

**SOUTHERN CALIFORNIA GAS
COMPANY / SAN DIEGO
GAS & ELECTRIC
"FIBER IN GAS" PROJECT
(SCHEDULE G-FIG) CPUC A.02-03-061**

Draft Program Environmental Impact Report

SCH No. 2002091025

May 2003

*Prepared for
California Public Utilities Commission*

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



**NOTICE OF AVAILABILITY
FOR A DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT
FOR SCG/SDG&E'S "FIBER IN GAS" PROJECT (SCHEDULE G-FIG)**

The California Public Utilities Commission (CPUC) invites you to review and comment on a Draft Program Environmental Impact Report (DEIR) for the Southern California Gas Company (SCG) / San Diego Gas and Electric (SDG&E)'s "Fiber in Gas" Project (Schedule G-FIG). SCG/SDG&E have submitted a proposal(s) to the CPUC requesting authorization to implement a new service allowing telecommunications carriers and cable television companies (Carriers) to place fiber optic cable in conduit previously installed by SCG/SDG&E. The new service would allow SCG/SDG&E to install conduit within its active gas pipelines using a proposed technology referred to as "fiber-in-gas" or "FIG." The new service would establish tariff rates, terms and conditions allowing Carriers to place fiber optic cable in previously installed conduit in active gas pipelines. An MND was prepared and circulated for public and agency comment from November 7, 2002 to December 9, 2002. However, following circulation and prior to adoption of the MND, the CPUC determined that although potentially significant impacts identified as consequences of the FIG proposal could be reduced to levels of insignificance, the size of the study area and also the programmatic nature of the new service and technology warranted preparation of a Program EIR.

This service would be available within the service territories of SCG and SDG&E that include 13 counties in southern California. (Counties: Fresno, Imperial, Los Angeles, Kern, Kings, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Tulare, and Ventura). Since there is no definitive project that would apply a FIG technology being proposed at this time, this document addresses potential impacts at a general, programmatic level.

The review period for this document begins on May 2, 2003 and ends on June 15, 2003. The full text of this document is also directly available on the Internet at the following address: www.semprafiber-fig.net. To request a printed copy or CD-ROM, call (877) 779-2782 or email semprafiber@esassoc.com.

A copy of this document is available to the public for review and comment at the following locations:

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Written comments regarding the Draft Program Environmental Impact Report must be received in writing by 5:00 pm (Pacific Standard Time) on June 15, 2003, at the following address/fax/email:

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CHAPTER 1

EXECUTIVE SUMMARY

1.1 PROGRAM OVERVIEW

Southern California Gas Company (“SCG”) and San Diego Gas and Electric (“SDG&E”) have filed applications with the California Public Utilities Commission (“CPUC”) to request authorization to implement a new tariff¹ service. The new tariff service (the “program”) would allow SCG/SDG&E to install conduit within its active gas pipelines using a proposed technology referred to as “fiber-in-gas” or “FIG.” The new service would establish tariff rates, terms and conditions allowing telecommunications carriers and cable television companies (“Carriers”) to place fiber optic cable in conduit previously installed by SCG/SDG&E in its active gas pipelines under new Schedule No. G-FIG.

If requested to do so by a Carrier, SCG/SDG&E would place conduit into its pipeline using a FIG technology.² The Carrier requesting the conduit would then be responsible for installing the fiber optic cable within the conduit and constructing the handholes³ alongside or on top of the pipeline. Since there is no definitive project that would apply a FIG technology being proposed at this time, the EIR addresses potential impacts at a general, programmatic level. Consequently, no baseline conditions are presented. The new service would be applicable to the existing pipeline distribution systems owned by SCG/SDG&E in their service territories in 13 southern California counties including Fresno, Imperial, Kern, Kings, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Tulare, and Ventura, which therefore defines the study area.

As the agency responsible for regulation of public utilities in the State of California pursuant to Article XII of the Constitution of the State of California (Public Utilities Code Sections 227 and 228), the CPUC is the lead State agency responsible for California Environmental Quality Act (CEQA) compliance in evaluation of the proposed program (see CEQA Guidelines §15051). Under CEQA requirements, the CPUC will determine the adequacy of the EIR once it is finalized and, if adequate, will certify the document as complying with CEQA.

¹ A tariff defined for this project is a scale of rates or charges for an established service.

² The application applies to any FIG technology. Although there are several FIG technologies currently available (e.g., from Nortel Network, Alcatel, and GasTec), SCG/SDG&E has been asked by only one company to test, and approve, its technology for potential use in SCG’s active gas distribution pipelines (the “FIG Technology”). This is the only technology reviewed in this IS/MND because information relevant to an environmental review is not known regarding other FIG technologies.

³ Handholes are approximately four feet long and wide; the depth of the handhole will be approximately three feet. The excavation required to install the handhole may be three to four feet deep.

An Initial Study was prepared by the CPUC to assess which environmental issues would potentially be affected by SCG/SDG&E's proposal. The Initial Study identified environmental issues that should be addressed in the EIR and also those environmental issues that could be excluded from further analysis.

The EIR analyzes potentially significant impacts associated with implementation of the proposed program and identifies the mitigation measures or processes needed to reduce each potential impact identified. FIG installation and related construction would be confined to the geographic scope of the study area as described and illustrated in the Project Description and evaluated in the EIR. No unauthorized construction requiring CEQA review would be permitted in areas beyond the scope of the EIR or outside the study area.

1.2 DESCRIPTIONS OF THE NEW SERVICE

SCG/SDG&E would make available natural gas distribution mains of two inches in diameter and larger, and service lines one inch in diameter and larger, that operate at medium or low pressure (60 pounds per square inch [psi] or lower) upon request by a Carrier for this service for placement of conduit utilizing a FIG technology. Only conduit of a maximum diameter of 1.2 inches would be placed in any pipeline to accommodate fiber optic cable. Under this proposed service, SCG/SDG&E would install and own all facilities necessary to place fiber optic cable in their pipelines except for the handhole structure, including conduit and required fittings. SCG/SDG&E would not install the fiber optic cable itself, but would install only the conduit in the active gas lines to house (or accommodate) the fiber optic cable.

SCG/SDG&E is not requesting to provide telecommunications services or to become a licensed telecommunications provider, therefore, the fiber optic cable would be owned by the Carrier for whom the conduit is installed. The Carrier would be responsible for installing the fiber optic cable within the conduit and constructing the handholes for installation and future access to its fiber optic network or cable system. SCG/SDG&E would, however, have trained pipeline inspectors present during the installation of the Carrier's fiber optic cable once the conduit has been fully installed within the gas pipeline.

By offering this proposed new service, SCG/SDG&E would make available an additional option for routing fiber optic cable that could potentially reduce impacts on the environment, especially in densely populated metropolitan areas. In addition, consumers of services delivered through the use of fiber optic cable could also benefit by the reduced costs associated with providing those services. Cost reduction could also contribute to increases in the availability of services to the public, thus promoting the access of greater numbers of, and institutions serving, the public to the internet and other services delivered over fiber optic cable.

1.3 ALTERNATIVES

The EIR addresses three alternatives to the proposed program: (1) a No Project Alternative; (2) Standard Fiber Optic Cable Installation Alternative; and (3) Use of Existing Infrastructure Alternative. The alternatives analyzed in the EIR do in some cases either reduce impacts or result

in impacts greater than those associated with the proposed program. However, none of the proposed alternatives would meet the basic objective of the program as proposed by SCE/SDG&E. It should be noted that as gas corporations and not telecommunications carriers, SCG and SDG&E would not currently be in a position to implement Alternatives Two or Three. However, these alternatives have been included because the Carriers that would utilize the new service as proposed by SCG/SDG&E could potentially employ these alternative approaches to install fiber optic cable not using the FIG technology or the applicant's line as gas pipelines for fiber optic cable deployment; therefore, it was deemed important to briefly describe the effects associated with these alternatives for informational purposes to more fully inform the public.

1.4 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 1-1 presents a summary of all the impacts and mitigation measures identified for the program. The proposed program would not have any significant unmitigable environmental impacts. Potential effects on aesthetics, biological and cultural resources, hazards and public safety, traffic and transportation, and utilities and service systems may occur as a result of the program that are potentially significant. The majority of the program 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 EIR. Operational impacts were also identified as potentially significant effects to public safety and operational pipeline capacity. These operational impacts were also determined mitigable; no significant unavoidable operational or temporary impacts would result. Mitigation proposed as part of the program, as well as measures identified in this EIR, would avoid or reduce all of the impacts to a less than significant level.

TABLE 1-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR
SCG/SDG&E SCHEDULE NO. G-FIG “FIBER OPTIC CABLE IN GAS PIPELINES”

ENVIRONMENTAL IMPACT	SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Aesthetics			
AES-1: Possible temporary, minor changes to the resources visible from a scenic vista or State Scenic Highway might result from construction activities and FIG operation.	Less than Significant	No mitigation required.	
AES-2: Possible minor changes in the existing visual character or quality of a site might result from construction activities and FIG operation.	Potentially Significant	AES-2a: SCG/SDG&E would minimize visual impacts of program facilities and comply with local regulations, keep construction and staging areas orderly and free of trash and debris, and restore areas disturbed by construction activities to their pre-construction condition.	Less than Significant
Air Quality			
AIR-1: Introduction of additional emissions sources in a region for which air quality plans have been developed.	Less than Significant	No mitigation is required.	
AIR-2: Increase in local pollutant concentrations.	Potentially Significant	AIR-2a: SCG/SDG&E would require the construction contractors to implement a dust abatement program to reduce dust and air emissions.	Less than Significant
AIR-3: FIG installation would create an increase in local pollutant concentrations.	Potentially Significant	Implement Mitigation Measure AIR-2a.	Less than Significant
AIR-4: FIG installation could expose sensitive receptors to substantial pollutant concentrations.	Potentially Significant	Implement Mitigation Measure AIR-2a.	Less than Significant

TABLE 1-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR
SCG/SDG&E SCHEDULE NO. G-FIG “FIBER OPTIC CABLE IN GAS PIPELINES”

ENVIRONMENTAL IMPACT	SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Biology			
BIO-1: FIG installations located within or adjacent to areas that support natural habitat and special-status species may adversely affect these species.	Potentially Significant	<p>BIO-1a: Prior to construction, a qualified biologist will conduct preconstruction surveys of proposed FIG installation locations which, may support special status species habitat.</p> <p>BIO-1b: If the qualified biologist determines that FIG installation sites support natural habitat (i.e., wetlands, other water resources, upland communities) that may support special-status species, project activities will be relocated outside of these habitats. Natural habitat will be avoided by subsequent activities that may impact special status species.</p> <p>BIO-1c: If the qualified biologist determines that FIG installation sites are adjacent to natural habitat (i.e., wetlands, other water resources, upland communities) that may support special-status species, the following measures will apply:</p> <ul style="list-style-type: none"> • A qualified biological monitor will demarcate the construction zone in the field to ensure that special-status species habitat is not disturbed during construction activities. • A qualified biological monitor will be present for construction activities adjacent to sensitive habitat or areas, which may support special-status species. 	Less than Significant

TABLE 1-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR
SCG/SDG&E SCHEDULE NO. G-FIG “FIBER OPTIC CABLE IN GAS PIPELINES”

ENVIRONMENTAL IMPACT	SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		<ul style="list-style-type: none"> • If preconstruction surveys determine that special-status wildlife species have the potential to enter the construction zone from adjacent natural habitat, exclusion fencing shall be constructed and maintained in good condition between construction areas and potential habitat for special-status wildlife species. The temporary fence shall be constructed with typical silt fencing, and shall be substantial enough to deter animals from entering the work area and to prevent parking construction vehicles or staging or storage of construction materials on road shoulders adjacent to habitat. The location of the fence shall be determined by the biological monitor. 	

TABLE 1-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR
SCG/SDG&E SCHEDULE NO. G-FIG “FIBER OPTIC CABLE IN GAS PIPELINES”

ENVIRONMENTAL IMPACT	SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		<ul style="list-style-type: none"> If preconstruction surveys identify potential nesting habitat for special-status birds or roosting habitat for special-status bats adjacent to proposed project activities, a no-disturbance buffer zone would be established around active nests and roosts during the breeding season. If construction activities are scheduled to occur during the breeding season of birds (February through August) or bats (March through August), pre-construction surveys will be conducted within 500 feet of project activities. If construction activities are scheduled to occur during the non-nesting season, then no surveys would be required. If surveys indicate that nests/roosts are inactive or potential habitat is unoccupied during the construction period, no further mitigation would be required. If active nests/roosts are found, SCG/SDG&E would establish a no-disturbance buffer acceptable in size to CDFG around the active nest/roost. 	
BIO-2: Potential short-term disturbance of waters of the U.S. (including wetland communities).	Potentially Significant	Implement Mitigation Measures BIO-1a , BIO-1b , and BIO-1c .	Less than Significant
BIO-3: FIG installation could result in impacts to heritage or other significant trees in the project area.	Less than Significant	No mitigation is required.	
BIO-4: FIG installation may conflict with provisions of Habitat Conservation Plans, Natural Community Conservation Plans, or other approved conservation plans.	Less than Significant	No mitigation is required.	Less than Significant

TABLE 1-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR
SCG/SDG&E SCHEDULE NO. G-FIG “FIBER OPTIC CABLE IN GAS PIPELINES”

ENVIRONMENTAL IMPACT	SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Cultural Resources			
CUL-1: Possible substantial effects can occur to known, but unevaluated prehistoric and historic archaeological deposits from ground disturbing construction operations (construction related impact, particularly portals outside of previously excavated areas).	Potentially Significant	<p>CUL-1a: For any excavation outside of previously excavated areas, conduct a records search for the proposed study area and the lands within a one-mile radius from the appropriate California Historical Resources Information System (CHRIS).</p> <p>CUL-1b: For any proposed locations that have the potential for buried prehistoric cultural material or fossils, all grading and excavation for fiber in gas installation will be monitored by a qualified archaeologist. Monitoring is required within 500 feet of the boundaries of known cultural resources (including extant architectural features) and within 1,000 feet of the locations of modern and historic stream crossings. Monitors must have 2 years of professional experience and be certified by the CPUC. Monitors will be under the supervision of the cultural resources specialist.</p>	Less than Significant

TABLE 1-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR
SCG/SDG&E SCHEDULE NO. G-FIG “FIBER OPTIC CABLE IN GAS PIPELINES”

ENVIRONMENTAL IMPACT	SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
<p>CUL-2: Potential discovery or disturbance of unique paleontological resources during construction could constitute an impact. Because significant fossil discoveries can be made in areas designated as low, as well as moderate to high potential, excavation activities could possibly unearth significant paleontological resources. While this is unlikely, should such resources be encountered, this would be a significant impact.</p>	Potentially Significant	<p>CUL-2a: In the event that fossil remains are encountered, either by the cultural resources monitor or by construction personnel, qualified paleontological specialists will be contacted. Construction within 50 feet of the find will be temporarily halted or diverted until the discovery is examined by a qualified vertebrate paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. Significant fossils will be salvaged through a program of excavation, analysis, and documentation. Fossil remains collected during the salvage program shall be cleaned, sorted, catalogued, and then deposited in a public, non-profit institution with research interests in the materials.</p>	Less than Significant
<p>CUL-3: Possible substantial effects may occur to human burials from construction operations. Subsurface excavation in the areas known or suspected to contain burials or archaeological sites of the type known to possess burials (occupation sites), could disturb or destroy significant human remains. This could include burials of prehistoric remains or non-Indian pioneers.</p>	Potentially Significant	<p>CUL-3a: If human remains are found at any time during site preparation or excavation activities, all work will immediately stop within 100 feet of the find. The project archaeologist will be notified immediately and will, in turn, immediately notify the county coroner for the appropriate county in compliance with Section 7050.5 of the California Health and Safety Code. Upon the completion of compliance with all relevant sections of the California Health and Safety Code, the cultural resources specialist will implement Mitigation Measure CUL-1b.</p>	Less than Significant

TABLE 1-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR
SCG/SDG&E SCHEDULE NO. G-FIG “FIBER OPTIC CABLE IN GAS PIPELINES”

ENVIRONMENTAL IMPACT	SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Hazards and Public Safety			
HAZ-1: Possible temporary exposure to or release of hazardous materials during construction.	Potentially Significant	HAZ-1a: Ensure proper labeling, storage, handling, and use of hazardous materials. HAZ-1b: Report all significant releases or threatened releases of hazardous materials. HAZ-1c: Reduce excavation impacts.	Less than Significant
HAZ-2: FIG installation activities could require disposal of potentially contaminated soils.	Potentially Significant	HAZ-2a: Implement an Awareness Training Program to educate field personnel regarding the unexpected discovery of contaminated soil. HAZ-2b: Characterize excavated materials for disposal if those materials have the odor or appearance of contamination and report all discovery of significant hazardous waste, including soil and groundwater contamination, to the inspector of the local agency.	Less than Significant
HAZ-3: Potential public health hazard associated with a pipeline rupture during FIG installation and operation that could lead to an explosion resulting in property damage or fatalities.	Potentially Significant	HAZ-3a: SCG/SDG&E will continue to update safety procedures to address FIG installation procedures in compliance with all federal and state pipeline safety regulations.	Less than Significant
HAZ-4: Possible Exposure of the Public or Environment to Hazardous Materials Sites.	Potentially Significant	Implement Mitigation Measure HAZ-2a and HAZ-2b .	Less than Significant
HAZ-5: Possible Temporary Limited Emergency Access.	Potentially Significant	Implement Mitigation Measure TRA-1a .	Less than Significant

TABLE 1-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR
SCG/SDG&E SCHEDULE NO. G-FIG “FIBER OPTIC CABLE IN GAS PIPELINES”

ENVIRONMENTAL IMPACT	SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Noise			
NOI-1: Construction activities could generate noise levels in excess of local standards during construction and FIG operation.	Potentially Significant	<p>NOI-1a: SCG/SDG&E would require construction contractors to comply with the construction hours limitations and construction equipment standards set forth in the local general plan noise element and the noise ordinance of all applicable jurisdictions of cities and counties, or in compliance with conditions outlined in acquired permits from those applicable jurisdictions.</p> <p>NOI-1b: To reduce daytime noise impacts due to construction, SCG/SDG&E shall require construction contractors to implement the following measures when operating adjacent to sensitive receptors in order to maintain compliance with local noise standards:</p> <ul style="list-style-type: none"> • Equipment and trucks used for construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible); 	Less than Significant

TABLE 1-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR
SCG/SDG&E SCHEDULE NO. G-FIG “FIBER OPTIC CABLE IN GAS PIPELINES”

ENVIRONMENTAL IMPACT	SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		<ul style="list-style-type: none"> • Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible; and • Construction equipment shall be located as far from sensitive receptors as possible. 	
NOI-2: Exposure of sensitive receptors to localized groundborne vibration and groundborne noise during FIG installation.	Less than Significant	No mitigation is required.	
NOI-3: Temporary and intermittent noise increases during FIG installation.	Less than Significant	No mitigation is required.	
Transportation and Public Services			
TRA-1: Pipeline access points for FIG installation within streets would reduce the number of, or the available width of, travel lanes on roads, resulting in temporary disruption of traffic flows and increases in traffic congestion.	Potentially Significant	TRA-1a: Obtain and comply with local and state road encroachment permits, and railroad encroachment permits.	Less than Significant

TABLE 1-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR
SCG/SDG&E SCHEDULE NO. G-FIG “FIBER OPTIC CABLE IN GAS PIPELINES”

ENVIRONMENTAL IMPACT	SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
TRA-2: FIG installation within or adjacent to roadways would temporarily increase the potential for accidents.	Potentially Significant	Implement Mitigation Measure TRA-1a.	Less than Significant
TRA-3: FIG installation within or adjacent to streets would affect emergency access.	Potentially Significant	Implement Mitigation Measure TRA-1a.	Less than Significant
TRA-4: Construction required for FIG installation would generate a temporary demand for parking spaces for construction worker vehicles; in addition, FIG installation would temporarily displace existing on-street parking on a number of streets.	Potentially Significant	Implement Mitigation Measure TRA-1a.	Less than Significant
TRA-5: FIG installation could temporarily disrupt bus service near pipeline access points.	Potentially Significant	Implement Mitigation Measure TRA-1a.	Less than Significant
TRA-6: FIG installation could temporarily disrupt existing transportation and circulation patterns in the vicinity, and impact response times for fire and police emergencies, by disrupting traffic flows and street operations.	Potentially Significant	Implement Mitigation Measure TRA-1a.	Less than Significant
Utilities and Service Systems			
UTL-1: The placement of fiber optic cable within existing gas pipelines would reduce the service capacity of the existing gas pipelines.	Potentially Significant	UTL-1a: Application of the Schedule No. G-FIG’s Terms and Special Conditions shall address/avoid potentially significant impacts to pipeline service capacity.	Less than Significant
UTL-2: The proposed new form of service will have service implications including potential impacts on operations.	Potentially Significant	UTL-2a: Primary operations and maintenance procedures shall be modified to address potential operational impacts.	Less than Significant

CHAPTER 2

INTRODUCTION

2.1 ENVIRONMENTAL REVIEW

Southern California Gas Company (“SCG”) and San Diego Gas and Electric (“SDG&E”) have filed applications with the California Public Utilities Commission (“CPUC” or “Commission”) to request authorization to implement a new tariff¹ service. The new tariff service (the “program”) would allow SCG/SDG&E to install conduit within its active gas pipelines using a proposed technology referred to as “fiber-in-gas” or “FIG.” The new service would establish tariff rates, terms and conditions allowing telecommunications carriers and cable television companies (“Carriers”) to place fiber optic cable in conduit previously installed by SCG/SDG&E in its active gas pipelines under new Schedule No. G-FIG.

As the agency responsible for regulation of public utilities in the State of California pursuant to Article XII of the Constitution of the State of California (Public Utilities Code Sections 227 and 228), the CPUC is the lead State agency responsible for California Environmental Quality Act (CEQA) compliance in evaluation of the proposed program (see CEQA Guidelines §15051). Although, the Commission issued its rules governing access to the right-of-ways of electric utilities by telecommunications firms in D.98-10-058, the Decision specifically excludes gas utilities from inclusion under the Access ruling. Even though the telecommunications and cable service access proposed by SCG/SDG&E is similar to that discussed in D.98-10-058, in numerous ways, it is distinguishable. The proposed program by SCG/SDG&E therefore warrants a full evaluation and Commission decision, therefore resulting in the application from SCG/SDG&E for a ruling allowing its proposed new service.

CEQA requires that before a decision can be made to approve a project with potentially significant environmental effects, an Environmental Impact Report (EIR) must be prepared that fully describes the environmental effects of the project. The EIR is a public informational document for use by governmental agencies and the public to identify and evaluate potential environmental consequences of a proposed project, to recommend mitigation measures to lessen or eliminate adverse impacts, and to examine feasible alternatives to the project. The information contained in the EIR is reviewed and considered by the governing agency prior to the ultimate decision to approve, disapprove, or modify the proposed project. Under CEQA requirements, the CPUC will determine the adequacy of the EIR once it is finalized and, if adequate, will certify the document as complying with CEQA.

¹ A tariff defined for this project is a scale of rates or charges for an established service.

An Initial Study was prepared by the CPUC to assess which environmental issues would potentially be affected by SCG/SDG&E's proposal. The Initial Study evaluated potentially significant impacts associated with implementation of the proposed program and identified mitigation measures which, when incorporated into the program, would reduce impacts to less than significant levels. Therefore, the CPUC initially determined that a Mitigated Negative Declaration (MND) was the appropriate document for the proposed program under Section 15070 of the CEQA Guidelines. An MND was prepared and circulated for public and agency comment from November 7, 2002 to December 9, 2002.

However, following circulation and prior to adoption of the MND, the CPUC determined that although potentially significant impacts identified as consequences of the FIG proposal could be reduced to levels of insignificance, the size of the study area and also the conceptual nature of the new service and technology warranted preparation of an EIR. In addition, the CPUC has revisited issues and concerns regarding public safety. Additional information on the required testing and development of safety standards for the FIG technology, that was not available at the time the MND was circulated, is disclosed in this Draft EIR.

2.2 SCOPE OF THE EIR

The analyses provided in the EIR are conducted on a proposed FIG technology to be used for conduit installation within active gas lines throughout SCG/SDG&E's service territories, but no specific location or action is identified in the project. For this reason, the document is programmatic and conceptual in nature to study the potential effects FIG technology may have on the environment during FIG installation and operation.

The Initial Study (Appendix A) identified environmental issues that should be addressed in the EIR and environmental issues that could be excluded from further analysis. Therefore, this EIR focuses on only those environmental issues where a potentially significant impact may result from the FIG proposal.

Based on the Initial Study, the approval of the applications would have no impact or less than significant effects on the following areas:

- Agriculture
- Geology and Soils
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Recreation

The Initial Study indicates that the approval of the applications would have potentially significant impacts in the areas of:

- Aesthetics
- Air Quality
- Biological Resources

- Cultural Resources
- Hazards and Hazardous Materials (Public Safety)
- Noise
- Public Services
- Transportation and Traffic
- Utilities and Service Systems

This EIR provides the public and Responsible and Trustee Agencies with information about the potential effects, both beneficial and adverse, on the local and regional environment. In accordance with Section 15073 of the CEQA *Guidelines*, this document is being circulated to local, state and federal agencies and to interested organizations and individuals who may wish to review and comment on the document.

As previously mentioned, the CPUC circulated an MND to governmental agencies, and organizations and persons interested in the proposal for comments on the environmental issues addressed in the document. Responses to the MND related to environmental issues regarding the FIG proposal have been addressed in this Draft EIR. Although unrelated to environmental issues, several comments regarding franchise and rights-of-way agreements were also raised repeatedly in the comment letters on the MND. These issues are not addressed in detail in the EIR because they are not environmental issues required for evaluation or review under CEQA, but are instead legal issues of oversight from each local entity that requires an agreement of its laws.

SCG/SDG&E's practice of making, and their obligation to make, their excess space and capacity available to Carriers, is not a separate service from their electric or gas utility functions. It arises out of their control of vast numbers of poles, ducts, conduits and rights-of-way, which the Legislature of California and the Congress of the United States have declared should be made available to these telecommunications and cable TV uses on a nondiscriminatory basis. It is an adjunct of the utility's electric or gas business.

For years, SDG&E has made pole attachment licenses available to Carriers, with no request from any municipality that SDG&E obtain a separate franchise in order to offer this service. FIG is a service, comparable to a pole attachment, which SCG/SDG&E propose to make available to qualified customers, just like any other tariff service. SCG/SDG&E are not making their franchises or rights-of-way available to the Carriers. SCG/SDG&E will also obtain any required encroachment permits from the municipality in order for SCG/SDG&E to install the conduits, fittings, and any other necessary appurtenances in their pipelines. These appurtenances are simply slight modifications to their existing gas facilities. SCG/SDG&E will continue their present practices of obtaining all required encroachment permits from the municipalities for the installation of these appurtenances.

The Carriers must obtain any and all required federal, state and local "permits" or authorizations including but not limited to a Certificate of Public Convenience and Necessity, an encroachment permit from Caltrans or any county or city, a Notice of Intent from the California Regional Water Quality Control Board, a conditional use permit or a franchise, etc.

The EIR analyzes significant impacts associated with implementation of the proposed program and identifies the mitigation measures or processes needed to avoid or reduce each potential impact identified. FIG installation and related construction would be confined to the geographical scope of the study area as described and illustrated in the project description (Chapter 3) and evaluated in the EIR. No unauthorized construction requiring CEQA review would be permitted in areas beyond the scope of this document and outside the study area.

2.3 ORGANIZATION OF THIS DOCUMENT

Chapter 1, Summary: The summary, which precedes this introduction, summarizes the EIR by providing an overview of the program, the environmental impacts that would result from FIG installation and operation, the mitigation measures identified to reduce or eliminate these impacts, and the alternatives to the FIG proposal.

Chapter 2, Introduction: describes the purpose of the EIR, the program overview and objective, CEQA lead and process, and areas of controversy.

Chapter 3, Project Description: describes the program including the location, description of the new service and technology, safety and operational issues, and regulatory environment.

Chapter 4, Environmental Setting, Impacts and Mitigation Measures: describes existing conditions (i.e., setting) throughout SCG/SDG&E's service territories, and analyzes the environmental impacts of the proposed program and recommended mitigation measures. Resource topics are discussed in the order they appear in the CEQA initial study checklist. For each resource topic, impacts are identified as less-than-significant or less-than-significant with mitigation, and mitigation measures are identified. This chapter also contains impact analyses that are appropriate on the programmatic level, rather than a specific area level as the analysis is conducted on a proposed technology to be used in SCG/SDG&E's service territories; no specific location or action is identified in the program. Resource areas that will not be affected by the proposed program are discussed and eliminated from further analysis.

Chapter 5, Report Preparation, Persons and Organizations Consulted, and References: identifies all individuals involved in preparation of this environmental assessment and references cited throughout the document.

CHAPTER 3

PROJECT DESCRIPTION

This chapter of the document describes the objectives and characteristics of the new service proposed by SCG/SDG&E to allow them to install conduit within active gas lines.

3.1 PROJECT LOCATION

The new service would be applicable to the existing pipeline distribution systems owned by SCG/SDG&E in their service territories in 13 southern California counties including Fresno, Imperial, Kern, Kings, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Tulare, and Ventura, which therefore defines the project area (**Figure 3-1** and **Figure 3-2**).

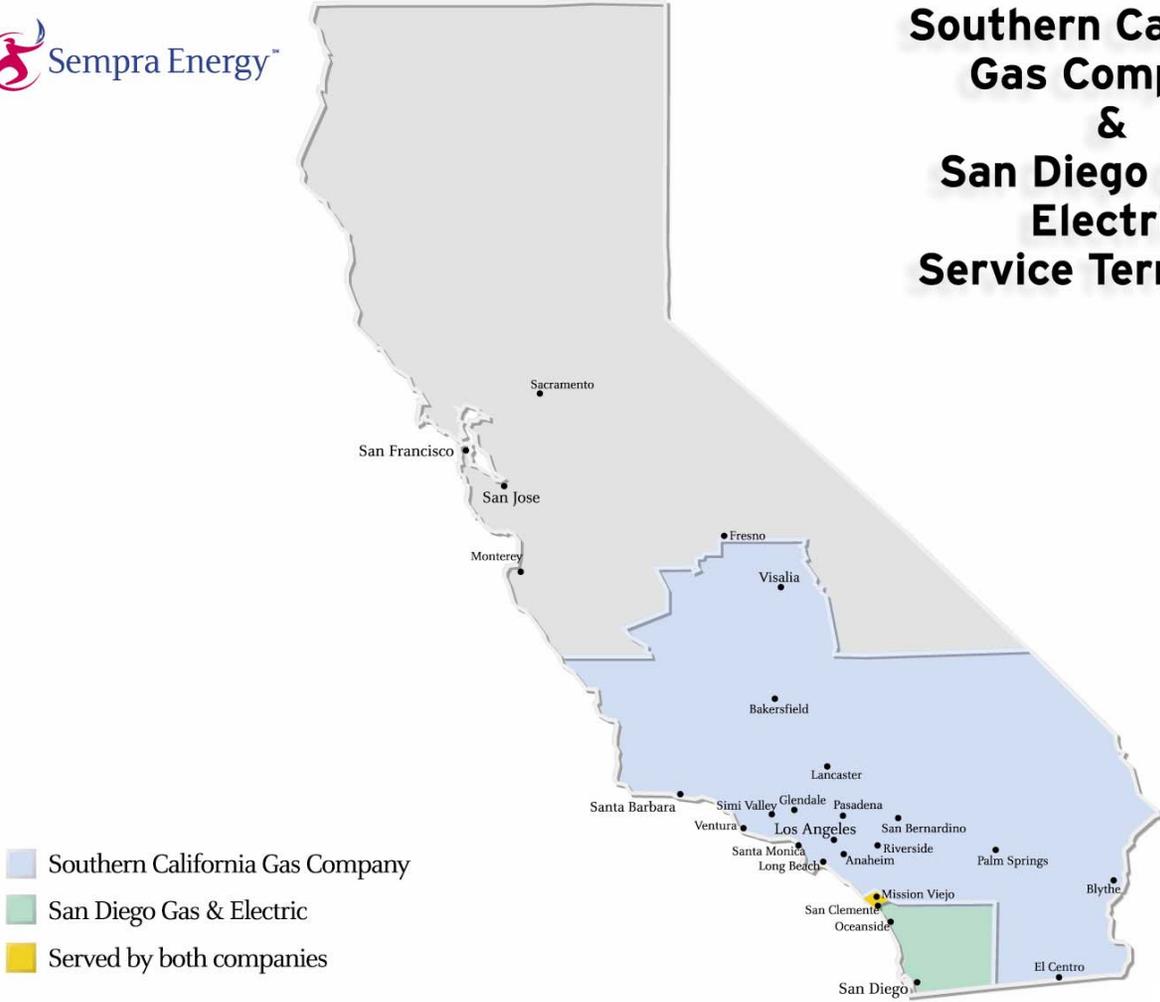
“Fiber in Gas” or “FIG” technologies are particularly well-suited to highly developed, urbanized areas where existing infrastructure can be utilized to provide telecommunications carriers and cable television companies (“Carriers”) connections to end users with minimal disruption to the surrounding environment. FIG technologies can minimize the potential for environmental impacts, whether in an urban, suburban, or rural settings, by eliminating the need to disrupt large areas with trenches and trenching equipment. The need to use FIG technologies generally decreases as an area becomes less developed. This decrease typically occurs because the economic feasibility installing a communications network via more standard construction techniques increases for a Carrier in more rural and suburban areas where greater availability of public rights-of-way exists. Therefore, the demand for the use of FIG technology is anticipated to decrease in less developed areas. For this reason, the study area setting described throughout this EIR assumes that the program would be implemented only in developed areas. “Developed areas” defined in this document implies a location where infrastructure (i.e., roads, utility rights-of-way) is existing and construction activities would occur exclusively within or adjacent to roadways (including road shoulders, landscaped road buffers, and sidewalks) that often serve as utility rights-of-way. To further explain the definition assumed for the environmental assessment, an area may be considered “developed” in suburban or rural areas as well as urban, as long as the proposed activity is located within or adjacent to existing roadways.

3.2 PROGRAM OBJECTIVE

The purpose of the application is to request Commission authorization to implement a new service allowing any Carriers to place fiber optic cable in conduit installed in SCG/SDG&E’s active gas pipelines in compliance with the tariffed rates, terms and conditions under new Schedule No. G-FIG. Under Schedule G-FIG, SCG/SDG&E will recover all out-of-pocket costs for making its



Southern California Gas Company & San Diego Gas & Electric Service Territories



SCG/SDG&E Schedule No. G-FIG "Fiber Optic Cable in Gas Pipelines" / 202131-004 ■

SOURCE: Sempra Energy

Figure 3-1
Southern California Gas Company and San Diego Gas & Electric's Service Territories

Cities Served

Southern California Gas Company*

Anaheim	Norwalk
Arcadia	Ontario
Bakersfield	Orange
Blythe	Oxnard
Carson	Palmdale
Culver City	Palm Springs
El Centro	Panorama City
El Monte	Pasadena
Encino	Paso Robles
Fullerton	Pomona
Garden Grove	Porterville
Gardena	Redondo Beach
Glendale	Riverside
Granada Hills	San Bernardino
Hanford	Santa Ana
Hemet	Santa Barbara
Huntington Beach	Santa Clarita
Indio	Santa Monica
Inglewood	Santa Paula
Irvine	Sherman Oaks
Irwindale	Simi Valley
La Verne	Temecula
Lancaster	Thousand Oaks
Lompoc	Torrance
Los Angeles	Upland
Montebello	Van Nuys
Moreno Valley	Ventura
Needles	Visalia
	Whittier

San Diego Gas & Electric

Carlsbad	Lemon Grove
Chula Vista	National City
Coronado	Oceanside
Del Mar	Poway
El Cajon	San Diego
Encinitas	San Marcos
Escondido	Santee
Imperial Beach	Solana Beach
La Mesa	Vista

Common Cities Served by Both

Dana Point
Laguna Beach
Laguna Hills
Laguna Niguel
Mission Viejo
San Clemente
San Juan Capistrano

Total Service Territory - 27,100 square miles
Total Customers - 6 million
Total Population Served - 21 million

* Only major cities listed

Figure 3-2
Cities Served by Southern California Gas Company and San Diego Gas & Electric

pipelines ready for the installation of empty conduit to accommodate fiber optic cable, and for on-going operating and maintenance costs. A variety of terms and conditions, largely based on the Commission's rules for access to poles and conduits of local exchange carriers and major electric utilities, are also incorporated into Schedule G-FIG.

3.3 PROPOSED PROGRAM

The proposed program is the request for authorization of a new tariff service allowing Carriers to place fiber optic cable in conduit placed in SCG/SDG&E's active gas pipelines under new Schedule No. G-FIG. The new service would establish tariff rates, terms and conditions providing Carriers the option to request SCG/SDG&E to install conduit within its active gas pipelines using a proposed "fiber-in-gas" or "FIG" technology.

If requested to do so by a Carrier, SCG/SDG&E would place conduit into its pipeline using a FIG technology. The proposed new service would apply to any FIG technology. Although there are several FIG technologies currently available (e.g., from Nortel Network, Alcatel, and GasTec), SCG/SDG&E has been asked by only one company to test and approve its technology for potential use in SCG/SDG&E's gas distribution pipelines (the "FIG Technology"). The Carrier requesting the conduit would then be responsible for installing the fiber optic cable within the conduit and constructing the handholes¹. Since there is no definitive project that would apply a FIG technology being proposed at this time, the document addresses potential effects a FIG technology may have on a developed environment during FIG installation and operation.

With the passing of the Telecommunications Act of 1996, deregulation allowed new companies entry into the long distance and data transmission (broadband) markets, which initiated the demand for more capacity, particularly from fiber optic cable. Although long distance networks have been established, the "last mile" connection or that part of the network that completes the final distance from the main communications line to the premises of the end user, is largely nonexistent.

The more traditional approach to install a "last mile" connection often requires trenching through paved streets, which may result in subsequent environmental impacts such as traffic delays, air pollution from idling traffic and construction equipment, and interference with customer access to local businesses. Municipal and State authorities may also experience an increase in work load due to the continuing permit and restoration issues associated with paving removal and replacement.

The new service SCG/SDG&E is seeking to provide, by using a FIG technology, proposes a method that can mitigate the potential impacts associated with Carriers constructing new infrastructure in public streets. By avoiding standard trenching methods and utilizing existing utility infrastructure, FIG technology may ease concerns local governments have regarding the increasing number of utility trenches often required to facilitate the installation of traditional

¹ Handholes are approximately four feet long and wide; the depth of the handhole will be approximately three feet. The excavation required to install the handhole may be three to four feet deep.

telecommunication infrastructure. By using existing natural gas infrastructure, the demand for limited available space in the public rights-of-way may also be reduced.

3.3.1 DESCRIPTIONS OF THE NEW SERVICE

SCG/SDG&E would make available natural gas distribution mains of two inches in diameter and larger, and service lines one inch in diameter and larger, that operate at medium or low pressure (60 pounds per square inch [psi] or lower) upon request by a Carrier for this service for placement of conduit utilizing a FIG technology. Only conduit of a maximum diameter of 1.2 inches would be placed in any pipeline to accommodate fiber optic cable. Under this proposed service, SCG/SDG&E would install and own all facilities necessary to place fiber optic cable in their pipelines except for the handhole structure, including conduit and required fittings. SCG/SDG&E would not install the fiber optic cable itself, but would install only the conduit in the active gas lines to house (or accommodate) the fiber optic cable.

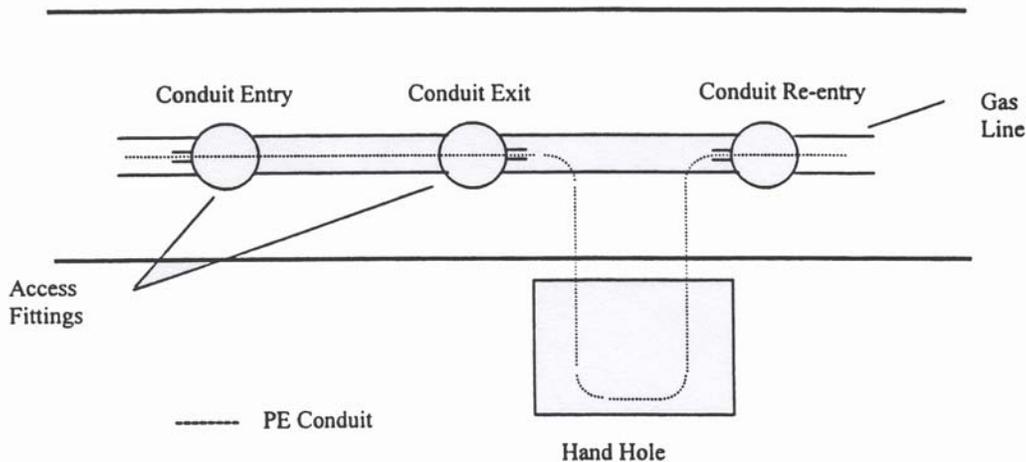
SCG/SDG&E is not requesting to provide telecommunications services or to become a licensed telecommunications provider, therefore, the fiber optic cable would be owned by the Carrier for whom the conduit is installed. The Carrier would be responsible for installing the fiber optic cable within the conduit and constructing the handholes for installation and future access to its fiber optic network or cable system. SCG/SDG&E would, however, have trained pipeline inspectors present during the installation of the Carrier's fiber optic cable once the conduit has been fully installed within the gas pipeline.

By offering this proposed new service, SCG/SDG&E would make available an additional option for routing fiber optic cable that could potentially reduce impacts on the environment, especially in densely populated metropolitan areas from standard trenching methods. In addition, consumers of services delivered through the use of fiber optic cable could also benefit by the reduced costs associated with providing those services. Cost reduction could also contribute to increases in the availability of services to the public, thus promoting the access of greater numbers of the public and institutions serving the public to the internet and other services delivered over fiber optic cable.

3.3.2 FIBER IN GAS TECHNOLOGY

As previously discussed, although there are several FIG technologies available, to date, SCG/SDG&E have received a request from only Sempra Fiber Links (SFL) to assess the compatibility of a FIG technology with their gas pipelines. Therefore, the assessment in this document of the potential environmental impacts is from only this technology. With the SFL FIG technology, installers insert a polyethylene (PE) inner conduit into the gas pipelines through gas-tight packing seals, without the depressurization of the pipe at any time. Installers use well-proven procedures (used for many years by the gas utilities industry) for entering and tapping live gas lines. The conduit, which carries the fiber-optic cable, is extracted with specialized, patent-pending tools at a pre-determined exit point, and entering and exiting ends of the conduit are sealed with standard, certified fittings. The SFL FIG Technology tested by SCG/SDG&E uses procedures and equipment already in use in the gas distribution industry to install conduit; the

fittings are approved modifications of standard fittings already used in the industry. The conduit installation process developed by SFL and analyzed in this document is further explained below. The process is schematically depicted in **Figure 3-3**.



SOURCE: Sempra Fiber Links

Figure 3-3
Sempra Fiber Link FIG Technology Schematic Drawing

TESTING

SCG/SDG&E performed an evaluation of the components of a FIG procedure developed by SFL (currently the only domestic technology of its type available in the U.S.) to determine its safety and durability as permanent attachments to gas carrying pipelines. Testing performed by SCG/SDG&E was conducted to ensure the FIG procedure conforms to all applicable regulations including those mandated by federal, State, and SCG/SDG&E Company pipeline safety standards and procedures.

The Office of Pipeline Safety (OPS) of the Department of Transportation (DOT) works with the oil and natural gas pipeline industries to further improve safety and environmental protection in cost-effective ways. The primary regulatory basis for achieving these safety goals in the pipeline industry is the set of regulations embodied in Title 49 of the Code of Federal Regulations (CFR) Parts 190-199.

Part 192 of 49 CFR prescribes safety standards for transportation of natural gas by pipeline. The regulations are written as minimum performance standards, setting the level of safety to be attained and allowing the pipeline operators discretion in achieving that level. In addition, pipeline companies, including SCG/SDG&E, perform discretionary activities over and above the regulations to achieve these goals. Some of the discretionary activities SCG/SDG&E has been performing or will perform in relation to the approval and use of the FIG technology and processes include:

- 1) **Extent to which new fittings and materials are tested to ensure safety and durability.** In addition to the testing performed by the manufacturer to comply with existing regulations SCG/SDG&E would perform testing to verify manufacturer's test results. Testing is performed either at SCG's Engineering Analysis Center or in field installations throughout the service territories
- 2) **Follow up leak survey to ensure system integrity.** SCG/SDG&E would conduct semi-annual leak surveys over the pipeline where FIG is installed for at least one year after installation. Thereafter, SCG/SDG&E would follow standard company procedures. The most stringent requirement found in CFR 49 Part 192 is the requirement for annual survey cycle for business districts.
- 3) **SCG/SDG&E would have an inspector present during the installation of the fiber optic cable.** This activity would be conducted at a minimum during the first years of the program to ensure Carriers do not damage the gas pipeline. CFR 49 Part 192 only requires that follow up inspections be conducted as frequently as necessary during and after excavation activity to verify the integrity of the pipeline.

The Federal Pipeline Safety Regulations are further enforced in the State of California by the Utilities Safety Branch (USB) of the CPUC who is also responsible for enforcement of CPUC General Order No. 112-E (Rules Governing Design, Construction, Testing, Maintenance and Operation of Utility Gas Gathering, Transmission and Distribution Piping Systems) through its natural gas safety program. The USB administers its natural gas safety program by auditing the facilities of investor-owned natural gas utilities and municipalities in California for compliance with the applicable codes. The audit consists of reviewing operation and maintenance records, evaluating emergency procedures, and performing random field inspections of the natural gas facilities.

Since Fiber-In-Gas is a relatively new technology, national standards specifically designed to test the SFL access fittings do not exist. In the evaluation of this technology, SCG/SDG&E is relying on other standards and practices developed for the gas industry. The overriding principle in evaluating SFL products is to ensure that the existing pipeline system is not compromised with the installation of access fittings. As such, the two basic criteria being used are 1) that the fittings do not provide a pathway for the unintended escape of gas into surrounding environments and 2) that the installation of the SFL system would not compromise the integrity of the pipeline.

The results of the tests and studies conducted on the SFL FIG procedure assisted SCG/SDG&E to develop a criteria to accept a FIG technology for insertion of conduit inside live natural gas pipelines. The tests developed to evaluate and qualify the individual fittings are detailed below.

Steel Main Access Fittings

Synopsis: The steel main access fitting (MAF) is comprised of components made from modified pipeline products widely used by gas companies. Because products were previously approved for use by SCG/SDG&E, qualification testing of the MAF focuses on the design and seal

performance of the modifications to the MAF to create the sidearm assembly, and a technical review of the weld joint design and the welding procedures used in manufacturing the fitting.

Testing Method and Qualification Criteria: The integrity of the sidearm assembly is tested while under pressure per the requirements specified in the standard test method, ASTM F1948, “Standard Specification for Metallic Mechanical Fitting for Use on Outside Diameter Controlled Thermoplastic Gas Distribution Pipe and Tubing,” Sec 7.3. Six samples of steel sidearm assemblies are tested at 1.5 times the Maximum Allowable Operating Pressure (MAOP) of the Pipeline (60 pounds per square inch of gravity (psig) for gas Distribution system). The samples are temperature cycled between -20 and 140 degrees Fahrenheit for 10 cycles and re-pressurized to 1.5 times MAOP to identify leaks. Leakage detection is conducted in accordance with ASTM E-515, “Standard Test for Leaks Using Bubble Emission Techniques.” Leakage fluid is applied around the threads, which must be effervescent free for 1 minute.

Additionally, the joint design and welding procedures used in manufacturing the MAF must meet SCG/SDG&E and API 1104 requirements². The welder qualification records shall be reviewed by the SCG/SDG&E metallurgist and approved. These are the same procedures SCG/SDG&E would use in qualifying pipeline contractors to work on both Transmission and Distribution pipelines in their existing pipeline systems.

Polyethylene Main Access Fitting

Synopsis: The Polyethylene (PE) MAF is also comprised of pipeline products that are currently used in the gas industry. However, not all of the components have previously been approved by the SCG/SDG&E. Thus more stringent test criteria are needed to ensure the integrity of these MAFs. Recognizing the potential for PE components to experience slow crack growth under certain stress loads, testing at elevated temperatures and other non-standardized tests have been developed to evaluate durability against in-service mechanical loading.

Testing Method and Qualification Criteria: As in the case of steel MAFs, ASTM F1948 is used to evaluate the sidearm’s integrity against temperature cycles. A similar temperature cycle test is used to test the integrity of the o-ring found between the steel-to-plastic transition, per the requirements of ASTM F1973, “Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in PE Fuel Gas Distribution System,” Sec 7.4. The MAF is subjected to 1.5 MAOP at ambient temperature first to check for leakage. Then it is temperature cycled between -20 and 140 degrees Fahrenheit for 10 cycles. Lastly, at each temperature extreme, the MAF is leaked tested at 1.5 times MAOP. The samples must be leak-free.

Per ASTM D1598, the MAF is subjected to hydrostatic pressure and immersed in a constant 80 degrees Centigrade water bath for at least 1,000 hours. The fitting must hold pressure for the

² SCG/SDG&E requirements are based on a review of the following documents: AAE-1104-FC-2G, “FCAW of Groove Weld with Backing, Steel with SYMS not greater than 42 ksi”; AAE-1104-FC-2F, “FCAW of Fillet Weld, Steel with SYMS not greater than 42 ksi”; and AAE-1104-GT-2F “GTAW of Fillet Weld, Steel with SYMS not greater than 42 ksi.”

duration of test. This accelerated life cycle test method has been recognized by the pipeline industry to provide an indication of 50-year service life under typical operating conditions.

A series of other mechanical tests have been developed to address the in-service loading the MAFs are expected to experience during and post- installation. They include compression and bending to account for the weight and orientation of installation equipment³. In all, there are eight cases SCG/SDG&E evaluates. In each case, the configuration is tested to failure to establish ultimate strength of the MAF. These values are compared to the anticipated loads to ensure adequate safety factors exist for both short-term and long-term loadings.

Steel Service Access Fitting

Synopsis: As in the case of steel MAFs, ASTM F1948 and ASTM F1973 are used to evaluate the integrity of the transition joint in the sidearm of the steel service access fitting (SAF). The same temperature cycle test and accelerated life cycle test methods are applied. The fittings must hold pressure for the duration of tests. Qualification is also based on the manufacturer’s submitting the necessary test reports to support acceptance by SCG/SDG&E. The qualification is still contingent upon successful field trial. The one area of concern is the rotation of the “Y” arm extension post-installation.

Testing Method and Qualification Criteria: ASTM F1948 is used to design a tensile test to ensure the PE conduit coming out of the “Y” extension would elongate at least 25% before the conduit would pull out from the fitting.

A Temperature Cycling test is performed per ASTM F1948 for 10 cycles to ensure the transition joint in the “Y” arm can withstand temperature extremes between -20 and 140 degrees F without leakage. With 1.5 times MAOP internal pressure applied, the SAF must hold pressure without any indication of leaks.

Testing is performed to determine the design factor of the transition joint against extreme pressure. Pressure inside the fitting is continuously increased until the transition fails. This failure pressure is then compared to the 100 psig design pressure to ensure an adequate design factor is met.

PE Service Access Fitting

Synopsis: The PE SAFs requires only one test, the elevated temperature test per ASTM D2513, to assess the design of the fabricated assembly and the quality of the fusions to long-term service duty. The manufacturer of the electrofusion coupling is also required to submit the necessary test reports demonstrating compliance to ASTM F1055 to support acceptance by SCG/SDG&E.

³ E.g., air lock housing, torsion to account for threading of sidearm onto the MAF, tensile on the sidearm to make certain the conduit will not pull out before the PE yields, impact to ensure the MAF will not be damaged by equipment accidentally falling onto the MAF during installation, and earthen loading on the sidearm can be supported by the MAF.

Testing Method and Qualification Criteria: Samples of the SAF and the electrofusion coupling are tested with 650 psi equivalent hoop stress for 1,000 hours in a 80 degrees Centigrade water bath. All samples must hold pressure without leaks.

PE Conduit

Synopsis: Conduits with a copper tubing size of 1/2" or larger are standard medium density PE pipe used throughout SCG/SDG&E. No additional testing is required for qualification purposes, however the conduit is tested within the context of the assembly in the intended application configuration to validate long-term performance.

Testing Method and Qualification Criteria: The HDPE conduit is tested per ASTM D2513 to evaluate the long-term life expectancy of the high-density material.

CONDUIT INSTALLATION

The conduit installed in the gas pipeline would be used to house an optical cable later installed by a Carrier. Conduit assists in shielding the optical cable from hydrocarbons commonly found in natural gas pipelines eliminating the issue of cable material compatibility in a natural gas environment. Isolation of optical cable from direct gas exposure also facilitates future maintenance of the fiber without requiring the gas utility's direct involvement. Furthermore, housing the optical cable in conduit simplifies the installation of that cable by allowing the use of existing air jetting technologies.

Once the conduit exits the pipeline, it would be fed into a nearby handhole provided by the Carrier. The Carrier would not notice any physical differences between installation of fiber optic cable in conduit installed in active gas lines or conduit installed independently underground.

To install the conduit within the live gas lines, a standard hot tap procedure is used. The hot tap procedure used for FIG installation is the same procedure performed routinely throughout the gas industry as a means of tapping into a live gas line to establish a service line, etc. Specific instructions for hot tap procedures have been developed internally at SCG/SDGE, and approved by personnel with expertise in this specific technical area for implementation. One of the important features of the technology is that the system is simply a modification of various fittings already approved for use by SCG/SDG&E and others throughout the gas pipeline industry. One slight modification to the hot tap fitting used for FIG is a transparent flange with embedded specialty tools to allow observations inside the pipe for conduit navigation to exit the pipeline. The modified fittings and seals are designed to meet all gas pipeline safety requirements of the U.S. DOT, CFR 49, Section 192 and any local regulations such as California PUC General Order 112-E.

For FIG installation, hot tap fittings with modified side arms (similar to 4" hot-tap fittings) are attached to a live gas line at the desired insertion location to tap a hole into the pipe. Once the pipeline has been tapped allowing access inside the pipe, the conduit is prepared for insertion. The installation of the various fittings is a standard procedure, commonly performed by SCG/SDG&E employees and contractors for service line installations.

After the modified hot tap fittings are attached to create an entry and exit point, conduit is inserted at one end (entry) of the pipeline segment with a mechanical tractor-feeder and extracted at the other end (exit) with the specially designed retrieval tools. The specialty tools are used to grab hold of the threaded conduit. Using the specialty tools through the transparent flange, the fitting on the end of the tool is connected to the conduit end fitting, whereby the conduit can be push/pulled through the exit fitting on the main pipeline.

Once the conduit is installed and sealed to the pipeline, a bridging section of conduit (also referred to as “bridging conduit”) is attached where the conduit is sealed to the pipe and routed to a handhole location. A sealing mechanism composed primarily of Teflon® packing, industry standard nuts to secure the fittings (including a gland nut, shield nut and compression nut), and specially designed service adapters are used to ensure pressure tightness between the pipeline and conduit at the entry and exit points. Once the seal is installed, the fitting would be permanent.

VERIFICATION / TESTING FOR CONDUIT CONTINUITY

Following installation of the conduit in the pipeline and the bridging conduit to the handhole, the conduit would be pressurized to 100 psi, and monitored for pressure degradation in order to check for leaks on the conduit system. These tests are designed to ensure that the access fitting can maintain a permanent gas seal at critical contact areas. The pressure tests would ensure that the conduit system is leak free after its installation and prior to fiber optic cable installation. A similar pressure test may also be conducted after the fiber optic cable is inserted into the conduit.

No specific regulations are developed for this pressure testing. SCG/SDG&E would perform testing at 100 psi to ensure the integrity of the conduit itself, and to ensure no leaks in the conduit segment exist. The minimum test pressure required is 100 psi. The maximum test pressure for conduit is not to exceed 140 psi. See **Table 3-1** for the minimum required test duration.

**TABLE 3-1
MINIMUM REQUIRED TEST DURATION**

Conduit Size (inches)	Installed Length (feet)	Minimum Test Duration (minutes)
1/2 to 1	500 ft. or less	5 minutes
	over 500 ft.	0.01 min./ft. x total footage

While air, natural gas, and nitrogen each provide safe and reliable mediums for pressure testing of conduits, after further review SCG/SDG&E have elected to use air as the test medium for the pressure testing of the conduit. The test is a three step process using air only. The stand up test per gas company standards using air is performed on the pipe prior to installation. A second test is used to monitor the conduit after installation and again after fiber installation.

FIG-RELATED CONSTRUCTION

Entry or exit of the gas pipeline is required for two basic reasons: (1) to provide a customer connection access point, and (2) to circumvent a pipeline obstruction, e.g., a valve. In order to enter or exit the pipeline, a hole approximately 12 feet by 4 feet is excavated at each end of the pipeline segment. Normal construction equipment consists of two pickup trucks, a backhoe, one material hauling truck (five-ton), and one cement truck. Approximately, two entries and two exits can be typically accomplished in 8 hours. Lengths in excess of 950 feet have been installed in pilot programs using FIG procedures in a single insertion, with two insertions each day.

Excavations will typically be spaced from 500 to 1,500 feet apart, which unlike trench installation, allows use of all but small portions of the street. There are no specific requirements for valve spacing on the 60 psig distribution system where the use of FIG technology is anticipated. Valves are installed as necessary to reduce the shutdown time in an emergency and for proper operation and maintenance of the system. The maximum spacing between conduit re-entry and exit locations is provided to effectively establish the maximum distance between location where it would be possible to squeeze the pipeline without potentially damaging the fiber optic cable or conduit whether there are valves or not.

The underground construction activities could typically occur in selected city streets and would generally avoid heavily traveled streets or roads. If necessary, a Traffic Control Plan would be developed, consistent with the requirements of the affected jurisdiction, to avoid unnecessary traffic congestion for conduit entry and exit points within public street rights-of-way. Due to pressure control requirements during any FIG installation process, only SCG/SDG&E employees and trained and certified SCG/SDG&E contractors qualified to work on natural gas pipelines would be permitted to perform installations of fittings and conduit.

After the conduit is routed to a handhole located on the road shoulder/parkway or sidewalk, it is capped until a fiber optic cable is installed by the Carrier using traditional air-blowing or “jetting” techniques. This jetting technique uses special equipment to blow air through the conduit while a mechanical tractor-feeder pushes the cable into the same conduit. After the cable is installed, a gas-tight seal is installed between the bridging conduit and cable. This seal is a “secondary” safety precaution to prevent gas from entering the handhole if the pipeline and conduit is cut in the street.

The same precautions required while working around natural gas pipelines would be taken during the jetting process. The highest safety risk for the Carrier during fiber jetting activities would be the creation of static electricity. Precautions would be taken to avoid or reduce this risk by grounding all equipment used at the excavation and/or soaking the pipe and cable with soapy water to create a ground. The other risks associated with the jetting process would occur only if the conduit was damaged and a gas leak occurs. In this case, SCG/SDG&E would be called out to control the leak. This is the same SCG/SDG&E procedure currently followed when third party damage incidents occur on its pipelines.

Once the conduit is installed in the pipeline and the conduit to pipe seals are tightened, release of gas through or around the conduit is unlikely to occur. A SCG/SDG&E inspector would be present during all Carrier installation activities to ensure all appropriate gas handling procedures would be followed. Crews would be required to take all the normal safety precautions that are used during leak repairs to ensure that the work area is safe. For example, all equipment should be grounded to prevent a build up and discharge of static electricity, fire extinguishers should be present, etc. In the unlikely event of a malfunction and release of gas, the Carrier crews would immediately leave the area and notify the SCG/SDG&E Inspector, who would then notify a SCG/SDG&E leakage crew to facilitate the necessary repairs.

If, during the installation, the conduit or the conduit to pipe seal is damaged, there could be a release of gas. This could be a leak in the conduit which would travel along the conduit and leak from the ends, or, it could be a leak at the conduit to pipe seal and the leak would be around the conduit at the entry/exit from the pipe. These situations would constitute the “other risks.” However, the safety procedures to ensure public safety would be the same as those used in any leak on a natural gas pipeline. Furthermore, in the event of a gas leak, the on site SCG/SDG&E inspector would assess the problem and take the necessary steps to solve the problem. At this time, no additional “other risks” have been identified.

3.4 FACILITY OPERATION AND MAINTENANCE

From an operations and maintenance perspective, the results of the demonstrations and tests conducted to date show that the FIG procedure presents risk levels comparable to those associated with current natural gas operations. SCG/SDG&E procedures would be updated to address the maintenance of distribution pipelines serving as fiber optic cable carriers.

SCG/SDG&E’s primary responsibility during an emergency is to minimize the hazard resulting from a damaged pipeline. Therefore, SCG/SDG&E employees may have to perform tasks during emergency situations that may result in damage of the conduit and or cable. However, existing procedures would be modified to minimize the damage to FIG conduit and cable. An estimated seventeen current procedures would need to be modified to accommodate this new technology.

Furthermore, as detailed planning for implementation moved forward it was determined that it would be more effective to develop a set of new Gas Standards that dealt specifically with the installation, maintenance and emergency response of FIG pipelines. The 17 Standards referenced were modified to point to this new set of Procedures or to include minor changes. It was also determined that 2 additional standards - Responding to Emergency Incidents and Control of Static Electricity – not included in the original list of 17 standards required extensive revisions and were added to the list. The revisions to these Standards have been completed.⁴

⁴ Reviews of the Standards occur annually with field employees and as major revision become effective. Records of annual review are documented and retained in SCG/SDG&E’s files for 3 years.

NEW STANDARDS FOR FIG PIPELINES

Fig 1 Responding To Emergency Incidents (183.03)

This standard provides guidelines for Field Operation’s activities related to emergency incidents. Emergency incidents are defined as unsafe conditions involving, or expected to involve, natural gas and customer or SCG/SDG&E facilities, *Fiber in Gas Pipelines* or personnel. The incident may be a fire, damage to underground facilities, explosion, gas leak, injury, death, gas outage, district pressure problem, hazardous or toxic material spills or response requested by fire, police or other agencies.

Fig 2 Control of Static Electricity (184.0160)

This standard provides precautions and standards to control static electricity while working on PE pipe, to provide safety for employees and maintain the integrity of the pipeline.

Fig 3 Fiber In Gas Planning Guidelines

This standard addresses the criteria for determining the suitability and subsequent planning for the conduit placement related to Fiber In Gas Cable Systems in distribution gas pipelines.

Fig 4 Steel Access Fitting Installations

This standard describes the procedure for installation, testing, tapping and completion of the Steel Fiber In Gas access assembly fitting.

Fig 5 PE Access Fitting Installations

This standard describes the policy and procedure for the installation of a PE conduit in a live gas main.

Fig 6 Conduit Installations

This standard describes the policy and procedure for leak testing al new, relocated, or reinstated Fiber In Gas conduit.

Fig 7 Conduit Testing

This standard specifies that only qualified SCG/SDG&E and contract personnel join PE gas pipe using SCG/SDG&E approved methods and approved tools.

EXISTING GAS STANDARDS MODIFIED FOR FIG PIPELINES

184.0001 Distribution Piping Systems-Planning

Standard now includes a reference to FIG #3 for proposed Fiber In Gas installation.

184.0010 Field Planning of Main Construction Projects

Standard now includes precautions for doing work on or near mains with Fiber In Gas installations.

184.0015 Construction Planning for Mains & Supply Lines

Standards now includes Fiber In Gas installation criteria to be used by the Planning group when evaluating replacements.

184.0030 Pressure Control Planning for Main Extensions and Replacement

Information on requirements dealing with Fiber In Gas installations was added to this standard.

184.0050 Field Planning for Distribution Services

Standard now includes notification when a Fiber In Gas installation is encountered.

184.0060 General Construction Requirements for Distribution Services

An additional section was added to this standards to include notification for mains with Fiber In Gas installations.

184.0200 Underground Service Alert-Process and Enforcement

This standard now includes a statement under requirements providing instruction on marking gas facilities when a Fiber In Gas installation is encountered.

184.0225 Leak Repairs-Distribution Piping

Standard now includes a reference to FIG #9 *Leakage repair on Fiber In Gas Facilities*.

184.0245 Locate and Center Leaks

Standard now includes a reference to FIG #9 *Leakage repair on Fiber In Gas Facilities*.

184.0300 Pinching and Reopening Mains and Services

Standard now includes the requirements for a verification of Fiber In Gas prior to pinching and notification to Technical Services.

184.0305 Hot Pinching and Reopening Steel Mains and Services-Pipe Preparation

Standard now includes notification information for mains with Fiber In Gas installations.

184.0330 Pinch Steel Pipe 3" or 4"-Regent Model 5230T

Standard now includes the requirements for a verification of Fiber In Gas prior to pinching and notification to Technical Services.

184.0335 Cold Pinch Steel Pipe-6" Through 12"

Standard now includes the requirements for a verification of Fiber In Gas prior to pinching and notification to Technical Services.

184.0565 Standard Service Tee-Weld Repair

Standard now includes the requirements for a notification of Fiber In Gas prior to welding and notification to Technical Services.

184.0600 Gas Handling and Pressure Control

Standard now includes the requirements for a verification of Fiber In Gas prior to performing any Pressure Control operations.

184.1300 Leak Investigation-Distribution Piping.

Standard is now revised to include reporting of leaks in Fiber In Gas pipeline to Region Technical Services Department immediately.

187.2100 Service-to-Main Connections

Standard now includes verification of Fiber In Gas installation and notification of Regional Technical Services.

3.5 REGULATORY ENVIRONMENT

FIG installation may be subject to local city, county, and special district permits, such as encroachment permits, grading permits and air district permits. In addition, several state and federal regulatory permits would potentially be required. The permits of broadest possible application to the proposed program and the requirements are briefly described below.

- The California Department of Transportation (Caltrans) requires a Department of Transportation encroachment permit whenever an encroachment into, on or over Caltrans right of way is likely.
- County or city codes typically require a local land use or encroachment permit prior to ground-disturbance within, or interruption of, public rights-of-way. This permit is primarily issued through the local planning department.
- County or city codes typically require a grading permit prior to the commencement of grading activities within the local jurisdiction. This permit is primarily issued through the

local public works department. Best management practices (BMPs) for sediment and erosion controls are often required.

- Air quality management districts are responsible for the development and enforcement of regulations for the control of air pollution within their jurisdiction. Air quality permits are issued for facilities and construction activities that are regulated by the applicable air district.
- Section 404 of the CWA requires the issuance of an individual or nationwide permit from the U.S. Army Corps of Engineers before discharging backfill into the waters of the United States, including wetlands. For the proposed program, Nationwide Permit No. 12 for discharges associated with excavation, backfilling, or bedding of utility lines is applicable.
- Section 401 of the Clean Water Act (CWA) requires a water quality certification to be obtained from the applicable regional water quality control board (RWQCB) for discharge activities that may affect water quality. The permit establishes measures to ensure water quality protection and is a required prerequisite for issuance of a Nationwide Permit No. 12.
- Section 402 of the CWA requires that a National Pollution Discharge Elimination System (NPDES) certification be obtained from the applicable regional water quality control board (RWQCB) before FIG installation that may result in five acres or more of soil disturbance. A storm water pollution prevention plan (SWPPP) containing erosion control measures is required. EPA will issue a new general permit in December 2002 for activities that disturb between one and five acres. The appropriate RWQCB enforces the general permit.
- Section 7 of the Federal Endangered Species Act (ESA) requires consultation with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) regarding measures to avoid harm to plant, fish, and wildlife species that are federally listed as threatened or endangered species for all federal projects. In addition, Section 7 prohibits federal agencies from implementing an action that would result in the “take” of a species listed as threatened (if not subject to a special rule) or endangered, or adversely affect critical habitat unless a biological opinion (BO), issued upon completion of formal consultation, authorizes the action. “Take” includes the action of, or attempt to, harm, harass, and kill an individual of a species. Section 7 requires and establishes protocols for preconstruction wildlife surveys and mitigation measures.
- Section 10 of the ESA authorizes the conditions for USFWS or NMFS to issue an incidental take permit when a nonfederal project may result in take that is incidental to, and not the purpose of, the implementation of an otherwise lawful activity. The permit requires preparation and implementation of a habitat conservation plan that would offset the take of individuals which may occur as an incidental effect of FIG installation by providing for the overall preservation of their species through specific mitigation measures.
- Section 106 of the National Historic Preservation Act (NHPA) requires examination of cultural resources before various federal agencies can provide permits under their

jurisdiction. Section 106 establishes requirements and protocols for pre-construction cultural resource surveys and mitigation of impacts on cultural resources.

- Section 1603 of California Fish and Game Code requires a streambed alteration agreement from the California Department of Fish and Game (DFG) before any action is taken that would obstruct or divert the flow or alter the channel of designated drainages, rivers, streams, and lakes. Potential impacts must be mitigated.
- Section 2081(b) of the DFG Code requires the issuance of an incidental-take permit before any public or private action may be performed that would potentially hunt, pursue, catch, capture, or kill (take) a state-listed endangered or threatened species. The permit requires that the impacts of the take are minimized and fully mitigated, that the take is consistent with DFG recovery programs, that funding for mitigation and monitoring programs is adequately assured, and that the action would not jeopardize continued existence of the species.

3.6 REPORTING REQUIREMENTS

SCG/SDG&E will file a notification report 21 days prior to FIG installation activities for CPUC review. The CPUC (Environmental Unit) will review the proposal, make field visits if necessary, and consult with SCG/SDG&E and other relevant agencies as deemed necessary. During the 21 day review period the CPUC staff may issue a Hold Notice on the proposed build if necessary. If the CPUC does not issue a Hold Notice or otherwise stay the proposal, SCG/SDG&E may commence construction on the 22nd day.

In order to ensure that the Mitigation Measures are fulfilled, the CPUC will make periodic reviews of proposed FIG installation detailed in the notification. The CPUC may review any FIG installation activities at its discretion including follow-up with the local jurisdictions to determine that all applicable Mitigation Measures are addressed.

The notification shall include the following contents:

- Identification Number for the proposed FIG installation activity
- Location / Miles of conduit installation
- Construction start and completion dates
- Compliance demonstration including:
 - a list of permits acquired for each project, where applicable
 - coordination or letters to responsible agencies for each project, where applicable
- Statement by SCG/SDG&E verifying that the specific project activities conform with the program parameters evaluated in the program EIR and a certification that SCG/SDG&E will comply with all requirements and mitigation measures in the Program EIR.
- Identification of all relevant mitigation measures

- Identification of any proposed additional measures to enhance environmental compliance.

CHAPTER 4

ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

4.1 AESTHETICS

4.1.1 SETTING

From the perspective of CEQA, the term “aesthetics” pertains to the perceived visual quality of an area characterized by one or more visual elements such as an open space, scenic view, or architecture. Aesthetically significant features can occur in a diverse array of environments, ranging from urban centers to rural agricultural lands to natural woodlands. A project can have significant impacts on visual quality if it negatively affects the aesthetically significant features by altering them in part or wholly, e.g., by destroying vegetation integral to a scenic vista, or by constructing a building in an architectural style that conflicts with the existing setting.

The visual setting of the program would be primarily urban metropolitan areas. Surrounding land uses would include primarily mixed-use residential, commercial, and industrial. FIG installation would occur predominately in existing disturbed corridors for public and utility rights-of-way.

Scenic resources, including highways, historic buildings, and natural features, are typically described in city and county general plans. In addition, the California Department of Transportation (Caltrans) lists scenic highways that are officially designated or considered eligible in the state scenic highway system. These resources could all potentially be located within the study area.

4.1.2 REGULATORY SETTING

There are no federal aesthetics permits or regulations applicable to the proposed program. The California Department of Transportation has a program for designation of roadways as State Scenic Highways which entails regulation of land use and density, design of site and structures, signage, landscaping and grading, and undergrounding of utility lines within the roadway’s view corridor. Such regulation is performed by the local jurisdiction. No State Scenic Highways should be impacted by the proposed program in the study area.

Local planning guidelines are included in city and county general plans to preserve and enhance the visual quality and aesthetic resources within the plan’s jurisdiction. The zoning ordinance is a primary method to implement the goals and objectives of the general plan. The value attributed to a visual resource generally is based on the characteristics and distinctiveness of the resource

and the number of persons who view it. Vistas of undisturbed natural areas, unique or unusual features forming an important or dominant portion of a viewshed, and distant vistas offering relief from less attractive nearby features are frequently considered to be scenic resources. In some instances, a case-by-case determination of scenic value may be needed, but often there is agreement within the relevant community about which features are valued as scenic resources.

4.1.3 IMPACTS AND MITIGATION MEASURES

APPROACH TO ANALYSIS

The fundamental approach used to analyze the aesthetics impacts of the proposed program is to identify the visual changes expected to result from program implementation and, on the basis of significance criteria, to evaluate the significance of such changes. The expected changes were identified based on information presented in the Project Description, Chapter 2. In assessing the effects of SCG/SDG&E's proposed program on visual resources, the sensitivity of an area to FIG installation disturbance and the type and duration of the disturbance were considered.

SIGNIFICANCE CRITERIA

The analysis of the significance of the impacts of SCG/SDG&E's proposed program is based on the CEQA Environmental Checklist criteria contained within Appendix G of the CEQA *Guidelines*. In general, a project would be considered to have a significant aesthetic impact if it would result in substantial changes to visual resources considered to have aesthetic value. Such changes include visible alteration of landforms, significant structures, visual clutter or disorder, or substantial disruption of the surrounding visual context, especially if such changes were to have more than temporary duration.

IMPACT MECHANISMS

The FIG installation likely involves changes to the natural or built environment and thereby may cause impacts on the visual environment. Visual impacts of the proposed program could potentially result from construction-related ground disturbance or vegetation removal. The significance of an impact would be based on several factors, such as the existing visual character of the area, the expectations and number of individuals viewing the area, and the location of the impact (foreground, middle ground, or background).

IMPACT ASSESSMENT

The aesthetic values that are important in one area can be relatively less important in another area, indicating the complex nature of aesthetics. Preferred architectural style, expectations for landscaping, and tolerance for visual clutter are common discriminators of aesthetic values. Context is also an important consideration in assessing aesthetic impacts. For example, construction of an equipment shelter could be expected to have little if any visual impact in an

industrial area, but might have a significant visual impact if located in an area of otherwise undisturbed vegetation.

To assess the effects of the proposed FIG installation on visual resources, two factors were considered: (1) the sensitivity of the study area to disturbance, and (2) the type and duration of disturbance associated with the proposed program.

In general, the proposed program would have minimal aesthetic impact. SCG/SDG&E's proposed program would consist of conduit installation within existing underground natural gas pipelines commonly found within previously disturbed rights-of-way or in public roadways. Pipeline access points would be flush with ground level or in otherwise unobtrusive locations.

The construction phase would be the primary source of disturbance to the visual setting associated with the proposed program. The proposed installation process would require holes in road rights-of-way to access pipeline entry/exit points and would cause surface disturbance for a short period during installation, but otherwise would have minimal, if any, long-term visual impacts. Temporary construction staging areas would also be utilized for equipment and material storage typically on cleared, disturbed areas.

SCG/SDG&E has designed the program to include management, construction methods and practices, and other approaches that would avoid or minimize program impacts and ensure compliance with applicable standards and regulations.

Impact AES-1: Possible temporary, minor changes to the resources visible from a scenic vista or State Scenic Highway might result from construction activities and FIG operation.

The proposed program would not have an adverse effect on a scenic vista. The FIG technology was designed for implementation in a densely built-out urban setting unlikely to be included in a scenic vista, given their location primarily within the rights-of-way of developed public roadways and utility corridors. However, where the potential pipeline access points for FIG installation may be included within a scenic vista, its presence would have minimal if any aesthetic impact, in view of (1) their underground location, (2) the limited amount of machinery and construction disturbance involved with the FIG installation methods that would be employed, and (3) the short duration of construction activities. Installation of conduit using FIG technologies would have no long-term aesthetic impacts.

Additionally, all construction related impacts would be short-term and would avoid impacts to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Therefore, no impacts to State Scenic Highways are expected.

For these reasons, this impact would be less than significant.

Mitigation Measure: No mitigation required.

Impact AES-2: Possible minor changes in the existing visual character or quality of a site might result from construction activities and FIG operation.

As discussed above, in general, the proposed program would not substantially degrade the existing visual character or quality of the visual environment within the study area because of the short duration of possible construction-related impacts and the minimal long-term effects of the proposed program.

Implemented of FIG includes installing conduit within existing underground natural gas pipelines and would therefore not be visible after site clean-up and restoration. Pipeline access points excavated as part of the construction process could potentially constitute negative aesthetic features, albeit of temporary duration.

Mitigation Measure AES-2a: SCG/SDG&E would minimize visual impacts of program facilities and comply with local regulations, keep construction and staging areas orderly and free of trash and debris, and restore areas disturbed by construction activities to their pre-construction condition.

This mitigation has been incorporated into the FIG installation design, but is included here to reiterate its importance.

Significance After Mitigation: Less than significant.

4.2 AIR QUALITY

4.2.1 SETTING

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape in these areas to determine the movement and dispersal of air pollutants, and consequently affect air quality. This section addresses issues related to air pollutants known as “criteria air pollutants”. The term “criteria air pollutants” refers to those pollutants that are pervasive in urban environments and for which health-based state or national ambient air quality standards have been established. This setting section provides an overview of the regulatory context followed by region-specific information related to climate and topography; plans, policies, and regulations; and existing air quality conditions.

4.2.2 REGULATORY SETTING

CRITERIA AIR POLLUTANTS

Regulation of air pollution is achieved through both national and state ambient air quality standards and emissions limits for individual sources of air pollutants. The federal Clean Air Act requires the U.S. Environmental Protection Agency (U.S. EPA) to identify National Ambient Air Quality Standards (national standards) to protect public health and welfare. National standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, and lead. These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants (referred to as State Ambient Air Quality Standards or State standards). **Table 4.2-1** presents both sets of ambient air quality standards (i.e., national and state) and provides a brief discussion of the related health effects and principal sources for each pollutant.

Under amendments to the federal Clean Air Act, U.S. EPA has classified air basins or portions thereof, as either “attainment” or “nonattainment” for each criteria air pollutant, based on whether or not the national standards have been achieved. In 1988, the State Legislature passed the California Clean Air Act, which is patterned after the federal Clean Air Act to the extent that areas are required to be designated as “attainment” or “nonattainment” for the state standards,

**TABLE 4.2-1
STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS,
EFFECTS, AND SOURCES**

Pollutant	Averaging Time^a	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour 8 hours	0.09 ppm ---	0.12 ppm 0.08 ppm	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO _x) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Carbon Monoxide	1 hour 8 hours	20 ppm 9.0 ppm	35 ppm 9 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
Nitrogen Dioxide	1 hour Annual Avg.	0.25 ppm ---	--- 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide	1 hour 3 hours 24 hours Annual Avg.	0.25 ppm --- 0.04 ppm ---	--- 0.5 ppm 0.14 ppm 0.03 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Respirable Particulate Matter (PM₁₀)	24 hours Annual Avg.	50 ug/m ³ 30 ug/m ³	150 ug/m ³ 50 ug/m ³	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).
Fine Particulate Matter (PM_{2.5})	24 hours Annual Avg.	--- ---	65 ug/m ³ 15 ug/m ³	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO _x , sulfur oxides, and organics.
Lead	Monthly Quarterly	1.5 ug/m ³ ---	--- 1.5 ug/m ³	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurologic dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.

NOTE: ppm = parts per million; ug/m³ = micrograms per cubic meter.

a Averaging time refers to the duration over which pollutant concentrations are to be averaged for comparison with the respective ambient air quality standard.

SOURCES: South Coast Air Quality Management District, *1997 Air Quality Management Plan*, November 1996; <http://www.arb.ca.gov/health/health.htm>.

rather than the national standards. Thus, areas in California have two sets of attainment / nonattainment designations: one set with respect to the national standards and one set with respect to the state standards.

The federal Clean Air Act also requires nonattainment areas to prepare air quality that include strategies for achieving attainment. Air quality plans developed to meet federal requirements are referred to as State Implementation Plans (SIPs). The state California Clean Air Act also requires plans for nonattainment areas with respect to the state standards. Thus, just as areas in California have two sets of designations, many also have two sets of air quality plans: one to meet federal requirements relative to the national standards and one to meet state requirements relative to the state standards.

REGULATORY AGENCIES

U.S. EPA is responsible for implementing the myriad of programs established under the federal Clean Air Act, such as establishing and reviewing the national ambient air quality standards and judging the adequacy of State Implementation Plans, but has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented. The Air Resources Board, California's State air quality management agency, is responsible for establishing and reviewing the state ambient air quality standards, compiling the California State Implementation Plan and securing approval of that plan from U.S. EPA, and identifying toxic air contaminants. The state Air Resources Board also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts, which are organized at the county or regional level. The county or regional air quality management districts are primarily responsible for regulating stationary emissions sources at industrial and commercial facilities within their geographic area and for preparing the air quality plans that are required under the federal Clean Air Act and state California Clean Air Act.

Table 4.2-2 summarizes the air quality information for the 11 air districts whose jurisdictions cover the study area throughout southern California. The table summarizes the attainment status with respect to the state and federal ambient air quality standards, the applicable air quality plans and the construction and operational significance thresholds recommended by the different air districts.

**TABLE 4.2-2
AIR QUALITY DATA FOR THE AIR DISTRICTS AFFECTED BY THE PROGRAM**

Program Counties	Air District	Air Basin	Attainment Status								Applicable Air Quality Plans	Significance Thresholds (lbs./day)									
			State Standards ^a				National Standards ^b					Construction					Operation				
			Ozone	NO ₂	CO	PM-10	Ozone	NO ₂	CO	PM-10		ROG	NOx	CO	PM-10	SO ₂	ROG	NOx	CO	PM-10	SO ₂
Monterrey County	Monterrey Bay Unified APCD ^c	North Central Coast Air Basin	N	A	U	N	U/A	U/A	A	U	2000 Update to the 1991 Air Quality Management Plan for the Monterey Bay Region	NA	NA	NA	82	NA	137	137	NA	82	150
Fresno County	San Joaquin Valley APCD ^c	San Joaquin Valley Air Basin	N	A	A	N	N	U/A	U/A	N	The Federal Ozone Attainment Demonstration Plan California Clean Air Act Triennial Progress Report and Plan Revision 1997-1999 1997 PM-10 Attainment Demonstration Plan 1992 Federal Attainment Plan for Carbon Monoxide	NA	NA	NA	NA	NA	10 tpy	10 tpy	NA	NA	NA
Kings County																					
Tulare County																					
Western portion of Kern County																					
San Luis Obispo County	San Luis Obispo APCD	South Central Coast Air Basin	N	A	A	N	U/A	U/A	U/A	U	1998 Clean Air Plan	185	185	NA	2.5tpy	NA	25	25	550	25	NA
Santa Barbara County	Santa Barbara APCD			A	A	N	N	U/A	U/A	U	2001 Clean Air Plan	25 tpy	25 tpy	25 tpy	25 tpy	25 tpy	25	25			
Ventura County	Ventura County APCD ^f			A	A	N	N	U/A	U/A	U	1997 Air Quality Management Plan	NA	NA	NA	NA	NA	25	25	NA	NA	NA
Eastern portion of Kern County	Kern County APCD	Mohave Desert Air Basin	N	A	U	N	N	U/A	U/A	U	Kern County APCD 1991 Air Quality Attainment Plan and 1994 Attainment Demonstration. Kern County APCD California Clean Air Act Ozone Air Quality Attainment Plan.	137	137	548	82	137	137	137	548	82	137
Northeastern portion of San Bernardino County	Mojave Desert APCD		N	A	A	N	N/A	U/A	U/A	N	Mohave Desert Air Quality Management District 1991 Air Quality Attainment Plan and its Triennial Revisions. Post 1996 Attainment Demonstration and Reasonable Further progress Plan.	137	137	548	82	137	137	137	548	82	137
Eastern one-third of Riverside County			N	A	A	N	N	U/A	U/A	U	Final Mohave Desert Planning Area Federal Particulate Matter (PM-10) Attainment Plan.										
Northeastern portion of Los Angeles County	Antelope Valley APCD			N	A	A	N	N	U/A	U/A	U	1994 Air Quality Management Plan	137	137	548	82	137	137	137	548	82
Los Angeles County except for Antelope Valley APCD	South Coast AQMD ^d	South Coast Air Basin	N	A	N	N	N	U/A	N	N	1999 Amendment to the 1997 Air Quality Management Plan. 2002 Coachella Valley PM-10 State Implementation Plan.	75	100	550	150	150	55	55	550	150	150
Orange County			N	A	A	N	N	U/A	N	N											
Southwestern portion of San Bernardino			N	A	A	N	N	U/A	N	N											
Western one-third of Riverside County			N	A	A	N	N	U/A	N	N											

TABLE 4.2-2 (continued)
AIR QUALITY DATA FOR THE AIR DISTRICTS AFFECTED BY THE PROGRAM

Program Counties	Air District	Air Basin	Attainment Status								Applicable Air Quality Plans	Significance Thresholds (lbs./day)									
			State Standards ^a				National Standards ^b					Construction					Operation				
			Ozone	NO ₂	CO	PM-10	Ozone	NO ₂	CO	PM-10		ROG	NOx	CO	PM-10	SO ₂	ROG	NOx	CO	PM-10	SO ₂
Central one-third of Riverside County		Salton Sea Air Basin	N	A	U	N	U/A	U/A	U/A	N											
Imperial County	Imperial County APCD ^e		N	A	U	N	N	U/A	U/A	N/A	Imperial County APCD 1991 Air Quality Attainment Plan. State Implementation Plan for PM-10 in the Imperial Valley.	75	100	550	150	150	55	55	550	150	150
San Diego County	San Diego APCD ^f	San Diego Air Basin	N	A	A	N	N	U/A	U/A	U	1998 Update to the 1991 San Diego Regional Air Quality Strategy. Final Carbon Monoxide Redesignation Request for Ten Federal Planning Areas.	75	100	550	150	150	55	55	550	150	150

NOTES:

1. NA = Not Applicable
 2. In 1997, EPA established an 8-hour standard for ozone, and annual and 24-hour standards for very fine particulate matter (PM-2.5). As of May 2002, there is insufficient monitoring data to determine the attainment status for PM-2.5.
 3. N = Nonattainment, A = Attainment, U = Unclassified
 4. APCD = Air Pollution Control District, AQMD = Air Quality Management District
 5. tpy = tons per year, lbs./day = pounds per day
- a California Standards for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, and PM-10 are values that are not to be exceeded.
- b National standards other than for ozone and those based on annual averages or annual arithmetic means are not to be exceeded more than once a year.
- c All construction impacts are considered significant, however, with application of standard dust control measures identified as part of the program, impacts are mitigated to less than significant.
- d While daily values are shown, the following quarterly values apply as well; 2.5 tons per quarter of ROG and NOx, 24.75 tons per quarter of CO, and 6.75 tons per quarter of PM-10 and SO2.

4.2.3 IMPACTS AND MITIGATION MEASURES

APPROACH TO ANALYSIS

The following air quality analysis identifies the types of emissions sources that would be associated with the program and evaluates their significance taking into account such factors as the types and amounts of the different pollutants that would be emitted and the applicable criteria. Emissions estimates have been made taking into account such factors as fuel types, applicable air district regulations and standards, and expected usage rates for different pieces of equipment.

SIGNIFICANCE CRITERIA

The analysis of significance of impacts of the proposed program is based on the criteria listed below. Generally, a project would have a significant effect on the environment if it would:

- conflict with or obstruct implementation of the applicable air quality plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any nonattainment pollutant;
- expose sensitive receptors to substantial pollutant concentrations; or
- create objectionable odors affecting a substantial number of people.

IMPACT MECHANISMS

Essentially all of the air quality impacts due to the program would be short term in nature and would be associated with the FIG installation. Program construction would apply FIG technology to place conduit to house fiber optic cable in SCG/SDG&E's active gas pipelines or gas mains. Over the short-term, activities related to installing new conduit would result in emissions of ozone precursors and particulate matter (PM-10 and PM-2.5) from operation of construction equipment and construction worker commute trips and in emissions of "fugitive" dust from earthmoving operations and vehicle travel over unpaved surfaces. "Fugitive" emissions are those that are released to the atmosphere through a means other than through a stack or tailpipe. "Fugitive" dust refers to such sources as earthmoving activities, vehicle movement over paved or unpaved roads, and wind blowing over exposed surfaces.

On a regional level, the equipment and vehicle emissions associated with installing conduit in existing gas lines would contribute incrementally to atmospheric loading of pollutant compounds, or their precursors that are involved in the formation of ozone, PM-10, and PM-2.5. On a local level, the fugitive dust emissions would contribute to local PM-10 concentrations and may result in nuisance-type impacts from particulate settling, and in reduced local visibility. In contrast to installing new conduit, FIG technologies allow fiber to be placed in existing structures in little time with less equipment and surface disturbance than other commonly used methods of installing fiber.

Once operational, the program would result in negligible emissions over the long-term of ozone precursors or PM-10. The only long-term emissions source would be any vehicle trips associated with operation and maintenance that are anticipated to be minor to nonexistent.

IMPACT ASSESSMENT

Emissions increases from the program are evaluated against specific significance criteria recommended by the applicable regional air quality management districts whose jurisdictions cover the areas in which the program would be located.

Impact AIR-1: Introduction of additional emissions sources in a region for which air quality plans have been developed.

FIG installation in SCG/SDG&E service territories would result in emissions primarily due to the use of construction equipment. Emissions from worker commute trips would represent less than 10 percent of overall construction-related emissions. Construction equipment would emit ozone precursors and carbon monoxide.

Emissions during the construction phase have been estimated using California Air Resources Board emission factors and activity data provided by SCG/SDG&E. The estimates are shown in **Table 4.2-3**. As shown in the table, construction emissions would be well below the significance thresholds for all air districts within which the program would be located. Based on the attainment status, local air districts have adopted regional air quality management plans that include strategies to achieve or maintain the ambient air quality standards. The Districts have also specified construction and operational significance thresholds, below which FIG installations could be implemented without conflicting or obstructing implementation of the regional air quality plans. Since the estimated construction emissions per day would be less than the significance thresholds for construction for all air districts within which the program would be located, construction activities associated with the proposed program would not conflict with or obstruct implementation of the regional air quality plans prepared for the study area.

Once operational, the program would not involve operation of any new stationary emissions sources. There could be occasional maintenance-related vehicle trips that would result in negligible emissions of ozone precursors and PM-10 over the long term and this would not conflict with or obstruct implementation of any regional air quality plan.

Mitigation Measure: No mitigation is required.

TABLE 4.2-3
CONSTRUCTION EMISSIONS (pounds per day)

Pollutant	Estimated FIG Construction Emissions^{a,b,c,d}
ROG	6
NO _x	49
PM-10	17
CO	18

- a Estimates include emissions from construction equipment, emissions from worker commute trips and fugitive dust emissions
- b Emission factors for construction equipment derived from statewide activity and emissions inventory prepared by the CARB for the year 2002.
- c Worker commute emissions assume 50% light duty trucks and 50% light duty automobiles; emissions based on EMFAC 2000, year 2002 emissions factors for LDA & LDT-catalytic, 85 degrees temperature, 40 mph speed and assumes a round-trip distance of 30 miles.
- d Worker commute emissions assume a maximum of 8 workers per crew with one crew operational per day.

NOTE: **Bold** values are in excess of applicable standard.

Source: Environmental Science Associates, 2002.

Impact AIR-2: Increase in local pollutant concentrations.

Heavy equipment and fugitive dust emissions would produce temporarily increased levels of air pollutants during construction. FIG installation would result in the generation of air pollutants in areas classified as nonattainment areas and could contribute to program air quality violations and expose sensitive receptors to substantial pollutant concentrations. This is considered a significant impact. Although the expected emissions would fall below the thresholds established by all air districts in the study area, specific mitigation measures are identified to minimize the generation of dust and exhaust emissions associated with construction activities. With the implementation of the following mitigation measures, construction impacts would be reduced to a less than-significant level.

Mitigation Measure AIR-2a: SCG/SDG&E would require the construction contractors to implement a dust abatement program to reduce dust and air emissions.

The dust abatement program will include Best Management Practices (BMPs), as required in the respective air pollution control district or air quality management district, for construction activities. The available BMPs will, at a minimum, include the practices listed below in combination with any additional practices required by the presiding air district.

- Water all active construction areas at least twice daily;
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard;

- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites;
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites; and
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

Implementation of the measures included in the dust abatement program would reduce the chance that PM-10 standards would be violated in the vicinity of FIG installation or that visibility would be significantly affected during the construction period.

Significance After Mitigation: Less than significant.

Impact AIR-3: FIG installation would create an increase in local pollutant concentrations.

With implementation of the identified mitigation measures described above, the proposed program would comply with all air quality standards. The program would not conflict with or obstruct implementation of any applicable air quality plan nor exceed any air quality standard or contribute substantially to an air quality violation. Therefore, the increase of criteria air pollutants attributable to the program would be cumulatively *de minimus*. Consequently, the program would not result in a cumulatively considerable net increase of a criteria pollutant in a nonattainment area for which the service territories are a nonattainment area for applicable ambient air quality standards and, with mitigation, would not expose sensitive receptors to substantial pollutant concentrations. No additional mitigation is required.

Mitigation Measure: Implement **Mitigation Measure AIR-2a**.

Significance After Mitigation: Less than significant.

Impact AIR-4: FIG installation would expose sensitive receptors to substantial pollutant concentrations.

The program could result in exposure of sensitive receptors, such as residents, to substantial pollutant concentrations during construction from fugitive dust emissions sources such as vehicle travel over unpaved surfaces since residences would be located near pipeline access points for FIG installation. This impact would be mitigated to a less-than-significant level with implementation of the dust abatement program that SCG/SDG&E would require of its construction contractors (see **Impact AIR-2** and related mitigation measure).

Mitigation Measure: Implement **Mitigation Measure AIR-2a**.

Significance After Mitigation: Less than significant.

4.3 BIOLOGICAL RESOURCES

4.3.1 SETTING

The program involves only the modification of existing natural gas lines for installation of empty conduit and would not carry with it any action to develop new utility rights-of-way. The proposed program will be located within a developed physical environment where the need and potential demand for FIG technologies are anticipated. Extensive natural habitats or communities typically are limited within developed environments. As a result, these developed areas are not likely to support sensitive species or otherwise protected biological resources. The exceptions typically consist of remnant areas of natural habitat (i.e. coastal sage scrub and chaparral) and streams with riparian habitat that could support special-status species.

VEGETATION COMMUNITIES AND WILDLIFE HABITATS

Within developed areas that create the physical setting proposed for implementation of FIG technology, native plant communities are typically substantially modified or more likely absent. The program setting is generally full urban build-out with virtually no remaining natural habitat. The “urban and/or landscaped” and “ruderal” plant communities are created conditions and thus are not recognized terrestrial natural communities (e.g., by Holland, 1986).

Urban and/or Landscaped

Urban lands define over 80% of the study area that is comprised of SCG/SDG&E’s service territories. In particular, the study area includes highly developed locations that create optimal conditions for FIG technology implementation. Vegetation in urbanized settings may consist of ornamental trees and shrubs, lawns, landscaped road dividers, street trees, and flowerbeds. Urban lands provide little habitat for common plant and wildlife species, and particularly low values for rare, threatened, or endangered species. When landscaped areas become isolated within urban centers, away from natural habitats such as streams or wetlands, they provide little habitat for native wildlife and only rarely support listed species. Few common mammal species, and no amphibians or reptiles are expected in highly landscaped areas.

Ruderal Habitats

Due to extensive urbanization, ruderal habitats are expected to be relatively infrequent in the targeted locations within the study area. Ruderal habitat is generally associated with freeway and agricultural margins, the edges of roads, and other frequently disturbed areas. Where vegetated, these sites are dominated by weedy non-native species adapted to frequent disturbances. Ruderal habitats are prevalent in areas subject to frequent and often severe vegetation and soil disturbances by vehicles as a result of ongoing maintenance uses of freeway or railway corridors, and areas that have historically been used as equipment staging areas.

Natural Communities

Some program activities may be located in the vicinity of or adjacent to remnant natural habitat including streams and drainages, riparian and wetland habitats, and upland communities. However, program activities will avoid occurring directly within these natural habitats. Streams

and drainages in the study area may support riparian and wetland vegetation and various common and sensitive amphibian, reptile, fish species, and nesting birds. Fragments of natural grassland, scrubland, chaparral and woodland habitat within urbanized areas may support various common and sensitive plant and wildlife species including invertebrates, reptiles, small mammals, and nesting birds.

4.3.2 REGULATORY SETTING

This section briefly describes federal, state and regional regulations, permits, and policies that apply broadly to biological resources and wetlands within the study area. Local ordinances, policies and guidelines typically set forth in city general plans (i.e., local tree ordinances) that address biological resources are not discussed in detail in this document. Nonetheless, such local regulations are incorporated into this document by reference and would apply to program activities.

U.S. ARMY CORPS OF ENGINEERS AND U.S. ENVIRONMENTAL PROTECTION AGENCY REGULATION OF WATERS OF THE UNITED STATES, INCLUDING WETLANDS

The Corps and Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act. Proposed activities that would result in the placement of dredged or fill material into waters of the United States require a Section 404 permit from the Corps. Some classes of fill activities may be authorized under general permits if specific conditions are met.

Utility line construction activities, such as modifications to existing utilities, that result in the placement of fill into waters of the United States generally are authorized under Section 404 Nationwide Permit No. 12 (at the discretion of the Corps). Nationwide permits do not authorize activities that are likely to jeopardize the existence of a Threatened or Endangered species (listed or proposed for listing under the federal Endangered Species Act) or that may affect properties listed or eligible for listing in the National Register of Historic Places (56 FR 59134-59138, November 22, 1991). In addition to conditions outlined under each nationwide permit, specific conditions may be required by the Corps as part of the Section 404 permitting process.

The federal government also supports a policy of minimizing “the destruction, loss, or degradation of wetlands.” Executive Order 11990 (May 24, 1977) requires that each federal agency take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

FEDERAL POLICIES ON RIPARIAN COMMUNITIES IN CALIFORNIA

Riparian communities have a variety of functions, including providing high-quality habitat for resident and migrant wildlife, streambank stabilization, and runoff water filtration. Throughout the United States, riparian habitats have declined substantially in extent and quality compared with their historical distribution and condition. These declines have increased concerns about

dependent plant and wildlife species, leading federal agencies to adopt policies to arrest further loss. USFWS mitigation policy identifies California's riparian habitats as belonging to resource Category 2, for which no net loss of existing habitat value is recommended (46 FR 7644, January 23, 1981).

STATE POLICIES AND REGULATIONS ON STREAMS AND WETLANDS

The CDFG regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. These activities are regulated under the California Fish and Game Code (Section 1601 for public agencies and Section 1603 for private individuals). Requirements to protect the integrity of biological resources and water quality are often conditions of streambed alteration agreements. Requirements may include avoidance or minimization of the use of heavy equipment, limitations on work periods to avoid impacts on wildlife and fisheries resources, and measures to restore degraded sites or compensate for permanent habitat losses.

FEDERAL ENDANGERED SPECIES ACT

The USFWS (jurisdiction over plants, wildlife, and resident fish) and National Marine Fisheries Service (NMFS; jurisdiction over anadromous fish and marine fish and mammals) oversee the federal ESA. Section 7 of the Act mandates that all federal agencies consult with the USFWS and NMFS to ensure that federal agencies actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. The federal agency is required to consult with the USFWS and NMFS if it determines a "may effect" situation will occur in association with the proposed program. The federal ESA prohibits the "take"¹ of any fish or wildlife species listed as Threatened or Endangered, including the destruction of habitat that could hinder species recovery.

Section 3 of the Act requires the USFWS or NMFS to designate critical habitat for Threatened or Endangered species. Critical habitat is defined by Section 3 of the Act as habitat that is "essential to the conservation of the species." Section 7 of the Act protects USFWS- and NMFS-designated critical habitat for listed species and prohibits "destruction or adverse modification" of these designated areas. Under Section 9 of the federal ESA, the take prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the removal, possession, damage or destruction of any Endangered plant from federal land. Section 9 also prohibits acts to remove, cut, dig up, damage, or destroy an Endangered plant species in nonfederal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed or under petition for listing receive no protection under Section 9 of the federal ESA.

Section 10 of the federal ESA requires the issuance of an "incidental take" permit before any public or private action may be taken that would potentially harm, harass, injure, kill, capture,

¹ Take is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct.

collect, or otherwise hurt (i.e., take) any individual of an Endangered or Threatened species. The permit requires preparation and implementation of a habitat conservation plan that would offset the take of individuals that may occur, incidental to implementation of the project by providing for the overall preservation of the affected species through specific mitigation.

STATUTES, CODES AND POLICIES AFFORDING LIMITED PROTECTION TO BIRD SPECIES

The federal Migratory Bird Treaty Act (16 U.S.C., Sec. 703, Supp. I 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of prey are protected in California under the State Fish and Game Code, Section 3503.5 (1992). Section 3503.5 states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the CDFG. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact. This approach would apply to red-tailed hawks, American kestrels, barn owls, and other birds of prey. FIG installation impacts to these species would not be considered “significant” in this IS/MND unless they are known or have a high potential to nest on the site or rely on it for primary foraging.

The federal Bald Eagle Protection Act prohibits persons within the United States (or other places subject to U.S. jurisdiction) from “possessing, selling, purchasing, offering to sell, transporting, exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest or egg thereof.”

CALIFORNIA ENDANGERED SPECIES ACT

California implemented its own Endangered Species Act in 1984. The state act prohibits the take of Endangered and Threatened species; however, habitat destruction is not included in the state’s definition of take. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. The CDFG administers the act and authorizes take through Section 2081 agreements (except for designated “fully protected species”).

Regarding rare plant species, CESA defers to the California Native Plant Protection Act of 1977, which prohibits importing of rare and endangered plants into California, taking of rare and endangered plants, and selling of rare and endangered plants. State-listed plants are protected mainly in cases where state agencies are involved in projects under CEQA. In this case, plants listed as rare under the California Native Plant Protection Act are not protected under CESA but can be protected under CEQA.

CALIFORNIA COASTAL COMMISSION

The California Coastal Commission is authorized by the *Coastal Act* to analyze, plan and regulate land and water uses in the coastal zone of California. The *Coastal Act* maintains specific standards for activities involving public access and recreation, commercial fisheries, wildlife and fisheries habitat preservation, industrial uses, power plants, and other land and water use issues. Through administration of the federally approved *Coastal Zone Management Act*, the Commission also regulates activities that affect coastal resources and require a federal permit, license or assistance. In addition, Local Coastal Plans (LCPs) may regulate development within coastal regions of the study area.

REGIONAL HABITAT CONSERVATION PLANS / NATURAL COMMUNITY CONSERVATION PLANS

Several multi-species Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCP) are either under development or have been prepared in the general study area. These planning documents focus on the protection of agricultural lands and wildlife, and riparian enhancement. Regional HCPs and NCCPs, such as these, are administered by imposing a small, per-acre development fee on new projects in undeveloped areas. Concurrently, the HCPs and NCCPs establish one or more habitat reserves that are funded by development. If FIG installation were proposed within existing developed areas and within roads, would avoid waterways by design, and would not otherwise adversely affect biological resources within the scope of any existing or currently proposed HCP or NCCP, then they likely would be considered exempt or “covered” activities in the context of those HCPs or NCCPs.

NATIVE AND HERITAGE TREE ORDINANCES

Some cities and counties have adopted native or heritage tree ordinances or policies to protect large or native trees. Most ordinances or policies require the project applicant to obtain a tree removal permit and compensate for the removal of protected trees. Removal and indirect impacts on heritage and native trees will be avoided and minimized to the fullest extent possible during construction.

4.3.3 IMPACTS AND MITIGATION MEASURES

APPROACH TO ANALYSIS

Implementation of FIG technology in developed areas is unlikely to adversely affect any sensitive species, plant community, wetland, migratory corridor, or conflict with any relevant conservation plan, policy, and/or regulation. However, construction activities could directly or indirectly affect biological resources during construction, and could result in temporary, short-term, or long-term disturbances to these resources. In assessing the magnitude of potential effects, the following assumptions were made regarding construction-related (i.e., conduit installation and associated facilities) impacts on biological resources:

- Installation of conduit using FIG technology would occur almost exclusively within existing roads in developed areas. Access to supporting existing natural gas lines within public road right-of-ways would occur in non-sensitive, developed or previously disturbed utility corridors.
- Though the study area in its entirety encompasses a wide range of sensitive biological and wetland resources (e.g., in coastal Irvine), sensitive resources within these areas would be avoided by:
 - accessing natural gas lines for installation of conduit systems in developed and/or disturbed areas and keeping inside SCG/SDG&E right-of-ways within existing roads, where feasible;
 - identifying specific pipeline access points well in advance of construction and performing preconstruction biological surveys in sensitive areas to identify and avoid potential biological and wetland resource constraints; and,
 - fully avoiding all sensitive natural communities (e.g., riparian and coastal sage scrub habitat), wetland features, and special-status species, either by redesigning FIG installation around sensitive resources or by timing construction activities to avoid significant effects in the case of some sensitive wildlife species (e.g., breeding birds).
- The construction site(s) would be accessible only from existing access roads. No new access roads would be constructed for FIG installation.
- All material stockpiling areas and staging areas would be located either within the construction corridor, on non-sensitive areas, or at designated disturbed sites outside FIG installation sites.
- Removing portions of common and widespread habitat types such as annual grassland during FIG installation activities would not lead to substantial local decreases in those habitat types.
- Construction activities would avoid or minimize removal of woody vegetation.
- Direct effects on sensitive habitats (e.g., riparian forest and scrub, freshwater marsh and coastal sage scrub) would be avoided as part of the proposed FIG installation activities through the following procedures:
 - having a biological monitor present daily during construction near natural areas, and;
 - limiting all activities to within a demarcated corridor to avoid effects on sensitive resources.

By design, no work would be performed in sensitive habitats, such as wetlands, and work in close proximity to these features would observe mitigation measures to avoid adverse effects to special-status plants and wildlife.

SIGNIFICANCE CRITERIA

The analysis of significance of program effects is based on the criteria described in the CEQA environmental checklist. Additionally, the following general criteria were also considered in determining whether an effect on biological resources would be significant and adverse:

- Federal or state legal protection of the resource or species,
- Federal or state agency regulations and policies,
- local regulations and policies,
- documented resource scarcity and sensitivity both locally and regionally, and
- local and regional distribution and extent of biological resources.

Based on the State CEQA Guidelines and the general criteria identified above, effects on biological resources were considered significant if the proposed program would result in any of the following:

- long-term degradation of a sensitive plant community because of substantial alteration of land form or site conditions (e.g., alteration of wetland hydrology);
- substantial loss of a plant community and associated wildlife habitat;
- fragmentation or isolation of wildlife habitats, especially riparian and wetland communities;
- substantial disturbance of wildlife resulting from human activities;
- avoidance by fish of biologically important habitat for substantial periods, which may increase mortality or reduce reproductive success;
- disruption of natural wildlife movement corridors;
- substantial reduction in local population size attributable to direct mortality or habitat loss, lowered reproductive success, or habitat fragmentation of:
 - species qualifying as rare and endangered under CEQA,
 - species that are state-listed or federally listed as Threatened or Endangered, or
 - portions of local populations that are candidates for state or federal listing and federal and state Species of Concern;
- substantial reduction or elimination of species diversity or abundance.

IMPACT MECHANISMS

Biological resources could be directly affected by construction activities during FIG installation, by construction of associated facilities (e.g., access holes), or by ongoing operational and maintenance activities within the study area.

Direct and indirect disturbance from construction activities could result in the loss or degradation of biological resources from FIG installation through the following ground-disturbing activities:

- excavation for natural gas pipeline access points;

- temporary stockpiling of soil or construction materials and side-casting of soil and other construction wastes;
- use of designated equipment staging areas (adverse effects on biological resources are unlikely because locations that are already heavily disturbed, including those that are paved or have compacted dirt and gravel, would be used as staging areas);
- soil compaction, dust, and water runoff;
- equipment access through non-sensitive stream channels (streams that do not support sensitive species, critical habitat, or riparian woody vegetation);
- vehicle traffic and equipment and materials transport within, to and from the construction site;
- noise disturbance to wildlife species from construction activities; and
- temporary parking of vehicles outside the construction area on sites that support sensitive resources (sites not designated as equipment staging areas).

The following analysis identifies the potential effects of the proposed program. The corresponding mitigation measures would apply to the entire study area.

The mitigation measures described for potential adverse effects to special-status species have not been developed through formal consultation or coordination with resource agencies (e.g., CDFG and USFWS). The mitigation measures may be modified during future coordination with the resource agencies. Additional mitigation measures that may be identified as part of the permit review process (e.g., Section 404, 1603 streambed alteration agreement, or biological opinion, if needed) would be implemented as part of the program and monitored during construction to ensure compliance. Throughout the life of the program, additional species may be listed or designated as special status. If so, mitigation measures provided in this section would be applied as well as any other applicable modification as mentioned above.

IMPACT ASSESSMENT

Impact BIO-1: FIG installations located within or adjacent to areas that support natural habitat and special-status species may adversely affect these species.

Project activities will be located within developed areas as defined in the Project Description (Chapter 2), the majority of which are devoid of natural habitat and special-status plant and wildlife species. A low potential exists for natural habitat fragments to be located adjacent to or in the vicinity of project activities. These habitats may support special-status plant and wildlife species. Though project activities will not directly affect natural habitats, some activities may directly impact transient individuals that enter the construction area or indirectly impact species through noise disturbance and adjacent human activity.

BIO-1a: Prior to construction, a qualified biologist will conduct preconstruction surveys of proposed FIG installation locations which, may support special status species habitat.

If the qualified biologist determines that project sites do not provide natural habitat with a potential to support special-status species, no further mitigation is required.

Mitigation Measure BIO-1b: If the qualified biologist determines that FIG installation sites support natural habitat (i.e., wetlands, other water resources, upland communities) that may support special-status species, project activities will be relocated outside of these habitats. Natural habitat will be avoided by project activities that may impact special status species.

Mitigation Measure BIO-1c: If the qualified biologist determines that FIG installation sites are adjacent to natural habitat (i.e., wetlands, other water resources, upland communities) that may support special-status species, the following measures will apply:

A qualified biological monitor will demarcate the construction zone in the field to ensure that special-status species habitat is not disturbed during FIG installation activities.

A qualified biological monitor will be present for FIG installation activities adjacent to sensitive habitat or areas, which may support special-status species.

If preconstruction surveys determine that special-status wildlife species have the potential to enter the construction zone from adjacent natural habitat, exclusion fencing shall be constructed and maintained in good condition between construction areas and potential habitat for special-status wildlife species. The temporary fence shall be constructed with typical silt fencing, and shall be substantial enough to deter animals from entering the work area and to prevent parking construction vehicles or staging or storage of construction materials on road shoulders adjacent to habitat. The location of the fence shall be determined by the biological monitor.

If preconstruction surveys identify potential nesting habitat for special-status birds or roosting habitat for special-status bats adjacent to proposed project activities, a no-disturbance buffer zone would be established around active nests and roosts during the breeding season. If construction activities are scheduled to occur during the breeding season of birds (February through August) or bats (March through August), preconstruction surveys will be conducted within 500 feet of FIG installation activities. If construction activities are scheduled to occur during the non-nesting season, then no surveys would be required. If surveys indicate that nests/roosts are inactive or potential habitat is unoccupied during the construction period, no further mitigation would be required. If active nests/roosts are found, SCG/SDG&E would establish a no-disturbance buffer acceptable in size to CDFG around the active nest/roost.

Significance After Mitigation: Less than significant.

The proposed program could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means, if wetlands are not accurately identified during preconstruction surveys, and if adequate protection

and avoidance measures are not implemented as part of construction and future maintenance activities.

Impact BIO-2: Potential short-term disturbance of waters of the U.S. (including wetland communities).

FIG installation activities could potentially result in direct disturbance of waters of the U.S., including wetland communities. Many of the wetland communities and associated wildlife habitat that occur along road rights-of-way have been previously disturbed but still maintain important habitat functions. Impacts on jurisdictional wetlands are considered short-term and minimal because the disturbances are relatively short in duration and would not substantially alter wetland hydrologic functions. Additionally, native soils and plant material would be replaced immediately after installation activities at the site, and natural landscape contours would be restored to pre-construction conditions.

Mitigation Measure: Implement Mitigation Measures **BIO-1a, BIO-1b, and BIO-1c.**

Significance After Mitigation: Less than significant.

Impact BIO-3: FIG installation could result in impacts to heritage or other significant trees in the project area.

It is anticipated that no trees that are considered significant by project area municipalities would be damaged or removed by project construction. Street trees line many of the roads throughout the study area, however, because the project implementation would remain primarily within major roads no trimming or removal is anticipated.

All of the significant study area trees would be avoided by project design. As such, permits for tree removal would not be required for the proposed program. Standard tree protection measures (e.g., working outside tree driplines) would be followed to avoid and minimize tree damage.

If necessary, and on a case-by-case basis, SCG/SDG&E would pursue tree trimming or removal activities with local municipalities. In such an instance, mitigation for removal of protected trees would vary, depending on the local jurisdiction. The local City or County planning departments, or the City arborist for each municipality would provide guidelines for mitigation of impacts to heritage and mature trees. If potential conflicts with local policies or ordinances are identified during this process, the subject trees would not be removed.

For these reasons, this impact would be less than significant.

Mitigation Measure: No mitigation required.

Impact BIO-4: FIG installation activities may conflict with provisions of Habitat Conservation Plans, Natural Community Conservation Plans, or other approved conservation plans.

Several multi-species HCPs and NCCPs are either under development or have been prepared in the general project region. These plans provide a framework for the analysis of potential impacts of projects on a suite of special-status species or sensitive habitats. FIG installation activities within developed areas may conflict with conservation strategies in HCPs and NCCPs covering portions of the study area.

SCG/SDG&E would review maps of the FIG installation activity locations to determine proximity to lands incorporated in any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The proposed location for FIG installation would also be evaluated based on its proximity to the boundaries of any lands designated as a Wilderness Area by the Bureau of Land Management or as Wildlife Preserve or Critical Habitat by the U.S. Fish & Wildlife Service (USFWS). During development of a work plan, SCG/SDG&E will review provisions of local city and county policies, ordinances and conservation plans, and comply with all applicable requirements. This may include submittal of plans for review and approval by local agencies.

Compliance with provisions of relevant HCPs, NCCPs, and other approved conservation plans will ensure that project activities will not conflict with provisions of those plans.

Significance After Mitigation: No mitigation required.

4.4 CULTURAL RESOURCES

4.4.1 SETTING

The environmental diversity of Southern California, with its ranges of climate, varied topography and geology, and wide array of biological communities, creates an equally diverse cultural landscape, prehistorically and historically. The level of archaeological and historical studies completed in the study area, comprised of SCG/SDG&E service territories, ranges from extensive studies to no formal investigations. Overall, the cultural resource setting includes prehistoric sites that may extend back for several thousand years with some sites showing evidence of contact with early European exploration of California. The historic sites in the study area can reflect the broad cultural panorama of these regions of California. Historic sites can include those associated with early exploration and colonization; the Spanish, Mexican, and American expansions; the Gold Rush; the boom of the 1880s–1890s; post-1900 industrialization; and growth during the World War I, World War II, and post-war eras.

Pre-dating, and in some cases contemporary with, human habitation of the study area, paleontological resources in the form of fossilized remains of organisms that lived in the region in the geologic past are also present in the soil and preserve an additional aspect of prehistory. These resources are also present in the study area.

Additionally, much of the study area was occupied during both the prehistoric and protohistoric periods; therefore archaeological sites are widespread and numerous. Rock outcrops, river and stream drainages, and coastal strips were often prime locations for Native American village sites or processing camps. These locations now range from highly urbanized locations such as cities to undeveloped areas of the high desert. Often archaeological sites are covered by three feet or more of topsoil, thereby protecting the remains even after an area has been fully urbanized.

4.4.2 REGULATORY SETTING

FEDERAL

Federal regulations and policies pertain to those actions that involve federal funding, federal licensing, or federal permitting. Examples may include federal grants or licensing (FERC and ICC) and federal permits associated with vegetation and wetlands (U.S. Army Corps of Engineers [Corps] Section 404 permits).

Section 106 Review

Section 106 of the National Historic Preservation Act (NHPA), and its current regulations (36 CFR 800) effective January 2001, requires that all federal agencies review and evaluate how their actions or undertakings may affect historic properties. Review under Section 106 is designed to ensure that historic properties are considered throughout the various stages of federal project planning and execution. Under Section 106, historic properties are those prehistoric and historic resources that are listed or eligible for listing in the National Register of Historic Places.

The review process is administered by the Advisory Council on Historic Preservation and the State Historic Preservation Officer (SHPO). Recent changes to the Section 106 process have somewhat increased the role and authority of the SHPO and reduced the role of the Advisory Council.

For actions specific to the proposed program, the Section 106 process may apply if there is a later requirement for a Corps Section 404 permit for river and stream crossings or other waterways under the Corps' jurisdiction.

STATE

California Environmental Quality Act

A substantial adverse change to the significance of a historical resource constitutes a significant effect on the environment. A “substantial adverse change” means “demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired” (Section 15064.5). All properties on the California Register that may be affected by development or zoning actions must be considered under CEQA. The fact that a resource or property is not listed on the California Register does not preclude it from being significant and does not make it exempt from CEQA evaluation. Examples may include locally designated properties and properties evaluated as significant in cultural resource surveys that meet California Register of Historical resources (CRHR) criteria and California Office of Historic Preservation standards (the current surveys meet such criteria). Native American sites and areas of cultural sensitivity or sacred value may also be found to be significant in spite of not being listed or to have perceived value to the community as a whole.

A substantial adverse change to the significance of a historical resource constitutes a significant effect on the environment.

State Historical Building Code

In California, the State Historical Building Code (SHBC) provides some degree of flexibility to owners of historic structures towards meeting building code requirements. The SHBC standards and regulations are performance-oriented rather than prescriptive unlike most housing codes which are more prescriptive. Jurisdictions must use the SHBC when dealing with qualified historical buildings, structures, sites, or resources in permitting repairs, alterations and additions necessary for the preservation, rehabilitation, relocation, related reconstruction, change of use, or continued use of a historic property. Activities proposed for FIG technology implementation do not include alterations or additions to any buildings or structure, therefore, the proposed program is not likely to be affected by SHBC.

COUNTIES

The policies and regulations of the various counties as they apply to historical resources in the study area are limited. Each affected county has policies (ordinances and General Plans) that

echo CEQA and also reflect local policy on the preservation and enhancement of historical resources.

CITIES

The policies and regulations of the various cities as they apply to historical resources in the study area are limited. Each affected city has policies (ordinances and General Plans) that echo CEQA and also reflect local policy on the preservation and enhancement of historical resources.

4.4.3 IMPACTS AND MITIGATION MEASURES

APPROACH TO ANALYSIS

The following analysis identifies potential impacts on cultural resources that could occur as a result of activities from FIG technology and describes mitigation measures that would reduce or eliminate potential impacts. The cultural resources inventory for the study area has not been completed; therefore, mitigation for cultural resources includes completion of the cultural resources inventory for proposed activities and the selection of methods to avoid impacts on potentially significant cultural resources in compliance with the CEQA Guidelines.

SIGNIFICANCE CRITERIA

The overarching criteria for determining the significance of impacts to cultural resources are the significance of the resources themselves, as provided in Public Resources Code 5024.1, Title 14 CCR, Section 4850 et seq., referenced in CEQA Guidelines (Sec. 15064.5), and the severity of the impact in diminishing or destroying the given resource. The general plans for the various counties and cities also address criteria for impact significance. These plans and guidelines necessarily reflect CEQA and efforts to preserve and protect California Historic Landmarks and those properties listed or deemed eligible for inclusion on the California Register of Historical Resources (CRHR), established under Public Resources Code 5024.1.

Pursuant to Section 15064.5 of the CEQA Guidelines, significant impacts could occur to cultural resources identified as historical resources. Identification of historical resources is a prerequisite to determining program impacts. The CRHR is to be used to identify the State's historical resources and to indicate what properties are to be protected from adverse impacts. A site is eligible for the CRHR if it meets one of several criteria patterned after the National Register of Historic Places (36 CFR 60.4) and CEQA. Thus a proposed action would also be considered to have a significant effect if it would adversely effect a resource that is listed or had been determined eligible for the CRHR. Criteria for listing on the California Register of Historic Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852) include the following:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;

- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

Specifically, impacts would be deemed significant if there is substantial adverse change by means of physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired. Per Section 15064.5 (b)(2) of the CEQA Guidelines the significance of a historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for the purposes of CEQA.
- Cultural resources not found to be eligible for CRHR usually do not require further management consideration. If resources are considered historical resources per CEQA (e.g. eligible for the CRHR) than ground disturbing or other construction related activities could remove or destroy cultural deposits or those characteristics of the resource which may it eligible for the CRHR. Resource altering disturbances could result in the loss of integrity of historical resources, the loss of information, and the alteration of site setting which could be a significant impact.

IMPACT MECHANISMS

It is assumed that the greatest impact to cultural resources and more specifically, to archaeological resources on the ground, would occur as a result of construction related activities during FIG installation. During the course of construction, because conduit would be installed in existing utilities, ground-disturbing activities associated with FIG installation would occur in areas that were previously disrupted during installation of the natural gas pipelines. An impact may occur, however, if ground disturbance were required outside the footprint of the existing utility. The extent of the particular impact to an archaeological site would depend on the depth and breadth of a given resource and the degree to which the action would intrude into the

resource. Impacts to historic structures, i.e. buildings, are not anticipated because construction would not impact or degrade register-eligible historic values.

Normal, routine maintenance would not typically constitute potential impacts. Exceptions might include emergency repairs that require mechanical excavation in sensitive areas, particularly if excavation were necessary in areas that had not been previously disturbed.

IMPACT ASSESSMENT

Impact CUL-1: Possible substantial effects can occur to known, but unevaluated prehistoric and historic archaeological deposits from ground disturbing construction operations (construction related impact, particularly portals outside of previously excavated areas).

It is a goal of the proposed program to apply the FIG technology in an developed environment, i.e., in highly congested areas, where the trench-and-lay method of fiber optic installation would be impractical due to the lack of space for new substructures, or due to the cost. In general, the potential for construction activities to affect cultural resources is low, as all excavation would occur within the existing SCG/SDG&E easements in areas that were previously disrupted during installation of the natural gas pipelines. Because all construction activities would occur in areas previously excavated for the gas pipeline installations, it is unlikely that known or unknown historical, paleontological, or cultural resources would be encountered during excavation.

For any excavation outside of previously excavated areas, the proposed program would follow all federal, state and local laws, ordinances, regulations, and standards applicable to the protection of cultural resources. Additionally, the proposed program would develop protocols to be followed in the proposed program's Cultural Resource Plan and Procedures, a document to be approved by the CPUC.

Mitigation Measure CUL-1a: For any excavation outside of previously excavated areas, conduct a records search for the proposed study area and the lands within a one-mile radius from the appropriate California Historical Resources Information System (CHRIS).

The records search has two objectives: (1) to determine whether previous archaeological investigations have been conducted in the proposed study area, and (2) to provide information on known prehistoric or historic sites or culturally sensitive areas on and in the vicinity of the proposed program. The records search also checks the Office of Historic Preservation (OHP) Historic Property Data File, which includes the National Register of Historic Places (listings and eligibility determinations), California Points of Historical Interest, and California Historical Landmarks, and any local historic or archaeological societies. Additionally, a letter will be sent to the Native American Heritage Commission (NAHC) requesting a search of the NAHC Sacred Lands file and identification of a contact person or persons within NAHC for follow-on contact/consultation.

Mitigation Measure CUL-1b: For any proposed locations that have the potential for buried prehistoric cultural material or fossils, all grading and excavation for FIG installation will be monitored by a qualified archaeologist. Monitoring is required within 500 feet of the boundaries of known cultural resources (including extant architectural features) and within 1,000 feet of the locations of modern and historic stream crossings. Monitors must have 2 years of professional experience and be certified by the CPUC. Monitors will be under the supervision of the cultural resources specialist.

If archaeological material is encountered, including significant historic, archaeological, or paleontological resources, the monitor will have the authority to halt construction within 100 feet of the find. A professional archaeologist or paleontologist will be contacted and consulted on the significance of the find and appropriate actions to mitigate impacts will be identified and implemented before construction activities will be allowed to resume.

Significance After Mitigation: Less than significant.

Impact CUL-2: Potential discovery or disturbance of unique paleontological resources during construction could constitute an impact. Because significant fossil discoveries can be made in areas designated as low, as well as moderate to high potential, excavation activities could possibly unearth significant paleontological resources. While this is unlikely, should such resources be encountered, this would be a significant impact.

Mitigation Measure CUL-2a: In the event that fossil remains are encountered, either by the cultural resources monitor or by construction personnel, qualified paleontological specialists will be contacted. Construction within 50 feet of the find will be temporarily halted or diverted until the discovery is examined by a qualified vertebrate paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. Significant fossils will be salvaged through a program of excavation, analysis, and documentation. Fossil remains collected during the salvage program shall be cleaned, sorted, catalogued, and then deposited in a public, non-profit institution with research interests in the materials.

Significance After Mitigation: Less than significant.

Impact CUL-3: Possible substantial effects may occur to human burials from construction operations. Subsurface excavation in the areas known or suspected to contain burials or archaeological sites of the type known to possess burials (occupation sites), could disturb or destroy significant human remains. This could include burials of prehistoric remains or non-Indian pioneers.

Mitigation Measure CUL-3a: If human remains are found at any time during site preparation or excavation activities, all work will immediately stop within 100 feet of the find. The program archaeologist will be notified immediately and will, in turn, immediately notify the county coroner for the appropriate county in compliance with Section 7050.5 of the California Health and Safety Code. Upon the completion of compliance with all relevant sections of the California Health and Safety Code, the cultural resources specialist will implement Mitigation Measure CUL-1b.

Significance After Mitigation: Less than significant.

4.5 NOISE

4.5.1 SETTING

INTRODUCTION

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Because sound pressure can vary by over one trillion times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ears decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA).¹ Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

NOISE DESCRIPTORS AND PRINCIPLES

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long period of time. Rather, community noise varies continuously with time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day,

¹ All noise levels reported herein reflect A-weighted decibels unless otherwise stated.

besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants generally experience noise in the last category. There is no complete satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- a change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- a 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause adverse response

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on the topography of the area and environmental conditions (i.e., atmospheric conditions and noise barriers, either vegetative or manufactured, etc.). Widely distributed noise, such as a large industrial facility spread over many acres or a street with moving vehicles, would typically attenuate at a lower rate, approximately 4 to 6 dBA.

NOISE SOURCES AND LEVELS

Transportation sources, such as automobiles, trucks, trains, and aircraft, are the principal sources of noise in the urban environment. Along major transportation corridors, noise levels can reach 80 DNL, while along arterial streets, noise levels typically range from 65 to 70 DNL. Industrial and commercial equipment and operations also contribute to the ambient noise environment in their vicinities.

SENSITIVE RECEPTORS

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication; physiological and psychological stress; and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others, due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. In general, residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks and other outdoor recreation areas generally are more sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive.

4.5.2 REGULATORY SETTING

Noise issues are typically addressed in local General Plan policies, and local noise ordinance standards. The study area includes cities and municipalities encompassed by SCG/SDG&E's service territories in Southern California. Most of these cities and counties have adopted general plans. California Government Code Section 65302 lists the noise element as one of the seven essential elements cities and counties must include as part of their general plans. The General Plan noise element is a planning document that contains goals and policies to ensure compatible land use development with respect to noise. Cities and counties adopt noise ordinances for the implementation of the policies and standards in the general plan. Local General Plan policies and noise ordinance standards will be applicable to the proposed program when constructing or operating within the various jurisdictions.

4.5.3 IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

The analysis of the significance of impacts of the proposed program is based on the general criteria listed below. Based on the *CEQA Guidelines*, a project may be deemed to have a significant effect on the ambient noise environment if it would result in:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- A substantial permanent increase in ambient noise levels in the study area above levels existing without the project;

- A substantial temporary or periodic increase in ambient noise levels in the study area above levels existing without the project

As described earlier, a change in noise levels of less than three dBA is not discernible to the general population; an increase in average noise levels of three dBA is considered barely perceptible, while an increase of five dBA is considered readily perceptible to most people (Caltrans, 1998). For evaluating permanent increases in ambient noise levels, the following specific criteria are used for this analysis: a change of 5 DNL or more is considered significant where the resultant noise level remains “normally acceptable” for the affected land uses and a change of 3 DNL or more is considered significant where the resultant noise level would exceed the maximum level considered “normally acceptable” for the affected land uses.

IMPACT MECHANISMS

The impact mechanisms of the program would be the temporary increase in noise from construction equipment during the excavation of portals for FIG installation to access the natural gas pipeline.

IMPACT ASSESSMENT

Impact NOI-1: Construction activities could generate noise levels in excess of local standards during construction and FIG operation.

Construction activities for FIG installation could involve temporary noise sources associated with construction. Such noise sources are typically regulated on the local level through enforcement of noise ordinances, implementation of general plan policies, and imposition of conditions of approval for permits.

Normal construction activities, on average, would include the following equipment, the use of which would potentially result in noise impacts: two pickup trucks, a backhoe, one five-ton material-hauling truck, and one cement truck.

No long-term noise impacts are associated with the operation of the proposed program. Short-term noise impacts would be associated with the installation and construction activities, and occasional maintenance activities. However, these activities would be required to be in compliance with all applicable local noise ordinances. It should be noted that the most likely applications of FIG technology would be in developed areas. Abatement of installation-, construction-, and maintenance-related noise impacts in an urban environment would be accomplished in compliance with applicable noise ordinances. All equipment would be required to have sound-control devices no less effective than those provided on the original equipment. During the construction period, noise levels generated by construction for FIG installation would vary depending on the particular type, number, and duration of use of various pieces of construction equipment.

Most of the various jurisdictions through which FIG technologies would be implemented have set standard construction hours and, in some cases, have established construction equipment noise standards as part of either the local general plan noise element or the noise ordinance. As indicated below, SCG/SDG&E would require its contractors to comply with the construction hour limitations and equipment standards for all applicable jurisdictions. For construction in those jurisdictions where there are no specific construction-related standards, SCG/SDG&E would require its contractors to limit noisy construction activity to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday. Given these measures, the program would not expose persons to or generate noise levels in excess of standards established in local general plans or noise ordinances, or applicable standards of other agencies.

Mitigation Measure NOI-1a: SCG/SDG&E would require construction contractors to comply with the construction hours limitations and construction equipment standards set forth in the local general plan noise element and the noise ordinance of all applicable jurisdictions of cities and counties, or in compliance with conditions outlined in acquired permits from those applicable jurisdictions.

Mitigation Measure NOI-1b: To reduce daytime noise impacts due to construction, SCG/SDG&E shall require construction contractors to implement the following measures when operating adjacent to sensitive receptors in order to maintain compliance with local noise standards:

- **Equipment and trucks used for construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible);**
- **Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible; and**
- **Construction equipment shall be located as far from sensitive receptors as possible.**

Significance After Mitigation: Less than significant.

Impact NOI-2: Exposure of sensitive receptors to localized groundborne vibration and groundborne noise during FIG installation.

The program could involve temporary sources of groundborne vibration and groundborne noise during construction from operation of heavy equipment. During construction, operation of heavy equipment would generate localized groundborne vibration and groundborne noise that could be perceptible at any nearby residences or other sensitive uses in the immediate vicinity of FIG installation activities. However, since the duration of impact at any one location would be very brief (from one to three days) and since the impact would occur during less sensitive daytime hours, the impact from construction-related groundborne vibration and groundborne noise would not be significant.

Mitigation Measure: No mitigation required.

Impact NOI-3: Temporary and intermittent noise increases during FIG installation.

The program could result in temporary and intermittent noise increases due to construction. Construction-related equipment and activities for FIG installation are described above under Impact NOI-1. The effect of this noise would depend upon the level of noise that would be generated by the equipment, the distance between construction activities and the nearest noise-sensitive uses, and the existing noise levels at those sensitive uses. FIG installation would involve use of equipment that would typically generate noise levels in the 80 to 90 dBA range within 50 feet. It is possible that residential uses could be located as close as 20 to 30 feet from construction equipment. In some areas, intervening structures/sound walls, trees and berms (between the construction zone and residences) may provide some noise attenuation.

Background noise levels would vary depending upon the location of the pipeline access point. Even in urban areas where background noise levels are relatively high, the noise from construction equipment would be substantially above those background levels. Given compliance with local standards related to allowable construction hours (see **Impact NOI-1**), FIG installation would occur when a majority of people would be at work, but retired persons, people who work at home, and people caring for children in their homes could be annoyed by noise when construction activities occur in their immediate vicinity. However, the duration of impact for each sensitive receptor would likely be one to three days, from the commencement of site preparation to the completion of backfilling, and given the short duration of the impact, the temporary increase in noise due to FIG installation would not be significant.

Mitigation Measure: No mitigation required.

4.6 PUBLIC SAFETY AND HAZARDS

4.6.1 SETTING

Implementation of the proposed program may involve construction in areas characterized by industrial, commercial, and residential land uses. Proposed FIG installation activities would occur within or adjacent to existing public right-of-ways where utility lines are generally located within developed environments. Residences located near possible construction areas and facility operations are considered sensitive receptors for purposes of this analysis. The program does not propose installation or establishment of new gas lines, but instead involves only the modification of existing gas pipeline facilities. Construction activities, although minimal, could occur in public rights-of-way in industrial areas known to contain contaminated soils.

PUBLIC SAFETY

The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas. However, delivery of natural gas by pipeline is consistently the safest mode of transportation.

Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic but is classified as a simple asphyxiate, posing a slight inhalation hazard. If methane is breathed in high concentration, oxygen deficiency can occur, resulting in serious injury or death.

Gas flowing from higher to lower pressure is the fundamental principle of the natural gas delivery system. The amount of pressure in a pipeline is measured in pounds per square inch (or “psi”). Transmission systems are generally long and straight pipelines that are large in diameter and operate at high volumes and high pressures. Distribution systems are constructed in pipe configurations that create grids, use small diameter pipe and operate at low volumes and low pressures.

When natural gas in a transmission line reaches a local gas utility, it moves into a distribution line that typically ranges from 2 inches to 24 inches in diameter. Sections of a distribution system are regulated to operate at different pressures. The closer natural gas gets to a customer, the smaller the pipe diameter and the lower the pressure of the gas to optimize efficiency of the gas line. The gas pressure in a distribution line is continuously monitored by the local gas utility for sufficient flow rates that remain below the maximum pressure for each segment of the system. Distribution lines typically operate at less than one-fifth of their design pressure.

The program involves the modification to existing natural gas pipelines utilizing hot tap procedures avoiding the need to depressurize the system during FIG installation. The integrity of a pipeline is key to its safety within the distribution system to avoid natural gas leaks or explosions either during installation or operation of the FIG pipeline.

REGULATORY SETTING

Federal

The Office of Pipeline Safety (OPS) of the Department of Transportation (DOT) works with the oil and natural gas pipeline industries to further improve safety and environmental protection in cost-effective ways. The primary regulatory basis for achieving these safety goals in the pipeline industry is the set of regulations embodied in Title 49 of the Code of Federal Regulations (CFR) Parts 190-199.

Part 192 of 49 CFR specifically addresses natural gas pipeline safety issues by prescribing safety standards for transportation of natural gas by pipeline. The regulations are written as minimum performance standards, setting the level of safety to be attained and allowing the pipeline operators discretion in achieving that level. In addition, pipeline companies, including SCG/SDG&E, perform discretionary activities over and above the regulations to achieve these goals.

The standards in the Federal regulations become more stringent as the human population density increases. Part 192 defines area classifications, based on population density in the vicinity of the pipeline, that correspond to minimum safety requirements. The class location unit is an area that extends 220 yards on either side of the centerline of any continuous 1-mile length of pipeline.

Class locations representing more populated areas require higher safety factors in pipelines design, testing, and operations. Class locations also specify the maximum spacing allowed for sectionalizing block valves. Pipe wall thickness and pipeline design pressures, hydrostatic test pressures, MAOP, inspection and testing of welds, and frequency of pipeline patrols and leak surveys must also conform to higher standards in more populated areas. The four area classifications are defined as follows:

- Class 1 – location with 10 or fewer buildings per mile intended for human occupancy;
- Class 2 – location with more than 10 but less than 46 buildings per mile intended for human occupancy
- Class 3 – location with 46 or more buildings per miles intended for human occupancy or where the pipeline lies within 100 yards of any building or small well-defined outside area occupied by 20 or more people during normal use; and
- Class 4 – location where buildings with four or more stories aboveground are prevalent per mile.

State

The Utilities Safety Branch (USB) of the CPUC enforces Federal Pipeline Safety Regulations and CPUC General Order No. 112-E (Rules Governing Design, Construction, Testing, Maintenance and Operation of Utility Gas Gathering, Transmission and Distribution Piping Systems) through its natural gas safety program. The USB administers its natural gas safety program by auditing the facilities of investor-owned natural gas utilities and municipalities in California for compliance with the applicable codes. The audit consists of reviewing operation and

maintenance records, evaluating emergency procedures, and performing random field inspections of the natural gas facilities.

HAZARDOUS MATERIALS

CONTAMINATED SOIL

The study area may potentially contain a multitude of existing hazardous sites. They are more likely to exist in urban areas with industrial uses, however they may also be scattered throughout the study area where other land uses persist. Given the size of the study area, thousands of hazardous waste generators, leaking tank sites and toxic spills within 1,000 feet of potential pipeline access locations are possible.

During construction activities, contaminated soil or groundwater may be encountered. If encountered, these contaminated materials could be classified as hazardous wastes, and would then be disposed of in accordance with applicable County hazardous materials regulation. All institution controls governing the storage, transportation, use, handling, and disposal of hazardous materials would be followed by SCG/SGG&E personnel during FIG installation.

METHANE AND HYDROGEN SULFIDE GAS SEEPAGE

Naturally occurring methane gas and hydrogen sulfide gas (H₂S) have been known to migrate into shallow geology deposits in certain areas of the Southern California region. In 1985, an explosion occurred in the basement of a commercial retail outlet store (Ross Dress for Less) in Los Angeles caused by methane accumulation through subsurface seepage. Methane gas and hydrogen sulfide (H₂S) can follow fissures or improperly abandoned oil wells to the surface or near-surface strata from deeper oil producing formations. Areas above known petroleum resources are of particular concern including central Los Angeles (Fairfax District), Huntington Beach, and Brea. Methane may be trapped under impervious surfaces where concentrations can cause explosion or hazardous breathing conditions. H₂S can be toxic to humans at elevated concentrations. Excavations may experience pockets of accumulated methane or H₂S gas at shallow depths.

REGULATORY SETTING

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. Chemical and physical properties cause a substance to be considered hazardous, including the properties of toxicity, ignitability, corrosivity, and reactivity. These properties are defined in the California Code of Regulations (CCR), Title 22, Sections 66261.20-66261.24. A “hazardous waste” is any hazardous material that is discarded, abandoned, or to be recycled. The criteria that render a material hazardous also make a waste hazardous (California Health and Safety Code, Section 25117).

For purposes of this analysis, hazardous materials include the raw materials and products mentioned above, and hazardous waste includes waste generated by facilities and businesses or waste material remaining onsite as a result of past activities. Applicable regulations and policies considered relevant to the proposed program are summarized below.

Federal

The U.S. Environmental Protection Agency (EPA) regulates the management of hazardous materials and wastes. The primary federal hazardous materials and waste laws are contained in Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the Toxic Substances Control Act (TSCA). These laws apply to hazardous waste management, soil and groundwater contamination, and the controlled use of particular chemicals. In California, EPA has delegated most of its regulatory responsibilities to the state. TSCA allows EPA to ban (or phase out) the use of chemicals that may present unreasonable risks to public health or the environment.

State

California regulations are equal to or more stringent than federal regulations. The U.S. EPA has granted the State of California primary oversight responsibility to administer and enforce hazardous waste management programs. State regulations require planning and management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human health and the environment.

The state agencies most involved in enforcing public health and safety laws and regulations include the Cal-EPA Department of Toxic Substance Control (DTSC), the California Occupational Safety and Health Administration (Cal-OSHA), and the California Integrated Waste Management Board.

DTSC enforces hazardous materials and waste regulations in California under the authority of EPA. California's Hazardous Waste Control Law incorporates the federal hazardous materials and waste standards of RCRA, but California's regulations are stricter in many respects.

In California, Cal-OSHA assumes primary responsibility for enforcing worker safety regulations such as the federal Hazard Communication Program regulations. Cal-OSHA regulations are found in the CCR Title 8. Although Cal-OSHA regulations have incorporated federal OSHA standards, Cal-OSHA regulations are generally more stringent than those of the federal government.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires preparation of Hazardous Materials Business Plans and disclosure of hazardous materials inventories. A business plan includes information such as an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency

response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Statewide, the California Environmental Protection Agency (Cal-EPA) DTSC has primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the state.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the state hazardous waste management program, which is similar to, but more stringent than, the federal RCRA program. The act is implemented by regulations contained in Title 26 of the California Code of Regulations, which list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from the generator to the transporter to the ultimate disposal location. Copies of the manifest must be filed with the California Department of Toxic Substances and Control.

4.6.2 IMPACTS AND MITIGATION MEASURES

APPROACH TO ANALYSIS

This impact analysis focused on potential effects of hazardous materials or waste that may be encountered during FIG installation or that might be associated with the proposed program. The FIG evaluation was made in light of plans, applicable regulations and guidelines, and the effectiveness of any remedial measures.

SIGNIFICANCE CRITERIA

In accordance with CEQA Guidelines, and agency and professional standards, the proposed program would be considered to pose a significant impact if it would violate the criteria in the checklist or:

- Create a hazard resulting from hazardous materials that may be encountered during trenching or other subsurface excavation activity.
- Result in improper disposal of hazardous materials encountered during trenching or other subsurface excavation activity.

IMPACT MECHANISMS

Impacts from hazardous material use or handling could result from the proposed program via the following mechanisms:

- potential exposure to existing contaminated soils, contaminated groundwater, abandoned underground storage tanks and piping and contaminated material from existing undocumented dumping and landfilling;

- potential exposure to, and releases of, hazardous materials such as oils, grease, lubricants, and solvents used during normal construction operations; and
- potential risk of upset to the public or the environment.

IMPACT ASSESSMENT

Impact HAZ-1: Possible temporary exposure to or release of hazardous materials during construction.

Small quantities of hazardous materials may be stored, used, and handled during construction. The hazardous materials anticipated to be used are small volumes of petroleum hydrocarbons and their derivatives (e.g., gasoline, hydraulic fluids) required to operate the construction equipment. These materials could potentially be released in accidental spills. Although the types and quantities of hazardous materials used during construction are not considered acutely hazardous and would not pose a substantial risk to human health and/or safety, release of hazardous materials without subsequent containment and cleanup could result in harm to the environment. This impact is considered potentially significant.

Mitigation Measure HAZ-1a: Ensure proper labeling, storage, handling, and use of hazardous materials.

SCG/SDG&E would ensure proper labeling, storage, handling, and use of hazardous materials in accordance with best management practices and the Occupational Safety and Health Administration (OSHA)'s HAZWOPER requirements. SCG/SDG&E would ensure that employees and/or contractors are properly trained in the use and handling of these materials and that each material is accompanied by a material safety data sheet. Additionally, any small quantities of hazardous materials stored temporarily in staging areas will be stored on pallets within fenced and secured areas and protected from exposure to weather. Incompatible materials will be stored separately, as appropriate.

To avoid unexpected releases of hazardous materials, SCG/SDG&E would include individuals trained in accordance with the OSHA's HAZWOPER requirements. Additionally, SCG/SDG&E would have a written plan outlining how to respond if hazardous materials are unexpectedly encountered. The plan will specify identification, handling, reporting, and disposal of hazardous materials. All hazardous waste materials removed during construction, to the extent necessary to ensure the area can be safely traversed, will be handled and disposed of by a licensed waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility. SCG/SDG&E would require in its contracts that contractors meet federal, state, and local requirements.

Mitigation Measure HAZ-1b: Report all significant releases or threatened releases of hazardous materials.

All significant hazardous materials spills or threatened releases, including petroleum products such as gasoline, diesel, and hydraulic fluid, regardless of quantity spilled must be immediately reported if the spill has entered or threatens to enter a water of the State, including a stream, lake, wetland, or storm drain, or has caused injury to a person or threatens injury to public health. Immediate notification must be made to the local emergency response agency, or 911 and the Governor's Office of Emergency Services (OES) Warning Center at 1-800-852-7550.

For non-petroleum products, additional reporting may be required if the release exceeds federal reportable quantity thresholds over a release period of 24 hours as detailed in Section 25359.4 of the California Health and Safety Code and Title 40, Section 302.4 of the CFR.

All construction personnel, including environmental monitors, shall be aware of state and federal emergency response reporting guidelines. In California, spill notification guidance is summarized in the OES Hazardous Materials Unit's *California Hazardous Material Spill/Release Notification Guidance* (OES 1999). Reportable quantities for federal hazardous substances can be found in Table 302.4 of 40CFR 302.3. Guidance for federal notification is also provided in the *California Hazardous Material Spill/Release Notification Guidance* manual.

Mitigation Measure HAZ-1c: Reduce excavation impacts.

If at any time during construction, soil and or sediment are suspected of being contaminated by visual observations of debris, discoloration or sheen, and/or odor, SCG/SDG&E would monitor and analyze excavated material with a photo-ionization detector to determine the potential for soil contamination and the need for specialized soil-handling procedures to reduce excavation impacts in areas of suspected contamination.

Significance After Mitigation: Less than significant.

Impact HAZ-2: FIG installation activities could require disposal of potentially contaminated soils.

The potential exists for contaminated soil or groundwater to be encountered during excavation or dewatering activities during FIG installation. If encountered, contaminated materials may be classified as a non-hazardous waste, a hazardous waste, a designated waste, or a special waste, depending on the type and degree of contamination. Disposal of excavated soils as standard demolition waste or use as fill for another construction site could result in a significant impact if those soils are contaminated. Disposal of materials in the vicinity of unknown but potentially present site contamination could pose a hazard to people, or animal or plant populations.

Mitigation Measure HAZ-2a: Implement an Awareness Training Program to educate field personnel regarding the unexpected discovery of contaminated soil.

Initially, SCG/SDG&E shall implement an Awareness Training Program that instructs field personnel to attempt to avoid areas that they know are contaminated (e.g., near oil refineries) or are likely to be contaminated (e.g., near abandoned gasoline stations). If soil in a street or public right-of-way is encountered that has an abnormal odor or appearance, the crew will immediately use appropriate protective gear and will call the region's Environmental Compliance Specialist ("ECS") who will arrange for soil testing. If the test results are "non detect" the soil will be used as backfill. If the test results show detectable amounts of a contaminant then the inspector for the city or county that owns the street or right of way will be notified.

Mitigation Measure HAZ-2b: Characterize excavated materials for disposal if those materials have the odor or appearance of contamination and report all discovery of significant hazardous waste, including soil and groundwater contamination, to the inspector of the local agency.

Excavations of soil and or sediment that are suspected of being contaminated by visual observations of debris, discoloration or sheen, and/or odor would be observed by a trained health and safety professional equipped with an organic vapor analyzer (or other appropriate methods for detecting anticipated contaminants) to screen excavated materials and ensure worker safety.

In accordance with Public Utilities Code § 787, SCG/SDG&E may backfill the excavation permitted by any local agency with native spoil if the following conditions are met:

- (1) The native spoil is competent spoil.
- (2) Compaction meets the local agency's requirements using industry standards for testing compaction.
- (3) The public utility or its contractor has no physical evidence of, or substantial reason to believe that there has been, contamination of the soil from hazardous wastes.
- (4) Within 30 days prior to compaction, a local agency has not provided the public utility or its contractor with physical evidence of, or substantial reason to believe that there has been, contamination of the soil from hazardous wastes.

If identified hazardous waste is encountered, including but not limited to stained or odiferous soils and sludge, sheens or floating free product on groundwater, or foreign matter associated with buried pipes, storage tanks, or drums, work shall stop immediately and the local hazardous materials response agency shall be contacted. Non-essential personnel shall leave the immediate area. The inspector of the city/county that owns the street in which the contamination is found will be notified.

Significance After Mitigation: Less than significant.

Impact HAZ-3: Potential public health hazard associated with a pipeline rupture during FIG installation and operation that could lead to an explosion resulting in property damage or fatalities.

In order to implement FIG technology, SCG/SDG&E would be required to access its natural gas pipelines using standard industry procedures to install the empty conduit within live gas pipelines. To access and install FIG technology, SCG/SDG&E would drill holes (or access points) into its pressurized gas pipelines, using a standard hot tap procedure, for installation of empty conduit. The hot tapping procedure would be used to allow access to the pipeline for entry and exit of the conduit, and to circumvent the multiple valves throughout the pipeline system used to isolate particular pipeline segments. SCG/SDG&E will require that a conduit exit and entry be installed in the pipeline at least every 500 feet in the densest areas of their service territories to accommodate standard emergency procedures without necessitating service disruption to gas and telecommunications users. SCG/SDG&E testimony provided with their application demonstrates that tapped access points can be created and sealed safely and that these points will not degrade over time and further increase the possibility of leaks. Additionally, pipelines used for FIG technology are not transmission pipelines, but rather distribution lines, which typically operate at pressures of 60 psi or less. These distribution lines already have “holes carved” into them for taps installed for gas services running to individual consumers along the pipeline alignment.¹

The tapping process for the installation of the various fittings is a standard procedure performed by appropriately qualified SCG/SDG&E employees and contractors. The same general gas control procedures currently used by SCG/SDG&E employees and contractors would be used for the installation of FIG components. The FIG Technology uses the same procedures and materials that have been safely used in the industry for many years with slight modifications to accommodate the conduit.

The FIG fittings and technology have been designed and would be implemented to conform to all applicable regulations, including those in 49 C.F.R. Title 192, “Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards.” The regulations are written as minimum performance standards, setting the level of safety to be attained and allowing the pipeline operators discretion in achieving that level. Emergency repairs and procedures, including actions to mitigate potential impacts, would be included in the terms and conditions of the contracts between SCG/SDG&E and the Carriers.

SCG/SDG&E employees tested the FIG Technology, including all FIG system components, with the purpose of evaluating their safety and durability as permanent attachments to gas-carrying steel and plastic pipelines. Short- and long-term tests described in the Project Description in Chapter 3 of this EIR have shown that system components meet SCG/SDG&E’s performance and safety criteria as pipeline components.

From an operations and maintenance perspective, the results of demonstrations and tests conducted to date show that the FIG procedure presents risk levels comparable to those associated

¹ In both built-up areas and single-family residential areas, there are already “holes carved” into the distribution mains much more frequently than every 500 feet to connect with services to individual customers.

with current natural gas operations. Based on the technical evaluation conducted of the FIG Technology, it has been concluded by SCG/SDG&E that the process and components presented by the FIG Technology meet SCG/SDG&E's performance criteria for permanent pipeline fittings. The conclusion was that the risks associated with the installation of the FIG Technology are comparable to those associated with normal natural gas operating conditions. Training of employees that would work on affected gas mains would emphasize SCG/SDG&E company-wide safety procedures.

Safety measures and procedures would be an integral part of the FIG Technology application, as they are with existing work related to installation, operation, and maintenance of active gas pipelines. These include measures to mitigate reasonably foreseeable upset and accident conditions. Many of these measures are already mandated and in place with respect to potential gas leaks or accidents. As noted, only workers trained and qualified to work on natural gas pipelines would be allowed to perform installations of fittings and conduit. With the implementation of these safety measures impacts would be less than significant.

Mitigation Measure HAZ-3a: SCG/SDG&E will continue to update safety procedures to address FIG installation procedures in compliance with all federal and state pipeline safety regulations.

As described in Chapter 3 of this EIR, SCG/SDG&E has modified existing Gas Standards and Company procedures to address the installation methods and maintenance of mains serving as fiber carriers. SCG/SDG&E's primary responsibility during an emergency is to minimize the hazard resulting from a damaged pipeline. Therefore, SCG/SDG&E employees may be required to perform tasks during emergency situations that may result in damage of the conduit and or cable. The modifications to existing procedures include instructions to minimize the damage to FIG conduit and cable. Furthermore, employees in districts where carrier pipelines would be located would receive training on how to address operations, maintenance and emergency response activities.

Also, SCG/SDG&E have developed a set of new Gas Standards that deal specifically with the installation, maintenance and emergency response of FIG pipelines. The modified existing Gas Standards include language to point to this new set of Procedures or to include minor changes. These new standards include instructions for training on installation procedures that would be provided to all employees, both company and contractor, expected to work on pipelines serving as carriers. Only employees with this training would be permitted to work on the FIG installation procedures.

All modified and newly created Gas Standards would continue to be updated to ensure their effectiveness in eliminating risks to public and worker safety as FIG installations occur throughout the service territories. These Gas Standards would also be revised where applicable based on any changes or modifications to the 42 CFR Part 192 and General order 112E to remain in compliance with both federal and State regulations.

Significance After Mitigation: Less than significant.

Impact HAZ-4: Possible Exposure of the Public or Environment to Hazardous Materials Sites.

State and federal laws regulate the manner in which contamination and hazardous conditions are investigated and remediated. Contaminated sites can be expected in proposed pipeline access point locations, particularly in highly urbanized areas. Coordination with waste disposal activities with local regulatory agencies will be needed for work at these locations. This impact is considered less than significant because SCG/SDG&E will ensure that an Awareness Training Program is implemented and soil contamination will be reported to the inspector of the local agency, as described in **Mitigation Measures HAZ-2a** and **HAZ-2b**.

Mitigation Measure: Implement **Mitigation Measure HAZ-2a** and **HAZ-2b**.

Significance After Mitigation: Less than significant.

Impact HAZ-5: Possible Temporary Limited Emergency Access.

The proposed program would involve the operation of heavy machinery. Emergency response times may be affected in areas where pipeline access points are adjacent to or within road rights-of-way. Emergency access would be regulated as a condition of road encroachment permits by the applicable regulatory agency. Also, as discussed in **Section 3.O, Traffic**, a traffic control plan shall be prepared as part of the construction mitigation strategy of the proposed program to further reduce impacts on traffic and emergency response vehicles and programs to less-than-significant levels.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

Significance After Mitigation: Less than significant.

4.7 TRANSPORTATION AND PUBLIC SERVICES

4.7.1 SETTING

This section describes the nature of the existing major transportation networks, and responsible transportation authorities and/or congestion management agencies (CMAs) throughout the study area. For all state and federal highways in the state of California, the California Department of Transportation (Caltrans) would be the agency responsible for granting access to facilities' rights-of-way (ROW), as well as approving construction traffic plans that would affect the operations of state and federal facilities. Access to, and/or the approval of construction traffic operations on local and regional routes of significance would be granted and approved by either the affected county's engineering department, or the local city's engineering department. SCG/SDG&E would be required to cooperate with Caltrans, county agencies and local incorporated cities before construction begins.

TRANSPORTATION SYSTEM

The SCG/SDG&E service territories in Southern California are served by a well-developed network of freeways, regional arterials, and local streets, as well as mass transit systems. State highways serving these areas consist of U.S. highways and interstates, so designated for their statewide and/or national importance, and state routes, whose purpose is to provide intrastate and interstate travel. County roads serving the study area are roadways so designated for their importance for intracounty travel.

ROADWAY OPERATIONS

The operation of a local roadway network is commonly measured and described using a grading system called Level of Service (LOS). The LOS grading system qualitatively characterizes traffic conditions associated with varying levels of vehicle traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay experienced by motorists) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in long queues and delays). This LOS grading system applies to roadway/freeway segments and intersections. For most local jurisdictions (local City and County roadways and intersections) LOS A, B, and C are generally considered satisfactory service levels, while the influence of congestion becomes more noticeable (though still considered acceptable) at LOS D. LOS E and F are generally considered to be unacceptable. For roadways and intersections with regional significance, or those facilities that fall within the jurisdictions of regional CMAs, LOS A through E are generally considered satisfactory service levels. LOS F is generally considered to be unacceptable for regional facilities (unless they are currently operating at that level). **Table 4.7-1** provides descriptions of each service level.

**TABLE 4.7-1
LEVEL OF SERVICE DEFINITIONS**

Level of Service	Description
A	Describes completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.
B	Also indicates free-flow, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver. Minor disruptions are still easily absorbed, although local deterioration in LOS will be more obvious.
C	The influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. On multilane highways with a free-flow speed above 50 miles per hour (mph), the travel speeds reduce somewhat. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant disruption.
D	The ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	Represents operations at or near capacity, an unstable level. The densities vary, depending on the free-flow speed. Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate to LOS F.
F	Represents forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. Although operations at these points – and on sections immediately downstream – appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages. Note that the term LOS F may be used to characterize both the point of the breakdown and the operating condition within the queue.

SOURCE: Transportation Research Board, *Highway Capacity Manual (HCM2000)*, 2000.

4.7.2 REGULATORY SETTING

The California Department of Transportation requires an encroachment permit to perform construction activities in the state highway rights-of-way throughout the study area. Some of the affected local agencies may require local encroachment permits or conditional-use permits for activities within public road rights-of-way. Encroachment permit requirements vary from agency to agency. As conditions of encroachment permits, measures are required to be implemented for transportation and traffic control.

Additionally, local jurisdictions often establish regulations which restrict the issuance of encroachment permit for non-emergency evacuations in public streets for a specific period after completion of pavement resurfacing. These restrictions are commonly referred to as moratoria, and are often intended to alleviate cumulative effects that may threaten a particular street or neighborhood by preventing a given project from contributing to significant adverse impacts on the protected street or area.

4.7.3 IMPACTS AND MITIGATION MEASURES

APPROACH TO ANALYSIS

Assessment of impacts related to the proposed program involved evaluating the effects of FIG installation on traffic and circulation resulting from increases in traffic, loss of travel lanes and/or parking areas, disruptions to public transit, and potential safety effects associated with construction. Construction characteristics, including proposed manpower and equipment, location of construction and rate of construction were determined on the basis of information provided by SCG/SDG&E. Conservative assumptions were used to determine the potential number of vehicles that could be required for FIG installation.

Assessment of impacts related to construction of program components involved evaluating the effects of FIG installation and operation on traffic and circulation resulting from project increases in traffic, loss of travel lanes and/or parking areas, disruptions to public transit, and potential safety effects associated with construction. Construction characteristics, including proposed manpower and equipment, location of construction and rate of construction were determined on the basis of information provided by SCG/SDG&E. Conservative assumptions were used to determine the potential number of vehicles that would be required for FIG installation.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines states that a project would normally result in an impact to transportation and traffic if it would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections).
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

- Result in inadequate emergency access.
- Result in inadequate parking capacity.
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

IMPACT ASSESSMENT

Impact TRA-1: Pipeline access points for FIG installation within streets would reduce the number of, or the available width of, travel lanes on roads, resulting in temporary disruption of traffic flows and increases in traffic congestion.

Installation of the FIG technology in an urban environment would eliminate or substantially reduce environmental impacts that occur with other methods of installing fiber optic cable underground; however, some short-term impacts may occur. While placing conduit in existing gas pipelines minimizes impacts to traffic from construction activities, the following activities have the potential to interfere with traffic operations during the construction/installation process.

The construction activities required for SCG/SDG&E's conduit installation do not require activities that are different from those undertaken for standard pipeline work undertaken on a daily basis. No special construction access is required because the pipeline is in existing roads or reached by existing access roads. Any additional work needed, such as construction staging or material storage, would be conducted in previously disturbed areas that, particularly in urban areas, are readily available. The construction activities conducted by SCG/SDG&E would include:

- Installation of the conduit at an entry point on the pipeline by use of a tractor feeder. Extraction is accomplished with retrieval tools at the conduit exit point of the pipeline. The conduit would be routed to a handhole located in the sidewalk, and capped until the fiber optic cable is installed.
- Installation of an estimated average of up to 1.5 miles of conduit per day.
- Installation of the conduits at the exit and re-entry points around all operational SCG/SDG&E gas pipeline valves, before re-entry to SCG/SDG&E's pipelines. Two entries and two exits can be accomplished in eight hours.

Mitigation Measure TRA-1a: Obtain and comply with local and state road encroachment permits, and railroad encroachment permits.

SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional

engineering standards prior to construction. The traffic control plan could include the following requirements:

- Identify all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.
- Develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
- Schedule truck trips outside of peak morning and evening commute hours.
- Limit lane closures during peak hours to the extent possible.
- Use haul routes minimizing truck traffic on local roadways to the extent possible.
- Include detours for bicycles and pedestrians in all areas potentially affected by project construction.
- Install traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.
- Develop, and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, ask affected jurisdictions to identify detours, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.
- Store construction materials only in designated areas.
- Coordinate with local transit agencies for temporary relocation of routes or bus stops in works zones, as necessary

Significance After Mitigation: Less than significant.

Impact TRA-2: FIG installation within or adjacent to roadways would temporarily increase the potential for accidents.

Heavy equipment operating adjacent to or within road rights-of-way would increase the risk of accidents. Construction-generated trucks on study area roadways would interact with other vehicles. Potential conflicts could occur between construction traffic, bicyclists and pedestrians, particularly in the urban areas and residential neighborhoods.

As specified under **Mitigation Measure TRA-1a**, above, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction, including compliance with roadside safety protocols, so as to reduce the risk of accident. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**. Thus, implementation of **Mitigation Measure TRA-1a** would ensure temporary increases in the potential for accidents would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

Significance After Mitigation: Less than significant.

Impact TRA-3: FIG installation within or adjacent to streets would affect emergency access.

As discussed in **Impact TRA-2**, FIG installation would have temporary effects on traffic flow, particularly with conduit installation as proposed within road right-of-ways. FIG installation within streets and temporary reduction in travel lanes could result in delays for emergency vehicle access in the vicinity of the work sites.

As specified under **Mitigation Measure TRA-1a**, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan would require the construction contractor to establish methods for maintaining traffic flow in the vicinity of FIG installation activities and minimizing disruption to emergency vehicle access to land uses along the alignment. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**. Implementation of **Mitigation Measure TRA-1a** would ensure potential impacts associated with temporary effects on emergency access would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

Significance After Mitigation: Less than significant.

Impact TRA-4: Construction required for FIG installation would generate a temporary demand for parking spaces for construction worker vehicles; in addition, FIG installation would temporarily displace existing on-street parking on a number of streets.

FIG installation activities would create a limited, new temporary parking demand for construction workers and construction vehicles as crews move to the pipeline access point locations. As discussed in **Impact TRA-1**, FIG installation would not generate a substantial number of construction workers at any one location; therefore, the amount of parking required would not be significant. Construction would also temporarily displace existing on-street parking on a number of streets. However, given the proposed rate of new conduit installation, impacts to on-street parking would be relatively brief at any one location.

As specified under **Mitigation Measure TRA-1a**, above, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan would require the construction contractor to establish methods for minimizing construction effects on parking. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**. Implementation of **Mitigation Measure TRA-1a** would ensure potential impacts associated with potential temporary displacement of on-street parking would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

Significance After Mitigation: Less than significant.

Impact TRA-5: FIG installation could temporarily disrupt bus service near pipeline access points.

The proposed program will have no lasting impact on demand for alternative transportation or on alternative transportation facilities. However, FIG installation could disrupt access to bus stops and park and ride lots near pipeline access points, as well as slow bus movements. Bus routes on streets may need to be temporarily detoured, and bus stops temporarily relocated.

As specified under **Mitigation Measure TRA-1a**, above, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan would require the construction contractor to establish methods for minimizing construction effects on transit service. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**. Implementation of **Mitigation Measure TRA-1a** would ensure potential impacts associated with temporary disruptions to transit service would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

Significance After Mitigation: Less than significant.

Impact TRA-6: FIG installation activities will temporarily disrupt existing transportation and circulation patterns in the vicinity, and impact response times for fire and police emergencies, by disrupting traffic flows and street operations.

Implementation of the proposed program would not generate additional demand on the public services of fire or police protection and therefore would require no new construction or enhancement of existing government facilities. Conduit installation would occur within existing natural gas pipelines using a FIG technology where access to the pipelines would occur within road rights-of-way. Because access for FIG installation activities could temporarily disrupt existing transportation and circulation patterns in the vicinity, it has the potential to impact response times for fire and police emergencies, by disrupting traffic flows and street operations and by reducing travel lanes and curb parking. Implementing **Mitigation Measure TRA-1a** would reduce impacts to levels of insignificance.

Mitigation Measure: Implementing **Mitigation Measure TRA-1a**.

Significance After Mitigation: Less than significant.

4.8 UTILITIES AND SERVICE SYSTEMS

4.8.1 SETTING

Service systems and utilities such as electricity, domestic water, sanitary/stormwater sewers, solid waste, communications and natural gas are typically provided to the study area by a variety of local purveyors (e.g., cities, counties, special districts, water agencies, and power companies). The availability of such services depends on the level of urbanization in a given area. Certain utilities such as sanitary sewer/stormwater, natural gas, are usually provided via underground pipelines or conduits.

Southern California Gas Company (SCG) is the nation's largest natural gas distribution utility, serving 18 million consumers through 5.1 million meters. The company's service territory encompasses 23,000 square miles, from San Luis Obispo on the north, to the Mexican border in the south, and 535 cities, excluding the City of Long Beach and the County of San Diego (both of which are wholesale customers of SCG).

San Diego Gas & Electric (SDG&E) is a regulated public utility that provides service to three million consumers through 1.3 million electric meters and 775,000 natural gas meters in San Diego and southern Orange counties.

SCG and SDG&E are part of Sempra Energy Utilities; the umbrella for Sempra Energy's regulated business units. Sempra Energy is a Fortune 500 energy services holding company based in San Diego.

The proposed program involves conduit installation in existing live natural gas pipelines within SCG/SDG&E's service territories by using an approved FIG technology. FIG installation and repair or replacement work would occur primarily within existing public road rights-of-way in a region with a well-established utility infrastructure.

4.8.2 REGULATORY SETTING

CALIFORNIA PUBLIC UTILITIES COMMISSION

The CPUC regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. The CPUC is responsible for assuring California utility customers have safe, reliable utility service at reasonable rates, protecting utility customers from fraud, and promoting the health of California's economy.

The CPUC regulates natural gas local distribution facilities and services, natural gas procurement, intrastate pipelines, and intrastate production and gathering. The CPUC's approach to natural gas regulation is to ensure low rates with fair allocation across customer classes, service reliability and consumer protection, adequate infrastructure balanced with efficient system use, and provide incentives for efficiency and lower costs. The CPUC works to provide opportunities for competition when in consumer interest, takes the lead in environmental review of gas-related

projects, recognizes the growing interaction of electric and gas markets, and monitors gas energy efficiency and other public purpose programs.

The Commission establishes service standards and safety rules, and authorizes utility rate changes. It monitors the safety of utility and transportation operations, and oversees markets to inhibit anti-competitive activity. In its efforts to protect consumers, it prosecutes unlawful utility marketing and billing activities, governs business relationships between utilities and their affiliates, and resolves complaints by customers against utilities. It implements energy efficiency programs, low-income rates and telecommunications services for disabled customers. It oversees the merger and restructure of utility corporations, and enforces CEQA for utility construction. The CPUC works with other state and federal agencies in promoting water quality, environmental protection and safety. It also intervenes in federal proceedings on issues that affect California utility rates or services.

The Commission also regulates investor-owned water and sewer system utilities. It does not have jurisdiction over municipal utilities or districts. The Water Division supports the Commission by investigating water and sewer system service quality issues and analyzing and processing utility rate change requests.

4.8.3 IMPACTS AND MITIGATION MEASURES

APPROACH TO ANALYSIS

This analysis focuses on the potential for the program to affect existing underground utilities and service systems during FIG installation and operation. In addition, this analysis discusses the program's demand for public utilities and services and any infrastructure improvements required to meet these demands.

SIGNIFICANCE CRITERIA

Determination of impacts of the proposed program is based on criteria a-g in the environmental checklist as listed above. According to CEQA, a project would normally have a significant effect on public utilities and service systems if it would interfere with or substantially change the demand for the utility service, generate a need for new utilities, or require substantial alteration to utility systems (e.g., construction or expansion of public facilities such as storm drainage systems, and wastewater treatment facilities). For the purposes of this analysis, the program would be deemed to have a significant impact if it would affect and disrupt existing underground utilities.

IMPACT MECHANISMS

Construction Activities

FIG installation would involve ground-disturbing activities associated with accessing an existing natural gas pipeline for installation of conduit. During FIG installation activities:

- affect and disrupt existing underground utilities;
- generate construction debris or soils that could affect the availability of regional landfill capacity and compliance with solid waste regulations;
- require water that could affect existing water supplies;
- generate surface water runoff that could exceed wastewater treatment requirements of the Regional Water Quality Control Board and that could affect drainage systems and associated wastewater treatment facilities.

Operation of FIG Pipelines

Placement of conduit within existing natural gas distribution pipelines may:

- interfere with or substantially change the demand for the utility service;
- generate a future need for new utilities; or
- require substantial alteration to utility systems.

IMPACT ASSESSMENT

The proposed new form of service has service implications including potential impacts on operations, existing capacity and future expansion of active gas pipelines. SCG/SDG&E does not anticipate that maintenance required on the conduit or fiber optics would necessitate shutting off the respective gas pipeline at any time, which could potentially impose a cost on the ratepayers either through disruption or curtailment of service. SCG/SDG&E would ensure that such technology would not necessitate the interruption of gas service either upon the initial installation or subsequent maintenance. In the case that installation of fiber optics cable could interfere with pipeline capacity needed for service, SCG/SDG&E has drafted special conditions upon which this potential is taken into account.

Additionally, the current flowing capacity would decline as a direct result of offering the proposed tariff service. Only pipelines that operate at 60 psi or less will be eligible for this service. Further, any possible impact would be very local in nature, affecting only a particular distribution line.

Finally, further issues exist in response to when capacity of the distribution system must be expanded due to future gas load demands. To resolve this issue, SCG/SDG&E would not allow installation of fiber optic cable in any pipeline if they estimate that installation would result in insufficient gas capacity in the line in the next 60 months, unless arrangements were made for the carrier for it to pay to increase the gas capacity to avoid this situation. Thus, in the case of capacity constraints more than 60 months in the future, the Carrier may elect to terminate service or relocate its route, such that no additional pipeline construction or trenching would occur.

Pipeline Capacity

Impact UTL-1: The placement of fiber optic cable within existing gas pipelines would reduce the service capacity of the existing gas pipelines.

The placement of fiber optic cable within existing gas pipelines would reduce the service capacity of the existing gas pipelines. An estimation of the capacity rendered useable was developed using results from a series of flow displacement studies conducted at SCG/SDG&E's Engineering Analysis Center. The decrease in capacity was calculated for each pipeline size and material. For purposes of the analysis, SCG/SDG&E assumed the maximum conduit size allowed for insertion in each Fiber In Gas pipeline as 1.125 inches in diameter (0.625 inches and 0.875 inches in diameter were maximum conduit sizes +for 2 and 4 inch diameter pipelines, respectively). A summary of the results from the capacity tests are located in **Table 4.8-1**.

**TABLE 4.8-1
ESTIMATE OF CAPACITY LOSS IN NATURAL GAS PIPE IN
ELIGIBLE DISTRIBUTION MAINS AND MAXIMUM CONUIT SIZES**

Approximate Pipe Size (Steel and Plastic Pipe) ^a	Approximate Percentage Reduction of Capacity
2 inches	18.58% to 22.74%
3 inches	18.08% to 21.61%
4 inches	14.62% to 16.78%
5 inches	12.79% to 12.22%
6 inches	11.35%
8 inches	10.37%
10 inches	9.07%
12 inches	7.66%

^a Plastic Pipes are only found in distribution mains at less than 5 inches in diameter.

^b Flow capacity reduction study reflects operating pressure at 40 psig. Gas velocity of 70 feet per second inside each size of service line was used for the purpose of estimating capacity losses.

Depending upon the size of the gas pipe and conduit, and the needs of a particular service area, a reduction in a 4-inch gas pipeline's capacity may have adverse individual and/or cumulative impact to natural gas service. In a developed environment, a large amount of natural gas infrastructure is already in place and natural gas service needs would be expected to remain relatively constant in the future, because limited areas would be available for future growth.

Mitigation Measure UTL-1a: Application of the Schedule No. G-FIG's Terms and Special Conditions shall address/avoid potentially significant impacts to pipeline service capacity.

Special Conditions 11 and 12 of the DRAFT Schedule No. G-FIG, related to “Pipeline Capacity Available to Provide Service,” state:

- Access will be limited to one fiber optic cable or cables of a combined maximum of 1 inch diameter to be installed in one conduit with a maximum diameter of 1.2 inches per SCG/SDG&E pipeline.
- SCG/SDG&E may deny service under this schedule for a particular location or route if SCG/SDG&E determines that there is now, or will be in the next 60 months, insufficient capacity in its pipelines to accommodate placement of fiber optic cable, or that placement of fiber optic cable would create a threat to the safety or reliability of SCG/SDG&E’s gas service. SCG/SDG&E may not deny service on insufficiency of capacity, if capacity is forecast to be adequate for at least the next 60 months. SCG/SDG&E may offer Carrier service for a particular location or route where there will be insufficient capacity within 60 months on condition that Carrier agrees to pay a portion acceptable to SCG/SDG&E of the cost of increasing the capacity of SCG/SDG&E’s pipelines in that particular location or route.

If actual future local growth creates the need to add capacity to the particular pipeline segment(s) occupied by the fiber optic cable at any time one or more years after the effective date of the contract, SCG/SDG&E will promptly notify the Carrier and provide the company with an estimate of the least cost method of adding needed additional capacity. The amount of additional capacity needed will be determined by employing standard utility planning procedures that consider cost efficiency and effectiveness. The Carrier would have the option of: (1) paying the proportionate share of the incremental costs of adding the needed capacity in the most effective manner, or (2) removing the conduit from the pipeline.

Application of the Schedule No. G-FIG’s terms and Special Conditions would address/avoid potentially significant impacts to pipeline service capacity, and reduce those impacts to less than significant levels.

Significance After Mitigation: Less than significant.

Impacts to Operations

Impact UTL-2: The proposed new form of service will have service implications including potential impacts on operations.

The proposed new form of service, Schedule No. G-FIG, has service implications including potential impacts on operations, existing capacity and future expansion of active gas pipelines. SCG/SDG&E does not anticipate that maintenance required on the conduit or fiber optics installed in active pipelines would necessitate shutting off the respective gas pipeline at any time, which could impose a cost on the ratepayers either through disruption or curtailment of service.

SCG/SDG&E would require that FIG technology would not necessitate the interruption of gas service either upon the initial installation or subsequent maintenance.

Additionally, the current flowing capacity would decline as a direct result of conduit installation in existing natural gas pipelines using the proposed tariff service. Only pipelines that operate at 60 psi or less would be eligible for this service. Moreover, any possible impact would be very local in nature, affecting only a particular distribution line. In the case that installation of conduit and fiber optic cable could interfere with pipeline capacity needed for service, SCG/SDG&E has drafted special conditions upon which this potential is taken into account.

Finally, further issues exist in response to when capacity of the distribution system must be expanded due to future gas load demands. To resolve this issue, SCG/SDG&E would not allow installation of fiber optic cable in any pipeline if installation would result in insufficient gas capacity in the line in the next 60 months. However, installation would be allowed if arrangements were made for the carrier to pay for the increase in gas capacity, thereby avoiding that situation. Thus, in the case of capacity constraints more than 60 months in the future, the Carrier may elect to terminate service or relocate its route, such that no additional pipeline construction or trenching would occur.

Mitigation Measure UTL-2a: Primary operations and maintenance procedures shall be modified to address potential operational impacts.

The primary operations and maintenance procedures that will need to be modified in response to the following subjects:

- Leak Survey – It is anticipated that leak survey of pipeline containing fiber optic cable will increase because SCG/SDG&E’s employees will need to survey the manholes where the fiber optic cable will be brought to the surface. This procedure will comply 49 CFR 192.723b(1), which requires that leak surveys be conducted at any location providing the opportunity for finding gas leaks.
- Locate and Mark – Locating wire will be installed with the PE conduit to locate the conduit beyond the steel main.
- Leak Repair – To the extent possible, leak repairs will be made with specialized mechanical fittings to minimize damage to the conduit and cable.
- Third Party Damages – The primary concern after a third party damage will be to prevent hazards to the public and employees. To the extent possible the conduit and cable will be pulled out to minimize damage. Once the damaged section is replaced, the conduit will be re-installed and capped. The Carrier will then be responsible for the insertion of the cable under the inspection of SCG/SDG&E.
- Service Connection – To the extent possible mechanical means will be utilized when providing gas service to new customers to minimize damage to the conduit and cable

from welding directly on the steel pipe. At this time, the largest mechanical service connection available is two inches. Any service connection larger than two inches will be welded.

- Main Relocations – In the event that a main containing fiber optic cable has to be relocated, the fiber optic cable will be removed prior to starting the relocation work. SCG/SDG&E will coordinate these jobs with the Carrier.
- Pinching Process – The space between FIG exit and re-entry fittings will be used as pre-designated pinching points. In order for this proposal to work, utility locator maps (also known as “Atlas Sheets”) will have to be clearly marked with the location of FIG fittings. The required information can be posted on Atlas Sheets as part of the FIG installation process. In extreme cases where a main containing cable has to be pinched, tests conducted to date have shown that the hydraulic tool used for pinching the gas pipeline will sever the conduit and cable. However, there will be no interference with gas control procedures.
- Mapping and Tracking Requirements – company procedures will be revised to include the process of identifying FIG exit/entry locations and mains serving as FIG carriers on SCG/SDG&E Company Atlas Sheets.
- Static Electricity – Although the risk associated with static electricity produced during the handling of PE conduit is low, following company procedure 184.0160, which deals with the process of working with PE pipe will mitigate this risk.
- System Capacity – The installation of the PE conduit in gas mains will have some impact on the capacity of the line. System analysis will be conducted prior to the installation of conduit to ensure that line capacity will not be adversely impacted.

Significance After Mitigation: Less than significant.

CHAPTER 5

CEQA STATUTORY SECTIONS

5.1 POTENTIALLY SIGNIFICANT ENVIRONMENTAL IMPACTS

The proposed program would not have any significant unmitigable environmental impacts. Potential effects on aesthetics, biological and cultural resources, hazards and public safety, traffic and transportation, and utilities and service systems may occur as a result of the program that are potentially significant. The majority of the program 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 EIR. Operational impacts were also identified as potentially significant effects to public safety and operational pipeline capacity. These operational impacts were also determined mitigable; no significant unavoidable operational or temporary impacts would result. Mitigation proposed as part of the program, as well as measures identified in this EIR, would avoid or reduce all of the impacts to a less than significant level.

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 new service and FIG installation in combination with other comparable projects. The program involves the request for a new service allowing FIG technologies to be used for installation of conduit to house fiber optic cable. SCG/SDG&E is not requesting to be a telco provider, just to provide infrastructure for the end user.

It is anticipated that the construction associated with FIG installation could potentially overlap with other public or private utility projects during the same timeframe. Such overlap would likely be identified during SCG/SDG&E’s process of obtaining encroachment permit(s) for proposed FIG installations and would be properly addressed by the local planning agency at that time.

Aesthetics

Upon completion, the proposed program would make no more than a *de minimus* contribution to cumulative aesthetic impacts because FIG installation would occur in underground facilities. The program's contribution to cumulative impacts on visual quality during construction would not be significant due to the relative short duration of the construction impacts.

Air Quality

With implementation of mitigation measures incorporated in the 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. The program's contribution to emissions in the region is well below the significance thresholds for all air districts within which the program would be implemented. However, because heavy equipment and fugitive dust emissions would create levels of air pollutants during construction, the EIR identifies mitigation measures to minimize the generation of dust and exhaust emissions associated with construction activities.

With implementation of the identified mitigation measures, the proposed program would comply with all air quality standards, and the increase in criteria air pollutants by the program are cumulatively *de minimus*. Therefore, the program would not result in a cumulatively considerable net increase of criteria air pollutants or emissions in the study area.

Biological Resources

Biological resources, particularly threatened, endangered, candidate, and other listed species, would not be cumulatively affected by development. The state and federal governments, through DFG, the Corps, USFWS, and National Marine Fisheries Service, have promulgated a regulatory scheme that limits impacts on these species. The effects of the proposed program are rendered less than cumulatively considerable due to mitigation requiring compliance with all applicable regulations that protect plant, fish, and animal species. The mitigation measures imposed (e.g., pre-construction surveys and resource staking, presence of an environmental resource coordinator, contractor training) and SCG/SDG&E's commitment to avoid sensitive resources by design would render the proposed program's contribution less than cumulatively considerable.

Additionally, cumulative impacts of the proposed program on biological resources are considered less than significant because (1) activities related to the proposed program would be temporary and would avoid direct impacts to plant, fish, and animal species, and (2) proposed rights-of-way used for FIG installation are already disturbed from original construction and on-going maintenance activities of other utilities or roads.

Cultural Resources

The excavation and ground disturbances, individually and cumulatively, would not be likely to affect the oldest, largest, or most significant type of prehistoric or historic resource in the study area. Moreover, the potential for avoidance is great because excavation during FIG installation

would occur in a previously excavated trench from installation of the existing pipeline. For areas where construction would be required outside the existing pipeline trench width, 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.

Noise

With implementation of mitigation measures proposed as part of the program, the temporary increase in ambient noise levels during FIG installation would not be cumulatively considerable given the short-term nature of the related impacts. There would be no operational noise impacts associated with the program.

Public Safety

Installation of conduit in existing natural gas pipelines could result in damage to gas lines potentially creating a public health hazard if a pipeline rupture were to occur during FIG installation and / or operation that could lead to a gas leak explosion. However, no significant impacts to public safety is anticipated to occur that cannot be mitigated by design and conformance to federal and state pipeline safety regulations; therefore, the proposed program would not constitute a considerable contribution to any cumulative effect regarding public safety.

Transportation and Public Services

Cumulative construction-related traffic impacts would depend on the timing of other individual projects within coinciding locations. Temporary traffic-related impacts could occur at the local level during access to the pipeline located within a roadway for FIG installation. The program would not result in any increase in vehicular traffic beyond the temporary increases described in impacts listed in Chapter 4.7. Construction operations for FIG installation would result in temporary traffic obstruction on traffic flow and emergency access. The temporary traffic disruption resulting from FIG installation would not be cumulatively considerable because traffic control plans would be implemented as part of the proposed program and the standard traffic control requirements of the state and local encroachment permits would be obtained prior to FIG installation where required. In the long-term, there would be no program impacts because, upon completion, environmental conditions on the overlying roads would be essentially the same as if the proposed program had not been implemented. Therefore, the program would not make a cumulatively considerable contribution to transportation or public service impacts.

Utilities and Service Systems

The proposed program has service implications including potential impacts on operations, existing capacity and future expansion of active gas pipelines. Further issues exist in response to when capacity of the distribution system must be expanded due to future gas load demands. To resolve this issue, SCG/SDG&E would not allow installation of conduit or fiber optic cable in any pipeline if it estimates that installation would result in insufficient gas capacity in the line in the next 60 months. Installation would be allowed if arrangements were made for the carrier to pay

for the increase in the gas capacity, avoiding that situation. Thus, in the case of capacity constraints more than 60 months in the future, the Carrier may elect to terminate service or relocate its route, such that no additional pipeline construction or trenching would occur.

The proposed capacity service requirement imposed by SCG/SDG&E would protect against the potential for significant cumulative impact that might occur if more than one conduit were to be installed in a pipeline, or if the capacity of gas service were to be reduced by the cumulative use of several pipelines by FIG technology.

The proposed program would not directly or indirectly cause substantial adverse effects on human beings. The impact analysis included in this EIR indicates that for all resource areas, the proposed program would either have no significant impacts, or, for impacts that would not affect human beings, less than significant impacts with mitigation incorporation.

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 program 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 program 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 program creates no new demand for those services.

The new tariff service proposed by SCG/SDG&E does not involve 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 program on that growth are only speculative. A less than significant impact to growth inducement would occur.

CHAPTER 6

ALTERNATIVES

6.1 OVERVIEW

In accordance with CEQA and the *CEQA Guidelines* (Section 15126.6(a)), an EIR must describe a range of reasonable alternatives to the project, or to the location of the project that would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project. The range of alternatives required in an EIR is governed by the “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. An EIR is required to discuss only feasible alternatives, that is, alternatives that could feasibly attain most of the project’s basic objectives. Statutes and regulations governing CEQA generally define “feasible” to mean an alternative that is capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, technological and legal factors. Factors generally taken into account in determining whether an alternative is feasible also include, but are not limited to, site suitability, economic viability, availability of infrastructure, General Plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and an ability to acquire, control or access an alternative site. While the EIR must discuss alternatives that may feasibly attain most of the project’s basic objectives, the Lead Agency may ultimately reject any alternatives deemed to be infeasible based on factors such as those listed above.

CEQA guidelines also state that the discussion of alternatives need not be exhaustive. The key issue is whether the range of alternatives spans the fundamental ways in which the alternatives to the program or project can be formulated to reduce environmental impacts. With this information, the EIR provides decision-makers and the public with mitigation measures and the alternatives available to minimize or avoid those substantial adverse effects that would result from the proposed project or program. However, an EIR need not consider alternatives for which the effects cannot be reasonably ascertained and for which implementation is remote and speculative.

This chapter addresses alternatives to the program, describes the rationale for including them in the EIR, discusses the environmental impacts associated with each alternative, compares the impacts of each alternative relative to those of the project and each of the other alternatives, and discusses the relationship of each alternative to the program objectives.

6.2 FACTORS IN SELECTION OF ALTERNATIVES

The CEQA *Guidelines* suggest, but do not explicitly require, that an EIR should briefly describe the rationale for selecting the alternatives to be discussed, identify any alternatives that were considered by the lead agency but were rejected as infeasible, and briefly explain the reasons underlying the lead agency's determination (*CEQA Guidelines*, Section 15126.6(c)).

The alternatives addressed in this EIR were selected in consideration of one or more of the following factors:

- The extent to which the alternative would accomplish most of the basic objectives of the program (see *Program Objectives* below);
- The extent to which the alternative would avoid or lessen any of the identified significant environmental effects of the program;
- The feasibility of the alternative, taking into account site suitability, economic viability, availability of infrastructure, general plan consistency, and consistency with other applicable plans and regulatory limitations; and
- The appropriateness of the alternative in contributing to a “reasonable range” of alternatives necessary to permit a reasoned choice

6.3 PROGRAM OBJECTIVES

SCG/SDG&E's primary objective is to request Commission authorization to implement a new service allowing any Carriers to place fiber optic cable in conduit installed in SCE/SDG&E's active gas pipelines in compliance with tariffed rates terms and conditions under new Schedule No. G-FIG. Under Schedule G-FIG, SCE/SDG&E would recover all out-of-pocket costs for making its pipelines ready for the installation of empty conduit to accommodate fiber optic cable, and for on-going operating and maintenance costs.

Secondary objectives would be to provide a less environmentally invasive method for the installation of fiber optic cable for commercial and residential consumers and to deploy fiber optic cable and networks more rapidly thereby reducing costs.

6.4 ALTERNATIVES SELECTED FOR CONSIDERATION

This chapter addresses three alternatives to the proposed program: (1) a No Project Alternative; (2) standard Fiber Optic Cable Installation Alternative; and (3) Use of Existing Infrastructure Alternative. These alternatives are described below, followed by a discussion of their impacts and how they would differ from those of the proposed program.

The alternatives analyzed in this EIR do in some cases either reduce impacts or result in impacts greater than those associated with the proposed program. However, none of the proposed

alternatives would meet the basic objective of the program as proposed by SCE/SDG&E. It should be noted that as gas corporations and not telecommunications carriers, SCG and SDG&E would not currently be in a position to implement Alternatives Two or Three. However, these alternatives have been included because the Carriers that would utilize the new service as proposed by SCE/SDG&E could potentially employ these alternative approaches to install fiber optic cable not using the FIG technology or the applicant's line as gas pipelines for fiber optic cable deployment, therefore, it was deemed important to briefly describe the effects associated with these alternatives for informational purposes to more fully inform the public.

ALTERNATIVE 1: NO PROJECT ALTERNATIVE

The No Project Alternative assumes that the Tariff as requested under the G-FIG application by SCE/SDG&E would be denied and the institution of the proposed new service to provide Carriers with conduit installed in live gas pipelines for the purpose of deploying fiber optic cable would not occur.

Environmental Effects of No Project Alternative

Under the No Project Alternative, none of the potentially significant impacts identified as resulting from the proposed program would occur. Specifically, and as analyzed in the EIR, there would be no impacts related to aesthetics, air quality, biological resources, cultural resources, hazards and public safety, noise, public services, transportation and traffic and utilities and service systems. It should be noted that even under the proposed program scenario all impacts would have been mitigated to a level of insignificance.

In general, the No Project alternative has no significant impact on the environment; however, as noted earlier, neither does it meet the program objective to implement a new service to provide carriers with conduit installed in live gas lines for the purpose of deploying fiber optic cable for commercial and residential consumers. In addition, the potential to save time and lower costs to install fiber optic cable afforded by the proposed program and the more rapid deployment of the attendant services to customers would not occur.

The telecommunications market is constantly changing as new technology is introduced, and there are corresponding changes in regulations, supply, and demand. Given the increasing number of users of telecommunications services and the greater number of available devices (internet, digital television, and video conferences), the demand for additional telecommunications capacity will continue to increase whether or not the proposed program is implemented. Consequently, the changes to the environment from the proposed program would foreseeably occur regardless if the program were not approved and, in the case of air quality, noise, and biological and cultural resources, environmental impacts could be greater due to the use of other construction methods which are more invasive even with mitigation.

ALTERNATIVE 2: STANDARD FIBER OPTIC CABLE INSTALLATION

Alternative 2 considers the deployment of telecommunications infrastructure development by utilizing only currently available standard installation techniques including both underground and aerial construction techniques. This alternative would allow for substantial flexibility for installation of fiber optic facilities by utilizing existing electric utility transmission line towers or existing distribution poles (aerial installation, and undergrounding utilizing existing railroad, public roadway, and electric utility transmission and distribution rights-of-way). These standard installation methods were analyzed to determine if they would have a greater or lesser impact on the environment than the proposed program. For purposes of this discussion, standard installation techniques have been divided into two categories: aerial and underground.

Environmental Effects of Alternative 2

Aerial Installation

Aerial installation methods generally have environmental impacts that are construction-related and thus temporary. Potentially significant impacts that have been identified for aerial installation and that would be applicable to this alternative include impacts related to aesthetics, air quality, land use, noise, recreation, or traffic/circulation. However, because aerial installation results in no significant ground disturbance, impacts related to agricultural resources, biology, cultural resources, hydrology/surface water quality, would still potentially occur but be greatly reduced, and therefore not significant. There are disadvantages to utilizing aerial facilities for the deployment of fiber optic cable. Transmission towers and corridors are typically only accessible if the Carrier holds agreements with the utility company with ownership of the corridor. The utility company must also have legal authority from the CPUC to lease its utility structures for fiber optic facilities. Moreover, multiple jurisdictions' rules throughout the proposed study area are currently placing all existing aerial facilities underground or disallowing additional attachments to existing facilities. Compliance with these local jurisdictions could become an issue in those areas where transmission towers may only be available for use to a substation; however, connection between the substation and the building or customer would not be obtained through aerial installation due to local jurisdiction limitations or lack of availability of existing structures.

Underground Installation

Underground installation methods which are most often typified by horizontal directional drilling (HDD) and trenching generally have environmental impacts that are only temporary and construction-related. Following installation, the fiber optic facilities installed using underground construction methods are minimally visible and therefore result in no permanent impacts. Potentially significant impacts would include impacts to biological and cultural resources, air quality, transportation and traffic, noise, land use, aesthetics, and recreation. Temporary construction-related impacts associated with underground installation may result in the greatest level of overall potentially significant impacts, as such construction methods that are utilized to cross sensitive resources, such as stream crossings, often provide the highest risk for potential impacts. In particular, streams are commonly traversed by the HDD technique to avoid direct

impacts to biological resources and surface water quality from trenching, accidental drilling fluid releases are nearly unavoidable and unpredictable even when implementing strict prevention methods and monitoring. Besides the increased risk for impacts to biological resources and surface water quality, cultural resources may also be impacted in areas where alternative methods of installation may not be employed, as ground disturbance can impact unanticipated cultural resources or previously recorded sites.

There is a much higher probability for significant impacts occurring from underground installation techniques as represented by this alternative because the mitigation(s) to offset the identified impacts that may result from trenching, for example, are often implementation of alternative methods of installation (i.e., aerially spanning a waterway to avoid direct impacts to biological resources and water quality).

This alternative would not be considered environmentally superior to the proposed program as all the potential impacts that result from underground construction are neither less nor as readily avoidable. Aerial installation impacts would be less than those imposed by undergrounding (and are generally temporary and mitigable) but are still greater than impacts associated with the proposed program.

ALTERNATIVE 3: USE OF EXISTING INFRASTRUCTURE ONLY

As Alternative 2 limits the program to standard installation techniques (aerial or underground), Alternative 3 limits the program to use of existing infrastructure only, with no need for ground disturbance or installation of new facilities with the possible exception of handhole/manhole installation to maintain access to its facilities. Existing facilities include utilizing idle petroleum and natural gas pipelines and existing underground conduit in public rights-of-way which could include municipal sewer pipelines.

Environmental Effects of Alternative 3

As Alternative 3 utilizes existing facilities, no additional construction would be required with the possible exception of minimal excavation for handhole/manhole installation. The potentially significant impacts identified for the proposed program and particularly for Alternative 2 resulting from ground disturbance during construction would not occur for this alternative. They include impacts to aesthetics, air quality, biology, cultural resources, hydrology/surface water quality, land use, noise public services and utilities and recreation. Potential impacts could occur due to traffic/circulation when access to the existing facilities require installation equipment within roadways, however, due to the temporary nature of the impact and the required coordination with the local authorities, it would not be considered significant.

Using existing underground ducts within roadways or other rights of way can be an environmentally benign alternative. If an existing underground duct has available room for the proposed fiber optic cable, there are negligible environmental impacts associated with opening the duct and installing the cable. Most of these facilities are located under city streets where construction causes only short term, and minor vehicle traffic disruption while the optical fibers

are pulled through the ducts and connected to existing facilities. This alternative greatly reduces the number of impacts identified for the proposed program, and is therefore considered environmentally superior.

A substantial limitation of this alternative is that existing underground duct facilities are absent or over subscribed in many areas throughout the study area making availability difficult. Moreover, the use of existing infrastructure is extremely limiting to reach potential customers because connections to those customers could only occur where existing infrastructure is present. In many cases, no infrastructure now exists which could be used to reach many residential and commercial consumers. This is one of the advantages the FIG technology and use of existing gas distribution pipelines accords.

The cost effectiveness of this option is dependent upon the owner of the unutilized space and the willingness of the owner to allow use of the space. Where there is unused capacity in existing underground ducts, this construction method is the most preferable as it is cost-effective, buildable in a timely manner, and avoid or mitigates program impacts to less than significant levels. However, because the applicant owns very few of these types of rights, this method of installation would not be feasible as the primary installation method.

Another potential public right of way location for the installation of duct for installing fiber optic cable is municipal sewer pipelines. There are currently several companies that are utilizing this existing infrastructure to install conduit for fiber optic lines. Just as gas pipelines are generally available to the majority of commercial and residential customers in the proposed areas of service for SCE/SDG&E so to are sewer lines. Installation of conduit poses less safety risks due to the nature of the sewer environment. There are no high pressure pipe environments to cause concern and no natural gas that could be ignited by a construction, puncture of a line, and gas release accident or static electricity. However, the sewer environment is still harsh and highly corrosive and potential capacity issues exist depending on the size of the line, in particular to residential customers. Still, this avenue for the installation of fiber optic cable has few potentially significant impacts and those are generally related to temporary construction.

Again, the use of existing infrastructure is the environmentally superior alternative as it uses existing facilities to provide a location for the deployment of fiber optic cable. This method of installation does meet the secondary program objectives of providing a less environmentally invasive method for installation and potential reduced costs by providing a more rapid method to provide connection to commercial and residential customers. However, there are capacity limitations to this method and while it offers an alternative to the Carrier to deploy fiber optic cable again the primary objective of the proposed program is not met.

CHAPTER 7

REPORT PREPARATION AND REFERENCES

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7.2 REFERENCES

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APPENDICES

DRAFT ENVIRONMENTAL IMPACT REPORT FOR SCG/SDG&E'S "FIBER IN GAS" PROJECT

Appendix A Initial Study

APPENDIX A

INITIAL STUDY

INITIAL STUDY AND ENVIRONMENTAL REVIEW CHECKLIST

CALIFORNIA ENVIRONMENTAL QUALITY ACT

- 1. Project Title:** Southern California Gas Company (SCG) /
San Diego Gas & Electric (SDG&E)
“Fiber in Gas” Project (Schedule No. G-FIG)
- 2. Lead agency name and address:** California Public Utilities Commission
505 Van Ness Avenue, Fourth Floor
San Francisco, California 94102
- 3. Contact person and phone number:** John Boccio, Regulatory Analyst
(415) 703-2641
- 4. Project location:** SCG/SDG&E Service Territories: Fresno,
Imperial, Kern, Kings, Los Angeles, Orange,
Riverside, San Bernardino, San Luis Obispo,
Santa Barbara, Tulare, Ventura, and San Diego
Counties.
- 5. Project sponsor’s name and address:** Glen J. Sullivan, Attorney for SCG/SDG&E
101 Ash Street
San Diego, California 92101
- 6. General plan designation:** Not applicable.
- 7. Zoning:** Not applicable.
- 8. Description of project:**

The proposed project is the request for authorization of a new tariff service allowing Carriers to place fiber optic cable in conduit placed in SCG/SDG&E’s active gas pipelines under new Schedule No. G-FIG. The new service would establish tariff rates, terms and conditions providing Carriers the option to request SCG/SDG&E to install conduit within its active gas pipelines using a proposed “fiber-in-gas” or “FIG” technology.

9. Surrounding land uses and setting:

The land-use setting for the project would be primarily urban metropolitan areas. Surrounding land uses would include high density, mixed-use residential, commercial, and industrial.

10. **Other public agencies whose approval is required:**

- FIG installation may be subject to local city, county, and special district permits, such as encroachment permits, grading permits and air district permits. In addition, several state and federal regulatory permits would potentially be required.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology / Water Quality | <input type="checkbox"/> Land Use / Planning |
| <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing |
| <input checked="" type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation/Traffic |
| <input checked="" type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

EVALUATION OF ENVIRONMENTAL IMPACTS

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

- 4) “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from Section XVII, “Earlier Analyses,” may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures, which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significant.

Findings:

Based on the findings of the initial study and implementation of the mitigation measures identified therein, the FIG installation would not:

- degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or
- eliminate important examples of California history or prehistory;
- achieve short-term, to the disadvantage of long-term, environmental goals;
- have impacts that are individually limited, but cumulatively considerable; and
- have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

DETERMINATION: (To be completed by lead agency)

The CPUC has reviewed the proposed project and has determined that the project, based on the initial study attached hereto, will not have a significant effect on the environment. However, due to the programmatic nature of the project, the CPUC has determined that a Program Environmental Impact report would be required pursuant to the California Environmental Quality Act of 1970. This environmental review process is done in accordance with CEQA (PRC 21000 et seq.), the State CEQA Guidelines (14 CCR 15000 et seq.), and CPUC CEQA Rule 17.1, "Special Procedure for Implementation of CEQA."

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have potentially significant effects on the environment, there will not be a significant effect in this case because all impacts can be mitigated to less than significant levels. However, due to the programmatic nature of the project, a PROGRAM ENVIRONMENTAL IMPACT REPORT will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project may have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature

_____ Date

Paul Clanon, Director, Energy Division
Commission
Printed Name

California Public Utilities
For

A. AESTHETICS

<u>Issues (and Supporting Information Sources):</u>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
AESTHETICS—Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

From the perspective of CEQA, the term “aesthetics” pertains to the perceived visual quality of an area characterized by one or more visual elements such as an open space, scenic view, or architecture. Aesthetically significant features can occur in a diverse array of environments, ranging from urban centers to rural agricultural lands to natural woodlands. A project can have significant impacts on visual quality if it negatively affects the aesthetically significant features by altering them in part or wholly, e.g., by destroying vegetation integral to a scenic vista, or by constructing a building in an architectural style that conflicts with the existing setting.

The visual setting of the project would be primarily urban metropolitan areas. Surrounding land uses would include primarily mixed-use residential, commercial, and industrial. The project would be located predominately in existing disturbed corridors for public and utility rights-of-way.

Scenic resources, including highways, historic buildings, and natural features, are typically described in city and county general plans. In addition, the California Department of Transportation (Caltrans) lists scenic highways that are officially designated or considered eligible in the state scenic highway system. These resources could all potentially be located within the project area.

Regulations, Approvals, and Permits Applicable to Aesthetics

There are no federal aesthetics permits or regulations applicable to the proposed project. The California Department of Transportation has a program for designation of roadways as State Scenic Highways which entails regulation of land use and density, design of site and structures, signage, landscaping and grading, and undergrounding of utility lines within the roadway’s view corridor. Such regulation is performed by the local jurisdiction. No State Scenic Highways should be impacted by the proposed project in the project area.

Local planning guidelines are included in city and county general plans to preserve and enhance the visual quality and aesthetic resources within the plan's jurisdiction. The zoning ordinance is a primary method to implement the goals and objectives of the general plan. The value attributed to a visual resource generally is based on the characteristics and distinctiveness of the resource and the number of persons who view it. Vistas of undisturbed natural areas, unique or unusual features forming an important or dominant portion of a viewshed, and distant vistas offering relief from less attractive nearby features are frequently considered to be scenic resources. In some instances, a case-by-case determination of scenic value may be needed, but often there is agreement within the relevant community about which features are valued as scenic resources.

- a. *Would the project have a substantial adverse effect on a scenic vista? OR*
- b. *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

Impact AES-1: Possible temporary, minor changes to the resources visible from a scenic vista or State Scenic Highway might result from project construction and operation.

The proposed project would not have an adverse effect on a scenic vista. The FIG technology was designed for implementation in a densely built-out urban setting unlikely to be included in a scenic vista, given their location primarily within the rights-of-way of developed public roadways and utility corridors. However, where the potential pipeline access points for FIG installation may be included within a scenic vista, its presence would have minimal if any aesthetic impact, in view of (1) their underground location, (2) the limited amount of machinery and construction disturbance involved with the FIG installation methods that would be employed, and (3) the short duration of construction activities. Installation of conduit using FIG technologies would have no long-term aesthetic impacts.

Additionally, all construction related impacts would be short-term and would avoid impacts to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Therefore, no impacts to State Scenic Highways are expected.

For these reasons, this impact would be less than significant.

- c. *Would the project substantially degrade the existing visual character or quality of the site and its surroundings?*

Impact AES-2: Possible minor changes in the existing visual character or quality of a site might result from project construction and operation.

As discussed above, in general, the proposed project would not substantially degrade the existing visual character or quality of the visual environment within the project area because of the short duration of possible construction-related impacts and the minimal long-term effects of the proposed project.

Implemented of FIG includes installing conduit within existing underground natural gas pipelines and would therefore not be visible after site clean-up and restoration. Pipeline access points excavated as part of the construction process could potentially constitute negative aesthetic features, albeit of temporary duration.

Mitigation Measure AES-2a: SCG/SDG&E would minimize visual impacts of project facilities and comply with local regulations, keep construction and staging areas orderly and free of trash and debris, and restore areas disturbed by project construction to their pre-project condition.

This mitigation has been incorporated into the project design, but is included here to reiterate its importance.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Construction could occur at night. This would require sufficient lighting for construction crews. However, this would not result in a significant impact because construction duration would be short and temporary and would not constitute a substantial source of light or glare. Therefore, the proposed project would have no impact of this type.

B. AGRICULTURAL RESOURCES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
AGRICULTURAL RESOURCES				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project would be located in existing underground natural gas pipelines in established rights-of-way, and would not involve agricultural resources. The proposed project would have no effect on agricultural resources, including conversion of farmland to other uses, conflict with agricultural zoning or contracts, or involvement with other changes that could result in conversion of farmland to other uses. Accordingly, no further discussion of project impacts on agricultural resources is necessary.

C. AIR QUALITY

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
AIR QUALITY				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape in these areas to determine the movement and dispersal of air pollutants, and consequently affect air quality. This section addresses issues related to air pollutants known as “criteria air pollutants”. The term “criteria air pollutants” refers to those pollutants that are pervasive in urban environments and for which health-based state or national ambient air quality standards have been established. This setting section provides an overview of the regulatory context followed by region-specific information related to climate and topography; plans, policies, and regulations; and existing air quality conditions.

Regulations, Approvals, and Permits Applicable to Air quality

Criteria Air Pollutants

Regulation of air pollution is achieved through both national and state ambient air quality standards and emissions limits for individual sources of air pollutants. The federal Clean Air Act requires the U.S. Environmental Protection Agency (U.S. EPA) to identify National Ambient Air Quality Standards (national standards) to protect public health and welfare. National standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, and lead. These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants (referred to as State Ambient Air Quality Standards or State standards).

Under amendments to the federal Clean Air Act, U.S. EPA has classified air basins or portions thereof, as either “attainment” or “nonattainment” for each criteria air pollutant, based on whether or not the national standards have been achieved. In 1988, the State Legislature passed the California Clean Air Act, which is patterned after the federal Clean Air Act to the extent that areas are required to be designated as “attainment” or “nonattainment” for the state standards, rather than the national standards. Thus, areas in California have two sets of attainment / nonattainment designations: one set with respect to the national standards and one set with respect to the state standards.

The federal Clean Air Act also requires nonattainment areas to prepare air quality that include strategies for achieving attainment. Air quality plans developed to meet federal requirements are referred to as State Implementation Plans (SIPs). The state California Clean Air Act also requires plans for nonattainment areas with respect to the state standards. Thus, just as areas in California have two sets of designations, many also have two sets of air quality plans: one to meet federal requirements relative to the national standards and one to meet state requirements relative to the state standards.

Regulatory Agencies

U.S. EPA is responsible for implementing the myriad of programs established under the federal Clean Air Act, such as establishing and reviewing the national ambient air quality standards and judging the adequacy of State Implementation Plans, but has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented. The Air Resources Board, California’s State air quality management agency, is responsible for establishing and reviewing the state ambient air quality standards, compiling the California State Implementation Plan and securing approval of that plan from U.S. EPA, and identifying toxic air contaminants. The state Air Resources Board also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts, which are organized at the county or regional level. The county or regional air quality management districts are primarily responsible for regulating stationary emissions sources at industrial and commercial

facilities within their geographic area and for preparing the air quality plans that are required under the federal Clean Air Act and state California Clean Air Act.

a. *Would the project conflict with or obstruct implementation of the applicable Air Quality Attainment Plan?*

Impact AIR-1: Introduction of additional emissions sources in a region for which air quality plans have been developed.

Project construction in SCG/SDG&E service territories would result in emissions primarily due to the use of construction equipment. Emissions from worker commute trips would represent less than 10 percent of overall construction-related emissions. Construction equipment would emit ozone precursors and carbon monoxide.

Emissions during the construction phase have been estimated using California Air Resources Board emission factors and activity data provided by SCG/SDG&E. The estimates are shown in **Table 3.C-3**. As shown in the table, construction emissions would be well below the significance thresholds for all air districts within which the project would be located. Based on the attainment status, local air districts have adopted regional air quality management plans that include strategies to achieve or maintain the ambient air quality standards. The Districts have also specified construction and operational significance thresholds, below which projects could be implemented without conflicting or obstructing implementation of the regional air quality plans. Since the estimated construction emissions per day would be less than the significance thresholds for construction for all air districts within which the project would be located, construction activities associated with the proposed project would not conflict with or obstruct implementation of the regional air quality plans prepared for the project area.

**TABLE 3.C-3
CONSTRUCTION EMISSIONS (pounds per day)**

Pollutant	Estimated Project Construction Emissions^{a,b,c,d}
ROG	6
NO _x	49
PM-10	17
CO	18

- ^a Estimates include emissions from construction equipment, emissions from worker commute trips and fugitive dust emissions
- ^b Emission factors for construction equipment derived from statewide activity and emissions inventory prepared by the CARB for the year 2002.
- ^c Worker commute emissions assume 50% light duty trucks and 50% light duty automobiles; emissions based on EMFAC 2000, year 2002 emissions factors for LDA & LDT-catalytic, 85 degrees temperature, 40 mph speed and assumes a round-trip distance of 30 miles.
- ^d Worker commute emissions assume a maximum of 8 workers per crew with one crew operational per day.

NOTE: **Bold** values are in excess of applicable standard.

Source: Environmental Science Associates, 2002.

Once operational, the project would not involve operation of any new stationary emissions sources. There could be occasional maintenance-related vehicle trips that would result in negligible emissions of ozone precursors and PM10 over the long term and this would not conflict with or obstruct implementation of any regional air quality plan.

b. Would the project violate any air quality standard or contribute to an existing or projected air quality violation?

Impact AIR-2: Increase in local pollutant concentrations.

Heavy equipment and fugitive dust emissions would produce temporarily increased levels of air pollutants during construction. The project would result in the generation of air pollutants in areas classified as nonattainment areas and could contribute to project air quality violations and expose sensitive receptors to substantial pollutant concentrations. This is considered a significant impact. Although the expected emissions would fall below the thresholds established by all air districts in the project area, specific mitigation measures are identified to minimize the generation of dust and exhaust emissions associated with construction activities. With the implementation of the following mitigation measures, construction impacts would be reduced to a less than-significant level.

Mitigation Measure AIR-2a: SCG/SDG&E would require the construction contractors to implement a dust abatement program to reduce dust and air emissions.

The dust abatement program will include Best Management Practices (BMPs), as required in the respective air pollution control district or air quality management district, for construction activities. The available BMPs will, at a minimum, include the practices listed below in combination with any additional practices required by the presiding air district.

- Water all active construction areas at least twice daily;
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard;
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites;
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites; and
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

Implementation of the measures included in the dust abatement program would reduce the chance that PM-10 standards would be violated in the vicinity of the project site or that visibility would be significantly affected during the construction period.

- c. *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?*

Impact AIR-3: Project construction would create an increase in local pollutant concentrations.

With implementation of the identified mitigation measures described above, the proposed project would comply with all air quality standards. Therefore, project for FIG installation would not conflict with or obstruct implementation of any applicable air quality plan, nor violate any air quality standard or contribute substantially to an air quality violation. It would not result in a cumulatively considerable net increase of a criteria pollutant in a nonattainment area for which the project regions are a nonattainment area for applicable ambient air quality standards and, with mitigation, would not expose sensitive receptors to substantial pollutant concentrations. No additional mitigation is required.

Mitigation Measure: Implement **Mitigation Measure AIR-2a.**

- d. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Impact AIR-4: Project construction would expose sensitive receptors to substantial pollutant concentrations.

The project could result in exposure of sensitive receptors, such as residents, to substantial pollutant concentrations during construction from fugitive dust emissions sources such as vehicle travel over unpaved surfaces since residences would be located near pipeline access points for FIG installation. This impact would be mitigated to a less-than-significant level with implementation of the dust abatement program that SCG/SDG&E would require of its construction contractors (see **Impact AIR-2** and related mitigation measure).

Mitigation Measure: Implement **Mitigation Measure AIR-2a.**

- e. *Would the project create objectionable odors affecting a substantial number of people?*

The project would not include the types of emissions sources or activities that are normally associated with odor impacts.

D. BIOLOGICAL RESOURCES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
BIOLOGICAL RESOURCES—Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The project involves only the modification of existing natural gas lines for installation of empty conduit and would not carry with it any action to develop new utility rights-of-way. The proposed project will most often be located within a developed physical environment where the need and potential demand for FIG technologies are anticipated. Extensive natural habitats or communities typically are limited within developed environments. As a result, these developed areas are not likely to support sensitive species or otherwise protected biological resources. The exceptions typically consist of remnant areas of natural habitat (i.e. coastal sage scrub and chaparral) and streams with riparian habitat that could support special-status species.

Vegetation Communities and Wildlife Habitats

Within developed areas that create the physical setting proposed for implementation of FIG technology, native plant communities are typically substantially modified or more likely absent. The project setting is generally full urban build-out with virtually no remaining natural habitat.

The “urban and/or landscaped” and “ruderal” plant communities are created conditions and thus are not recognized terrestrial natural communities (e.g., by Holland, 1986).

Urban and/or Landscaped

Urban lands define over 80% of the project area that is comprised of SCG/SDG&E’s service territories. In particular, the project area includes highly developed locations that create optimal conditions for FIG technology implementation. Vegetation in urbanized settings may consist of ornamental trees and shrubs, lawns, landscaped road dividers, street trees, and flowerbeds. Urban lands provide little habitat for common plant and wildlife species, and particularly low values for rare, threatened, or endangered species. When landscaped areas become isolated within urban centers, away from natural habitats such as streams or wetlands, they provide little habitat for native wildlife and only rarely support listed species. Few common mammal species, and no amphibians or reptiles are expected in highly landscaped areas.

Ruderal Habitats

Due to extensive urbanization, ruderal habitats are expected to be relatively infrequent in the targeted locations within the project area. Ruderal habitat is generally associated with freeway and agricultural margins, the edges of roads, and other frequently disturbed areas. Where vegetated, these sites are dominated by weedy non-native species adapted to frequent disturbances. Ruderal habitats are prevalent in areas subject to frequent and often severe vegetation and soil disturbances by vehicles as a result of ongoing maintenance uses of freeway or railway corridors, and areas that have historically been used as equipment staging areas.

Natural Communities

Some project activities may be located in the vicinity of or adjacent to remnant natural habitat including streams and drainages, riparian and wetland habitats, and upland communities. However, project activities will avoid occurring directly within these natural habitats. Streams and drainages in the project area may support riparian and wetland vegetation and various common and sensitive amphibian, reptile, fish species, and nesting birds. Fragments of natural grassland, scrubland, chaparral and woodland habitat within urbanized areas may support various common and sensitive plant and wildlife species including invertebrates, reptiles, small mammals, and nesting birds.

Regulations, Approvals, and Permits Applicable to Biological Resources

This section briefly describes federal, state and regional regulations, permits, and policies that apply broadly to biological resources and wetlands within the project area. Local ordinances, policies and guidelines (i.e. those set forth in city general plans) that address biological resources are not discussed in detail in this document. Nonetheless, such local regulations are incorporated into this document by reference and would apply to project activities.

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Regulation of Waters of the United States, including Wetlands

The Corps and Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act. Proposed activities that would result in the placement of dredged or fill material into waters of the United States require a Section 404 permit from the Corps. Some classes of fill activities may be authorized under general permits if specific conditions are met.

Utility line construction activities, such as modifications to existing utilities, that result in the placement of fill into waters of the United States generally are authorized under Section 404 Nationwide Permit No. 12 (at the discretion of the Corps). Nationwide permits do not authorize activities that are likely to jeopardize the existence of a Threatened or Endangered species (listed or proposed for listing under the federal Endangered Species Act) or that may affect properties listed or eligible for listing in the National Register of Historic Places (56 FR 59134-59138, November 22, 1991). In addition to conditions outlined under each nationwide permit, project-specific conditions may be required by the Corps as part of the Section 404 permitting process.

The federal government also supports a policy of minimizing “the destruction, loss, or degradation of wetlands.” Executive Order 11990 (May 24, 1977) requires that each federal agency take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

Federal Policies on Riparian Communities in California

Riparian communities have a variety of functions, including providing high-quality habitat for resident and migrant wildlife, streambank stabilization, and runoff water filtration. Throughout the United States, riparian habitats have declined substantially in extent and quality compared with their historical distribution and condition. These declines have increased concerns about dependent plant and wildlife species, leading federal agencies to adopt policies to arrest further loss. USFWS mitigation policy identifies California’s riparian habitats as belonging to resource Category 2, for which no net loss of existing habitat value is recommended (46 FR 7644, January 23, 1981).

State Policies and Regulations on Streams and Wetlands

The CDFG regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. These activities are regulated under the California Fish and Game Code (Section 1601 for public agencies and Section 1603 for private individuals). Requirements to protect the integrity of biological resources and water quality are often conditions of streambed alteration agreements. Requirements may include avoidance or minimization of the use of heavy equipment, limitations on work periods to avoid impacts on wildlife and fisheries resources, and measures to restore degraded sites or compensate for permanent habitat losses.

Federal Endangered Species Act

The USFWS (jurisdiction over plants, wildlife, and resident fish) and National Marine Fisheries Service (NMFS; jurisdiction over anadromous fish and marine fish and mammals) oversee the federal ESA. Section 7 of the Act mandates that all federal agencies consult with the USFWS and NMFS to ensure that federal agencies actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. The federal agency is required to consult with the USFWS and NMFS if it determines a “may effect” situation will occur in association with the proposed project. The federal ESA prohibits the “take¹” of any fish or wildlife species listed as Threatened or Endangered, including the destruction of habitat that could hinder species recovery.

Section 3 of the Act requires the USFWS or NMFS to designate critical habitat for Threatened or Endangered species. Critical habitat is defined by Section 3 of the Act as habitat that is “essential to the conservation of the species.” Section 7 of the Act protects USFWS- and NMFS-designated critical habitat for listed species and prohibits “destruction or adverse modification” of these designated areas. Under Section 9 of the federal ESA, the take prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the removal, possession, damage or destruction of any Endangered plant from federal land. Section 9 also prohibits acts to remove, cut, dig up, damage, or destroy an Endangered plant species in nonfederal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed or under petition for listing receive no protection under Section 9 of the federal ESA.

Section 10 of the federal ESA requires the issuance of an “incidental take” permit before any public or private action may be taken that would potentially harm, harass, injure, kill, capture, collect, or otherwise hurt (i.e., take) any individual of an Endangered or Threatened species. The permit requires preparation and implementation of a habitat conservation plan that would offset the take of individuals that may occur, incidental to implementation of the project by providing for the overall preservation of the affected species through specific mitigation.

Statutes, Codes and Policies Affording Limited Protection to bird species

The federal Migratory Bird Treaty Act (16 U.S.C., Sec. 703, Supp. I 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of prey are protected in California under the State Fish and Game Code, Section 3503.5 (1992). Section 3503.5 states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the

¹ Take is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct.

CDFG. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact. This approach would apply to red-tailed hawks, American kestrels, barn owls, and other birds of prey. Project impacts to these species would not be considered “significant” in this IS/MND unless they are known or have a high potential to nest on the site or rely on it for primary foraging.

The federal Bald Eagle Protection Act prohibits persons within the United States (or other places subject to U.S. jurisdiction) from “possessing, selling, purchasing, offering to sell, transporting, exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest or egg thereof.”

California Endangered Species Act

California implemented its own Endangered Species Act in 1984. The state act prohibits the take of Endangered and Threatened species; however, habitat destruction is not included in the state’s definition of take. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. The CDFG administers the act and authorizes take through Section 2081 agreements (except for designated “fully protected species”).

Regarding rare plant species, CESA defers to the California Native Plant Protection Act of 1977, which prohibits importing of rare and endangered plants into California, taking of rare and endangered plants, and selling of rare and endangered plants. State-listed plants are protected mainly in cases where state agencies are involved in projects under CEQA. In this case, plants listed as rare under the California Native Plant Protection Act are not protected under CESA but can be protected under CEQA.

California coastal commission

The California Coastal Commission is authorized by the *Coastal Act* to analyze, plan and regulate land and water uses in the coastal zone of California. The *Coastal Act* maintains specific standards for activities involving public access and recreation, commercial fisheries, wildlife and fisheries habitat preservation, industrial uses, power plants, and other land and water use issues. Through administration of the federally approved *Coastal Zone Management Act*, the Commission also regulates activities that affect coastal resources and require a federal permit, license or assistance. In addition, Local Coastal Plans (LCPs) may regulate development within coastal regions of the project area.

Regional Habitat Conservation Plans / Natural Community Conservation plans

Several multi-species Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCP) are either under development or have been prepared in the general project region. These planning documents focus on the protection of agricultural lands and wildlife, and riparian enhancement. Regional HCPs and NCCPs, such as these, are administered by imposing a small, per-acre development fee on new projects in undeveloped areas. Concurrently, the HCPs and NCCPs establish one or more habitat reserves that are funded by development. If FIG installation

were proposed within existing developed areas and within roads, would avoid waterways by design, and would not otherwise adversely affect biological resources within the scope of any existing or currently proposed HCP or NCCP, then they likely would be considered exempt or “covered” activities in the context of those HCPs or NCCPs.

Native and Heritage Tree Ordinances

Some cities and counties have adopted native or heritage tree ordinances or policies to protect large or native trees. Most ordinances or policies require the project applicant to obtain a tree removal permit and compensate for the removal of protected trees. Removal and indirect impacts on heritage and native trees will be avoided and minimized to the fullest extent possible during construction.

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?***

Impact BIO-1: Prior to construction, a qualified biologist will conduct preconstruction surveys of all project activity sites, which may support special status species habitat.

Project activities will be located within developed areas as defined in the Project Description (Chapter 2), the majority of which are devoid of natural habitat and special-status plant and wildlife species. A low potential exists for natural habitat fragments to be located adjacent to or in the vicinity of project activities. These habitats may support special-status plant and wildlife species. Though project activities will not directly affect natural habitats, some activities may directly impact transient individuals that enter the construction area or indirectly impact species through noise disturbance and adjacent human activity.

Mitigation Measure BIO-1a: Prior to construction, a qualified biologist will conduct preconstruction surveys of all sites on which project activities are proposed.

If the qualified biologist determines that project sites do not provide natural habitat with a potential to support special-status species, no further mitigation is required.

Mitigation Measure BIO-1b: If the qualified biologist determines that project sites support natural habitat (i.e., wetlands, other water resources, upland communities) that may support special-status species, project activities will be relocated outside of these habitats. Natural habitat will be avoided by project activities that may impact special status species.

Mitigation Measure BIO-1c: If the qualified biologist determines that project sites are adjacent to natural habitat (i.e., wetlands, other water resources, upland communities) that may support special-status species, the following measures will apply:

- **A qualified biological monitor will demarcate the construction zone in the field to ensure that special-status species habitat is not disturbed during project activities.**

- **A qualified biological monitor will be present for project activities adjacent to sensitive habitat or areas, which may support special-status species.**
 - **If preconstruction surveys determine that special-status wildlife species have the potential to enter the construction zone from adjacent natural habitat, exclusion fencing shall be constructed and maintained in good condition between construction areas and potential habitat for special-status wildlife species. The temporary fence shall be constructed with typical silt fencing, and shall be substantial enough to deter animals from entering the work area and to prevent parking construction vehicles or staging or storage of construction materials on road shoulders adjacent to habitat. The location of the fence shall be determined by the biological monitor.**
 - **If preconstruction surveys identify potential nesting habitat for special-status birds or roosting habitat for special-status bats adjacent to proposed project activities, a no-disturbance buffer zone would be established around active nests and roosts during the breeding season. If construction activities are scheduled to occur during the breeding season of birds (February through August) or bats (March through August), preconstruction surveys will be conducted within 500 feet of project activities. If construction activities are scheduled to occur during the non-nesting season, then no surveys would be required. If surveys indicate that nests/roosts are inactive or potential habitat is unoccupied during the construction period, no further mitigation would be required. If active nests/roosts are found, SCG/SDG&E would establish a no-disturbance buffer acceptable in size to CDFG around the active nest/roost.**
- b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

No work will be conducted directly within any sensitive natural communities, therefore no adverse effects to these resources are expected.

- c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

The proposed project could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means, if wetlands are not accurately identified during preconstruction surveys, and if adequate protection and avoidance measures are not implemented as part of construction and future maintenance activities.

Impact BIO-2: Potential short-term disturbance of waters of the U.S. (including wetland communities).

FIG installation activities could potentially result in direct disturbance of waters of the U.S., including wetland communities. Many of the wetland communities and associated wildlife habitat that occur along road rights-of-way have been previously disturbed but still maintain important habitat functions. Impacts on jurisdictional wetlands are considered short-term and minimal because the disturbances are relatively short in duration and would not substantially alter wetland hydrologic functions. Additionally, native soils and plant material would be replaced immediately after installation activities at the site, and natural landscape contours would be restored to pre-project conditions.

Mitigation Measure: Implement Mitigation Measures **BIO-1a, BIO-1b, and BIO-1c.**

d. *Interfere substantially with the movement of any native resident or migratory fish or wildlife corridors, or impede the use of native wildlife nursery sites?*

Because the proposed project activities would include minimal excavation, be of relatively short duration, and be implemented within urban centers, project-related construction and other activities are not expected to adversely affect common fish or wildlife species. The majority of work areas are entirely built out with few, if any, remaining wildlife habitat values, therefore no adverse effects to these resources are expected.

e. *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Impact BIO-3: Construction of the project could result in impacts to heritage or other significant trees in the project area.

It is anticipated that no trees that are considered significant by project area municipalities would be damaged or removed by project construction. Street trees line many of the roads throughout the project area, however, because the project implementation would remain primarily within major roads no trimming or removal is anticipated.

All of the significant project area trees would be avoided by project design. As such, permits for tree removal would not be required for the proposed project. Standard tree protection measures (e.g., working outside tree driplines) would be followed to avoid and minimize tree damage.

If necessary, and on a case-by-case basis, SCG/SDG&E would pursue tree trimming or removal activities with local municipalities. In such an instance, mitigation for removal of protected trees would vary, depending on the local jurisdiction. The local City or County planning departments, or the City arborist for each municipality would provide guidelines for mitigation of impacts to heritage and mature trees. If potential conflicts with local policies or ordinances are identified during this process, the subject trees would not be removed.

For these reasons, this impact would be less than significant.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact BIO-4: Project activities may conflict with provisions of Habitat Conservation Plans, Natural Community Conservation Plans, or other approved conservation plans.

Several multi-species HCPs and NCCPs are either under development or have been prepared in the general project region. These plans provide a framework for the analysis of potential impacts of projects on a suite of special-status species or sensitive habitats. Project activities within developed areas may conflict with conservation strategies in HCPs and NCCPs covering portions of the project area.

Mitigation Measure BIO-4a: Comply with provisions of relevant HCPS, NCCPs, and other approved conservation plans.

SCG/SDG&E would review maps of the project activity locations to determine proximity to lands incorporated in any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The project location would also be evaluated based on its proximity to the boundaries of any lands designated as a Wilderness Area by the Bureau of Land Management or as Wildlife Preserve or Critical Habitat by the U.S. Fish & Wildlife Service (USFWS). During development of a work plan, SCG/SDG&E will review provisions of local city and county policies, ordinances and conservation plans, and comply with all applicable requirements. This may include submittal of plans for review and approval by local agencies.

E. CULTURAL RESOURCES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
CULTURAL RESOURCES—Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The environmental diversity of Southern California, with its ranges of climate, varied topography and geology, and wide array of biological communities, creates an equally diverse cultural landscape, prehistorically and historically. The level of archaeological and historical studies completed in the project area, comprised of SCG/SDG&E service territories, ranges from extensive studies to no formal investigations. Overall, the cultural resource setting includes prehistoric sites that may extend back for several thousand years with some sites showing evidence of contact with early European exploration of California. The historic sites in the project area can reflect the broad cultural panorama of these regions of California. Historic sites can include those associated with early exploration and colonization; the Spanish, Mexican, and American expansions; the Gold Rush; the boom of the 1880s–1890s; post-1900 industrialization; and growth during the World War I, World War II, and post-war eras.

Pre-dating, and in some cases contemporary with, human habitation of the project area, paleontological resources in the form of fossilized remains of organisms that lived in the region in the geologic past are also present in the soil and preserve an additional aspect of prehistory. These resources are also present in the project area.

Additionally, much of the project area was occupied during both the prehistoric and protohistoric periods; therefore archaeological sites are widespread and numerous. Rock outcrops, river and stream drainages, and coastal strips were often prime locations for Native American village sites or processing camps. These locations now range from highly urbanized locations such as cities to undeveloped areas of the high desert. Often archaeological sites are covered by three feet or more of topsoil, thereby protecting the remains even after an area has been fully urbanized.

Regulations, Approvals, and Permits Applicable to Cultural Resources

Federal

Federal regulations and policies pertain to those actions that involve federal funding, federal licensing, or federal permitting. Examples may include federal grants or licensing (FERC and ICC) and federal permits associated with vegetation and wetlands (U.S. Army Corps of Engineers [Corps] Section 404 permits).

Section 106 Review. Section 106 of the National Historic Preservation Act (NHPA), and its current regulations (36 CFR 800) effective January 2001, requires that all federal agencies review and evaluate how their actions or undertakings may affect historic properties. Review under Section 106 is designed to ensure that historic properties are considered throughout the various stages of federal project planning and execution. Under Section 106, historic properties are those prehistoric and historic resources that are listed or eligible for listing in the National Register of Historic Places. The review process is administered by the Advisory Council on Historic Preservation and the State Historic Preservation Officer (SHPO). Recent changes to the Section 106 process have somewhat increased the role and authority of the SHPO and reduced the role of the Advisory Council.

For actions specific to the proposed project, the Section 106 process may apply if there is a later requirement for a Corps Section 404 permit for river and stream crossings or other waterways under the Corps' jurisdiction.

State

California Environmental Quality Act. A substantial adverse change to the significance of a historical resource constitutes a significant effect on the environment. A “substantial adverse change” means “demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired” (Section 15064.5). All properties on the California Register that may be affected by development or zoning actions must be considered under CEQA. The fact that a resource or property is not listed on the California Register does not preclude it from being significant and does not make it exempt from CEQA evaluation. Examples may include locally designated properties and properties evaluated as significant in cultural resource surveys that meet California Register of Historical resources (CRHR) criteria and California Office of Historic Preservation standards (the current surveys meet such criteria). Native American sites and areas of cultural sensitivity or sacred value may also be found to be significant in spite of not being listed or to have perceived value to the community as a whole.

A substantial adverse change to the significance of a historical resource constitutes a significant effect on the environment.

State Historical Building Code. In California, the State Historical Building Code (SHBC) provides some degree of flexibility to owners of historic structures towards meeting building code requirements. The SHBC standards and regulations are performance-oriented rather than prescriptive unlike most housing codes which are more prescriptive. Jurisdictions must use the SHBC when dealing with qualified historical buildings, structures, sites, or resources in permitting repairs, alterations and additions necessary for the preservation, rehabilitation, relocation, related reconstruction, change of use, or continued use of a historic property. Activities proposed for FIG technology implementation do not include alterations or additions to any buildings or structure, therefore, the proposed project is not likely to be affected by SHBC.

Counties

The policies and regulations of the various counties as they apply to historical resources in the project area are limited. Each affected county has policies (ordinances and General Plans) that echo CEQA and also reflect local policy on the preservation and enhancement of historical resources.

Cities

The policies and regulations of the various cities as they apply to historical resources in the project area are limited. Each affected city has policies (ordinances and General Plans) that echo CEQA and also reflect local policy on the preservation and enhancement of historical resources.

- a. *Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?*
- b. *Would the project cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?*

Impact CUL-1: Possible substantial effects can occur to known, but unevaluated prehistoric and historic archaeological deposits from ground disturbing construction operations (construction related impact, particularly portals outside of previously excavated areas).

It is a goal of the proposed project to apply the FIG technology in an developed environment, i.e., in highly congested areas, where the trench-and-lay method of fiber optic installation would be impractical due to the lack of space for new substructures, or due to the cost. In general, the potential for construction activities to affect cultural resources is low, as all excavation would occur within the existing SCG/SDG&E easements in areas that were previously disrupted during installation of the natural gas pipelines. Because all construction activities would occur in areas previously excavated for the gas pipeline installations, it is unlikely that known or unknown historical, paleontological, or cultural resources would be encountered during excavation.

For any excavation outside of previously excavated areas, the proposed project will follow all federal, state and local laws, ordinances, regulations, and standards applicable to the protection of cultural resources. Additionally, the proposed project would develop protocols to be followed in the proposed project's Cultural Resource Plan and Procedures, a document to be approved by the CPUC.

Mitigation Measure CUL-1a: For any excavation outside of previously excavated areas, conduct a records search for the proposed project area and the lands within a one-mile radius from the appropriate California Historical Resources Information System (CHRIS).

The records search has two objectives: (1) to determine whether previous archaeological investigations have been conducted in the proposed project area, and (2) to provide information on known prehistoric or historic sites or culturally sensitive areas on and in the vicinity of the proposed project. The records search also checks the Office of Historic Preservation (OHP) Historic Property Data File, which includes the National Register of Historic Places (listings and eligibility determinations), California Points of Historical Interest, and California Historical Landmarks, and any local historic or archaeological societies. Additionally, a letter will be sent to the Native American Heritage Commission (NAHC) requesting a search of the NAHC Sacred Lands file and identification of a contact person or persons within NAHC for follow-on contact/consultation.

Mitigation Measure CUL-1b: For any proposed locations that have the potential for buried prehistoric cultural material or fossils, all grading and excavation for FIG installation will be monitored by a qualified archaeologist. Monitoring is required within 500 feet of the boundaries of known cultural resources (including extant architectural features) and within

1,000 feet of the locations of modern and historic stream crossings. Monitors must have 2 years of professional experience and be certified by the CPUC. Monitors will be under the supervision of the cultural resources specialist.

If archaeological material is encountered, including significant historic, archaeological, or paleontological resources, the monitor will have the authority to halt construction within 100 feet of the find. A professional archaeologist or paleontologist will be contacted and consulted on the significance of the find and appropriate actions to mitigate impacts will be identified and implemented before construction activities will be allowed to resume.

c. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact CUL-2: Potential discovery or disturbance of unique paleontological resources during construction could constitute an impact. Because significant fossil discoveries can be made in areas designated as low, as well as moderate to high potential, excavation activities could possibly unearth significant paleontological resources. While this is unlikely, should such resources be encountered, this would be a significant impact.

Mitigation Measure CUL-2a: In the event that fossil remains are encountered, either by the cultural resources monitor or by construction personnel, qualified paleontological specialists will be contacted. Construction within 50 feet of the find will be temporarily halted or diverted until the discovery is examined by a qualified vertebrate paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. Significant fossils will be salvaged through a program of excavation, analysis, and documentation. Fossil remains collected during the salvage program shall be cleaned, sorted, catalogued, and then deposited in a public, non-profit institution with research interests in the materials.

d. Disturb any human remains, including those interred outside of formal cemeteries?

Impact CUL-3: Possible substantial effects may occur to human burials from construction operations. Subsurface excavation in the areas known or suspected to contain burials or archaeological sites of the type known to possess burials (occupation sites), could disturb or destroy significant human remains. This could include burials of prehistoric remains or non-Indian pioneers.

Mitigation Measure CUL-3a: If human remains are found at any time during site preparation or excavation activities, all work will immediately stop within 100 feet of the find. The project archaeologist will be notified immediately and will, in turn, immediately notify the county coroner for the appropriate county in compliance with Section 7050.5 of the California Health and Safety Code. Upon the completion of compliance with all relevant sections of the California Health and Safety Code, the cultural resources specialist will implement Mitigation Measure CUL-1b.

F. GEOLOGY AND SOILS

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
GEOLOGY AND SOILS—Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Statewide Geologic Hazards

The geology in the project area can vary from upland areas underlain by bedrock to alluvial flatlands. Because of this varied geology, geologic hazards that could affect the proposed project include slope instability (landsliding) and settlement.

Settlement

Loose, soft soil material comprised of sand, silt and clay, if not properly engineered, has the potential to settle after a building is placed on the surface. Settlement of the loose soils generally occurs slowly but over time can amount to more than most structures can tolerate. Building settlement could lead to structural damage such as cracked foundations, misaligned or cracked walls and windows. Settlement problems are site-specific and can generally be remedied through standard engineering applications.

Landslides

Generally, a slope can fail when its ability to resist movement decreases and the stresses on a slope increase. The material in the slope and external processes such as climate, topography slope geometry, and human activity can render a slope unstable and eventually initiate slope movements and failures. Factors that decrease resistance to movement in a slope includes pore water pressure, material changes, and structure. Changes in slope material such as improperly engineered fill slopes can alter water movement and lead to chemical and physical changes within the slope.

Statewide Soil Hazards

Expansive Soils

Expansive soils possess a “shrink-swell” behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may result over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Typically, soils that exhibit expansive characteristics comprise the upper five feet of the surface. The effects of expansive soils could damage foundations of aboveground structures, paved roads and streets, and concrete slabs. Expansion and contraction of soils, depending on the season and the amount of surface water infiltration, could exert enough pressure on structures to result in cracking, settlement, and uplift.

Soil Erosion

Soil erosion is also a natural on-going process that transports, erodes and displaces soil particles through a transport mechanism such as flowing water or wind. Erosion is the physical detachment and movement of soil materials through natural processes or human activities. Depending on the local landscape and climatic conditions, erosion may be very slow to very rapid. The detachment of soil particles can be initiated through the suspension of material in either hydraulic (water) or aeolian (wind) setting.

Rates of erosion can vary depending on the soil material and structure, placement and human activity. The erosion potential for soils in the project is variable throughout the project area. Soils containing high amounts of silt can be easily eroded while sandy soils are less susceptible. Excessive soil erosion can lead to damage of building foundations, roadways, dam embankments and increased sedimentation to drainage ways.

The effects of excessive erosion range from nuisance problems that require additional maintenance, such as increased siltation in storm drains, to extreme cases where water courses are down cut and gullies develop, which can eventually undermine adjacent structures or vegetation. Human activities that disturb soils in arid regions increase wind erosion potential. The project area includes numerous landscapes from inland desert environments, coastal bluffs, alluvial plains, to steep ridgelines. For this reason, and in conjunction with the proposed project activities, the erosion hazard may be considered a potentially significant issue that is further addressed in the impact analysis.

Seismicity

The project area is located in a region that has historically experienced high seismicity. In the past 100 years, several earthquakes of magnitude 5.0 or larger have been reported on the active San Andreas, San Jacinto, Elsinore, Garlock, and Newport-Inglewood fault systems, all of which traverse the service regions. As a result, earthquake hazards have occurred in the region. Injury to people and damage to structures during earthquakes can be caused by actual surface rupture along an active fault, by ground shaking from a nearby or distant fault, liquefaction, or dam failure. Project facilities could be affected by shaking during seismic events on faults.

A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. Most faults are the result of repeated displacements over a long period of time. Numerous active and potentially active faults have been mapped in the region.

The project area contains two types of faults: 1) those with surface expressions (traces) and, 2) buried or blind thrust faults. A fault trace (surface expression) is the line on the earth's surface, which defines the particular fault. Buried or blind thrust faults are thought to underlay much of the project area. These "buried" faults do not leave traces on the earth's surface as they are deep below. Although these faults typically do not offset surface deposits, they do generate co-seismic uplift and likely cause co-seismic movement on fault traces, which may be linked to the blind thrust at substantial depth.

Surface Rupture and Ground Shaking

Surface ruptures occur when movement on a fault deep within the earth breaks through to the surface. Rupture of the surface during earthquake events is generally limited to the narrow strip of land immediately adjacent to the fault on which the event is occurring.

Fault surface rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake, or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking.

Because the project area contains several active and potentially active faults, the potential to generate earthquake events is considered high. As a result, the likelihood of surface rupture in each of the counties of the project area is also considered high.

Earthquake-induced ground shaking can pose threats to people and structures even at distant locations from the fault on which the earthquake event is occurring. Ground shaking at a particular location depends on the earthquake magnitude (e.g., a measure of total energy released by fault rupture); epicentral distance (e.g., the distance from the center of the fault rupture to the location of interest); and, subsurface conditions of the geologic and soil units at the location of interest.

Seismically-Induced Landslides

Strong ground shaking during earthquake events can generate landslides and slumps in uplands or coastal regions in the vicinity of the fault on which the earthquake is occurring. The zone of opportunity for seismically-induced landsliding is about 75 miles for a magnitude 6.5 earthquake.

Seismically-induced landslides would be most likely to occur in areas that have previously experienced landslides or slumps, in areas of steep slopes, or in saturated areas. Portions of the project area would be susceptible to seismically-induced landsliding because of the abundance of active faults in the region and the existing landslide hazards.

Regulations, Approvals, and Permits Applicable to Geology and Soils

State

California Building Code. The *California Building Code* is another name for the body of regulations known as the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code (CBSC, 1995). Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable (Bolt, 1988). Published by the International Conference of Building Officials, the Uniform Building Code (UBC) is a widely adopted model building code in the United States. The California Building Code incorporates by reference the Uniform Building Code with necessary California amendments. About one-third of the text within the California Building Code has been tailored for California earthquake conditions. Although widely accepted and implemented throughout the United States, local, city and county jurisdictions can adopt the UBC either in whole or in part.

Alquist-Priolo Special Study Zones. The Alquist-Priolo Earthquake Fault Zoning Act of 1971 requires that special geologic studies be conducted to locate and assess any active fault traces in and around known active fault areas prior to development of structures for human occupancy. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures.

The Alquist-Priolo Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. This Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. Surface rupture is the most easily avoided seismic hazard.

Seismic Hazards Mapping Act. The Seismic Hazards Mapping Act of 1990 addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides. The purpose of the Act is to protect public safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act.

Local City and County

General Plans and Seismic Safety Element. Cities and county governments typically develop as part of the General Plans, safety and seismic elements that identify goals, objectives, and implementing actions to minimize the loss of life, property damage and disruption of goods and services from man-made and natural disasters including floods, fires, non-seismic geologic hazards and earthquakes. General Plans can provide policies and develop ordinances to ensure acceptable protection of people and structures from risks associated with these hazards. Ordinances can include those addressing unreinforced masonry construction, erosion or grading.

- a. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure (including liquefaction), or landslides?*

The proposed project includes the implementation of a technology that places conduit within existing natural gas pipelines. The utility structure would already be in place prior to FIG installation, and because the conduit would be placed inside the natural gas pipeline, the new structure would not be exposed to many of the geologic hazards presented in this section. Ground surface rupture and displacement of active or potentially active fault traces could potentially damage the conduit structure where the natural gas pipelines pass through faults. Damage from earthquake activity could temporarily disrupt cable network operation and result in periods of interrupted service while the system is inspected and repaired. The implementation of FIG technology in natural gas pipelines would not increase the human or environment exposure to the impact of surface fault rupture across active traces of earthquake faults. Therefore, no impact relating to surface fault rupture from the project would occur.

The project area will likely experience at least one major earthquake (greater than moment magnitude 7) within the next 30 years. The intensity of such an event will depend on the causative fault and the distance to the epicenter, the moment magnitude and the duration of shaking. Damage due to groundshaking could disturb or cause breakage of cable conduit. Given the unobtrusiveness of the installed conduit and the absence of surface structure, any damage will not affect humans or the environment. Seismic groundshaking would not result in an impact because the proposed project would not increase the amount of people exposed to potential adverse effects of groundshaking or increase the severity of the groundshaking in the project area.

Additionally, the project area includes regions that are subject to earthquake-induced liquefaction. Liquefaction and resulting differential ground settlement and lateral spreading could damage the

conduit system. If damage from liquefaction failures were to occur, it could temporarily disrupt cable network operation and result in periods of interrupted service while the system is inspected and repaired. The project would not increase the human or environment exposure to liquefaction of other seismic ground failure, therefore, the no impact from groundshaking would occur.

b. *Would the project result in substantial soil erosion or the loss of topsoil?*

Impact GEO-1: Initial construction operations and periodic repairs for the project could result in temporary accelerated erosion and sedimentation from soil disturbance and/or vegetation removal.

Soils throughout the project area, many of which are already disturbed, vary widely with respect to their erosion hazard. Ground-disturbing activities, including removal of vegetation, can cause increased water runoff rates and concentrated flows and may cause accelerated erosion, with a consequent loss of soil productivity. Because the area of soil disturbance will be small within a given area, there will not be a significant opportunity for erosion to occur. This impact is considered less than significant.

c. *Would the project be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*

Impact GEO-2: The FIG project area could be subjected to geologic hazards including settlement, and slope failure.

The susceptibility of land (slope) failure is dependent on the slope and geology, as well as the amount of rainfall, excavation or seismic activities. Areas most susceptible to landsliding are characterized by steep slopes and include most existing landslides with substantial evidence of down-slope creep of surface materials. Landslides are least susceptible in areas that are topographically low alluvial fans.

The general developed environments in the project area where FIG technology would be implemented would consist of gently sloping and stable terrain within existing roads and road shoulders where existing natural gas pipelines are generally located in urban environments. Typically, applicable geotechnical engineering remedies were previously incorporated into the roadway and pipeline design to reduce the likelihood of soil failure. Additionally, FIG technologies involve placement of conduit within existing pipeline infrastructure and would not require installation excavation into steep slopes, particularly those subject to mass movement (i.e., landsliding, debris flows). The proposed project itself would not increase the potential for slope failures and would not result in exposing people, property or the environment to additional slope stability hazards or result in an adverse physical effect on humans or the environment. Therefore, this impact is considered less than significant.

d. *Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?*

Impact GEO-3: The FIG project area could be subjected to geologic hazards relating to expansive soils.

Parts of the project area contain soils that are considered expansive by the Uniform Building Code and by the U.S. Natural Resources Conservation Service. The effects of expansive soils could damage foundation of aboveground structures, paved roads and streets, and concrete slabs. FIG technologies involve installation of conduit within existing pipeline infrastructure. Structural damage to the conduit system could potentially result where conduit is installed in a pipeline system placed in expansive soils. However, insertion of the conduit into the pipeline would not affect the stability of the pipeline or increase the risk of structural damage to the existing pipe. Additionally, an impact from expansive soils would not occur because any damage that could occur would not have an adverse physical effect on humans or the environment.

- e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

No septic tanks or alternative wastewater disposal systems will be installed as part of the proposed project. No impacts will occur.

G. HAZARDS AND PUBLIC SAFETY

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
HAZARDS AND HAZARDOUS MATERIALS				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<i>Issues (and Supporting Information Sources):</i>		<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Implementation of the proposed project throughout the project area may involve construction in land uses characterized by industrial, commercial, and residential land uses. Construction activities for the proposed project would occur within or adjacent to existing right-of-ways of public roadways where utility lines are generally located within developed areas. Residences located near possible construction areas and facility operations are considered sensitive receptors for purposes of this analysis.

FIG Fittings and Procedure

Based on the results of the demonstrations and tests conducted to date, the FIG Technology presents risk levels comparable to those associated with current natural gas utility operations. The tapping process for the installation of the various fittings is a standard procedure routinely performed by SCG/SDG&E employees and contractors for service line installations. The FIG Technology uses the same procedures and materials that have been safely used in the industry for many years. Only the fittings have been modified to accommodate the conduit.

The FIG fittings and technology have been designed and would be implemented to conform to all applicable regulations, including those in 49 C.F.R. Title 192, “Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards.” The regulations are written as minimum performance standards, setting the level of safety to be attained and allowing the pipeline operators discretion in achieving that level. In addition, pipeline companies, including SCG/SDG&E, perform discretionary activities over and above the regulations to achieve these goals. Emergency repairs and procedures, including actions to mitigate potential impacts, would be included in the terms and conditions of the contracts between SCG/SDG&E and the Communications Companies. Several policy issues are overriding, however: (1) public and employee safety is always the first priority; and (2) other subordinate priorities related to repair would be worked out in the contracts.

SCG employees tested the FIG Technology, including all FIG system components, with the purpose of evaluating their safety and durability as permanent attachments to gas-carrying steel

and plastic pipelines. Short- and long-term tests have shown that system components meet SCG's and SDG&E's performance and safety criteria as pipeline components.

Based on the technical evaluation conducted of the FIG Technology, it has been concluded by SCG/SDG&E that the process and components presented by the FIG Technology meet SCG's and SDG&E's performance criteria for permanent pipeline fittings. The conclusion was that the risks associated with the installation of the FIG Technology are comparable to those associated with normal natural gas operating conditions. Training of employees that would work on affected gas mains will emphasize SCG/SDG&E company-wide safety procedures.

Safety measures and procedures would be an integral part of the FIG Technology application, as they are with existing work related to installation, operation, and maintenance of active gas pipelines. These include measures to mitigate reasonably foreseeable upset and accident conditions. Many of these measures are already mandated and in place with respect to potential gas leaks or accidents. As noted, only workers trained and qualified to work on natural gas pipelines would be allowed to perform installations of fittings and conduit. With the implementation of these safety measures impacts would be less than significant.

Contaminated Soil

The project area may potentially contain a multitude of existing hazardous sites. They are more likely to exist in urban areas with industrial uses, however they may also be scattered throughout the project area where other land uses persist. Given the size of the project area, thousands of hazardous waste generators, leaking tank sites and toxic spills within 1,000 feet of potential pipeline access locations are possible.

During construction activities, contaminated soil or groundwater may be encountered. If encountered, these contaminated materials could be classified as hazardous wastes, and would then be disposed of in accordance with applicable County hazardous materials regulation. All institution controls governing the storage, transportation, use, handling, and disposal of hazardous materials would be followed by project personnel during construction of the project.

Methane and Hydrogen Sulfide Gas Seepage

Naturally occurring methane gas and hydrogen sulfide gas (H₂S) have been known to migrate into shallow geology deposits in certain areas of the Southern California region. In 1985, an explosion occurred in the basement of a commercial retail outlet store (Ross Dress for Less) in Los Angeles caused by methane accumulation through subsurface seepage. Methane gas and hydrogen sulfide (H₂S) can follow fissures or improperly abandoned oil wells to the surface or near-surface strata from deeper oil producing formations. Areas above known petroleum resources are of particular concern including central Los Angeles (Fairfax District), Huntington Beach, and Brea. Methane may be trapped under impervious surfaces where concentrations can cause explosion or hazardous breathing conditions. H₂S can be toxic to humans at elevated concentrations. Excavations may experience pockets of accumulated methane or H₂S gas at shallow depths.

Regulations, Approvals, and Permits Applicable To NATURAL GAS TRANSPORTATION and Safety

Federal

The Office of Pipeline Safety (OPS) of the Department of Transportation (DOT) works with the oil and natural gas pipeline industries to further improve safety and environmental protection in cost-effective ways. The primary regulatory basis for achieving these safety goals in the pipeline industry is the set of regulations embodied in Title 49 of the Code of Federal Regulations (CFR) Parts 190-199.

Part 192 of 49 CFR prescribes safety standards for transportation of natural gas by pipeline. The regulations are written as minimum performance standards, setting the level of safety to be attained and allowing the pipeline operators discretion in achieving that level. In addition, pipeline companies, including SCG/SDG&E, perform discretionary activities over and above the regulations to achieve these goals.

State

The Utilities Safety Branch (USB) of the CPUC enforces Federal Pipeline Safety Regulations and CPUC General Order No. 112-E (Rules Governing Design, Construction, Testing, Maintenance and Operation of Utility Gas Gathering, Transmission and Distribution Piping Systems) through its natural gas safety program. The USB administers its natural gas safety program by auditing the facilities of investor-owned natural gas utilities and municipalities in California for compliance with the applicable codes. The audit consists of reviewing operation and maintenance records, evaluating emergency procedures, and performing random field inspections of the natural gas facilities.

Regulations, Approvals, and Permits Applicable To Hazardous Materials

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. Chemical and physical properties cause a substance to be considered hazardous, including the properties of toxicity, ignitability, corrosivity, and reactivity. These properties are defined in the California Code of Regulations (CCR), Title 22, Sections 66261.20-66261.24. A “hazardous waste” is any hazardous material that is discarded, abandoned, or to be recycled. The criteria that render a material hazardous also make a waste hazardous (California Health and Safety Code, Section 25117).

For purposes of this analysis, hazardous materials include the raw materials and products mentioned above, and hazardous waste includes waste generated by facilities and businesses or waste material remaining onsite as a result of past activities. Applicable regulations and policies considered relevant to the proposed project are summarized below.

Federal

The U.S. Environmental Protection Agency (EPA) regulates the management of hazardous materials and wastes. The primary federal hazardous materials and waste laws are contained in Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the Toxic Substances Control Act (TSCA). These laws apply to hazardous waste management, soil and groundwater contamination, and the controlled use of particular chemicals. In California, EPA has delegated most of its regulatory responsibilities to the state. TSCA allows EPA to ban (or phase out) the use of chemicals that may present unreasonable risks to public health or the environment.

State

California regulations are equal to or more stringent than federal regulations. The U.S. EPA has granted the State of California primary oversight responsibility to administer and enforce hazardous waste management programs. State regulations require planning and management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human health and the environment.

The state agencies most involved in enforcing public health and safety laws and regulations include the Cal-EPA Department of Toxic Substance Control (DTSC), the California Occupational Safety and Health Administration (Cal-OSHA), and the California Integrated Waste Management Board.

DTSC enforces hazardous materials and waste regulations in California under the authority of EPA. California's Hazardous Waste Control Law incorporates the federal hazardous materials and waste standards of RCRA, but California's regulations are stricter in many respects.

In California, Cal-OSHA assumes primary responsibility for enforcing worker safety regulations such as the federal Hazard Communication Program regulations. Cal-OSHA regulations are found in the CCR Title 8. Although Cal-OSHA regulations have incorporated federal OSHA standards, Cal-OSHA regulations are generally more stringent than those of the federal government.

Hazardous Materials Release Response Plans and Inventory Act of 1985. The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires preparation of Hazardous Materials Business Plans and disclosure of hazardous materials inventories. A business plan includes information such as an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Statewide, the California Environmental Protection Agency (Cal-EPA) DTSC has primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the state.

Hazardous Waste Control Act. The Hazardous Waste Control Act created the state hazardous waste management program, which is similar to, but more stringent than, the federal RCRA program. The act is implemented by regulations contained in Title 26 of the California Code of Regulations, which list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from the generator to the transporter to the ultimate disposal location. Copies of the manifest must be filed with the California Department of Toxic Substances and Control.

- a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? OR*
- b) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Impact HAZ-1: Possible temporary exposure to or release of hazardous materials during construction.

Small quantities of hazardous materials may be stored, used, and handled during construction. The hazardous materials anticipated to be used are small volumes of petroleum hydrocarbons and their derivatives (e.g., gasoline, hydraulic fluids) required to operate the construction equipment. These materials could potentially be released in accidental spills. Although the types and quantities of hazardous materials used during construction are not considered acutely hazardous and would not pose a substantial risk to human health and/or safety, release of hazardous materials without subsequent containment and cleanup could result in harm to the environment. This impact is considered potentially significant.

Mitigation Measure HAZ-1a: Ensure proper labeling, storage, handling, and use of hazardous materials.

SCG/SDG&E would ensure proper labeling, storage, handling, and use of hazardous materials in accordance with best management practices and the Occupational Safety and Health Administration (OSHA)'s HAZWOPER requirements. SCG/SDG&E would ensure that employees and/or contractors are properly trained in the use and handling of these materials and that each material is accompanied by a material safety data sheet. Additionally, any small quantities of hazardous materials stored temporarily in staging areas will be stored on pallets within fenced and secured areas and protected from exposure to weather. Incompatible materials will be stored separately, as appropriate.

To avoid unexpected releases of hazardous materials, SCG/SDG&E would include individuals trained in accordance with the OSHA's HAZWOPER requirements. Additionally, SCG/SDG&E would have a written plan outlining how to respond if hazardous materials are unexpectedly encountered. The plan will specify identification, handling, reporting, and disposal of hazardous materials. All hazardous waste materials removed during construction, to the extent necessary to

ensure the area can be safely traversed, will be handled and disposed of by a licensed waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility. SCG/SDG&E would require in its contracts that contractors meet federal, state, and local requirements.

Mitigation Measure HAZ-1b: Report all significant releases or threatened releases of hazardous materials.

All significant hazardous materials spills or threatened releases, including petroleum products such as gasoline, diesel, and hydraulic fluid, regardless of quantity spilled must be immediately reported if the spill has entered or threatens to enter a water of the State, including a stream, lake, wetland, or storm drain, or has caused injury to a person or threatens injury to public health. Immediate notification must be made to the local emergency response agency, or 911 and the Governor's Office of Emergency Services (OES) Warning Center at 1-800-852-7550.

For non-petroleum products, additional reporting may be required if the release exceeds federal reportable quantity thresholds over a release period of 24 hours as detailed in Section 25359.4 of the California Health and Safety Code and Title 40, Section 302.4 of the CFR.

All construction personnel, including environmental monitors, shall be aware of state and federal emergency response reporting guidelines. In California, spill notification guidance is summarized in the OES Hazardous Materials Unit's *California Hazardous Material Spill/Release Notification Guidance* (OES 1999). Reportable quantities for federal hazardous substances can be found in Table 302.4 of 40CFR 302.3. Guidance for federal notification is also provided in the *California Hazardous Material Spill/Release Notification Guidance* manual.

Mitigation Measure HAZ-1c: Reduce excavation impacts.

If at any time during construction, soil and or sediment are suspected of being contaminated by visual observations of debris, discoloration or sheen, and/or odor, SCG/SDG&E would monitor and analyze excavated material with a photo-ionization detector to determine the potential for soil contamination and the need for specialized soil-handling procedures to reduce excavation impacts in areas of suspected contamination.

Impact HAZ-2: The project could require disposal of potentially contaminated soils.

The potential exists for contaminated soil or groundwater to be encountered during excavation or dewatering activities during FIG installation. If encountered, contaminated materials may be classified as a non-hazardous waste, a hazardous waste, a designated waste, or a special waste, depending on the type and degree of contamination. Disposal of excavated soils as standard demolition waste or use as fill for another construction site could result in a significant impact if those soils are contaminated. Disposal of materials in the vicinity of unknown but potentially present site contamination could pose a hazard to people, or animal or plant populations.

Mitigation Measure HAZ-2a: Implement an Awareness Training Program to educate field personnel regarding the unexpected discovery of contaminated soil.

Initially, SCG/SDG&E shall implement an Awareness Training Program that instructs field personnel to attempt to avoid areas that they know are contaminated (e.g., near oil refineries) or are likely to be contaminated (e.g., near abandoned gasoline stations). If soil in a street or public right-of-way is encountered that has an abnormal odor or appearance, the crew will immediately use appropriate protective gear and will call the region's Environmental Compliance Specialist ("ECS") who will arrange for soil testing. If the test results are "non detect" the soil will be used as backfill. If the test results show detectable amounts of a contaminant then the inspector for the city or county that owns the street or right of way will be notified.

Mitigation Measure HAZ-2b: Characterize excavated materials for disposal if those materials have the odor or appearance of contamination and report all discovery of significant hazardous waste, including soil and groundwater contamination, to the inspector of the local agency.

Excavations of soil and or sediment that are suspected of being contaminated by visual observations of debris, discoloration or sheen, and/or odor would be observed by a trained health and safety professional equipped with an organic vapor analyzer (or other appropriate methods for detecting anticipated contaminants) to screen excavated materials and ensure worker safety.

In accordance with Public Utilities Code § 787, SCG/SDG&E may backfill the excavation permitted by any local agency with native spoil if the following conditions are met:

- (1) The native spoil is competent spoil.
- (2) Compaction meets the local agency's requirements using industry standards for testing compaction.
- (3) The public utility or its contractor has no physical evidence of, or substantial reason to believe that there has been, contamination of the soil from hazardous wastes.
- (4) Within 30 days prior to compaction, a local agency has not provided the public utility or its contractor with physical evidence of, or substantial reason to believe that there has been, contamination of the soil from hazardous wastes.

If identified hazardous waste is encountered, including but not limited to stained or odiferous soils and sludge, sheens or floating free product on groundwater, or foreign matter associated with buried pipes, storage tanks, or drums, work shall stop immediately and the local hazardous materials response agency shall be contacted. Non-essential personnel shall leave the immediate area. The inspector of the city/county that owns the street in which the contamination is found will be notified.

Impact HAZ-3: Potential public health hazard associated with a pipeline rupture during FIG installation and operation that could lead to an explosion resulting in property damage or fatalities.

SCG/SDG&E's primary objective is to deliver a service in the most safe and reliable manner. The safety of the public and employees are paramount at SCG/SDG&E. Guided by this principal, SCG/SDG&E has performed an evaluation of the components in the insertion method developed by Sempra Fiber Links (SFL) (currently the only domestic technology of its type available in the U.S.) to determine its safety and durability as permanent attachments to gas carrying steel pipelines. Short and long term tests have shown that system components meet SCG/SDG&E performance criteria for pipeline material and equipment.

From an operations and maintenance perspective, the results of the demonstrations and tests conducted to date show that the FIG procedure presents risk levels comparable to those associated with current natural gas operations. The tapping process for the installation of the various fittings is a standard procedure normally performed by appropriately qualified SCG/SDG&E employees and contractors. The same general gas control procedures currently used by SCG/SDG&E employees and contractors will be used for the installation of FIG components.

The technology and process utilized in the installation of the SFL system does not require pipeline de-pressurization, meets all current gas pipeline safety regulations and is designed to integrate efficiently with ongoing pipeline operations and maintenance practices.

Mitigation Measure HAZ-3a: SCG/SDG&E will update safety procedures to address FIG installation procedures in compliance with all federal and state pipeline safety regulations and include in those procedures training requirements provided to all employees expected to work on pipelines serving as carriers.

SCG/SDG&E Company procedures would be updated to address the installation methods and maintenance of mains serving as fiber carriers. Training on installation procedures will be provided to all employees, both company and contractor, expected to work on pipelines serving as carriers. Only employees with this training will be allowed to work on the FIG installation procedures. Furthermore, employees in districts where carrier pipelines will be located will receive training on how to address operations, maintenance and emergency response activities.

Any activities undertaken or facilities constructed to provide this service would comply with all gas safety regulations in effect at the time of construction. SCG/SDG&E will be responsible for compliance of these facilities with all gas safety regulations. Based on a review of the Code of Federal Regulations (49 CFR) and General order 112E (CPUC), SCG/SDG&E Safety Management determined that the FIG technology meets current regulation requirements. Operations and maintenance procedures for the FIG process would be incorporated into the Operating Plan.

All technology provided by Carriers would have to meet a series of stringent test designed to ensure that only high quality components, installation crews, and installation procedures are

allowed on the SCG/SDG&E pipeline system. Implementation of these mitigation measures would reduce impacts to a less-than-significant level.

- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No hazardous emissions would be generated by the proposed project. No hazardous emissions or acutely hazardous materials, substances, or waste, would be handled within one-quarter of a mile of an existing or proposed school. SCG/SDG&E would not locate a staging area near (within 500 feet) an existing or proposed school.

All institutional controls governing the storage, transportation, use, handling, and disposal of hazardous materials would be followed by project personnel during construction of the project. Thus, there will be no impacts to existing or proposed schools.

- d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

Impact HAZ-4: Possible Exposure of the Public or Environment to Hazardous Materials Sites.

State and federal laws regulate the manner in which contamination and hazardous conditions are investigated and remediated. Contaminated sites can be expected in proposed pipeline access point locations, particularly in highly urbanized areas. Coordination with waste disposal activities with local regulatory agencies will be needed for work at these locations. This impact is considered less than significant because SCG/SDG&E will ensure that an Awareness Training Program is implemented and soil contamination will be reported to the inspector of the local agency, as described in **Mitigation Measures HAZ-2a** and **HAZ-2b**.

Mitigation Measure: Implement **Mitigation Measure HAZ-2a** and **HAZ-2b**.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? OR*
- f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*

Existing gas pipelines do not physically interfere with airports or private airstrips, nor with emergency response or evacuation plans. Therefore, no impact to these facilities/services is anticipated from the placement of fiber optic cable within active gas pipelines.

- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Impact HAZ-5: Possible Temporary Limited Emergency Access.

The proposed project will involve the operation of heavy machinery. Emergency response times may be affected in areas where pipeline access points are adjacent to or within road rights-of-way. Emergency access will be regulated as a condition of road encroachment permits by the applicable regulatory agency. Also, as discussed in **Section 3.0, Traffic**, a traffic control plan shall be prepared as part of the construction mitigation strategy of the proposed project to further reduce impacts on traffic and emergency response vehicles and programs to less-than-significant levels.

Mitigation Measure: Implement Mitigation Measure TRA-1a.

- h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Project activities will take place within urbanized/developed areas. The proposed project would not be constructed near wildlands and there will be no impacts due to exposure of people or structures to a significant risk of loss, injury, or death attributable to wildland fires.

H. HYDROLOGY AND WATER QUALITY

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
HYDROLOGY AND WATER QUALITY—				
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<i>Issues (and Supporting Information Sources):</i>		<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f)	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h)	Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i)	Inundation of seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project involves the modification of existing natural gas lines and does not include discharges regulated by water quality standards or waste discharge permits. All modifications would occur within existing rights-of-way or roads in urban and highly developed areas. This would not involve the development of new rights-of-ways. Due to the nature of the work, it is unlikely that impacts would occur to water resources. Exceptions would be the exposure of soil during earthmoving activities, such as excavation of the manholes, and soil stockpiling where surface water could carry the sediment into nearby stormdrains.

Regulations, Approvals, and Permits Applicable to Hydrology and Water Quality

Federal

NPDES Permit. The individual RWQCBs administer the National Pollutant Discharge Elimination System (NPDES) stormwater permitting program throughout their regions in California. Construction activities of five acres or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Stormwater Runoff Associated With Construction Activity (General Construction Permit). The project applicant must submit a Notice of Intent (NOI) to the SWRCB to be covered by the General Permit prior to the beginning of construction. The General Construction Permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be prepared before construction begins. The plan would include specifications for best management practices (BMPs) that would be implemented during project construction to control potential discharge of pollutants from the construction area. Additionally, the plan would describe measures to prevent pollutants in runoff after construction is complete and reference a plan for inspection and

maintenance of the project facilities. Implementation of the plan starts with the commencement of construction and continues through the completion of the project. Upon completion, the applicant must submit a Notice of Termination to the SWRCB.

Clean Water Act, Section 401 Certification. If wetlands or waterways were to be affected by the project, the RWQCB requires a Section 401 (Water Certification) Permit by meeting the terms and conditions in a Section 404 Nationwide Permit issued by the Army Corps of Engineers. Under the applicable Nationwide Permit the applicant must demonstrate that all work would be done within the permitter's window and that all BMP's (Best Management Practices) and erosion control methods were taken to prevent impacts to the waterways.

State

Water Quality Regulation. Regulatory authorities exist on both the state and federal levels for control of water quality in California. The U.S. Environmental Protection Agency (EPA) is the federal agency, governed by the Clean Water Act, responsible for water quality management. An EPA region is located in each County and delegates authority for water quality permitting to the State Water Resources Control Board (SWRCB).

The SWRCB, located in Sacramento, is the agency with jurisdiction over water quality issues in the State of California. The SWRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the California Water Code), which establishes the legal framework for water quality control activities by the SWRCB. Much of the implementation of the SWRCB's responsibilities is delegated to nine Regional Water Quality Control Boards.

The Porter-Cologne Quality Act finds and declares that activities and factors which may affect the quality of the waters of the state shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.

Regional Water Quality Board. Under the Porter-Cologne Quality Act, the SWRCB has the ultimate authority over state water rights and water quality policy. However, the Porter-Cologne Act also established nine RWQCBs to oversee water quality on a day-to-day basis at the local/regional level.

RWQCBs engage in a number of water quality functions in their respective regions. One of the most important functions is preparing and periodically updating basin plans (water quality control plans). Each basin plan establishes:

1. beneficial uses of water designated for each water body to be protected;
2. water quality standards, known as water quality objectives, for both surface water and groundwater; and
3. actions necessary to maintain these standards in order to control non-point and point sources of pollution to the state's waters.

Permits issued to control pollution must implement basin plan requirements (i.e., water quality standards) that take into consideration beneficial uses to be protected.

Local and Surface Water Resources

Surface waters potentially affected by the proposed project include creeks and drainages that flow throughout the 13 southern California counties in the project area, which may be near FIG installation locations. Major surface water drainages that occur within the project area include substantial creeks that drain the San Diego Hydrologic Region (SDHR) in a westerly direction toward the Pacific Ocean and the Colorado Hydrologic Region (CHR) in an easterly direction toward the Colorado River. Additionally, the project area additionally includes numerous flood control channels and drainages that drain stormwater runoff from urban areas.

The hydrologic regions are composed of smaller watersheds, each defined by the natural terrain. While some of the watersheds are fully contained within southern California, others extend into Mexico to the south; Orange, Riverside, and San Bernardino Counties to the north; and Imperial County to the east.

- a) *Would the project violate any water quality standards or waste discharge requirements?*

Impact HYD-1: Project construction could violate water quality standards or waste discharge requirements.

The project would not violate any water quality standards or waste discharge requirements, as dewatering activities would adhere to SCG/SDG&E adopted SWPPP guidelines and Best Management Practices (BMPs) and water certification permit guidelines. Project construction would not require dewatering at the majority of the construction sites, as conduit would be installed into already existing pipelines using the “hot tap” method. This method of conduit installation allows access to the pipeline from the street or right-of-way, which would be located within developed areas. Thus, the amount of ground disturbance would be limited to the size of a manhole entrance/pit, and would require approximately eight hours to complete. If groundwater accumulates within the excavated entrance pits, all dewatering activities would adhere to SWPPP and water certification permit guidelines, ensuring that the project does not violate water quality standards. Implementation of these guidelines will reduce impacts to water quality to a less-than-significant level.

- b) *Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level?*

Impact HYD-2: Dewatering activities would result in short-term, localized alterations in groundwater levels.

The project would not substantially impact groundwater supplies and aquifers as project activities would be limited to the installation of conduit within existing underground pipelines from within the road or right-of-way. However, groundwater levels vary considerably throughout the project area and depths of excavation can also vary. Potentially, in some locations excavation would encounter saturated soil conditions and required dewatering. Dewatering results in the temporary

draw-down of the localized water table. Extracted groundwater may be of poor quality and, if discharged to surface waters, could degrade water quality. Groundwater would be discharged or collected and disposed off-site, in accordance with all applicable laws and regulations. Receiving water quality would be maintained through appropriate treatment measures identified in the permit. These may include utilization of settling ponds or screens to reduce suspended sediment loads, or if necessary due to contaminated groundwater, use of on-site treatment systems for contaminant removal prior to discharge. Implementation of these guidelines will reduce impacts to water quality to a less-than-significant level.

- c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion of siltation on- or off-site?*

The FIG installation will occur primarily within roadways and road rights-of-way and would not alter existing drainage patterns through the alteration of a stream or of upland areas or require any work in sensitive water bodies during construction. No significant impacts to drainages would occur because the proposed project has been designed to avoid this impact.

- d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?*

The project would result in no impacts to the existing drainage pattern nor will the course of a river or stream be altered by project activities which would result in an increase in flooding on- or off-site. Existing grades would not be altered. Thus, no impacts to flooding due to increased runoff will result from project activities.

- e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Impact HYD-3: Dewatering activities would contribute runoff water that could exceed the capacity of existing or planned stormwater drainage systems.

Project activities would not require the use of additional water supplies to install the conduit in existing gas pipelines. The ground water would be diverted to a Baker Tank for settlement of fine dirt particles and released either off-site or to designated stormdrains. Although the water released to stormdrains would add to the potential runoff from storms and other sources, project activities will not contribute an amount to exceed the capacity of existing or planned stormwater drainage systems nor provide substantial sources of polluted runoff. Adherence to these guidelines would reduce potential impacts to a less-than-significant level.

- f) Would the project substantially degrade water quality?*

Per reasons previously stated in e), project activities would not contribute to the degradation of water quality. There will be no impacts to water quality in result of this project.

g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The project does not propose homes or other habitable structures within the 100-year flood boundary. Project activities would not impact housing as project activities entail only the installation of fiber optic cables. Project activities would not determine the location of housing nor will it result in the movement or displacement of housing to a flood-hazard area. Thus, there will be no impacts to housing in relation to flood-hazard insurance or zoning due to project activities.

h) Would the project place within a 100-year flood hazard area structures, which would impede or redirect flood flows?

The project would not place structures within a 100-year area that would impede or redirect flows. Project activities would involve the installation of the conduit underground within existing pipelines. There would be no new external structures built, as construction areas will be restored to pre-construction conditions. Thus, there will be no impacts to flood flows.

i) Would the project cause inundation of seiche, tsunami, or mudflow?

The project area is not subject to seiches, tsunamis, or mudflows, and project activities would not alter the exposure of SCG/SDG&E facilities to these hazards.

I. LAND USE AND PLANNING

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
LAND USE AND PLANNING—				
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Land use planning in California is primarily the responsibility of local government. Each city and county is required by the State to adopt a General Plan and to establish goals, policies, and implementation measures for long-term development, protection from environmental hazards, neighborhood preservation, conservation of identified natural resources, and sound planning for urban development.

The principal means of implementing the goals and policies presented in the General Plan of a city or county is its zoning ordinance, which identifies use zones in the jurisdiction, the land uses permitted on each parcel, and the standards for each permitted use according to zone. The zoning ordinance is required by state law to be consistent with the General Plan.

In addition to local city and county governments, the regulation of land use and development within the project area is also provided by other levels of government at the regional, state, and federal levels. An overview of land use regulation in the identified project area is provided below.

The land-use setting for the project would be primarily urban metropolitan areas. Surrounding land uses would include high density, mixed-use residential, commercial, and industrial. A list of the counties and cities served by the project is provided in Chapter 2, Project Description. FIG technology includes conduit installation in existing natural gas pipelines, therefore, activities would occur predominantly in the utility rights-of-way where those pipelines were previously installed in developed environments including roadways rights-of-way.

Regulations, Approvals, and Permits Applicable to Land Use and Planning

Federal

The National Environmental Policy Act (NEPA) provides general information on the effects of federally funded projects. The act is implemented by regulations included in the Code of Federal Regulations (40CFR6) which require careful consideration of the environmental effects of Federal actions or plans, including projects that receive federal funds. Impacts on land uses and conflicts with state, regional, or local plans and policies are among the considerations included in the regulations. The regulations also require that projects requiring NEPA review seek to avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible.

Bureau of Land Management. The Bureau of Land Management (BLM) manages large rural land areas, including land that is environmentally sensitive. The BLM governs the uses that will be allowed on land that it manages, striving to balance environmental protection and conservation goals with other uses such as recreation and grazing. Land managed by the BLM may be encountered within the project area. The entire eastern portion of the southern California is dominated by a public/private “checkerboard” of lands that make up BLM managed areas. The California Desert Conservation Area Plan is used to manage BLM-controlled areas. The Plan area provides a recreation opportunity spectrum that includes use of desert open space and scenic resources, dispersed recreation activities, nature studies, trails, education and research opportunities, wilderness areas, off-highway vehicle use, and competitive vehicular events (such

as dry-lake sailing and motorized vehicle races). In addition to its land management responsibilities, BLM also implements biological resource management policies through its designation of Areas of Critical Environmental Concern.

US Forest Service. The US Forest Service USFS is responsible for the conservation of large areas of National Forest land that it manages. National forests account for several millions of acres of land in the southern California region, and are primarily managed for outdoor recreation uses (such as camping, picnicking, hiking, backpacking, riding, fishing, hunting, skiing, sightseeing, nature interpretation) and for resource preservation by USFS. Several National Forests fall within the project area boundaries. These forests include the Cleveland National Forest, Angeles National Forest, and San Bernardino National Forest. These national forests also contain several, more protected, Wilderness Areas.

US Fish and Wildlife Service. The US Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (FESA) and designates critical habitat for endangered species to carry out its mission to conserve, protect, and enhance the nation's fish and wildlife and their habitats for the continuing benefit of people. Critical habitat areas cannot be disturbed without permission from USFWS and/or other federal agencies, depending on land ownership. USFWS responsibilities under FESA are described in the Biological Resources setting section of this chapter.

US Army Corps of Engineers. Among its responsibilities, the US Army Corps of Engineers (Corps) administers Section 404 of the Clean Water Act, which governs specified activities in waters of the United States, including wetlands. In this role, the Corps requires that a permit be obtained if a project would place structures, including dredged or filled materials, within navigable waters or wetlands, or result in alteration of such areas. Key provisions of Section 404 are described in the Biological Resources setting section in this chapter.

National Park Service. The National Park Service (NPS) manages national parks and wilderness areas, the latter being less accessible, less developed, and often less intensively visited. The purpose of NPS is to manage the natural resources of the national park system to maintain, rehabilitate, and perpetuate their inherent integrity. The natural resource policies of NPS are aimed at providing the American people with the opportunity to enjoy and benefit from natural environments evolving through natural processes minimally influenced by human actions. NPS owns and operates all national parks and is responsible for accommodating conservation and recreation needs for the land it manages, which are frequently in environmentally sensitive areas.

State

California Department of Transportation. Caltrans' jurisdiction includes right-of-ways of state and interstate routes within California. Any work within the right-of-way of a federal or state transportation corridor is subject to Caltrans regulations governing allowable actions and modifications to the right-of-way. Caltrans issues permits to encroach on land within their jurisdiction to ensure encroachment is compatible with the primary uses of the State Highway System, ensure safety, and to protect the State's investment in the highway facility. The

encroachment permit requirement applies to persons, corporations, cities, counties, utilities, and other government agencies.

California Department of Fish and Game. The mandate of the California Department of Fish and Game (CDFG) is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. In particular, CDFG is required under the California Endangered Species Act (CESA), the California Native Plant Protection Act, CEQA, and the Natural Community Conservation Planning Act to conserve species through listing, habitat acquisition and protection, review of local land use planning, multi-species conservation planning, stewardship, recovery, research, and education. CDFG protects rare, threatened and endangered species by managing habitat in legally designated ecological reserves or wildlife areas. CDFG responsibilities under CESA were previously described in the Biological Resources section (3.D) of this chapter.

Local

General Plan. City and county General Plans provide the most comprehensive land use planning documentation for the proposed project. As required by Government Code Section 65300 (State Planning and Zoning Law), local governments are required to prepare and adopt a comprehensive and long-term General Plan as a guide for future development. The project area encompasses numerous cities and counties and would be subject to the local plans and policies of these cities and counties. As mentioned above, each city's or county's General Plan provides goals, policies, and implementation measures that, together with land use designations and zoning codes, are designed to guide land use and resource planning and development. Topical "elements" required by State law include land use, circulation, housing, conservation, open space, noise, and safety. Other topics frequently addressed by local governments include public facilities, parks and recreation, community design, and growth management, among others. County General Plans must cover areas not included by city General Plans (i.e., unincorporated areas) and must remain consistent with city General Plans.

Zoning. Zoning regulations vary by jurisdiction throughout project area. Within some jurisdictions, construction involved in work on existing utilities is permitted as an allowable use under the zoning ordinance. In other jurisdictions, a conditional use permit or similar discretionary action would be required, but less common. Typically, discretionary actions require notification at a public hearing. At the hearing, the local zoning board or zoning administrator would consider the proposal, public testimony, and the findings of a CEQA review. FIG installation activities could be required to meet conditions intended to comply with local ordinance or environmental quality requirements.

Specific and Master Plans. A city or county may also provide land use planning guidance by developing community and/or specific plans for smaller, more specific areas within their jurisdiction. These more localized plans provide for focused guidance for developing a specific area, with development standards tailored to the area, as well as systematic implementation of the General Plan. For proposed FIG installation activities, SCG/SDG&E would be required to adhere

to the policies and objectives contained within a Community, Master, and/or Specific Plan in addition to those contained in the city's or county's General Plan.

Habitat Conservation Plans and Natural Community Conservation Plans

A Habitat Conservation Plan (HCP) is a land use plan that allows nonfederal landowners to obtain an "incidental take permit" for species that are listed as threatened or endangered under FESA in return for conservation commitments. Incidental take permits allow landowners to carry out specified economic activities on their land that destroy habitats or otherwise harm, or "take," threatened or endangered species. The Secretary of the Interior or the Secretary of Commerce must approve an HCP. Prior to this approval, the appropriate Secretary must determine that the landowner's activities will not reduce the likelihood of species survival and recovery and that the adverse impacts of those activities will be mitigated to the maximum extent practicable. Additionally, the landowner needs to ensure that there will be adequate funding to carry out the HCP.

The Natural Community Conservation Planning (NCCP) program of CDFG is an effort by the State of California and numerous private and public partners that takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. An NCCP identifies and provides for the regional or area wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The program, which began in 1991 under the State's NCCP Act, is broader in its orientation and objectives than CESA and FESA. These laws are designed to identify and protect individual species that have already declined in number significantly. The primary objective of the NCCP program is to conserve natural communities at the ecosystem scale while accommodating compatible land use. The program seeks to prevent the controversies caused by listings by focusing on the long-term stability of wildlife and plant communities.

In areas where HCPs and/or NCCPs have been adopted or could potentially be adopted, SCG/SDG&E would be required to follow guidelines provided in the plan.

a. Would the project physically divide an established community?

The proposed project is limited to implementation of FIG technology to install conduit within existing natural gas pipelines. Improvements would occur primarily within existing SCG/SDG&E rights-of-way or easements commonly found along or adjacent to public roadways. Where necessary, SCG/SDG&E would obtain additionally temporary construction easements for construction activities. Implementation of FIG technology would not result in the division or disruption of existing communities. Therefore, no impacts would occur.

b. Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Impact LUP-1: Possible conflict with applicable local land use plans, policies, and regulations might occur.

The CPUC has jurisdictional over public utility activities therefore the project as proposed is not subject to discretionary approval of applicable local plans and regulations concerning land use. However, potential conflict is not likely to occur with local land use plans and zoning regulations because the project involves only the modification of existing natural gas lines for installation of empty conduit and would not carry with it any action to develop new utility rights-of-way. However, administrative permits are still required to implement the project, therefore, SCG/SDG&E would obtain, at a minimum, encroachment permits to work in public road rights-of-way. Therefore, this potential impact would be less than significant.

c. Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

Within the project area, regional conservation efforts have been formalized into subregional and subarea comprehensive habitat and multiple species conservation plans proposed by local governments, local agencies, and private entities. In areas where these plans have been adopted or could potentially be adopted, SCG/SDG&E would be required to follow guidelines provided in the plan.

J. MINERAL RESOURCES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
MINERAL RESOURCES—Would the project:				
a) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

In any urban development it is important that land use decisions be made with full recognition of the natural resources of the area. Depending on the region, these natural resources can include geologic deposits of moderate to high value minerals used in manufacturing processes and in the production of construction materials. Aggregate (crushed rock) and limestone used in concrete production are examples of common extractable mineral resources. The past several decades of urban expansion in Southern California have reduced or restricted access to significant mineral resources, resulting in a net loss of potential resources.

Regulations, Approvals, and Permits Applicable to Mineral Resources

To limit new development in areas containing significant mineral deposits, the California State Legislature enacted the Surface Mining and Reclamation Act (SMARA) in 1975. SMARA calls for the state geologist to classify the lands within California based on mineral resource availability. Although California has a wide range of mineral commodities, it was recognized that construction materials like sand, gravel and crushed stone produced regionally are used in every urban area of the state, and require special classification data. The California Division of Mines and Geology (CDMG) has classified urbanizing lands according to the presence or absence of significant sand, gravel, or stone deposits that are suitable as sources of aggregate (CDMG, 1988). These areas, called Mineral Resource Zones (MRZ), are described below:

- SZ – Scientific Resource area containing unique or rare occurrences of rocks, minerals, or fossils that are of outstanding scientific significance.
- MRZ-1 – Mineral Resource Zone where adequate information indicates that no significant mineral deposits are present or likely to be present.
- MRZ-2 – Mineral Resource Zone where adequate information indicates that significant mineral deposits are present, or there is a high likelihood for their presence and development should be controlled.
- MRZ-3 – Mineral Resource Zone where the significance of mineral deposits cannot be determined from the available data.
- MRZ-4 – Mineral Resource Zone where there is insufficient data to assign any other MRZ designation.

The project area includes several areas designated as MRZ-2, predominantly in the eastern San Fernando Valley and along the San Gabriel, Los Angeles, and Santa Ana Rivers. Most of the urban/developed areas throughout Southern California where implementation of FIG technology is primarily proposed are located in designated MRZ-1 areas.

The classification system is intended to ensure that through appropriate lead agency policies and procedures, mineral deposits of statewide or regional significance are considered in agency decisions. Each lead agency develops and adopts mineral resource management policies to incorporate into its planning policies, based on the mineral classification data provided. Most of the comprehensive mineral resource mapping in California has been completed for urban areas where there is a high probability that converted land uses would be incompatible with mining.

a. *Would the project result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the state?*

b. *Would the project 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?*

The developed portions of the project area are typically located within areas designated as MRZ-1, indicating that no significant mineral deposits are present or likely to be present. As this is primarily where implementation of FIG technology would occur, no significant mineral deposits would be directly impacted. In addition, the proposed project involves conduit installation within existing natural gas pipelines where surface disturbance would occur in location where previous excavations would have already occurred for placement of the utility. Additionally, the existing natural gas pipelines would be located within utility rights of way most commonly found in roadways, which would not be available for surface mining in any case. Therefore, the implementation of FIG technology would not reduce the availability of any minerals that could be of value to the region or state.

There are no operational mineral resource recovery sites within identified pipeline access points whose operations or accessibility would be affected by the installation of the project components.

K. NOISE

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XI. NOISE—Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Because sound pressure can vary by over one trillion times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ears decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA).² Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

Noise Descriptors and Principles

An individual’s noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long period of time. Rather, community noise varies continuously with time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors

² All noise levels reported herein reflect A-weighted decibels unless otherwise stated.

unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants generally experience noise in the last category. There is no complete satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- a change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- a 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause adverse response

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on the topography of the area and environmental conditions (i.e., atmospheric conditions and noise barriers, either vegetative or manufactured, etc.). Widely distributed noise, such as a large

industrial facility spread over many acres or a street with moving vehicles, would typically attenuate at a lower rate, approximately 4 to 6 dBA.

Noise Sources and Levels

Transportation sources, such as automobiles, trucks, trains, and aircraft, are the principal sources of noise in the urban environment. Along major transportation corridors, noise levels can reach 80 DNL, while along arterial streets, noise levels typically range from 65 to 70 DNL. Industrial and commercial equipment and operations also contribute to the ambient noise environment in their vicinities.

Sensitive Receptors

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication; physiological and psychological stress; and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others, due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. In general, residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks and other outdoor recreation areas generally are more sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive.

Regulations, Approvals, and Permits Applicable to Noise

Noise issues are typically addressed in local General Plan policies, and local noise ordinance standards. The project area include cities and municipalities encompassed by SCG/SDG&E's service territories in Southern California. Most of these cities and counties have adopted general plans. California Government Code Section 65302 lists the noise element as one of the seven essential elements cities and counties must include as part of their general plans. The General Plan noise element is a planning document that contains goals and policies to ensure compatible land use development with respect to noise. Cities and counties adopt noise ordinances for the implementation of the policies and standards in the general plan. Local General Plan policies and noise ordinance standards will be applicable to the proposed project when constructing or operating within the various jurisdictions.

a. Would the project expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact NOI-1: Construction activities could generate noise levels in excess of local standards during project construction and operation.

Construction activities for FIG installation could involve temporary noise sources associated with construction. Such noise sources are typically regulated on the local level through enforcement of noise ordinances, implementation of general plan policies, and imposition of conditions of approval for permits.

Normal construction activities, on average, would include the following equipment, the use of which would potentially result in noise impacts: two pickup trucks, a backhoe, one five-ton material-hauling truck, and one cement truck.

No long-term noise impacts are associated with the operation of the proposed project. Short-term noise impacts would be associated with the installation and construction activities, and occasional maintenance activities. However, these activities would be required to be in compliance with all applicable local noise ordinances. It should be noted that the most likely applications of FIG technology would be in developed areas. Abatement of installation-, construction-, and maintenance-related noise impacts in an urban environment would be accomplished in compliance with applicable noise ordinances. All equipment would be required to have sound-control devices no less effective than those provided on the original equipment. During the construction period, noise levels generated by construction for FIG installation would vary depending on the particular type, number, and duration of use of various pieces of construction equipment.

Most of the various jurisdictions through which FIG technologies would be implemented have set standard construction hours and, in some cases, have established construction equipment noise standards as part of either the local general plan noise element or the noise ordinance. As indicated below, SCG/SDG&E would require its contractors to comply with the construction hour limitations and equipment standards for all applicable jurisdictions. For construction in those jurisdictions where there are no specific construction-related standards, SCG/SDG&E would require its contractors to limit noisy construction activity to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday. Given these measures, the project would not expose persons to or generate noise levels in excess of standards established in local general plans or noise ordinances, or applicable standards of other agencies.

Mitigation Measure NOI-1a: SCG/SDG&E would require construction contractors to comply with the construction hours limitations and construction equipment standards set forth in the local general plan noise element and the noise ordinance of all applicable jurisdictions of cities and counties, or in compliance with conditions outlined in acquired permits from those applicable jurisdictions.

For construction in those jurisdictions where there are no specific construction-related standards, Sempra Communications would require its contractors to limit noisy construction activity to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday.

Mitigation Measure NOI-1b: To reduce daytime noise impacts due to construction, SCG/SDG&E shall require construction contractors to implement the following measures when operating adjacent to sensitive receptors in order to maintain compliance with local noise standards:

- **Equipment and trucks used for construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible);**

- **Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible; and**
- **Construction equipment shall be located as far from sensitive receptors as possible.**

b. Would the project expose persons to or generate excessive groundborne vibration or groundborne noise levels?

Impact NOI-2: Exposure of sensitive receptors to localized groundborne vibration and groundborne noise during project construction.

The project could involve temporary sources of groundborne vibration and groundborne noise during construction from operation of heavy equipment. During construction, operation of heavy equipment would generate localized groundborne vibration and groundborne noise that could be perceptible at any nearby residences or other sensitive uses in the immediate vicinity of project construction. However, since the duration of impact at any one location would be very brief (from one to three days) and since the impact would occur during less sensitive daytime hours, the impact from construction-related groundborne vibration and groundborne noise would not be significant.

c. Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The project would introduce no new permanent sources of noise to the ambient environment of project area. Therefore, there would not be a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. The project would have no impacts in ambient noise levels.

d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Impact NOI-3: Temporary and intermittent noise increases during project construction.

The project could result in temporary and intermittent noise increases due to construction. Project construction-related equipment and activities are described above under Impact NOI-1. The effect of this noise would depend upon the level of noise that would be generated by the equipment, the distance between construction activities and the nearest noise-sensitive uses, and the existing noise levels at those sensitive uses. Project construction would involve use of equipment that would typically generate noise levels in the 80 to 90 dBA range within 50 feet. It

is possible that residential uses could be located as close as 20 to 30 feet from construction equipment. In some areas, intervening structures/sound walls, trees and berms (between the construction zone and residences) may provide some noise attenuation.

Background noise levels would vary depending upon the location of the pipeline access point. Even in urban areas where background noise levels are relatively high, the noise from construction equipment would be substantially above those background levels. Given compliance with local standards related to allowable construction hours (see **Impact NOI-1**), project construction would occur when a majority of people would be at work, but retired persons, people who work at home, and people caring for children in their homes could be annoyed by noise when construction activities occur in their immediate vicinity. However, the duration of impact for each sensitive receptor would likely be one to three days, from the commencement of site preparation to the completion of backfilling, and given the short duration of the impact, the temporary increase in noise due to project construction would not be significant.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise level?

The project does not involve the development of a noise-sensitive land use, and thus, would not expose people to excessive aircraft noise. Thus, the project would have result in no impacts.

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise?

The project does not involve the development of a noise-sensitive land use, and thus, would not expose people to excessive aircraft noise. The project would have no impacts to exposing people to excessive noise.

L. POPULATION AND HOUSING

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XII. POPULATION AND HOUSING— Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project does not propose new homes or businesses, or result in the displacement of any housing units or people. Installation for the new conduit in live gas lines would occur within existing gas pipelines found primarily within public streets and would not require the extension of roads or other infrastructure. Implementation of the proposed project would neither affect existing population nor generate additional population, nor would it affect or create additional demand for new housing, directly, indirectly, or cumulatively. Therefore, no socioeconomic impacts to population and housing will result from the installation of conduit within existing gas pipelines within SCG/SDG&E’s service territories.

M. PUBLIC SERVICES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Public services are typically provided to development projects by a variety of local purveyors (e.g., city, county, special district, and school district) which may include fire and police protection during project development. The availability of these services, in addition to school, parks, and other public facilities, vary depending on the level of development in the area.

Protection Services

Local fire protection and law enforcement districts provide protection services from both fire and public safety for the appropriate cities throughout the project area. These districts provide service for their assigned cities and surrounding unincorporated areas. Additionally, the California Highway Patrol ensures safety and provides service to the public as they utilize the highway transportation system and to assist local government during emergencies when requested.

Educational Institutions

Due to the expansiveness of the project area the educational institutions in a service territory are comprised of numerous unified school districts, serving the K-12 grade levels, and higher education facilities, which consist of four-year universities (private and public) and community colleges. Within each service territory, K-12 grade level schools may potentially be located near an access point. In addition, these construction sites may be near a college or university. In either case, the project will not impede performance objectives for any educational institutions or other public facilities such as parks or recreation areas.

a.i.a.ii) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection.

Impact PUB-1: Project activities will temporarily disrupt existing transportation and circulation patterns in the vicinity, and impact response times for fire and police emergencies, by disrupting traffic flows and street operations.

Implementation of the proposed project would not generate additional demand on the public services of fire or police protection and therefore would require no new construction or enhancement of existing government facilities. Conduit installation would occur within existing natural gas pipelines using a FIG technology where access to the pipelines would occur within road rights-of-way. Because access for FIG installation activities could temporarily disrupt existing transportation and circulation patterns in the vicinity, it has the potential to impact response times for fire and police emergencies, by disrupting traffic flows and street operations and by reducing travel lanes and curb parking. Implementing **Mitigation Measure TRA-1a** would reduce impacts to levels of insignificance.

Mitigation Measure: Implementing Mitigation Measure TRA-1a.

a.iii,a.iv,a.v) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.

Implementation of the proposed project would not generate additional demand on the public services of schools, parks, or other public facilities and therefore would require no new construction or enhancement of existing government facilities. Therefore there would be no impacts to fire and police protection, schools, parks, and other public facilities.

N. RECREATION

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Would the project result in permanent and/or temporary impacts, such as possible disruption of recreational activities, affecting the recreational value of existing facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

This section discusses characteristics of recreational facilities in the vicinity of the project area that could be affected by project construction and operation. Recreational facilities (e.g., parks, campgrounds, picnic areas, beaches, playgrounds, natural reservations, bicycling and hiking trails) are typically developed and maintained by local governments, such as cities, counties and special districts, although state and federal governments also operate such facilities. Due to the programmatic nature of the project and the extensive geographic scope of the project area, all the local recreational facilities that could potentially be affected by the project are not included at this programmatic level of analysis.

These cities and counties within the SCG/SDG&E service territories that establish the project area are home to neighborhood, county, and regional parks, beaches, historical parks, open space areas, and wilderness areas. The project area also includes networks of regional, county and local trails. In addition, water and utility districts preserve and manage thousands of acres of

watershed lands, and counties or special districts manage open space reserves in many of the counties. City-owned parks and recreation facilities are operated and maintained by the respective parks and recreation departments of those cities.

Regulations, Approvals, and Permits Applicable to Recreation

Approximately one-third of the cities and 40 percent of the counties in the state have adopted parks and recreation elements as part of their general plans (OPR, 1998). These elements, as well as the land use and open space and conservation elements in general plans without recreation elements, may include a range of policies and standards regarding park and recreational facilities. These plans may also include local definitions of recreational value that differ from that of CEQA. For any construction or other actions associated with project implementation within state park units, the State Department of Parks and Recreation would require, at a minimum, a Right of Entry Permit to be issued by the State Parks. No other local, state, or federal regulations applicable to recreational resources have been identified at this level of analysis.

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? OR*
- b. *Would the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?*

The proposed project does not include the construction of new recreational facilities, nor would it result in increased demand for or use of parks or recreational facilities. Thus, no impacts would occur to neighborhood and regional parks, recreation areas and facilities.

- c. *Would the project result in permanent and/or temporary impacts, such as possible disruption of recreational activities, affecting the recreational value of existing facilities?*

Impact REC-1: The project would intermittently and temporarily disrupt existing nearby recreational facilities for the duration of project construction.

Potential impacts to existing recreational facilities would occur only if required access to a gas pipeline was located in a recreational area. In this instance, any impacts would be minimal and short-term.

Project construction would involve installing conduit within existing natural gas pipelines. Construction activities for FIG installation would be almost entirely within road rights-of-way. Project construction would not directly affect or alter any recreational facility. Although project construction could potentially be visible and audible from recreational areas, it would not substantially impair the use or value of any such facility.

Mitigation Measure: No mitigation is required.

O. TRANSPORTATION AND TRAFFIC

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
TRANSPORTATION AND TRAFFIC—				
Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section describes the nature of the existing major transportation networks, and responsible transportation authorities and/or congestion management agencies (CMAs) throughout the project area. For all state and federal highways in the state of California, the California Department of Transportation (Caltrans) would be the agency responsible for granting access to facilities’ rights-of-way (ROW), as well as approving construction traffic plans that would affect the operations of state and federal facilities. Access to, and/or the approval of construction traffic operations on local and regional routes of significance would be granted and approved by either the affected county’s engineering department, or the local city’s engineering department. SCG/SDG&E would be required to cooperate with Caltrans, county agencies and local incorporated cities before construction begins.

Transportation System

The SCG/SDG&E service territories in Southern California are served by a well-developed network of freeways, regional arterials, and local streets, as well as mass transit systems. State

highways serving these areas consist of U.S. highways and interstates, so designated for their statewide and/or national importance, and state routes, whose purpose is to provide intrastate and interstate travel. County roads serving the project area are roadways so designated for their importance for intracounty travel.

Roadway Operations

The operation of a local roadway network is commonly measured and described using a grading system called Level of Service (LOS). The LOS grading system qualitatively characterizes traffic conditions associated with varying levels of vehicle traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay experienced by motorists) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in long queues and delays). This LOS grading system applies to roadway/freeway segments and intersections. For most local jurisdictions (local City and County roadways and intersections) LOS A, B, and C are generally considered satisfactory service levels, while the influence of congestion becomes more noticeable (though still considered acceptable) at LOS D. LOS E and F are generally considered to be unacceptable. For roadways and intersections with regional significance, or those facilities that fall within the jurisdictions of regional CMAAs, LOS A through E are generally considered satisfactory service levels. LOS F is generally considered to be unacceptable for regional facilities (unless they are currently operating at that level).

Regulations, Approvals, and Permits Applicable to Transportation

The California Department of Transportation requires an encroachment permit to perform construction activities in the state highway rights-of-way throughout the project. Some of the affected local agencies may require local encroachment permits or conditional-use permits for activities within public road rights-of-way. Encroachment permit requirements vary from agency to agency. As conditions of encroachment permits, measures are required to be implemented for transportation and traffic control.

- a. *Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)? OR*
- b. *Cause, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways to be exceeded?*

Impact TRA-1: Pipeline access points for FIG installation within streets would reduce the number of, or the available width of, travel lanes on roads, resulting in temporary disruption of traffic flows and increases in traffic congestion.

Installation of the FIG technology in an urban environment would eliminate or substantially reduce environmental impacts that occur with other methods of installing fiber optic cable underground; however, some short-term impacts may occur. While placing conduit in existing

gas pipelines minimizes impacts to traffic from construction activities, the following activities have the potential to interfere with traffic operations during the construction/installation process.

The construction activities required for SCG/SDG&E's conduit installation do not require activities that are different from those undertaken for standard pipeline work undertaken on a daily basis. No special construction access is required because the pipeline is in existing roads or reached by existing access roads. Any additional work needed, such as construction staging or material storage, would be conducted in previously disturbed areas that, particularly in urban areas, are readily available. The construction activities conducted by SCG/SDG&E would include:

- Installation of the conduit at an entry point on the pipeline by use of a tractor feeder. Extraction is accomplished with retrieval tools at the conduit exit point of the pipeline. The conduit would be routed to a handhole located in the sidewalk, and capped until the fiber optic cable is installed.
- Installation of an estimated average of up to 1.5 miles of conduit per day.
- Installation of the conduits at the exit and re-entry points around all operational SCG/SDG&E gas pipeline valves, before re-entry to SCG/SDG&E's pipelines. Two entries and two exits can be accomplished in eight hours.

Mitigation Measure TRA-1a: Obtain and comply with local and state road encroachment permits, and railroad encroachment permits.

SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan could include the following requirements:

- Identify all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.
- Develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
- Schedule truck trips outside of peak morning and evening commute hours.
- Limit lane closures during peak hours to the extent possible.
- Use haul routes minimizing truck traffic on local roadways to the extent possible.
- Include detours for bicycles and pedestrians in all areas potentially affected by project construction.
- Install traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.

- Develop, and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, ask affected jurisdictions to identify detours, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.
- Store construction materials only in designated areas.
- Coordinate with local transit agencies for temporary relocation of routes or bus stops in works zones, as necessary

c. *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

The proposed project would only involve installation of conduit within existing underground natural gas pipelines. Therefore, there would be no impacts to air traffic patterns or increase in safety risks as a result of the proposed project.

d. *Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Impact TRA-2: FIG installation within or adjacent to roadways would temporarily increase the potential for accidents.

Heavy equipment operating adjacent to or within road rights-of-way would increase the risk of accidents. Construction-generated trucks on project area roadways would interact with other vehicles. Potential conflicts could occur between construction traffic, bicyclists and pedestrians, particularly in the urban areas and residential neighborhoods.

As specified under **Mitigation Measure TRA-1a**, above, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction, including compliance with roadside safety protocols, so as to reduce the risk of accident. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**. Thus, implementation of **Mitigation Measure TRA-1a** would ensure temporary increases in the potential for accidents would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

e. *Result in inadequate emergency access?*

Impact TRA-3: FIG installation within or adjacent to streets would affect emergency access.

As discussed in **Impact TRA-2**, the proposed project would have temporary effects on traffic flow, particularly with conduit installation as proposed within road right-of-ways. FIG installation within streets and temporary reduction in travel lanes could result in delays for emergency vehicle access in the vicinity of the work sites.

As specified under **Mitigation Measure TRA-1a**, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan would require the construction contractor to establish methods for maintaining traffic flow in the project vicinity and minimizing disruption to emergency vehicle access to land uses along the alignment. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**. Implementation of **Mitigation Measure TRA-1a** would ensure potential impacts associated with temporary effects on emergency access would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

f. Result in inadequate parking capacity?

Impact TRA-4: Construction required for FIG installation would generate a temporary demand for parking spaces for construction worker vehicles; in addition, FIG installation would temporarily displace existing on-street parking on a number of streets.

The proposed project would create a limited, new temporary parking demand for construction workers and construction vehicles as crews move to the pipeline access point locations. As discussed in **Impact TRA-1**, the project would not generate a substantial number of construction workers at any one location; therefore, the amount of parking required would not be significant. Construction would also temporarily displace existing on-street parking on a number of streets. However, given the proposed rate of new conduit installation, impacts to on-street parking would be relatively brief at any one location.

As specified under **Mitigation Measure TRA-1a**, above, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan would require the construction contractor to establish methods for minimizing construction effects on parking. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**. Implementation of **Mitigation Measure TRA-1a** would ensure potential impacts associated with potential temporary displacement of on-street parking would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Impact TRA-5: FIG installation could temporarily disrupt bus service near pipeline access points.

The proposed project will have no lasting impact on demand for alternative transportation or on alternative transportation facilities. However, FIG installation could disrupt access to bus stops and park and ride lots near pipeline access points, as well as slow bus movements. Bus routes on streets may need to be temporarily detoured, and bus stops temporarily relocated.

As specified under **Mitigation Measure TRA-1a**, above, SCG/SDG&E would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan would require the construction contractor to establish methods for minimizing construction effects on transit service. Specific requirements that may be included in the traffic control plan are identified under **Mitigation Measure TRA-1a**.

Implementation of **Mitigation Measure TRA-1a** would ensure potential impacts associated with temporary disruptions to transit service would be mitigated to a less-than-significant level.

Mitigation Measure: Implement **Mitigation Measure TRA-1a**.

P. UTILITIES AND SERVICE SYSTEMS

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
UTILITIES AND SERVICE SYSTEMS—				
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<i>Issues (and Supporting Information Sources):</i>		<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Service systems and utilities such as electricity, domestic water, sanitary/stormwater sewers, solid waste, communications and natural gas are typically provided to the project area by a variety of local purveyors (e.g., cities, counties, special districts, water agencies, and power companies). The availability of such services depends on the level of urbanization in a given area. Certain utilities such as sanitary sewer/stormwater, natural gas, are usually provided via underground pipelines or conduits.

Electric, Gas, and Communications Facilities in Southern California

Southern California Gas Company (SCG) is the nation's largest natural gas distribution utility, serving 18 million consumers through 5.1 million meters. The company's service territory encompasses 23,000 square miles, from San Luis Obispo on the north, to the Mexican border in the south, and 535 cities, excluding the City of Long Beach and the County of San Diego (both of which are wholesale customers of SCG).

San Diego Gas & Electric (SDG&E) is a regulated public utility that provides service to three million consumers through 1.3 million electric meters and 775,000 natural gas meters in San Diego and southern Orange counties.

SCG and SDG&E are part of Sempra Energy Utilities; the umbrella for Sempra Energy's regulated business units. Sempra Energy is a Fortune 500 energy services holding company based in San Diego.

Availability of Utilities and Service Systems

The proposed project involves conduit installation in existing live natural gas pipelines within SCG/SDG&E's service territories by using an approved FIG technology. FIG installation and

repair or replacement work would occur primarily within existing public road rights-of-way in a region with a well-established utility infrastructure.

Regulations, Approvals, and Permits Applicable to Utilities and Service Systems

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. The CPUC is responsible for assuring California utility customers have safe, reliable utility service at reasonable rates, protecting utility customers from fraud, and promoting the health of California's economy.

The CPUC regulates natural gas local distribution facilities and services, natural gas procurement, intrastate pipelines, and intrastate production and gathering. The CPUC's approach to natural gas regulation is to ensure low rates with fair allocation across customer classes, service reliability and consumer protection, adequate infrastructure balanced with efficient system use, and provide incentives for efficiency and lower costs. The CPUC works to provide opportunities for competition when in consumer interest, takes the lead in environmental review of gas-related projects, recognizes the growing interaction of electric and gas markets, and monitors gas energy efficiency and other public purpose programs.

The Commission establishes service standards and safety rules, and authorizes utility rate changes. It monitors the safety of utility and transportation operations, and oversees markets to inhibit anti-competitive activity. In its efforts to protect consumers, it prosecutes unlawful utility marketing and billing activities, governs business relationships between utilities and their affiliates, and resolves complaints by customers against utilities. It implements energy efficiency programs, low-income rates and telecommunications services for disabled customers. It oversees the merger and restructure of utility corporations, and enforces the California Environmental Quality Act for utility construction. The CPUC works with other state and federal agencies in promoting water quality, environmental protection and safety. It also intervenes in federal proceedings on issues that affect California utility rates or services.

The Commission also regulates investor-owned water and sewer system utilities. It does not have jurisdiction over municipal utilities or districts. The Water Division supports the Commission by investigating water and sewer system service quality issues and analyzing and processing utility rate change requests.

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The project involves installation of conduit within existing natural gas pipelines. There will be no wastewater generated other than potential dewatering activities, which are discussed in *Section 4h, Hydrology* of this document. Additionally, there will be no development as a part of this project and therefore, no additional wastewater generation would occur from the project sites. Thus, the project would not exceed wastewater treatment requirements by the RWQCB.

- b) *Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?***

As discussed in the previous question, there will be no development associated with this project. Thus, there will be no impacts to existing water or wastewater facilities.

- c) *Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?***

The proposed project would not create new impermeable surfaces that would substantially increase drainage runoff beyond that existing without the project. Accordingly, the proposed project would not require or result in the construction or expansion of stormwater drainage facilities.

- d) *Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?***

Water needs of the project during construction would be relatively minor and temporary. Existing water resources would be sufficient to meet those needs. Following construction, the proposed project would require no external water supply. Therefore, existing water supplies would be sufficient without requiring new or expanded entitlements, so there will be no impacts to the existing water supplies.

- e) *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

The appropriate districts will continue to maintain jurisdiction over the wastewater treatment for SCG/SDG&E's service territories where project sites are located. The proposed project would generate no additional wastewater and would require no wastewater treatment services. Existing wastewater treatment services would be sufficient. There will be no impacts to each district's wastewater treatment capacity.

- f) *Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?***

As discussed in the project description, most of the soil excavated during pipeline access points would be used to refill the excavation, construction spoils such as paving materials would be returned to the asphalt manufacturer, a local recycler, or transported to an appropriate facility for disposal. The quantity of construction-related materials transported to area landfills would be extremely minor relative to the daily volumes handled at these facilities and would not substantially affect the remaining capacity of any landfill.

Project activities will not affect landfill capacity for solid waste disposal needs as no new construction or related activities will take place. Thus, no impacts to solid waste disposal needs would result from the project.

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Solid wastes associated with the proposed project include soil displaced by project construction, conduit spools, and other packaging material associated with FIG installation. Other than these wastes produced during construction, the proposed project would not produce substantial amounts of solid waste. Most, if not all, of the soil removed during pipeline access for FIG installation would be replaced and the surface returned as close to pre-project conditions as possible or practicable. Spools and other packaging for conduit and cable would be taken away for reuse, recycling, or disposal at a landfill consistent with federal, state, and any local solid waste statutes. Once installation is complete, the proposed project would produce no solid wastes.

There are no federal, state, or local statutes or regulations applicable to the proposed project relative to solid waste. The proposed project would have no impacts related to solid waste.

Pipeline Capacity

Impact UTL-1: The placement of fiber optic cable within existing gas pipelines would reduce the service capacity of the existing gas pipelines.

The placement of fiber optic cable within existing gas pipelines would reduce the service capacity of the existing gas pipelines. Testing conducted in August of 2001 found that this reduction ranges from approximately 8.35 percent to 15.66 percent in 4-inch gas pipes, to approximately 0.50 percent in 12-inch gas pipes. No testing was conducted on pipes less than 4 inches in diameter. The installation of 0.5-inch, rather than 1-inch conduit is proposed for 2-inch, 3-inch (and sometimes 4-inch) size pipes. A 0.375-inch conduit is proposed for gas service lines.

Depending upon the size of the gas pipe and conduit, and the needs of a particular service area, a reduction in a 4-inch gas pipeline's capacity may have adverse individual and/or cumulative impact to natural gas service. In a developed environment, a large amount of natural gas infrastructure is already in place and natural gas service needs would be expected to remain relatively constant in the future, because limited areas would be available for future growth.

Mitigation Measure UTL-1a: Application of the Schedule No. G-FIG's Terms and Special Conditions shall address/avoid potentially significant impacts to pipeline service capacity.

Special Conditions 11 and 12 of the DRAFT Schedule No. G-FIG, related to "Pipeline Capacity Available to Provide Service," state:

- Access will be limited to one fiber optic cable or cables of a combined maximum of 1 inch diameter to be installed in one conduit with a maximum diameter of 1.2 inches per SCG/SDG&E pipeline.

- Utilities may deny service under this schedule for a particular location or route if Utility determines that there is now, or will be in the next 60 months, insufficient capacity in its pipelines to accommodate placement of fiber optic cable, or that placement of fiber optic cable would create a threat to the safety or reliability of Utility's gas service. Utility may not deny service on insufficiency of capacity, if capacity is forecast to be adequate for at least the next 60 months. Utility may offer Carrier service for a particular location or route where there will be insufficient capacity within 60 months on condition that Carrier agrees to pay a portion acceptable to Utility of the cost of increasing the capacity of Utility's pipelines in that particular location or route.

If actual future local growth creates the need to add capacity to the particular pipeline segment(s) occupied by the fiber optic cable at any time one or more years after the effective date of the contract, SCG/SDG&E will promptly notify the Communications Company and provide the company with an estimate of the least cost method of adding needed additional capacity. The amount of additional capacity needed will be determined by employing standard utility planning procedures that consider cost efficiency and effectiveness. The Communications Company would have the option of: (1) paying the proportionate share of the incremental costs of adding the needed capacity in the most effective manner, or (2) removing the conduit from the pipeline.

Application of the Schedule No. G-FIG's terms and Special Conditions would address/avoid potentially significant impacts to pipeline service capacity, and reduce those impacts to less-than-significant levels.

Impacts to Operations

Impact UTL-2: The proposed new form of service will have service implications including potential impacts on operations.

Installation of all facilities (conduit and necessary fittings) needed to accommodate fiber optic cable in gas pipelines would be performed only by SCG/SDG&E employees or qualified persons under contract to SCG/SDG&E. The actual installation of the fiber optic cable would be performed by the Carrier, however, SCG/SDG&E will have an inspector present to ensure damage to the existing pipeline facilities would not result during construction.

SCG/SDG&E's primary responsibility during an emergency is to minimize the hazard resulting from a damaged pipeline. Therefore, SCG/SDG&E employees may have to perform tasks during emergency situations that may result in the damage to the conduit and/or cable. However, existing procedures will be modified to minimize the damage to FIG conduit and cable. An estimated twenty-seven current procedures will require modifications to accommodate this new technology.

Mitigation Measure UTL-2a: Primary operations and maintenance procedures shall be modified to address potential operational impacts.

The primary operations and maintenance procedures that will need to be modified in response to the following subjects:

- Leak Survey – It is anticipated that leak survey of pipeline containing fiber optic cable will increase because SCG/SDG&E’s employees will need to survey the manholes where the fiber optic cable will be brought to the surface. This procedure will comply 49 CFR 192.723b(1), which requires that leak surveys be conducted at any location providing the opportunity for finding gas leaks.
- Locate and Mark – Locating wire will be installed with the PE conduit to locate the conduit beyond the steel main.
- Leak Repair – To the extent possible, leak repairs will be made with specialized mechanical fittings to minimize damage to the conduit and cable.
- Third Party Damages – The primary concern after a third party damage will be to prevent hazards to the public and employees. To the extent possible the conduit and cable will be pulled out to minimize damage. Once the damaged section is replaced, the conduit will be re-installed and capped. The Carrier will then be responsible for the insertion of the cable under the inspection of SCG/SDG&E.
- Service Connection – To the extent possible mechanical means will be utilized when providing gas service to new customers to minimize damage to the conduit and cable from welding directly on the steel pipe. At this time, the largest mechanical service connection available is two inches. Any service connection larger than two inches will be welded.
- Main Relocations – In the event that a main containing fiber optic cable has to be relocated, the fiber optic cable will be removed prior to starting the relocation work. SCG/SDG&E will coordinate these jobs with the Carrier.
- Pinching Process – The space between FIG exit and re-entry fittings will be used as pre-designated pinching points. In order for this proposal to work, utility locator maps (also known as “Atlas Sheets”) will have to be clearly marked with the location of FIG fittings. The required information can be posted on Atlas Sheets as part of the FIG installation process. In extreme cases where a main containing cable has to be pinched, tests conducted to date have shown that the hydraulic tool used for pinching the gas pipeline will sever the conduit and cable. However, there will be no interference with gas control procedures.
- Mapping and Tracking Requirements – company procedures will be revised to include the process of identifying FIG exit/entry locations and mains serving as FIG carriers on SCG/SDG&E Company Atlas Sheets.
- Static Electricity – Although the risk associated with static electricity produced during the handling of PE conduit is low, following company procedure 184.0160, which deals with the process of working with PE pipe will mitigate this risk.

- System Capacity – The installation of the PE conduit in gas mains will have some impact on the capacity of the line. System analysis will be conducted prior to the installation of conduit to ensure that line capacity will not be adversely impacted.

Q. MANDATORY FINDINGS OF SIGNIFICANCE

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulative considerable? (“Cumulative considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

The proposed project would not create long-term adverse impacts on the quality of the environment; wildlife or plant species, including special-status plant and wildlife species, including special-status plant and wildlife species; or prehistoric or cultural resources, because of mitigation measures proposed as part of the project. As identified in appropriate sections of this environmental review, the proposed project would have a less-than-significant impact, conditional upon the incorporation of mitigation, on aesthetics, biological and cultural resources, water quality, planning, noise, traffic, public health and safety, and gas service capacity. Mitigation measures described in this analysis, which SCG/SDG&E has adopted as part of the mitigation strategy for the proposed project, as well as the proposed project design elements would reduce impacts below a level of significance.

b. Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Section 15064 of *CEQA Guidelines* provides that when assessing whether a cumulative effect requires preparation of an environmental impact report, the lead agency must consider both whether the cumulative impact is significant and whether the incremental effects of the proposed project are cumulatively considerable. No environmental impact report is required if the proposed project's effects are not cumulatively considerable. The lead agency may determine that a proposed project's contribution would be less than cumulatively considerable when either: the contribution would be rendered less than considerable through mitigation measures, the proposed project would comply with the requirements of a previously approved mitigation program or plan that provides specific requirements that would avoid or substantially lessen the proposed project's effects, or the proposed project's incremental impacts would be *de minimus*, i.e., so small that the environmental conditions would be essentially the same regardless of the implementation of the proposed project.

As discussed in the previous section, the potentially significant impacts that could be caused by the proposed project would be reduced to a less-than-significant level by approaches included in the project design or by mitigation that would be included as part of the project. The resources most likely to be cumulatively affected by the proposed project would be biology, noise, traffic, public health and safety, and gas service capacity.

Biological Resources

Biological resources, particularly threatened, endangered, candidate, and other listed species, would not be cumulatively affected by development. The state and federal governments, through DFG, the Corps, USFWS, and National Marine Fisheries Service, have promulgated a regulatory scheme that limits impacts on these species. The effects of the proposed project are rendered less than cumulatively considerable due to mitigation requiring compliance with all applicable regulations that protect plant, fish, and animal 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 resource coordinator, contractor training) and SCG/SDG&E's commitment to avoid sensitive resources by design would render the proposed project's contribution less than cumulatively considerable.

Additionally, cumulative impacts of the proposed project on biological resources are considered less than significant because (1) activities related to the proposed project would be temporary and vegetation is expected to recover quickly, particularly within disturbed rights-of-way such as roadsides and maintained utility corridors, and (2) proposed project rights-of-way are already disturbed from original construction and on-going maintenance activities of other utilities or roads.

Noise

At the local level, noise caused by a project could exceed established standards due to the cumulative contributions of activities within the community. As discussed in Section K, Noise, in this chapter, the proposed project's contributions to noise would not be cumulatively considerable because either (1) the project would not cause cumulative impacts, or (2) adoption of mitigation measures identified in this document would ensure compliance with state and local noise standards and ordinances. These mitigation measures would ensure that noise due to the proposed project would be below established standards.

Traffic

Temporary traffic-related impacts could occur at the local level during access to the pipeline located within a roadway for FIG installation. The temporary traffic disruption resulting from FIG installation would not be cumulatively considerable as the traffic control plans would be implemented as part of the proposed project and the standard traffic control requirements of the state and local encroachment permits must be obtained prior to installing cable conduit in or adjacent to roads. In the long-term, there would be no project impacts because, upon completion, environmental conditions on the overlying roads would be essentially the same as if the proposed project had not been implemented.

Public Health and Safety

Installation of conduit in existing natural gas pipelines could result in damage to gas lines potentially creating a public health hazard if a pipeline rupture were to occur during FIG installation and / or operation that could lead to an explosion.

Based on the results of the demonstrations and tests conducted to date, the FIG Technology presents risk levels comparable to those associated with current natural gas operations. The FIG fittings and technology have been designed and would be implemented to conform to all applicable regulations, including those in 49 C.F.R. Title 192, "Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards." The regulations are written as minimum performance standards, setting the level of safety to be attained and allowing the pipeline operators discretion in achieving that level. In addition, pipeline companies, including SCG/SDG&E, perform discretionary activities over and above the regulations to achieve these goals. Emergency repairs and procedures, including actions to mitigate potential impacts, would be included in the terms and conditions of the contracts between SCG/SDG&E and the Communications Companies. Several policy issues are overriding, however: (1) public safety is always the first priority; (2) employee safety is always the second priority; and (3) other subordinate priorities related to repair would be worked out in the contracts.

No significant impacts to public health and safety are anticipated to occur that cannot be mitigated by project design and conformance to federal and state pipeline safety regulations; therefore, the proposed project would not constitute a considerable contribution to any cumulative effect regarding public health and safety.

Gas Service Capacity

The proposed new form of service has service implications including potential impacts on operations, existing capacity and future expansion of active gas pipelines. Further issues exist in response to when capacity of the distribution system must be expanded due to future gas load demands. To resolve this issue, SCG/SDG&E would not allow installation of conduit or fiber optic cable in any pipeline if it estimates that installation would result in insufficient gas capacity in the line in the next 60 months. Installation would be allowed if arrangements were made for the carrier to pay the increase in the gas capacity, avoiding that situation. Thus, in the case of capacity constraints more than 60 months in the future, the Carrier may elect to terminate service or relocate its route, such that no additional pipeline construction or trenching would occur.

These conditions protect against the potential for significant cumulative impact that might occur if more than one cable were to be installed in a pipeline, or if the capacity of gas service were to be reduced by the cumulative use of several pipelines by FIG technology.

c. Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

The proposed project would not directly or indirectly cause substantial adverse effects on human beings. The impact analysis included in this environmental assessment indicates that for all resource areas, the proposed project would either have no significant impacts, or, for impacts that would not affect human beings, less than significant impacts with mitigation incorporation.