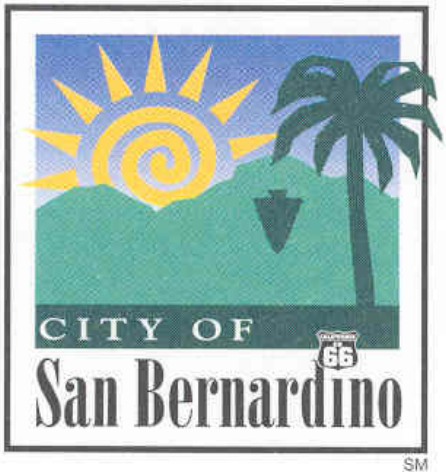

SECTION 5.19
ELECTRICITY AND NATURAL GAS

5.19 ELECTRICITY AND NATURAL GAS

This section identifies existing conditions within the City of San Bernardino and analyzes potential electricity and natural gas impacts associated with implementation of the proposed project. This section is based on the information obtained from the *General Plan* Utilities Element and Energy and Water Conservation Element, the *San Bernardino Final General Plan Update and Associated Specific Plans Environmental Impact Report*, and the City of San Bernardino website.

5.19.1 REGULATORY SETTING

The California Public Utilities Commission (CPUC) regulates investor-owned electric power and natural gas utility companies in the State of California. 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.

5.19.2 ENVIRONMENTAL SETTING

ELECTRICITY

Southern California Edison (SCE) is one of the largest electric utilities in California, serving more than 14 million people in a 50,000 square-mile area of central, coastal and Southern California, excluding the City of Los Angeles and certain other cities. Based in Rosemead, California, the utility has been providing electric service in the region for more than 120 years. SCE's service territory includes more than 180 cities. As of December 2008, SCE had consolidated assets of approximately $32.6 billion. SCE has approximately 17,000 employees.[1]

Electrical service in the City is provided by SCE. SCE owns, operates, and maintains both above ground and underground facilities in the City. Most of SCE's facilities are located in the street right-of-way. SCE will extend electrical service into unserved areas pursuant to SCE's current Rules and Rates. The efficient use of energy and the building design and construction of buildings with energy efficiency in mind are vital to the future.[2]

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:[3]

- Big Creek Hydroelectric Facilities is located in Shaver Lake, California. This hydroelectric facility began operating in 1911, and consists of 23 hydroelectric generating units in nine powerhouses with a generating capacity of approximately 1,000

1 Southern California Edison Company, *Our Company*, 2010, http://www.edison.com/ourcompany/sce.asp, assessed March 15, 2010.

2 *City of San Bernardino General Plan*, Chapter 9, Utilities Element, prepared by The Planning Center, dated November 1, 2005.

3 California Energy Commission. *California Energy Demand 2008-2018, Staff Revised Forecast*. Staff Final Report. Docket #CEC-200-2007-015-SF2. November 2007.

Megawatts, and six major reservoirs with a storage capacity of more than 560,000 acre-feet.

- San Onofre Nuclear Generating Station (SONGS), located in San Clemente, California, is jointly owned by SCE (75 percent share), San Diego Gas & Electric (20 percent share), and the cities of Riverside and Anaheim (remaining interests). In operation since 1968, SONGS is one of the largest nuclear generating stations in the United States. SONGS' two active units can serve 2.2 million households. Unit 1 of the facility is currently undergoing decommissioning, a process set to end in 2007.

- Four Corners Generating Station is located in Fruitland, New Mexico. Arizona Public Service and SCE jointly own this facility. SCE owns 48 percent (approximately 754 Megawatts) in shares. The plant is fueled by coal and has a generating capacity of approximately 2,048 Megawatts.

- Mohave Generating Station, located in Laughlin, Nevada, is jointly owned by the SCE (56 percent share), the Salt River Project (20 percent share), Nevada Power (14 percent share), and Los Angeles Department of Water and Power (10 percent share). The Mohave Generating Station temporarily ceased operations on December 31, 2005 in order make significant upgrades to the plant and its emissions control systems. The plant owners are working to bring the plant back online as soon as possible. Prior to the facility ceasing operations, the plant's generating capacity was approximately 1,580 Megawatts and utilized low-sulfur coal. Coal was mixed with water off-site and delivered to the Mohave plant via a 275-mile pipeline, the only pipeline coal delivery system in the world.

- Palo Verde Nuclear Generating Station, located in Wintersburg, Arizona, is owned by both SCE (16 percent share) and Arizona Public Service (84 percent share). This facility is fueled by nuclear power and has a generating capacity of 3,600 Megawatts.

Geothermal Wells

Use of geothermal resources results in substantial energy savings and generated revenue for the City of San Bernardino. As discussed in Section 5.9, Geology and Seismic Hazards, approximately 90 to 100 geothermal wells and springs currently in operation, which are concentrated in the Central City, Commerce Center, Tri-City areas, and former Norton Air Force Base. Currently, the San Bernardino Municipal Water Department (SBMWD) maintains and operates two wells capable of pumping 4,300,000 gallons of hot water per day. These wells are located in the southern portion of the City for geothermal energy sources. The usable supply of geothermal water, however, is much greater than what is currently used. The SBMWD uses geothermal resources to provide heat to over 35 offices and buildings including the Civic Center and National Orange Show in the central portion of the City. Use of geothermal heat has resulted in a substantial savings on winter heating bills where it is supplied.[4]

[4] *Final San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report*, prepared by The Planning Center, dated September 30, 2005.

NATURAL GAS

Natural gas service is provided by the Southern California Gas Company. The gas company owns, operates, and maintains underground gas lines in most of the public streets. Extension of service is based on the initiation of a service contract whose policies and extension rules are on file with the CPUC.[5] There are no local wells producing oil or natural gas, coal deposits, refineries and processing facilities or electrical generating stations within the City.[6]

5.19.3 SIGNIFICANCE THRESHOLD CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines*, as amended, and used by the City of San Bernardino in its environmental review process, and is contained in Appendix A of the EIR. The Initial Study includes questions relating to electricity and natural gas. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or result in the need for new or physically altered governmental facilities, the construction of which may cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives.

Based on these significance standards, the effects of the proposed project have been categorized as either "no impact", a "less than significant impact", or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a "significant unavoidable impact."

5.19.4 PROJECT IMPACTS AND MITIGATION MEASURES

ELECTRICITY

◆ **IMPLEMENTATION OF THE PROPOSED PROJECT COULD INCREASE THE DEMAND FOR ELECTRICITY SERVICES AND FACILITIES.**

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact Analysis: Implementation of the proposed project would result in the addition of 1,833 dwelling units, 6,122 persons, 6,200,590 square feet of non-residential development, and 16,601 jobs beyond existing conditions. Development associated with implementation of the proposed project would result in an increased demand for electricity within the Project Area. However, this anticipated growth has been planned for within the *General Plan*. As indicated in

[5] *City of San Bernardino General Plan*, Chapter 9, Utilities Element, prepared by The Planning Center, dated November 1, 2005.

[6] *City of San Bernardino General Plan*, Chapter 13, Energy and Water Conservation, prepared by The Planning Center, dated November 1, 2005.

Table 5.19-1, *Proposed Project Electricity Demand*, development within the Project Area under would result in an increase consumption demand of 96,588 Megawatt –hour (MWh) of electricity annually.

Table 5.19-1
Proposed Project Electricity Demand

Land Use	Proposed Development	Consumption Factor	Electricity Demand
Residential	1,833 du	5626.5 kWh/du/year	10,313 MWh/year
Commercial (Retail/Office/Lodging)*	6,200,590 sf	13.55 kWh/sf/year	84,018 MWh/year
Industrial	518,916 sf	4.35 kWh/sf/year	2,257 MWh/year
TOTAL			**96,588 MWh/year**

kWh = kilowatt-hour MWh = Megawatt-hour sf = square feet du = dwelling unit
* In order to provide a conservative analysis a retail consumption factor was used for commercial/office uses.
Source: Consumption factors obtained from South Coast Air Quality Management District CEQA Air Quality Handbook, April 1993, Table A9-11-A.

The proposed project would develop vacant and underutilized properties, involve public facility improvements, street and traffic improvements, streetscape improvements, economic development, housing rehabilitation, and rehabilitations of blighted properties within the Project Area. The Project Area is located within an urban setting currently served by SCE through existing infrastructure. However, any new development in areas not currently served by SCE would be responsible to pay all applicable fees to connect to the existing electricity infrastructure within San Bernardino.

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 adequately electricity supplies and infrastructure to maintain existing service levels and meet the anticipated electricity demands of the specific development requesting service.

In addition, all new construction in the State of California is subject to the energy conservation standards set forth in Title 24, Part 6, Article 2 of the California Administrative Code. These are prescriptive standards that establish maximum energy consumption levels for the heating and cooling of new buildings. Additionally, the City of San Bernardino is interested in green building practices that would reduce the demand for electricity consumption. Furthermore, the City shall use the allowable geothermal resources as an alternative to electricity. The *General Plan* includes policies related to conservation and energy efficiency as well as geothermal resources. Adherence to these goals and policies would reduce the demand for electricity. Furthermore, this anticipated growth has been planned for within the *General Plan*. As such, impacts are anticipated to be less than significant in this regard.

General Plan Goals and Policies:

UTILITIES ELEMENT

Goal 9.6 **Ensure and adequate, safe, and orderly supply of electrical energy is available to support existing and future land uses within the City on a project level.**

Policy 9.6.1 Require that approval of new development be contingent upon the ability to be served with adequate electrical facilities.

Policy 9.6.2 Underground utilities, including on-site electrical utilities and connections to distribution facilities, unless such undergrounding is proven infeasible.

Policy 9.6.3 Provide adequate illumination of all streets, alleys (under special conditions), and public areas; upgrading areas that are deficient and maintaining lighting fixtures in good working order.

Policy 9.6.4 Require improvements to the existing street light system and/or new street light systems necessitated by a new development proposal be funded by that development.

Policy 9.6.5 Encourage and promote the use of energy-efficient (U.S. Department of Energy "Energy Star" or equivalent) lighting fixtures, light bulbs in residences, commercial, and public buildings, as well as in traffic signals, and signs where feasible.

Goal 9.9 **Use the City's available geothermal resources as an alternative to natural gas and electricity.**

Policy 9.9.1 Provide for the continued development and expansion of geothermal energy distribution lines.

Policy 9.9.2 Provide public funding to expand the existing geothermal production and distribution system.

Policy 9.9.3 Promote the use of geothermal resources particularly in the South San Bernardino Area.

ENERGY AND CONSERVATION ELEMENT

Goal 13.1 **Conserve scarce energy resources.**

Policy 13.1.1 Reduce the City's ongoing electricity use by 10 percent and set an example for residents and businesses to follow.

Policy 13.1.2 Ensure the incorporate of energy conservation features in the design of all new construction and site development in accordance with State Law.

Policy 13.1.3 Consider enrollment in the Community Energy Efficiency Program (CEEP), which provides incentives for builders who attain energy savings 30 percent above the National Model Energy Code, the Energy Star Program, which is sponsored by the United States Department of Energy and the Environmental Protection Agency and encourages superior energy efficiency by residents and businesses, or the State's Energy Efficiency and Demand Reduction Program, which offer rebates and incentives to agencies and developers who reduce energy consumption and use energy efficient fixtures and energy-saving design elements.

Policy 13.1.4 Require energy audits of existing public structures and encourage audits of private structures, identifying levels of existing energy use and potential conservation measures.

Policy 13.1.5 Encourage energy-efficient retrofitting of existing buildings throughout the City.

Policy 13.1.6 Consider program that awards incentives to projects that install energy conservation measures, including technical assistance and possible low-interest loans.

Policy 13.1.7 Ensure that new development consider the ability of adjacent properties to utilize energy conservation design.

Policy 13.1.8 Educate the public regarding the need for energy conservation, environmental stewardship, and sustainability techniques and about systems and standards that are currently available for achieving greater energy and resource efficiency, such as the U.S Green Building Council's "Leadership in Energy and Environmental Design" (LEED) standards for buildings.

Policy 13.1.9 Encourage increased use of passive and active solar and wind design in existing and new development (e.g., orienting buildings to maximize exposure to cooling effects of prevailing winds, daylighting design, natural ventilation, space planning, thermal massing and locating landscaping and landscape structures to shade buildings.

Policy 13.1.10 Consider adopting an ordinance relating to energy conservation, environmental stewardship, and sustainability for new development that incorporates the LEED standards.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in the General Plan are required.

Level of Significance After Mitigation: Not Applicable.

NATURAL GAS

◆ **IMPLEMENTATION OF THE PROPOSED PROJECT COULD INCREASE THE DEMAND FOR NATURAL GAS SERVICES AND FACILITIES.**

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact Analysis: Implementation of the proposed project would result in the addition of 1,833 dwelling units, 6,122 persons, 6,200,590 square feet of non-residential development, and 16,601 jobs beyond existing conditions. Development associated with implementation of the proposed project would result in an increased demand for electricity within the Project Area. However, this anticipated growth has been planned for within the *General Plan*. As indicated in *Table 5.19-2*, *Proposed Project Natural Gas Demand*, development within the Project Area would generate a need for an addition of approximately 31,703 kcf per month or 380,436 kcf per year of natural gas over existing conditions.

Table 5.19-2
Proposed Project Natural Gas Demand

Land Use	Proposed Development	Consumption Factor	Natural Gas Demand
Residential	1,833 du	6,665 cf/du/month	12,217 kcf/month
Commercial/Office*	6,200,590 sf	2.9 cf/sf/month	17,982 kcf/month
Industrial	518,916 sf	2.9 cf/sq/month	1,504 kcf/month
TOTAL			**31,703 kcf/month or 380,436 kcf/year**

cf = cubic feet sf = square feet kcf = thousand cubic feet du= dwelling unit
*In order to provide a conservative analysis a retail/shopping center consumption factor is used for commercial/office and industrial uses.
Source: Consumption factors obtained from South Coast Air Quality Management District CEQA Air Quality Handbook, April 1993, Table A9-12-A.

The proposed project would involve the development of vacant and underutilized properties within the Project Area. The Project Area is located within an urban setting currently served by SCGC through existing natural gas infrastructure. However, any future development within the Project Area that requires new infrastructure/gas main extensions would be required to pay any applicable fees assessed by SCGC necessary to accommodate the specific project.

Natural gas service provided would be required to comply with all policies and extension rules of SCGC when contractual arrangements are made with the development applicant. SCGC would not allow new development projects to connect to existing gas main unless the system could maintain adequate service and supply to existing customers and meet the anticipated demands of the project requesting service. Individual development projects would be analyzed to identify project-specific impacts to utility infrastructure on a project-by-project basis.

The *General Plan* includes policies related natural gas as well as geothermal resources. Adherence to these goals and policies would reduce the demand for natural gas. The City shall use the allowable geothermal resources as an alternative to natural gas. Furthermore, this anticipated growth has been planned for within the *General Plan*. As such, impacts are anticipated to be less than significant in this regard.

General Plan Goals and Policies: Refer to the goals and policies identified above.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in the General Plan are required.

Level of Significance After Mitigation: Not Applicable.

5.19.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- **IMPLEMENTATION OF THE PROPOSED PROJECT COMBINED WITH OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE ELECTRICITY AND NATURAL GAS IMPACTS.**

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact Analysis: Future development within the Project Area, in combination with other future development within SCE and SCGC service areas would result in the long-term and continued use of electricity and natural gas resources. Potential electricity and natural gas impacts associated with new development 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 development if there were not adequately electricity supplies and infrastructure to maintain existing service levels and meet the anticipated electricity demands of the specific development requesting service. Future development that requires new infrastructure/gas main extensions would be required to pay all applicable fees assessed by SCGC necessary to accommodate the specific project. Natural gas services provided would be required to comply with all policies and extension rules of SCGC. SCGC would not allow new development projects to connect to existing gas main unless the system could maintain adequate service and supply to existing customers and meet the anticipated demands of the project requesting service. Furthermore, this anticipated growth has been planned for within the *General Plan*. Therefore, the proposed project would not result in cumulatively considerable electricity or natural gas impacts.

General Plan Goals and Policies: Refer to the goals and policies identified above.

Mitigation Measures: No mitigation measures beyond the goals and policies identified in the General Plan are required.

Level of Significance After Mitigation: Not Applicable.

5.19.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Electricity and natural gas impacts associated with implementation of the proposed project would be less than significant with compliance and/or adherence to the City's *General Plan* goals and policies as well as Federal, State and local regulations. Therefore, no significant unavoidable electricity and natural gas would occur as a result of the proposed project.

5.19.7 SOURCES CITED

California Energy Commission. *California Energy Demand 2008-2018, Staff Revised Forecast*. Staff Final Report. Docket #CEC-200-2007-015-SF2. November 2007.

City of San Bernardino General Plan, Chapter 9, Utilities Element, prepared by The Planning Center, dated November 1, 2005.

City of San Bernardino General Plan, Chapter 13, Energy and Water Conservation, prepared by The Planning Center, dated November 1, 2005.

Final San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report, prepared by The Planning Center, dated September 30, 2005.

Sempra Energy, *Companies*, 2008, http://www.sempra.com/companies/utilities.htm#scg, accessed January 9, 2009.

South Coast Air Quality Management District CEQA Air Quality Handbook, April 1993, Tables A9-11-A and A9-12-A.

Southern California Edison Company, *Our Company*, 2010, http://www.edison.com/ourcompany/sce.asp, assessed March 15, 2010.

This page intentionally left blank.