



Section 5.19:

# Electricity





## **SECTION 5.19 ELECTRICITY**

### **5.19.1 PURPOSE**

This section identifies the electricity service provider and facilities serving the City of Fullerton and evaluates potential impacts to electricity services associated with implementation of The Fullerton Plan.

### **5.19.2 EXISTING REGULATORY SETTING**

#### **FEDERAL REGULATIONS**

State and Federal governments extensively regulate corporate utilities. The Federal government has almost no power to regulate municipal utilities, except as they are parties to certain contracts that must be filed with the Federal Energy Regulatory Commission (FERC).

#### **STATE**

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. Assembly Bill 1890, enacted in 1996, deregulated the power generation industry, allowing customers to purchase electricity on the open market. Under deregulation, the production and distribution of power that was under the control of investor-owned utilities was decoupled. Deregulation allowed other providers the ability to supply electricity to consumers.

The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

#### **LOCAL**

Electric power supply and distribution to the City of Fullerton is furnished by Southern California Edison (SCE). Electrical services must be provided in accordance with SCE policies and extension rules on file with the CPUC at the time contractual agreements are made.

#### **City of Fullerton Municipal Code**

Fullerton Municipal Code (FMC) Chapter 2.15 (Underground Utilities Commission), establishes an underground utilities commission to make recommendations to the City Council on the establishment of underground utility districts, and such other related matters as are brought before it.



FMC Section 16.05.060 (Underground utilities and service lines), requires all new or proposed electrical, telephone, community antenna television and similar wires, cables, service and appurtenances which provide direct service to the property being subdivided, divided or developed, be installed underground, and all existing facilities providing direct service to the building, structure, or development being added to or rebuilt be undergrounded.

### 5.19.3 EXISTING ENVIRONMENTAL SETTING

#### ELECTRICITY

The City of Fullerton receives its electrical power service via generation and transmission infrastructure owned by Southern California Edison (SCE).

SCE maintains and operates the transmission and distribution infrastructure necessary to provide electricity to end users throughout its entire service area. SCE provides electricity to approximately 13 million people, 180 cities and communities in 50,000 square miles of service area, encompassing eleven counties in central, coastal and southern California, excluding the City of Los Angeles and certain other cities. Electricity can be generated from a combination of natural gas, hydroelectric, nuclear or renewable sources (wind and solar). SCE facilities include hydroelectric, nuclear, and coal power plants as identified below:

- Big Creek Hydroelectric Facilities is located in Shaver Lake, California. This hydroelectric facility began operating in 1911, and consists of 27 dams, nine powerhouses, and miles of interconnecting infrastructure, with a e generating capacity of approximately 1,000 Megawatts of power, which is 90 percent of SCE's hydroelectric power and 20 percent of SCE owned power generation capacity.
- San Onofre Nuclear Generating Station (SONGS), located in San Clemente, California, is jointly owned by SCE, San Diego Gas & Electric, and the City of Riverside. In operation since 1968, SONGS is one of the largest nuclear generating stations in the United States. The twin reactor units can generate 2,200 megawatts of power to meet the needs of 1.4 million average homes at a point in time.
- Four Corners Generating Station is located in Fruitland, New Mexico. SCE owns a portion of the facility, which is operated by the Arizona Public Service Company. The plant is one of the largest coal-fired generating stations in the United States. The plant's five units generate 2,040 Megawatts fueled by low-sulfur coal from the Navajo mine.
- Palo Verde Nuclear Generating Station, located in Tonopah, Arizona, is partially owned by SCE. Online since 1986, Palo Verde generates 3,810 Megawatts of energy.



## RENEWABLE ENERGY

### Southern California Edison

In 2010, SCE delivered approximately 14.5 billion kilowatt-hours of renewable energy to its customers, representing approximately 19.4 percent of the total energy delivered.<sup>1</sup> Based on current renewable energy contracts, SCE expects that upon delivery, 20 percent or more of its customers energy needs will be met with renewable energy. Table 5.19-1, *Southern California Edison 2010 Renewable Energy Summary*, provides a summary of the renewable energy SCE generated in 2010.

**Table 5.19-1  
Southern California Edison  
2010 Renewable Energy Summary**

Energy Sources	Capacity (MW)	Delivered in 2010 (Gwh)	Percentage of SCE's Renewable Portfolio (%)
Wind	2,057	4,251	29
Geothermal	956	7,748	53
Solar	383	934	6
Small Hydro	201	664	5
Biomass	123	952	7
<b>Total</b>	<b>3,726</b>	<b>14,549</b>	<b>100</b>
<small>MW = megawatt; Gwh = gigawatt-hour  Southern California Edison, official website, Renewable Energy, <a href="http://www.sce.com/powerandenvironment/renewables/default.htm">http://www.sce.com/powerandenvironment/renewables/default.htm</a>, accessed July 18, 2011.</small>			

In 2010 SCE signed 58 contracts for 852 megawatts of renewable power. According to SCE, these contracts have the potential of providing two billion kilowatt-hours of electricity – enough for more than 300,000 average-sized homes for a year.

SCE also recently signed two wind-energy contracts. One agreement with Puget Sound Energy signed in January, calls for two billion kilowatt-hours over the next two years. The projects are located in Columbia and Kittitas counties in Washington State. The other, with AES Mountainview, calls for 66.6 megawatts from a wind farm in the San Gorgonio Pass near Palm Springs. This 10-year contract was signed in November 2008.

### 5.19.4 SIGNIFICANCE THRESHOLDS AND CRITERIA

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist, which was included with the Notice of Preparation to show the areas being analyzed within the EIR; refer to Appendix A of this EIR. The Initial Study includes questions relating to electricity. The

<sup>1</sup> Southern California Edison, official website, Renewable Energy, <http://www.sce.com/powerandenvironment/renewables/default.htm>, accessed July 18, 2011.



issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project would typically have a significant impact on electricity supply and infrastructure if the project would result in the following:

- The project would create demands on electricity supply and/or infrastructure which exceed the capacity of the utility serving the project area.

## 5.19.5 PROJECT IMPACTS AND MITIGATION MEASURES

### ELECTRICITY

- IMPLEMENTATION OF THE FULLERTON PLAN COULD RESULT IN INCREASED DEMAND FOR ELECTRICITY SUPPLY.

**Proposed General Plan Update Policies and Actions:** Implementation of The Fullerton Plan would result in increased demand for electricity supplies. As indicated in Table 5.19-2, Net Increase in Electricity Demand, The Fullerton Plan would result in increased electricity demand of approximately 195,425,293 KWh/year over existing usage.

**Table 5.19-2  
Net Increase in Electricity Demand**

Land Use	Development Potential	Consumption Factor	Electricity Demand (KWh/year)
Residential	10,183	5626.5 kWh/DU/year	57,294,649
Non-Residential	10,666,459	12.95 kWh/SF/year <sup>1</sup>	138,130,644
<b>Total</b>			<b>195,425,293</b>
Source: Consumption factors obtained from South Coast Air Quality Management District CEQA Air Quality Handbook, April 1993, Table A9-11-A.			
kWh = kilowatt-hour; MWh = megawatt-hour; DU = dwelling unit; SF = square feet			
<sup>1</sup> = office generation factor			

It is anticipated that SCE would be able to serve the projected buildout resulting from implementation of The Fullerton Plan. SCE has existing electricity infrastructure located throughout the City, which would serve future development associated with the implementation of The Fullerton Plan. Additionally, future development would be required to submit a load schedule to SCE to more accurately determine the electrical demand associated with site-specific development and the ability for SCE to serve the electrical demand.

Although the City is primarily urbanized and currently served by infrastructure providing electricity to existing uses, the location of SCE facilities may create the need for transmission and/or service infrastructure to be relocated prior to project-specific site excavation and construction. SCE would update existing facilities or add new facilities in the City based upon specific requests for service from end users. Financial responsibility for any updates or additional facilities would be in accordance with SCE’s rules and tariffs. All new development that requires new electricity lines to be installed would be required to pay applicable fees



assessed by SCE to extend electricity lines to serve the specific project site. SCE would not provide service to new development if there were not adequate electricity supplies and infrastructure to maintain existing service levels and meet the anticipated electricity demands of the specific development requesting service. Further, The Fullerton Plan includes policies and actions that support energy conservation and efficiency throughout the City, potentially reducing electricity demand. Impacts would be less than significant in this regard.

### **Proposed General Plan Update Policies and Actions:**

- P1.12 ***Energy- and Resource-Efficient Design***  
Support projects, programs, policies and regulations to encourage energy and resource efficient practices in site and building design for private and public projects.
- 3.24 ***Encourage Sustainability and Green Building Practices***  
The City has acknowledged the community's concerns regarding the use and conservation of energy resources and embraces the concept of sustainability and "green building" in new and existing housing development. To encourage "green building" practices in new and existing residential development, the City shall evaluate industry trends, technologies, and techniques that encourage the sustainable use of resources in new housing development and the retrofit of existing housing. Based upon this evaluation, the City shall develop programs and procedures, as appropriate that encourage the incorporation of sustainability in new and existing residential development. The City shall determine the appropriateness of offering incentives or other mechanisms to further encourage the incorporation of sustainability in residential development.
- 3.26 ***Efficient Use of Energy Resources in Residential Development***  
The City shall encourage housing developers to maximize energy conservation through proactive site, building and building systems design, materials, and equipment. The City's goal is to provide the development community the opportunity to exceed the provisions of Title 24 of the California Building Code. The City shall continue to support energy conservation through encouraging the use of Energy Star®-rated appliances, other energy-saving technologies and conservation. To enhance the efficient use of energy resources, the City shall review the potential of offering incentives or other strategies that encourage energy conservation.
- P10.10 ***SCE Economic Development Programs***  
Support policies, projects, and programs that help local businesses reduce their operating costs and manage their energy use, including those economic development incentives and initiatives by Southern California Edison, and promote such opportunities on the City's website and at the public counter of City departments.
- P22.2 ***GHG Emissions from Electrical Generation***  
Support regional and subregional efforts to reduce greenhouse gas emissions associated with electrical generation through energy conservation strategies and alternative/renewable energy programs.



- A1.7 **Energy Efficient Retrofits**  
Prepare guidance to homeowners on energy efficient retrofits of existing dwellings.

**Mitigation Measures:** No further mitigation is required beyond compliance with the proposed General Plan Update Policies and Actions.

**Level of Significance After Mitigation:** Less Than Significant Impact.

### 5.19.6 CUMULATIVE IMPACTS

- FUTURE DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE FULLERTON PLAN AND OTHER CUMULATIVE DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO ELECTRICAL SUPPLY AND INFRASTRUCTURE.

**Impact Analysis:** For this topic, the cumulative impacts are analyzed in terms of impacts associated with implementation of The Fullerton Plan and related cumulative projects served by the same electricity provider (i.e., SCE).

Future development resulting from the implementation of The Fullerton Plan, in combination with other future development within SCE service area would result in the long-term and continued use of electricity resources. Potential electricity impacts associated with new developments would be evaluated on a project-by-project basis. All new development that would be served by SCE would be required to pay applicable fees assessed by SCE necessary to provide service to the specific project. SCE would not provide service to new developments if there were not adequate electricity supplies and infrastructure to maintain existing service levels and meet the anticipated electricity demands of the specific development requesting service. Further, The Fullerton Plan includes policies and actions that support energy conservation and efficiency throughout the City, potentially reducing electricity demand. Therefore, The Fullerton Plan would not result in cumulatively considerable electricity impacts.

**Proposed General Plan Update Policies and Actions:** Refer to the Policies and Actions cited above.

**Mitigation Measures:** No further mitigation is required beyond compliance with the proposed General Plan Update Policies and Actions.

**Level of Significance After Mitigation:** Less Than Significant Impact.

### 5.19.7 SIGNIFICANT UNAVOIDABLE IMPACTS

Electricity impacts associated with implementation of The Fullerton Plan would be less than significant with compliance with and/or adherence to Federal, State and local regulations, and policies and actions in The Fullerton Plan. Therefore, no significant unavoidable electricity impacts would occur as a result of The Fullerton Plan.



### 5.19.8 SOURCES CITED

PNM, official website, Four Corners Power Plant, <http://www.pnm.com/systems/4c.htm>, accessed August 23, 2011.

PNM, official website, Palo Verde Nuclear Generating Station, <http://www.pnm.com/systems/pv.htm>, accessed August 23, 2011.

South Coast Air Quality Management District, *CEQA Air Quality Handbook*, April 1993.

Southern California Edison, official website, Power Generation – Big Creek Hydro, <http://www.sce.com/PowerandEnvironment/PowerGeneration/BigCreekHydro/default.htm>, accessed August 23, 2011.

Southern California Edison, official website, Power Generation – San Onofre Nuclear Generating Station, <http://www.sce.com/PowerandEnvironment/PowerGeneration/SanOnofreNuclearGeneratingStation/default.htm?goto=songs>, accessed August 23, 2011.

Southern California Edison, official website, Renewable Energy, <http://www.sce.com/powerandenvironment/renewables/default.htm>, accessed July 18, 2011.

RBF Consulting, *The Fullerton Plan Draft*, August 2011.



This page intentionally left blank.