met and that there is capacity and infrastructure to meet projected future energy needs in the ENA. No adverse impact on local or regional energy supplies or capacity would result (Class IV).

c) Adversely affect peak and base period demands for electricity and other forms of energy. (No Impact)

The Proposed Project would transmit electrical energy to the grid during peak and base periods. Impacts to peak or base electricity demands would occur if significant amounts of electricity were required for construction, operation, or maintenance of the Proposed Project such that SCE would be required to increase its available supply or production capacity. There may be a limited temporary increase in use of electricity resources during construction, and periodic energy requirements during operation and maintenance, as discussed under Impact 5.6-1. However, given the negligible amount of electricity required for the Proposed Project, neither construction nor

operation and maintenance would impact peak or base power demands. Additionally, the Proposed Project would not impact electricity generation facilities' ability to provide and maintain existing levels of service during peak and base period demands. Consequently, the Proposed Project would cause no adverse impact related to the demand for electricity or other forms of energy (No Impact).

d) Conflict with existing energy standards. (No Impact)

Energy standards such as the Energy Policy Acts of 1975 and 2005, and Title 24 promote strategic planning and building standards that reduce consumption of fossil fuels, increase use of renewable resources, and enhance energy efficiency. In general, these regulations and policies specify strategies to reduce fuel consumption and increase fuel efficiencies and energy conservation. If the Proposed Project were to use energy resources in a wasteful manner, it would conflict with state energy standards. However, implementation of APM AIR-1, which is described and analyzed in Section 5.3, *Air Quality*, would ensure that fuel energy consumed in the construction phase would not be wasted through unnecessary idling or through the operation of poorly maintained equipment.

Proposed Project construction would be short-term and would not result in the permanent increased use of non-renewable energy resources. As described in Chapter 3, *Project Description*, the Proposed Project would reduce fuel use by locating staging areas near the Proposed Project area, using a local labor force, and using local landfills for disposal of construction and demolition debris. Proposed Project construction would be consistent with the goals and strategies of state energy standards (No Impact).

Proposed Project operation would include on-going maintenance activities that would require the use of trucks and equipment that use non-renewable fuels. Energy use for Proposed Project operation and maintenance would be minimal, requiring a negligible percentage of the overall energy supplied to Ventura County. Proposed Project operation and maintenance energy use would be neither wasteful nor inefficient, and would not conflict with current energy conservation standards (No Impact).

e) Adversely affect existing energy resources. (Beneficial Impact)

As discussed above, the Proposed Project would increase the reliability of the local electrical subtransmission grid during peak demand times, reducing the likelihood of interruptions in electrical distribution due to demand on the system. Consequently, the Proposed Project would not result in adverse impacts on energy resources (Class IV).

f) Result in substantial transportation energy use requirements with no efficient transportation alternatives.

Impact 5.6-2: Construction, operation, and maintenance would result in the use of transportation energy. *Less than significant* (Class III)

As discussed in Impact 5.6-1 above, Proposed Project construction would consume energy (primarily through fuel usage) during transportation of labor and materials to and from the Proposed Project site. During Proposed Project operation and maintenance, transportation-related energy use would consist of up to 15 maintenance trips per month and an annual inspection using a helicopter. Operation and maintenance activities would originate from the local area because current local SCE personnel would perform this work. The amount of fuel required for construction, operation, and maintenance activities would not be substantial, requiring a negligible percentage of the overall energy supplied to Ventura County. For the reasons discussed above, construction-related transportation energy use impacts would be less than significant.

Mitigation: None required.

5.6.5 Alternatives

No Project Alternative 1

No Project Alternative 1 would have no energy impacts because no energy would be consumed by construction activities, or during operations and maintenance (No Impact). However, if the Proposed Project is not built, SCE forecast indicates a projected voltage drop that would exceed the acceptable five percent limit on the 66 kV bus at Newbury Substation under abnormal system conditions and a projected overload on the Moorpark-Newbury tap of the Moorpark-Newbury-Pharmacy 66 kV line under a normal system configuration. Although No Project Alternative 1 would consume no energy during construction, operation, and maintenance, it could result in a long-term loss of reliability in the local electrical distribution system. This impact is considered less than significant, as another project would likely be constructed to address this deficiency.

Therefore, this alternative would result in no impact to energy conservation regarding criteria a), c), d), e) and f) (No Impact), and a less-than-significant impact regarding criterion b) (Class III).

No Project Alternative 2

No Project Alternative 2 would have similar impacts compared to the Proposed Project because energy would be consumed by construction equipment and vehicles associated with removing project components installed in 2010 and 2011. No Project Alternative 2 would require the removal of 22 TSPs, 30 TSP foundations, slurry from three foundation holes, and possibly infrastructure previously installed at Moorpark and Newbury substations. Similar to construction of the Proposed Project, removal activities would require the use of fuels (primarily gasoline and diesel) for operation of construction equipment (e.g., dozers, excavators, and trenchers),

construction vehicles (e.g., dump and delivery trucks), and construction worker vehicles. Direct energy use may also include the use of electricity to power construction equipment (e.g., electric power tools). Compared to the Proposed Project, this alternative would not require energy during operation and maintenance. As would occur under No Project Alternative 1, No Project Alternative 2 would result in a projected voltage drop and a projected overload on the Moorpark-Newbury tap of the Moorpark-Newbury-Pharmacy 66 kV line under a normal system configuration. This could result in a long-term loss of reliability in the local electrical distribution system, although this impact is considered less than significant, as another project would likely be constructed to address this deficiency.

Construction-related energy requirements would be less under this alternative than the Proposed Project, but would still result in a less-than-significant impact to energy conservation regarding criteria a) and d) (Class III) and no impact regarding criteria b), c), d), and f).

References – Energy Conservation

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