4.14 ENERGY AND MINERAL RESOURCES

This Section addresses energy and mineral resources. It describes the environmental setting in terms of existing energy uses and mineral resources that could be affected by the proposed alignment, the regulatory setting in terms of Federal, State, and local plans that could affect the Project construction and operation, identifies significance criteria, describes any applicant proposed measures, and provides an impact analysis discussion.

4.14.1 Environmental Setting

PG&E provides electricity to all or part of 47 counties in California, constituting most of the northern and central portions of the State. In 2007, PG&E obtained 32 percent of electricity from its own generation sources and the remaining 68 percent from outside sources. PG&E-owned generating facilities include nuclear, natural gas, and hydroelectric, with a net generating capacity of more than 6,200 megawatts. Outside suppliers to PG&E include the California Department of Water Resources, irrigation districts, renewable energy suppliers, and other fossil fuel-fired suppliers. PG&E operates approximately 159,000 circuit miles of transmission and distribution lines. PG&E is interconnected with electric power systems in the Western Electricity Coordinating Council, which includes 14 western states; Alberta and British Columbia, Canada; and parts of Mexico. In 2007, PG&E delivered 86,179 gigawatt-hours of electricity to its customers.

PG&E provides natural gas to all or part of 39 counties in California, comprising most of the northern and central portions of the state. PG&E obtains more than 60 percent of its natural gas supplies from western Canada and the balance from U.S. sources. PG&E operates approximately 48,000 miles of transmission and distribution pipelines. In 2007, PG&E delivered 875 billion cubic feet (Bcf) of natural gas to its customers.

Yolo County

Yolo County is supplied and serviced by PG&E. Peak electrical loads have been increasing in recent years, and the reserve margin for Yolo’s electricity supplies has been low, varying from 8 to 10 percent. Based on reserve margins, absolute supply is considered a problem for electricity. Natural gas supplies to the region are provided from Canada and the southwest United States. Significant natural gas reserves are found in Yolo County. Prices of natural gas are anticipated to rise due to Federal policies. Electricity supplies to the region are secure and prices will
continue to rise. Peak period load has been increasing and currently is a major problem and will continue.

Solar, wind, biomass, and geothermal energy potential all exist in Yolo County. Yolo County uses about 22 trillion British thermal units (Btu’s) per year (260 million Btu’s of primary energy per person) which is about 18 percent of the energy use in the Sacramento Metropolitan Statistical Area (SMSA) and about 0.3 percent of that in the state. About half of the county’s energy use is motor fuels, while 19 percent is natural gas and 12 percent goes to electrical use. Overall, the county appears to have adequate energy resources.

Yolo County has an extensive history of mining sand and gravel mineral resources in the county, as well as gold and mercury within the Cache Creek watershed. The Cache Creek Area Plan (CCAP) was adopted by the Yolo County Board of Supervisors in August 1996 and approved by County Voters in November 1996. The CCAP comprises the Off-Channel Mining Plan (OCMP), which is a mining and reclamation plan, and the Cache Creek Resources Management Plan (CCRMP), which is a creek management plan. The focus of the CCAP is groundwater protection, agricultural preservation, restoration of Cache Creek, and limitation and regulation of mining.

The alluvial deposits in the Cache Creek area are recognized as a major regional source of aggregate for the production of concrete, asphalt, and road base materials. Commercial aggregate mining occurred in the creek from the early 1900’s through 1996 when the County negotiated a “trade” with mining operators of vested in-channel rights for vested off-channel rights.

The CCRMP, adopted August 20, 1996 and amended August 15, 2002, eliminated in-channel commercial mining, and established an improvement program for implementing on-going projects to improve channel stability and restore habitat along the creek banks. The CCRMP provides the policy framework for restoration of the 14.5-mile Lower Cache Creek. It includes specific implementation standards within the Cache Creek Improvement Program (CCIP). The CCIP is the implementation plan for the CCRMP that identifies categories of restoration/protection projects along a precisely defined stretch of the creek. These include bank stabilization, channel maintenance, revegetation, and habitat restoration according to identified design requirements.
The CCRMP/CCIP does allow for limited “maintenance” excavation to occur in order to restore the creek and improve creek stability over time. The adoption of the CCAP allowed the County to eliminate commercial mining activity from within the creek channel and “substitute” that activity with off-channel mining which allowed for appropriate regulated harvesting of the mineral resource deposits.

**Sutter County**

Local energy needs can likely be met over the short-term (5 to 10 years) without new sources of energy development. New transmission line and substation development is not necessary in the short-term to serve expected growth. The primary considerations for the siting of new cogeneration facilities is fuel availability and the access to existing transmission lines. Air quality issues pose significant regulatory and environmental constraints to the development of new cogeneration and waste to energy facilities. Sutter County has extensive natural gas resources and continued production is likely. As of November 1995, Sutter County produced approximately 5 percent of all the natural gas produced in California from 252 wells in 19 gas fields.

PG&E provides electric and gas service to Sutter County. Since 1988 there has been a steady increase in electric energy use, while over the same period natural gas has fluctuated somewhat, with a slight decrease in consumption. In 1995, Sutter County’s total electric use was 475,139,824 kilowatts and gas use was 23,093,240 therms. As population of the county increases, the demand for these energy resources will also increase. Based on discussions with PG&E by Sutter County for information for the General Plan, current gas and electric supplies at the time the General Plan was written are expected to meet demands in Sutter County for the foreseeable future. An option to augment existing electric power sources is cogeneration, and possibly waste to energy development, which is considered a subset of cogeneration. These resources have been utilized to a limited degree in Sutter County. Another feasible energy option, based on the county’s climate, is solar energy. However, technology at the time of the writing of the General Plan had not reached the level of economic feasibility needed to stimulate new facility development. Other energy types, such as wind, geothermal, and oil production, are not expected to occur at any significant levels. However, significant natural gas production is expected to continue in the county. Overall, the county appears to have adequate energy resources.

According to the California Division of Mines and Geology, the county does not contain any significant or substantial deposits of mineral resources.
Sacramento County

Sacramento County, the Sacramento Municipal Utilities District (SMUD), and PG&E are responsible for accommodating energy demand through growth planning. Energy planning includes the ready transfer of information between the County Planning Department and the utilities responsible for establishing and implementing long-term plans. According to the Energy Plan associated with the 1993 General Plan, based on past trends, annual per capita consumption of energy in Sacramento County is projected to increase from 195 million Btu's in 1975 to 266 million Btu's by 1995. This increase, combined with projected population growth, would result in an 85 percent increase in total energy consumption in the county, from 134 trillion Btu's in 1975 to approximately 248 trillion Btu's in 1995. The Energy Plan looks to numerous economic, social, environmental, and political reasons for making more efficient use of energy and for developing renewable sources to replace the dwindling supplies of fossil fuels. The Energy Plan states the possibility that with the technology now available, it is possible to obtain at least the same level of benefits from products and services with a lower investment of energy. According to the Energy Plan, 6 percent of total energy in the county comes from renewable sources (hydroelectricity). Overall, the county appears to have adequate energy resources.

According to the City of Sacramento General Plan, the area of Sacramento County where the proposed Project is located includes Mineral Resources Zone 1 (MRZ-1) and Mineral Resource Zone 3 (MRZ-3). MRZ-1 includes areas where adequate information indicated that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. MRZ-3 includes areas containing mineral deposits, the significance of which cannot be evaluated with available data. The proposed Project is located primarily in MRZ-1 (Sacramento County 1993).

Placer County

PG&E provides electricity to Placer County (excluding the City of Roseville) and provides natural gas for commercial and residential use in Placer County, including the City of Roseville. PG&E relies on three major sources for its gas piping system: Canada, Southwestern United States, and California. Most customers directly purchase their natural gas from the utility company; however, large PG&E gas customers can purchase their gas from the supplier of their choice and pay PG&E only for the gas transportation services they actually use. Overall, the county appears to have adequate energy resources.
According to the Placer County Mineral Resource Plan, mineral deposits are widespread throughout Placer County. Known mineral resources in the County include sand, gravel, clay, gold, quartz, decomposed granite, and crushed quarry rock. Clay, stone, gold, and sand and gravel for construction aggregate were extracted as of the adoption of the Mineral Resource Plan in 1994. The Project area within Placer County does not contain any substantial mineral resource areas (Placer County 1994).

City of Roseville

The City of Roseville operates its own electric utility, Roseville Electric, with 50,000 customers. The electric system consists of transmission and generation facilities, sub-transmission and substation facilities, and distribution facilities. Roseville Electric owns and operates a 160-megawatt power plant that produces enough electricity to meet up to 40 percent of its energy needs. The natural gas-fired combined-cycle plant uses 1.4 million gallons of recycled water in the plant’s energy generation and cooling processes. The city-owned utility also strives to achieve a sustainable energy future by investing in clean, renewable energy projects and energy efficiency through innovative programs including Green Roseville and Blueprint for Energy Efficiency and Solar Technology (BEST) Homes.

Mineral resources, consisting of sand and gravel, are limited and no mineral extraction operations currently exist or are anticipated to exist in the city as noted in the General Plan for the City of Roseville.

4.14.2 Regulatory Setting

Federal

There are no applicable federal regulations associated with energy and mineral resources for the Project.

State

California’s Energy Efficiency Standards for Residential and Nonresidential Buildings

Title 24, Part 6, of the California Code of Regulations establishes California’s Energy Efficiency Standards for Residential and Nonresidential Buildings. The standards were updated in 2005 and set a goal of reducing growth in electricity use by 478 gigawatt-hours per year (GWh/y) and growth in natural gas use by 8.8 million therms per year (therms/y). The savings attributable to new nonresidential buildings are
163.2 GWh/y of electricity savings and 0.5 million therms/y. For nonresidential buildings, the standards establish minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., HVAC and water heating systems), indoor and outdoor lighting, and illuminated signs.

Division of Oil, Gas, and Geothermal Resources

The Division of Oil, Gas, and Geothermal Resources (DOGGR) within the State Department of Conservation supervises the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells to protect the environment, public health, and safety, and encourage good conservation practices. The DOGGR collects data on the location of groundwater, oil, gas, and geothermal resources, and records the location of all drilled and abandoned wells.

California Geological Survey

The California Geological Survey within the State Department of Conservation has the responsibility to identify and assist in the utilization of mineral deposits, and to identify geological hazards, including fault locations.

Special Publication 51

California Surface Mining and Reclamation Policies and Procedures have been prepared by the State Mining and Geology Board (SMGB) in cooperation with the Office of Mine Reclamation and the California Geological Survey.

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act (SMARA), Chapter 9, Division 2 of the Public Resources Code, requires the State Mining and Geology Board to adopt State policy for the reclamation of mined lands and the conservation of mineral resources. These policies are prepared in accordance with the Administrative Procedures Act, (Government Code) and are found in California Code of Regulations, Title 14, Division 2, Chapter 8, Subchapter 1.

Local

Yolo County General Plan

The following goals, objectives, and policies related to energy resources from the Yolo County General Plan (Yolo County 2002) were considered in this analysis.
ENR 1: Energy Plan Integrated. Although the Energy Plan was not originally adopted as a part of the General Plan, many of the included policies set forth programs to be achieved by implementation of the adopted elements of the General Plan; therefore, Yolo County shall integrate the policies expressed in the Yolo County Energy Plan into this General Plan, as amended.

ENR 2: Energy Plan Part of the Yolo County General Plan. Yolo County shall include the Energy Plan as a functional part of this Yolo County General Plan, as amended, for direct application throughout the unincorporated area of the County.

ENR 3: Energy Conservation. The Yolo County Land Use Element shall be implemented to:

- Direct the pattern of land use to be compact and related to transit routes and centers and to minimize auto traffic needs;
- Require energy efficient development and structures;
- Encourage use of alternate energy sources and energy conservation in all development approvals; and
- In-fill vacant lots, redevelop urban areas, and increase urban densities, where appropriate.

Cache Creek Resource Management Plan

As discussed above, the Cache Creek Resources Management Plan, adopted August 20, 1996 and amended August 15, 2002, eliminated in-channel commercial mining, and established an improvement program for implementing on-going projects to improve channel stability and restore habitat along the creek banks. The CCRMP provides the policy framework for restoration of the 14.5-mile Lower Cache Creek. It includes specific implementation standards within the Cache Creek Improvement Program (CCIP). The CCIP is the implementation plan for the CCRMP that identifies categories of restoration/protection projects along a precisely defined stretch of the creek. These include bank stabilization, channel maintenance, revegetation, and habitat restoration according to identified design requirements.
The following goals, objectives and policies related to energy resources from the Sutter County General Plan (Sutter County 1996) were considered in this analysis.

Goal 4.G: To conserve energy resources in Sutter County.

Policy 4.G-1: The County shall encourage energy conserving land use forms and practices--such as compact, high density development projects; the provision of bikeways and pedestrian paths; proper solar orientation; and the incorporation of transit routes and facilities.

Sacramento County General Plan

The following goals and policies related to energy resources from the Sacramento County General Plan (Sacramento County 1993) were considered in this analysis.

Air Quality Objective: The integration of air quality planning with the land use, transportation and energy planning processes.

Policy AQ-2: Use ARB, SMAQMD and SACOG guidelines for Sacramento County facilities and operations in order to comply with mandated measures to reduce emissions from fuel consumption, energy consumption, surface coating operations, and solvent usage.

Policy AQ-3: Promote optimal air quality benefits through energy conservation measures in new development.

Placer County General Plan

The following goals, objectives and policies related to energy and mineral resources from the Placer County General Plan (Placer County 1994) were considered in this analysis.

Goal 3.C: To maximize the efficient use of transportation facilities so as to: 1) reduce travel demand of the County's roadway system; 2) reduce the amount of investment required in new or expanded facilities; 3) reduce the quantity of emissions of pollutants from automobiles; and 4) increase the energy-efficiency of the transportation system.

Policy 6.F.5: The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of
4.14 - Energy and Mineral Resources

Countywide indirect and areawide source programs and transportation control measures (TCM) programs. Project review shall also address energy efficient building and site designs and proper storage, use, and disposal of hazardous materials.

**Policy 1.J.3:** The County shall discourage the development of any uses that would be incompatible with adjacent mining operations or would restrict future extraction of significant mineral resources.

**Policy 1.J.4:** The County shall discourage the development of incompatible land uses in areas that have been identified as having potentially significant mineral resources.

*City of Roseville General Plan*

The following goals and policies related to energy resources from the City of Roseville General Plan (City of Roseville 2004) were considered in this analysis.

**Electric Utility Goal 4:** Aggressively pursue cost-effective and environmentally safe alternative sources of energy and energy conservation measures.

**4.14.3 Significance Criteria**

**Energy**

In accordance with Appendix F of the CEQA Guidelines, potentially significant energy implications of a project should be considered in an EIR. Environmental impacts may include:

1. The project’s energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project’s life cycle including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.

2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.

3. The effects of the project on peak and base period demands for electricity and other forms of energy.

4. The degree to which the project complies with existing energy standards.
5. The effects of the project on energy resources.

6. The project’s projected transportation energy use requirements and its overall use of efficient transportation alternatives.

**Minerals**

An adverse impact on mineral resources is considered significant and would require mitigation if it would:

1. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.

2. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

**4.14.4 Applicant Proposed Measures**

There are no Applicant Proposed Measures (APMs) for Energy and Mineral Resources that have been identified by PG&E in its Environmental Analysis prepared for the CSLC.

**4.14.5 Impact Analysis and Mitigation**

**Impact Discussion**

**Project Life Cycle Energy Requirements**

The Project would not require a significant amount of energy resources throughout the Project’s life cycle. Energy use efficiencies and fuel type for each stage of the Project’s life cycle (including construction, operation, maintenance, and/or removal) would not significantly affect energy resources. Impacts related to Project life cycle energy requirements are expected to be less than significant (Class III).

The operation phase of the Project would allow for the transport of additional non-renewable resources (natural gas), although the Project itself would not utilize significant amounts of non-renewable resources. The Project would result in the conveyance of natural gas to end users. Therefore, the Project would result in the off-site emissions related to natural gas usage.

The Project would facilitate movement of natural gas in southern Sutter County, Yolo County, Sacramento County, and Placer County. While the Project would facilitate
the delivery of non-renewable resources, these resources would be exploited and
expended now and in the near future regardless of the proposed Project as the
production of natural gas that would be distributed by the Project has been, or would
be, approved by permitting agencies. Therefore, impacts would be less than
significant (Class III).

Local and Regional Energy Supplies

The Project would not have an adverse impact on local and regional energy supplies
or on requirements for additional capacity because construction would be temporary
and energy use associated with construction and operation of the proposed Project
would not be significant. Impacts to energy resources are expected to be less than
significant (Class III). As discussed above under Project Life Cycle Energy
Requirements, construction of the Project would require fossil fuels, a nonrenewable
resource, to power construction vehicles. However, construction would be
temporary and energy use would not be considered significant. While the Project
would facilitate the delivery of non-renewable resources, these resources would be
exploited and expended now and in the near future regardless of the proposed
Project as the production of natural gas that would be distributed by the Project has
been, or would be, approved by permitting agencies. Therefore, impacts would be
less than significant (Class III).

Energy Demand

The Project would not have an adverse impact on peak and base period demands
for electricity and other forms of energy because construction would be temporary
and energy use associated with construction and operation of the proposed Project
would not be significant. Impacts to energy resources are expected to be less than
significant (Class III). As discussed above under Project Life Cycle Energy
Requirements, construction of the Project would require fossil fuels, a nonrenewable
resource, to power construction vehicles. However, construction would be
temporary and energy use would not be considered significant. Therefore, impacts
would be less than significant (Class III).

Energy Standards

The Project would comply with existing energy standards. Impacts to energy
resources are expected to be less than significant (Class III). The proposed Project
would not include the construction of new structures and therefore Title 24,
California’s Energy Efficiency Standards for Residential and Nonresidential Buildings
would not apply to this Project. The Project would not result in the inefficient, unnecessary, or wasteful consumption of energy because construction would be temporary and energy use associated with construction and operation of the proposed Project would not be significant. Therefore, impacts would be less than significant (Class III).

Energy Resources

The Project would not have an adverse impact on energy resources because the Project itself would not utilize significant amounts of non-renewable resources. The short-term energy consumption necessary for the implementation of the proposed Project would result in long-term energy benefits. Impacts to energy resources are expected to be less than significant (Class III). Construction of the Project would require fossil fuels, a nonrenewable resource, to power construction vehicles.

The operation phase of the Project would allow for the transport of additional non-renewable resources (natural gas), although the Project itself would not utilize significant amounts of non-renewable resources.

The Project would facilitate more efficient movement of natural gas in southern Sutter County, Yolo County, Sacramento County, and Placer County. As stated above, the short-term energy consumption necessary for the implementation of the proposed Project would result in long-term energy benefits including a more efficient distribution system that expends less energy than the current distribution system. While the Project would facilitate the delivery of non-renewable resources, these resources would be exploited and expended now and in the near future regardless of the proposed Project as the production of natural gas that would be distributed by the Project has been, or would be, approved by permitting agencies. Therefore, impacts would be less than significant (Class III).

Transportation Energy Use

Traffic associated with the proposed Project would not result in adverse impacts on energy resources because construction-related traffic would be minimal and operation of the proposed Project would not result in a substantial long-term increase in the number of vehicle trips. Impacts to energy resources are expected to be less than significant (Class III). As discussed in Section 4.13, Traffic and Transportation, construction of the proposed Project would result in a limited number of additional vehicles on the road by temporary construction workers. Construction and installation of the proposed pipeline would require approximately 90 to 130
workers. These workers would be dispersed over the pipeline Project. Work crews would only work on a particular segment of the pipeline for two days. Construction of the proposed Project would therefore not result in a significant increase in vehicles on the roads. Operation of the substations would not impact transportation or circulation because the stations would be unmanned facilities. While there would be occasional operation and maintenance activities, the Project would not increase the number of trips on roadways on a regular basis.

Project-related traffic would not result in a substantial long-term increase in the number of vehicle trips and thus would not result in an increase in energy use associated with transportation. Therefore, impacts would be less than significant (Class III).

Mineral Resource Valuable to Region or State

The Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, and therefore impacts would be less than significant (Class III). A field examination was conducted by Alvin Franks on June 9, 2008. There were no minerals found that could be affected by the construction of the proposed Project. The field examination of the material close to the roads along the Project alignment found no mineralization that could be affected by the Project as planned. Mineral resources in the Project area are limited and no economic deposits of metallic minerals are known to exist in or near the Project area. A small deposit of natural gas is known to be in the Dunnigan Hills, but not in the vicinity of the pipeline. The primary mineral resources are non-metallic mineral commodities, consisting primarily of gravel and sand, and crushed rock (Franks 2008).

Mineral Resource Recovery Site

The Project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan (City of Sacramento 2006, City of Roseville 2004, Placer County 1994, Sacramento County 1993, Sutter County 1996, Yolo County 2002, 2008). Impacts would be less than significant (Class III). A field examination was conducted by Alvin Franks on June 9, 2008. There were no minerals found that could be affected by the construction of the proposed Project. The field examination of the material close to the roads along the proposed alignment found no mineralization that could be affected by the Project as planned.
4.14.6 Impacts of Alternatives

A No Project Alternative as well as twelve options have been proposed for the alignment in order to minimize or eliminate environmental impacts of the proposed project and to respond to comments from nearby landowners. The twelve options, labeled A through L, have been analyzed in comparison to the portion of the proposed route that has been avoided as a result of the option. Descriptions of the options can be found in Section 3.0, Alternatives and Cumulative Projects, and are depicted in Figure 3-2A through 3-2K.

No Project Alternative

Without the Project, there would be no temporary construction activities and no long-term transport of non-renewable resources. Thus, there would be no energy or mineral impacts.

Option A

The area through which the Option A alignment would pass has the same energy and mineral resources as the proposed Project. Energy impacts associated with Option A would be the same as the proposed Project because Option A would consist of the construction of a natural gas pipeline in the same area as the proposed Project. There are not any mineral resources to be avoided along the Option A portion of the proposed alignment; therefore, there would be no change in impacts regarding protection of mineral resources. There would not be a change in the magnitude of impacts for any of the significance criteria. Option A would not require a significant amount of energy resources throughout the Project’s life cycle since, while the Project would require fossil fuels and would allow for the transport of additional nonrenewable resources (natural gas), the Project itself would not utilize significant amounts of non-renewable resources. Nor would Option A adversely affect local and regional energy supplies or requirements for additional capacity since construction would be temporary and the resources delivered by Option A would be exploited and expended regardless of the Project. Nor would Option A adversely affect peak and base period demands for electricity and other forms of energy since construction would be temporary and thus fossil fuels associated with construction would be limited. Option A would comply with existing energy standards and would not adversely affect energy resources. Traffic associated with Option A would not adversely affect energy resources since the Project would result in only a limited number of construction workers and would not increase the number of trips on roadways on a regular basis during Project operation. Option A would not
result in the loss of availability of a known mineral resources that would be of value
to the region and the residents of the state, nor would Option A result in the loss of
availability of a locally-important mineral resources recovery site delineated on a
local general plan, specific plan or other land use plan. No significant mineral
resources are located in the Project area that could be affected by the construction
of Option A. Therefore, all impacts would remain the same as the proposed Project
under Option A.

Option B

The area through which the Option B alignment would pass has the same energy
and mineral resources as the proposed Project. Energy impacts associated with
Option B would be the same as the proposed Project because Option B would
consist of the construction of a natural gas pipeline in the same area as the
proposed Project. There are not any mineral resources to be avoided along the
Option B portion of the proposed alignment; therefore, there would be no change in
impacts regarding protection of mineral resources. There would not be a change in
the magnitude of impacts for any of the significance criteria. Option B would not
require a significant amount of energy resources throughout the Project's life cycle
since, while the Project would require fossil fuels and would allow for the transport of
additional nonrenewable resources (natural gas), the Project itself would not utilize
significant amounts of non-renewable resources. Nor would Option B adversely
affect local and regional energy supplies or requirements for additional capacity
since construction would be temporary and the resources delivered by Option B
would be exploited and expended regardless of the Project. Nor would Option B
adversely affect peak and base period demands for electricity and other forms of
energy since construction would be temporary and thus fossil fuels associated with
construction would be limited. Option B would comply with existing energy
standards and would not adversely affect energy resources. Traffic associated with
Option B would not adversely affect energy resources since the Project would result
in only a limited number of construction workers and would not increase the number
of trips on roadways on a regular basis during Project operation. Option B would not
result in the loss of availability of a known mineral resources that would be of value
to the region and the residents of the state, nor would Option B result in the loss of
availability of a locally-important mineral resources recovery site delineated on a
local general plan, specific plan or other land use plan. No significant mineral
resources are located in the Project area that could be affected by the construction
of Option B. Therefore, all impacts would remain the same as the proposed Project under Option B.

**Option C**

The area through which the Option C alignment would pass has the same energy and mineral resources as the proposed Project. Energy impacts associated with Option C would be the same as the proposed Project because Option C would consist of the construction of a natural gas pipeline in the same area as the proposed Project. There are not any mineral resources to be avoided along the Option C portion of the proposed alignment; therefore, there would be no change in impacts regarding protection of mineral resources. There would not be a change in the magnitude of impacts for any of the significance criteria. Option C would not require a significant amount of energy resources throughout the Project’s life cycle since, while the Project would require fossil fuels and would allow for the transport of additional nonrenewable resources (natural gas), the Project itself would not utilize significant amounts of non-renewable resources. Nor would Option C adversely affect local and regional energy supplies or requirements for additional capacity since construction would be temporary and the resources delivered by Option C would be exploited and expended regardless of the Project. Nor would Option C adversely affect peak and base period demands for electricity and other forms of energy since construction would be temporary and thus fossil fuels associated with construction would be limited. Option C would comply with existing energy standards and would not adversely affect energy resources. Traffic associated with Option C would not adversely affect energy resources since the Project would result in only a limited number of construction workers and would not increase the number of trips on roadways on a regular basis during Project operation. Option C would not result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state, nor would Option C result in the loss of availability of a locally-important mineral resources recovery site delineated on a local general plan, specific plan or other land use plan. No significant mineral resources are located in the Project area that could be affected by the construction of Option C. Therefore, all impacts would remain the same as the proposed Project under Option C.

**Option D**

The area through which the Option D alignment would pass has the same energy and mineral resources as the proposed Project. Energy impacts associated with
Option D would be the same as the proposed Project because Option D would consist of the construction of a natural gas pipeline in the same area as the proposed Project. There are not any mineral resources to be avoided along the Option D portion of the proposed alignment; therefore, there would be no change in impacts regarding protection of mineral resources. There would not be a change in the magnitude of impacts for any of the significance criteria. Option D would not require a significant amount of energy resources throughout the Project’s life cycle since, while the Project would require fossil fuels and would allow for the transport of additional nonrenewable resources (natural gas), the Project itself would not utilize significant amounts of non-renewable resources. Nor would Option D adversely affect local and regional energy supplies or requirements for additional capacity since construction would be temporary and the resources delivered by Option D would be exploited and expended regardless of the Project. Nor would Option D adversely affect peak and base period demands for electricity and other forms of energy since construction would be temporary and thus fossil fuels associated with construction would be limited. Option D would comply with existing energy standards and would not adversely affect energy resources. Traffic associated with Option D would not adversely affect energy resources since the Project would result in only a limited number of construction workers and would not increase the number of trips on roadways on a regular basis during Project operation. Option D would not result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state, nor would Option D result in the loss of availability of a locally-important mineral resources recovery site delineated on a local general plan, specific plan or other land use plan. No significant mineral resources are located in the Project area that could be affected by the construction of Option D. Therefore, all impacts would remain the same as the proposed Project under Option D.

**Option E**

The area through which the Option E alignment would pass has the same energy and mineral resources as the proposed Project. Energy impacts associated with Option E would be the same as the proposed Project because Option E would consist of the construction of a natural gas pipeline in the same area as the proposed Project. There are not any mineral resources to be avoided along the Option E portion of the proposed alignment; therefore, there would be no change in impacts regarding protection of mineral resources. There would not be a change in the magnitude of impacts for any of the significance criteria. Option E would not
require a significant amount of energy resources throughout the Project’s life cycle since, while the Project would require fossil fuels and would allow for the transport of additional nonrenewable resources (natural gas), the Project itself would not utilize significant amounts of non-renewable resources. Nor would Option E adversely affect local and regional energy supplies or requirements for additional capacity since construction would be temporary and the resources delivered by Option E would be exploited and expended regardless of the Project. Nor would Option E adversely affect peak and base period demands for electricity and other forms of energy since construction would be temporary and thus fossil fuels associated with construction would be limited. Option E would comply with existing energy standards and would not adversely affect energy resources. Traffic associated with Option E would not adversely affect energy resources since the Project would result in only a limited number of construction workers and would not increase the number of trips on roadways on a regular basis during Project operation. Option E would not result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state, nor would Option E result in the loss of availability of a locally-important mineral resources recovery site delineated on a local general plan, specific plan or other land use plan. No significant mineral resources are located in the Project area that could be affected by the construction of Option E. Therefore, all impacts would remain the same as the proposed Project under Option E.

Option F

The area through which the Option F alignment would pass has the same energy and mineral resources as the proposed Project. Energy impacts associated with Option F would be the same as the proposed Project because Option F would consist of the construction of a natural gas pipeline in the same area as the proposed Project. There are not any mineral resources to be avoided along the Option F portion of the proposed alignment; therefore, there would be no change in impacts regarding protection of mineral resources. There would not be a change in the magnitude of impacts for any of the significance criteria. Option F would not require a significant amount of energy resources throughout the Project’s life cycle since, while the Project would require fossil fuels and would allow for the transport of additional nonrenewable resources (natural gas), the Project itself would not utilize significant amounts of non-renewable resources. Nor would Option F adversely affect local and regional energy supplies or requirements for additional capacity since construction would be temporary and the resources delivered by Option F...
would be exploited and expended regardless of the Project. Nor would Option F adversely affect peak and base period demands for electricity and other forms of energy since construction would be temporary and thus fossil fuels associated with construction would be limited. Option F would comply with existing energy standards and would not adversely affect energy resources. Traffic associated with Option F would not adversely affect energy resources since the Project would result in only a limited number of construction workers and would not increase the number of trips on roadways on a regular basis during Project operation. Option F would not result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state, nor would Option F result in the loss of availability of a locally-important mineral resources recovery site delineated on a local general plan, specific plan or other land use plan. No significant mineral resources are located in the Project area that could be affected by the construction of Option F. Therefore, all impacts would remain the same as the proposed Project under Option F.

Option G

The area through which the Option G alignment would pass has the same energy and mineral resources as the proposed Project. Energy impacts associated with Option G would be the same as the proposed Project because Option G would consist of the construction of a natural gas pipeline in the same area as the proposed Project. There are not any mineral resources to be avoided along the Option G portion of the proposed alignment; therefore, there would be no change in impacts regarding protection of mineral resources. There would not be a change in the magnitude of impacts for any of the significance criteria. Option G would not require a significant amount of energy resources throughout the Project’s life cycle since, while the Project would require fossil fuels and would allow for the transport of additional nonrenewable resources (natural gas), the Project itself would not utilize significant amounts of non-renewable resources. Nor would Option G adversely affect local and regional energy supplies or requirements for additional capacity since construction would be temporary and the resources delivered by Option G would be exploited and expended regardless of the Project. Nor would Option G adversely affect peak and base period demands for electricity and other forms of energy since construction would be temporary and thus fossil fuels associated with construction would be limited. Option G would comply with existing energy standards and would not adversely affect energy resources. Traffic associated with Option G would not adversely affect energy resources since the Project would result
in only a limited number of construction workers and would not increase the number of trips on roadways on a regular basis during Project operation. Option G would not result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state, nor would Option G result in the loss of availability of a locally-important mineral resources recovery site delineated on a local general plan, specific plan or other land use plan. No significant mineral resources are located in the Project area that could be affected by the construction of Option G. Therefore, all impacts would remain the same as the proposed Project under Option G.

Option H

The area through which the Option H alignment would pass has the same energy and mineral resources as the proposed Project. Energy impacts associated with Option H would be the same as the proposed Project because Option H would consist of the construction of a natural gas pipeline in the same area as the proposed Project. There are not any mineral resources to be avoided along the Option H portion of the proposed alignment; therefore, there would be no change in impacts regarding protection of mineral resources. There would not be a change in the magnitude of impacts for any of the significance criteria. Option H would not require a significant amount of energy resources throughout the Project’s life cycle since, while the Project would require fossil fuels and would allow for the transport of additional nonrenewable resources (natural gas), the Project itself would not utilize significant amounts of non-renewable resources. Nor would Option H adversely affect local and regional energy supplies or requirements for additional capacity since construction would be temporary and the resources delivered by Option H would be exploited and expended regardless of the Project. Nor would Option H adversely affect peak and base period demands for electricity and other forms of energy since construction would be temporary and thus fossil fuels associated with construction would be limited. Option H would comply with existing energy standards and would not adversely affect energy resources. Traffic associated with Option H would not adversely affect energy resources since the Project would result in only a limited number of construction workers and would not increase the number of trips on roadways on a regular basis during Project operation. Option H would not result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state, nor would Option H result in the loss of availability of a locally-important mineral resources recovery site delineated on a local general plan, specific plan or other land use plan. No significant mineral
resources are located in the Project area that could be affected by the construction of Option H. Therefore, all impacts would remain the same as the proposed Project under Option H.

Option I

The area through which the Option I alignment would pass has the same energy and mineral resources as the proposed Project. Energy impacts associated with Option I would be the same as the proposed Project because Option I would consist of the construction of a natural gas pipeline in the same area as the proposed Project. There are not any mineral resources to be avoided along the Option I portion of the proposed alignment; therefore, there would be no change in impacts regarding protection of mineral resources. There would not be a change in the magnitude of impacts for any of the significance criteria. Option I would not require a significant amount of energy resources throughout the Project’s life cycle since, while the Project would require fossil fuels and would allow for the transport of additional nonrenewable resources (natural gas), the Project itself would not utilize significant amounts of non-renewable resources. Nor would Option I adversely affect local and regional energy supplies or requirements for additional capacity since construction would be temporary and the resources delivered by Option I would be exploited and expended regardless of the Project. Nor would Option I adversely affect peak and base period demands for electricity and other forms of energy since construction would be temporary and thus fossil fuels associated with construction would be limited. Option I would comply with existing energy standards and would not adversely affect energy resources. Traffic associated with Option I would not adversely affect energy resources since the Project would result in only a limited number of construction workers and would not increase the number of trips on roadways on a regular basis during Project operation. Option I would not result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state, nor would Option I result in the loss of availability of a locally-important mineral resources recovery site delineated on a local general plan, specific plan or other land use plan. No significant mineral resources are located in the Project area that could be affected by the construction of Option I. Therefore, all impacts would remain the same as the proposed Project under Option I.
Option J

The area through which the Option J alignment would pass has the same energy and mineral resources as the proposed Project. Energy impacts associated with Option J would be the same as the proposed Project because Option J would consist of the construction of a natural gas pipeline in the same area as the proposed Project. There are not any mineral resources to be avoided along the Option J portion of the proposed alignment; therefore, there would be no change in impacts regarding protection of mineral resources. There would not be a change in the magnitude of impacts for any of the significance criteria. Option J would not require a significant amount of energy resources throughout the Project’s life cycle since, while the Project would require fossil fuels and would allow for the transport of additional nonrenewable resources (natural gas), the Project itself would not utilize significant amounts of non-renewable resources. Nor would Option J adversely affect local and regional energy supplies or requirements for additional capacity since construction would be temporary and the resources delivered by Option J would be exploited and expended regardless of the Project. Nor would Option J adversely affect peak and base period demands for electricity and other forms of energy since construction would be temporary and thus fossil fuels associated with construction would be limited. Option J would comply with existing energy standards and would not adversely affect energy resources. Traffic associated with Option J would not adversely affect energy resources since the Project would result in only a limited number of construction workers and would not increase the number of trips on roadways on a regular basis during Project operation. Option J would not result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state, nor would Option J result in the loss of availability of a locally-important mineral resources recovery site delineated on a local general plan, specific plan or other land use plan. No significant mineral resources are located in the Project area that could be affected by the construction of Option J. Therefore, all impacts would remain the same as the proposed Project under Option J.

Option K

The area through which the Option K alignment would pass has the same energy and mineral resources as the proposed Project. Energy impacts associated with Option K would be the same as the proposed Project because Option K would consist of the construction of a natural gas pipeline in the same area as the proposed Project. There are not any mineral resources to be avoided along the
Option K portion of the proposed alignment; therefore, there would be no change in impacts regarding protection of mineral resources. There would not be a change in the magnitude of impacts for any of the significance criteria. Option K would not require a significant amount of energy resources throughout the Project's life cycle since, while the Project would require fossil fuels and would allow for the transport of additional nonrenewable resources (natural gas), the Project itself would not utilize significant amounts of non-renewable resources. Nor would Option K adversely affect local and regional energy supplies or requirements for additional capacity since construction would be temporary and the resources delivered by Option K would be exploited and expended regardless of the Project. Nor would Option K adversely affect peak and base period demands for electricity and other forms of energy since construction would be temporary and thus fossil fuels associated with construction would be limited. Option K would comply with existing energy standards and would not adversely affect energy resources. Traffic associated with Option K would not adversely affect energy resources since the Project would result in only a limited number of construction workers and would not increase the number of trips on roadways on a regular basis during Project operation. Option K would not result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state, nor would Option K result in the loss of availability of a locally-important mineral resources recovery site delineated on a local general plan, specific plan or other land use plan. No significant mineral resources are located in the Project area that could be affected by the construction of Option K. Therefore, all impacts would remain the same as the proposed Project under Option K.

Option L

The area through which the Option L alignment would pass has the same energy and mineral resources as the proposed Project. Energy impacts associated with Option L would be the same as the proposed Project because Option L would consist of the construction of a natural gas pipeline in the same area as the proposed Project. There are not any mineral resources to be avoided along the Option L portion of the proposed alignment; therefore, there would be no change in impacts regarding protection of mineral resources. There would not be a change in the magnitude of impacts for any of the significance criteria. Option L would not require a significant amount of energy resources throughout the Project's life cycle since, while the Project would require fossil fuels and would allow for the transport of additional nonrenewable resources (natural gas), the Project itself would not utilize...
significant amounts of non-renewable resources. Nor would Option L adversely  
affect local and regional energy supplies or requirements for additional capacity  
since construction would be temporary and the resources delivered by Option L  
would be exploited and expended regardless of the Project. Nor would Option L  
adversely affect peak and base period demands for electricity and other forms of  
energy since construction would be temporary and thus fossil fuels associated with  
construction would be limited. Option L would comply with existing energy  
standards and would not adversely affect energy resources. Traffic associated with  
Option L would not adversely affect energy resources since the Project would result  
in only a limited number of construction workers and would not increase the number  
of trips on roadways on a regular basis during Project operation. Option L would not  
result in the loss of availability of a known mineral resources that would be of value  
to the region and the residents of the state, nor would Option L result in the loss of  
availability of a locally-important mineral resources recovery site delineated on a  
local general plan, specific plan or other land use plan. No significant mineral  
resources are located in the Project area that could be affected by the construction  
of Option L. Therefore, all impacts would remain the same as the proposed Project  
under Option L.

**Table 4.14-1: Comparison of Alternatives for Energy and Minerals**

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Comparison with Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Project</td>
<td>No Impacts</td>
</tr>
<tr>
<td>Option A</td>
<td>Similar Impacts</td>
</tr>
<tr>
<td>Option B</td>
<td>Similar Impacts</td>
</tr>
<tr>
<td>Option C</td>
<td>Similar Impacts</td>
</tr>
<tr>
<td>Option D</td>
<td>Similar Impacts</td>
</tr>
<tr>
<td>Option E</td>
<td>Similar Impacts</td>
</tr>
<tr>
<td>Option F</td>
<td>Similar Impacts</td>
</tr>
<tr>
<td>Option G</td>
<td>Similar Impacts</td>
</tr>
<tr>
<td>Option H</td>
<td>Similar Impacts</td>
</tr>
<tr>
<td>Option I</td>
<td>Similar Impacts</td>
</tr>
<tr>
<td>Option J</td>
<td>Similar Impacts</td>
</tr>
<tr>
<td>Option K</td>
<td>Similar Impacts</td>
</tr>
<tr>
<td>Option L</td>
<td>Similar Impacts</td>
</tr>
</tbody>
</table>

4.14.7 Cumulative Projects Impact Analysis

The construction of other projects in the vicinity of the proposed Project could cumulatively affect energy resources. Future projects considered in the cumulative projects impact analysis are listed in Table 3-2.

Although these other projects would consume additional energy resources, they were all anticipated in various General Plans, and each will be required to prepare a Utilities and Service systems analysis that demonstrates there are sufficient natural gas and electricity resources to meet Project needs. When considered with other past, present, and reasonably foreseeable projects the proposed Project would not result in any long-term impacts on energy resources, and would therefore not be cumulatively considerable. Cumulative impacts on energy resources would be less than significant (Class III).

4.14.8 Summary of Impacts and Mitigation Measures

Since the Project would not require a significant amount of energy resources throughout the Project’s life cycle, it would not have an adverse impact on local and regional energy supplies or on requirements for additional capacity; would not have an adverse impact on peak and base period demands for electricity and other forms of energy; would comply with existing energy standards; would not have an adverse impact on energy resources; would not result in traffic that affects energy resources; and would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. No mitigation measures have been proposed.