

CHAPTER 5

CEQA STATUTORY SECTIONS

5.1 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS

The proposed project would have effects on biological and cultural resources, air quality, water quality, land use, aesthetics, agriculture, traffic, and noise that are potentially significant. The majority of the project impacts result from construction activities. They are temporary impacts that can be mitigated to less than significant levels with the mitigation measures identified in the Program EIR. However, the Telecommunications Program, if implemented, could still result in significant unavoidable environmental impacts. Mitigation proposed as part of the project, as well as measures identified in this EIR, would avoid or reduce most of the impacts to a less-than-significant level. But, the following significant adverse affects would be unavoidable, even with the implementation of the mitigation measures proposed as part of the project and identified in this report:

Impact HYD-4: Possible water quality degradation and siltation from accidental seepage or spillage of drilling fluids into streams.

Impact AIR-2: Emissions from construction activities could add to the regional pollutant loading of the area in air basins where air districts have set significance thresholds for both project construction and operation.

5.2 CUMULATIVE IMPACTS

CEQA defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative analysis is intended to describe the “incremental impact of the project when added to other, closely related past, present, or reasonably foreseeable probable future projects” and can result from “individually minor but collectively significant projects taking place over a period of time (*CEQA Guidelines*, Section 15355).

A cumulative impact is created as a result of the combination of the project evaluated together with other projects causing related impacts. The purpose of this analysis is to disclose potential significant cumulative impacts resulting from the Telecommunications Program in combination with other comparable projects. The project involves a program to develop telecommunications infrastructure throughout the project area. Other companies with fiber optic networks in the project area include, but are not limited to, Qwest, XO Communications, Williams, AT&T Local Services, MCI WorldCom, Worldwide Fiber, Western Integrated Networks, Level 3 Communications, Metromedia Fiber Network, ICG, Time Warner and Cox Cable. It is

reasonable to assume that some of these companies have or are planning other networks elsewhere in California, as well. In addition to fiber optic networks, other linear, underground infrastructure in the project area that have related construction impacts include water and sewer pipelines and other utilities.

It is anticipated that the construction associated with installation of telecommunications infrastructure could potentially overlap with other public or private utility projects during the same timeframe. Such overlap would likely be identified during Sempra Communication's process of obtaining encroachment permit(s) for subsequent activities and would be properly addressed by the local planning agency at that time.

Given the current interest in fiber optic communications systems, it is conceivable that significant cumulative impacts could result from companies consecutively working within the same streets or neighborhoods. Local jurisdictions have in some cases responded to such cumulative effects by establishing moratoria on work on certain streets for given periods of time (e.g., 1 or 2 years). The establishment of such moratoria is one way of gauging whether significant adverse cumulative effects threaten a particular street or neighborhood. Such moratoria are intended to alleviate such effects, and the denial of encroachment permits to construct on such streets while the moratorium is in effect prevent a given project from contributing to significant adverse impact on the protected street or area.

Future projects planned by one or more of the fiber optic companies currently operating throughout the project area (or any other fiber optic companies) would not be publicly known until the company submits an application for an encroachment permit (or other permit or approval). Therefore, the precise routes of other project with which Sempra Communication's subsequent activities might contribute to cumulative impacts are not known. However, because of the temporary nature of the proposed project's potential effects, and because mitigation measures discussed in this document reduce project impacts the project's contribution to cumulative impacts would not be considered cumulatively considerable.

A discussion by resource topic of the project's potential cumulative impacts follows.

AESTHETICS

Upon completion, the proposed project would make no more than a de minimus contribution to cumulative aesthetic impacts because the fiber optic cable facilities are proposed for installation underground or overhead on existing utility poles and transmission towers. Implementation of Mitigation Measure AES-1a would ensure that the regeneration and OP-AMP stations would not have a cumulatively considerable contribution to visual quality of the project area. The project's contribution to cumulative impacts on visual quality during construction would not be significant due to the relatively short duration of the construction impacts.

AGRICULTURAL RESOURCES

The proposed project would have less than significant cumulative impacts on agricultural resources as nearly all the subsequent activities would take place within developed metropolitan and urbanized areas. Mitigation Measure AG-1a would compensate for the loss of any agricultural crops or resources via communication with the land owner/farmer where proposed actions may impact agricultural lands. Mitigation Measure AG-2a would prevent any significant disturbance to daily agricultural operational activities.

AIR QUALITY

With implementation of mitigation measures incorporated in the Program EIR, the temporary increase in criteria air pollutants from fugitive dust sources (e.g., earthmoving activities) and operation of construction equipment would not be cumulatively considerable given the short-term nature of the related effects. In addition, the project's contribution to criteria air pollutants would not be cumulatively considerable with implementation of mitigation measures AIR-2a and 2b in the Air Quality section of Chapter 4 that would reduce the impact of construction emissions to less than significant levels. In cases where mitigation measure AIR-2b is not feasible, even with the implementation of the mitigation measures AIR-2c, the residual impact of construction emissions would be significant. This would be a significant unavoidable impact of the project on air quality, and would therefore be cumulatively considerable.

BIOLOGICAL RESOURCES

Biological resources, particularly threatened, endangered, candidate, and other listed species, would not be cumulatively affected by the project. The state and federal governments, through CDFG, the Corps, USFWS, and NOAA Fisheries (formerly the NMFS), have promulgated a regulatory scheme that limits impacts on these species. The effects of the project area rendered less than cumulatively considerable due to mitigation requiring compliance with all applicable regulations that protect plant, fish, and animals species. The mitigation measures imposed and the provisions included in the project description (e.g., pre-construction surveys and resource staking, presence of an environmental monitor, contractor training) and Sempra Communications' commitment to re-route the fiber optic cable facilities around or bore under sensitive resources, when feasible, would render the project's contribution less than cumulatively considerable.

CULTURAL RESOURCES

The excavation and ground disturbances, individually and cumulatively, would not be likely to affect the oldest, largest, greatest, or most significant type of prehistoric or historic resource in the regions under study. Moreover, the potential for avoidance is great and standard mitigation measures are expected to reduce unavoidable impacts to less-than-significant levels. Therefore, the cumulative effect of the anticipated impacts on known and potential archaeological sites would also not be significant.

GEOLOGY AND SOILS

Development in California has the cumulative impacts of bringing additional people into potential contact with geologic hazards. In some instances, such as where mass grading occurs, a project may directly contribute to increased landslide hazard or soil erosion within that particular region.

The proposed project consists of the installation of telecommunications infrastructure through trenching, subsurface boring and aerial installation methods. The project would not expose persons to substantial risk of loss, injury, or death relative to seismic and geologic hazards; result in substantial soil erosion; potentially result in landslides or other mass movements; create substantial risks due to expansive soils; or preclude wastewater from septic tanks, sewers, or other disposal facilities. The contribution of the project to cumulative impacts would be less than considerable.

HAZARDS AND HAZARDOUS MATERIALS

Subsequent activities related to construction of fiber optic cable facilities are not expected to make a cumulatively considerable contribution toward hazards or hazardous materials impacts. Contaminated soils or other materials may be unexpectedly encountered during excavation related to subsequent activities and would require appropriate handling and disposal by a licensed contractor. The characteristics and the volume of hazardous materials that could unexpectedly be encountered during construction cannot be determined in advance.

Some materials encountered during construction may be recyclable, which would reduce any possible impact on hazardous waste disposal/landfill capacity to a less-than-significant level. The cumulative impact of disposal of contaminated materials unexpectedly encountered during construction is considered a less-than-significant impact because of regulatory safeguards that limit exposure and require controlled handling and disposal.

HYDROLOGY AND WATER QUALITY

The cumulative effect of potential temporary construction-related impacts would be minimal. Because the direct and residual effects of construction spoils and disturbed soil erosion would be minor, no cumulative impacts would be expected. Successful stormwater pollution prevention would result in no cumulative construction-related impacts. No operational cumulative impacts are anticipated regarding flooding or drainage because Sempra Communications' protocol specifically requires that no construction be sited in a 100-year flood zone.

LAND USE AND PLANNING

From a land use perspective, the only long-term evidence of the proposed project would be in the form of cable markers, posted to indicate telecommunications infrastructure and potentially constructed regenerator / OP-AMP stations. These facilities would be constructed in accordance with local standards, as required in Mitigation Measure LUP-1a, and therefore, would not be cumulatively considerable.

The implementation of subsequent activities could result in direct cumulative impacts to existing and/or planned infrastructure systems within the project area (e.g. roadways, utility corridors, etc.). Impacts to existing and planned infrastructure could result from the potential duplication of physical impacts to particular right-of-ways within the project area (e.g. trenching, borings, etc.). This potential impact, however, would be speculative at this juncture, since no project-specific alignments are proposed. With the implementation of Mitigation Measure LUP-1a, these types of duplications would be minimized to a level of less than significant.

Additionally, the proposed project would not result in any physical division of established communities or neighborhoods. Although the proposed project will be located within areas with adopted habitat conservation plans or natural community conservation plans (refer to Table 4.9-2), the proposed project would be primarily located within previously disturbed right-of-ways. For these reasons, and through the implementation of Mitigation Measure LUP-1a, the proposed project would be in compliance with all applicable local land use plans and regulations. Accordingly, the cumulative effects of the proposed project on land use are expected to be less than significant.

NOISE

With implementation of mitigation measures proposed as part of the project, the temporary increase in ambient noise levels during installation of fiber optic cable facilities would not be cumulatively considerable given the short-term nature of the related impacts. Over the long term, the project's noise impact would be negligible, and therefore not cumulatively considerable, given that it would not involve any noise sources other than occasional motor vehicle trips associated with maintenance activities.

RECREATION

The project would have no long-term or cumulative impacts on recreational facilities or resources. Any disruption of recreational resources would most likely result from temporary construction activities lasting (at a particular recreational site) no more than one to five days, depending on the specific type of construction involved and the size of the affected facility.

TRANSPORTATION AND TRAFFIC

Cumulative construction-related traffic impacts would depend on the timing of other individual projects within coinciding locations. The project would not result in any increase in vehicular traffic beyond the temporary increases described in impact listed in the Transportation section of Chapter 4. Construction operations for installation of fiber optic facilities would result in temporary traffic obstruction on traffic flow and emergency access. Therefore, the project would not make a cumulatively considerable contribution to traffic impacts.

UTILITIES AND SERVICE SYSTEMS

In the event that multiple subsequent activities involving installation of cable along transmission tower lines occur simultaneously in close proximity to one another, there would be a potentially significant impact. Each of these subsequent activities could require temporarily de-energizing the lines. However, this impact would not be cumulatively considerable given that Sempra Communications would coordinate with the ISO to avoid such a scenario.

Additionally, multiple cable installations occurring simultaneously, either all being subsequent actions under this Program EIR or in combination with projects from other companies, could have a cumulative impact on underground utilities and service connections. Identifying these underground utilities prior to commencement of excavation work, using hand-excavated test pits to confirm the exact utility location, and obtaining approvals from service providers for any necessary shutdowns would adequately mitigate this potentially significant cumulative impact to a less than significant level.

5.3 GROWTH INDUCING IMPACTS

California's continuing and rapid population growth has statewide direct and indirect cumulative impacts on population and housing. The effect of the proposed project and similar proposed telecommunications projects on population growth is indistinguishable from the general mix of factors that lead people to move to California and is not a critical component in such decisions. It has no impact on the rate of growth due to births, public services (e.g., fire protection, police protection) are at or near their limit in some localities. This proposed project creates no new demand for those services. Utilities and service systems (e.g., sewer capacity, water supply) are at or near their capacity in some localities, however this proposed project creates no new demand for those services.

There is no direct access to the fiber optic cable; the network is not a form of infrastructure such as roads, water, or sewer lines that may induce population growth within specific areas. The availability of high-speed, high-volume communications is one factor among many (e.g., cost of living, economic opportunities, market availability, quality of schools, salary levels, tax levels) in the decision by people and businesses to locate in California. Therefore, the proportional contribution of the proposed system to California's future growth will be too remote and speculative for analysis. The indirect impacts of the proposed project and others of its type on that growth is only speculative. A less than significant impact will occur.

5.4 ENERGY CONSERVATION

Appendix F of the CEQA Guidelines requires that an EIR include a discussion of the potential energy impacts of the proposed project, with particular emphasis on avoiding inefficient or wasteful consumption of energy and reducing dependence on petroleum resources.

The proposed project would use electrical energy to boost and reconstitute the signals being transmitted on the fiber optic lines and to cool the equipment that performs this work. If the

project were to penetrate its potential market, it would significantly expand data, voice, and video communications capabilities at work and at home and would facilitate telecommuting and videoconferencing. In the long run, the Project has the potential to lessen transportation requirements and dependence on petroleum resources and reduce total energy consumption in the area it serves.

The project area is populated with over 26 million people (US 2000 Census) and the highest concentration of the business, commercial, and industrial activity resources in the western United States. Much of the energy consumed in the planned project area is imported from other parts of California, the western states, or even outside the country.

The transportation sector is the largest consumer of energy in California, using 34.6 percent of the total energy state requirements. Almost all of the energy used in the transportation sector is derived from oil and natural gas. Ultimately, the widespread use of fiber optics would avoid the need for face-to-face meetings and prove an alternative method to deliver information thereby reducing energy consumed in the transportation sector. **Table 5-1** shows the petroleum consumption data for all retail gasoline and diesel stations, fleet fueling facilities and private storage tanks within the 15 counties and compares the average annual use per person. **Table 5-1** indicates that the highest per capita fuel use rates are in the major metropolitan areas where there is significant traffic congestion and lengthy commutes. Congestion increases energy use, requiring additional fuel for starts and stops and travel at below optimal speeds. The Bay Area counties of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Santa Cruz, as well as Orange County and San Diego County are all at or above the state average annual fuel use rate per person. The highest rates are in the San Francisco Peninsula and Marin County.

Operation of fiber optic systems would require electrical energy to boost and reformulate the signal. As use of the technology becomes more widespread with business and home uses, more electrical power would be needed to serve the needs of the fiber optic network. PG&E reports that the fastest rate of growth in its service area between 1994 and 2000 was in the communications section, which increased by 47 percent since 1994. Most of the growth that occurred between 1998 and 2000 was associated with expansion of Internet uses. While the rate of growth was impressive, the total electrical consumption by the communications sector is still less than 2 percent of the total electrical consumption.

The electricity consumed in California is generated from a high percentage of hydroelectric and renewable resources. **Table 5-2** shows the gross electrical production for 2000. The use of fiber optics would ultimately shift energy use from petroleum dependent transportation to electrical power, which has a higher renewable base.

Use of fiber optic communications is also inherently more energy efficient than reliance on physical transportation. Each 10-mile trip in a vehicle that uses 18 miles per gallon consumes

**TABLE 5-1
GASOLINE CONSUMPTION THROUGHOUT THE GEOGRAPHIC SCOPE**

	Population^a	Millions of Gallons Consumed	Annual Gallons Consumed per Person
California	33,226,000	13,496.2	406
Bay Area Average			468
Alameda	1,413,400	610.4	432
Contra Costa	906,500	403.6	445
Marin	244,100	122.6	502
San Francisco	783,400	381.4	487
San Mateo	716,500	371.1	518
Santa Clara	1,686,400	816.0	484
Santa Cruz	249,000	101.9	409
LA Basin Average			399
Los Angeles	9,587,300	3,660.2	382
Orange	2,734,500	1,246.7	456
Riverside	1,441,000	547.2	380
San Bernardino	1,631,500	620.6	380
San Diego / Imperial Average			363
San Diego	2,795,800	1,136.3	406
Imperial	143,000	45.8	320
Central Valley Average			361
Sacramento	1,441,000	547.2	380
Fresno	781,900	268.3	343

^a Department of Finance, as reported by CEC.

SOURCE: California Energy Commission, 1998 data, www.energy.ca.gov/fuels/gasoline_stations.

63,480 British thermal units (BTU's) of energy. Use of fiber optic delivery of data would eliminate thousands of such trips. Each regeneration station would require a load of approximately 200-1000 kilowatts (kW), or 938,575 BTU's.

Table 5-3 shows the electrical consumption patterns in the areas that will be served by the project. California has the lowest annual electrical consumption rates per person of any state in the US. California uses approximately 8,610 kWhrs per year per person, compared to the

**TABLE 5-2
CALIFORNIA GROSS ELECTRICITY PRODUCTION IN 2000**

Resource Type	Gigawatt-Hours Produced	Percentage
Natural Gas	106,878	37.6%
Nuclear	43,533	15.3%
Hydro	42,053	14.8%
Coal ^a	36,804	13.0%
Imports – Northwest	18,777	6.6%
Geothermal	13,456	4.7%
Imports – Southwest	11,633	4.1%
Biomass and Waste	6,086	2.1%
Wind	3,604	1.3%
Solar	860	0.3%
Oil	449	0.2%
Total	284,133	100.0%

^a Includes out-of-state plants owned by California utilities or with long term contracts to California suppliers.

SOURCE: CEC, 2002e

national average of 11,250 kWhrs (CEC, 2000d). The highest electrical consumption rates are in Santa Clara, where 77.6% of the energy consumed is for nonresidential industrial and commercial accounts (CEC, 2002d). Santa Clara is in the heart of Silicon Valley and contains other energy intensive facilities.

Electrical energy would also be needed to serve the air conditioning units that would be used to cool the regeneration stations. These units would have to meet efficiency standards that have been set by the CEC and the buildings they occupy would have to be designed to comply with the Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings. The Title 24 standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. New standards were adopted by the CEC in 2001 as mandated by Assembly Bill 970 to reduce California's electricity demand. The amended Title 24 standards will apply to the design and insulation of structures, including the regenerator and OP/AMP stations and to the space cooling equipment that is installed in these structures. Under AB 970, the California Energy Security and Reliability Act, signed September 6, 2000, the CEC will update and implement its appliance and building efficient standards to make the "maximum feasible" reductions in unnecessary energy consumption.

**TABLE 5-3
ELECTRICITY CONSUMPTION IN PROPOSED PROJECT AREA**

	<u>2000 Population^a</u>	<u>Millions of kWh Consumed</u>	<u>Annual kWh Consumed per Person</u>
California	33,871,648	250,310	7,390
Bay Area Average			
Alameda	1,443,741	10,605	7,346
Contra Costa	948,816	6,815	7,183
Marin	247,289	1,568	6,341
San Francisco	776,733	5,748	7,400
San Mateo	707,161	5,135	7,261
Santa Clara	1,682,585	17,843	10,605
Santa Cruz	255,602	1,637	6,404
LA Basin Average			
Los Angeles	9,519,338	63,919	6,715
Orange	2,846,289	19,704	6,923
Riverside	1,545,387	10,821	7,002
San Bernardino	1,709,434	11,867	6,942
San Diego/Imperial Average			
San Diego	2,813,833	17,741	6,305
Imperial	142,361	597	4,194
Central Valley Average			
Sacramento	1,223,499	10,359	8,467
Fresno	799,407	6,497	8,127

^a Census 2000.

SOURCE: California Energy Commission, 2000 data, population data from Census 2000,
www.energy.ca.gov/electricity/gross_system_power

In summary, the project as proposed by Sempra Communications would promote a more efficient transfer of information and would tend to shift energy use from the transportation sector to the electrical sector. This shift would further the goals of energy conservation by reducing overall per capita energy consumption, reducing reliance on petroleum products, and increasing use of energy produced by renewable resources.

5.5 EFFECTS FOUND NOT TO BE SIGNIFICANT

The environmental effects of the proposed Telecommunications Program are identified and discussed in detail in Chapter 4. Except for the significant unavoidable effects identified in the discussion of air quality and hydrology and water quality, all identified environmental effects of the project would be less than significant, or less than significant after implementation of the identified mitigation measures. The following topics of analysis in this Program EIR were found to have no significant effects:

- Mineral Resources;
 - Population and Housing;
 - Energy Conservation;
 - Population Growth; and
 - Public Services.
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REFERENCES – CEQA Statutory Sections

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