

Natural Gas Supply

6.1 Introduction

This section discusses the natural gas supply for the AES Highgrove Project. The project will require construction of a new carbon steel gas line, approximately 7 miles long, to connect to Southern California Gas Company's (SoCalGas) gas transmission system. The vast majority of the new line can be constructed in the public right-of-way (ROW), with only a small portion crossing private property.

The proposed route and pipeline construction methods are described in Subsections 6.2 and 6.3, respectively. Pipeline operations are described in Subsection 6.4, and Subsection 6.5 addresses permits and approvals that may be required for construction of the natural gas pipeline.

6.2 Proposed Route

Natural gas for the Highgrove Project will be provided from a new pipeline interconnecting to SoCalGas transmission pipeline (Line 2001). The new 12-inch natural gas line, approximately 7 miles long, would exit the west side of the power plant and follow the Riverside Canal southwest to Main Street. It would turn west on Main Street to Iowa Street and head south on Iowa Street to Martin Luther King Boulevard. It would turn east on Martin Luther King Boulevard to Canyon Crest Drive. On Canyon Crest Drive, the line would head south and end at Via Vista Drive where it would connect into Line 2001. The proposed route is shown in Figure 6.2-1.

The vast majority of the route can be constructed within the public ROW. Only a portion of the line between the plant boundary and Main Street will cross private property.

Pipeline construction will primarily be using the open trench method. However, trenchless methods (e.g., Horizontal Auger Boring and horizontal directional drilling [HDD]) may also be employed to cross railroads, busy intersections or streams. The project plans to secure the rights to use a 24-inch pipe casing for the Iowa Street Bridge crossing over Interstate 215 (I-215), which is currently under construction.

The pipeline will be constructed below-grade along the entire route, except at line termination points at the plant and at the connection to Line 2001. The only appurtenance visible above grade will be pipeline casing vents, which will be installed on each side of railroad crossings and bridges where casing is required. Casing vents consist of a 2-inch-diameter pipe extending approximately 3 feet above grade and is usually located in the existing right-of-way edge.

A discussion of the alternative gas line routes is contained in Section 9, Alternatives.

6.3 Construction Practices

6.3.1 Gas Pipeline

The natural gas pipeline will be constructed of carbon steel in accordance with the American Petroleum Institute (API) specification for line pipe. The pipe will have factory-applied corrosion protection coating. Joints would be welded and inspected using x-ray.

The natural gas pipeline will be constructed using one main spread and several special crossing crews. The main spread will consist of approximately 40 workers and the special crossing crews will be 6 to 10 workers. The remaining workers will be in support positions delivering materials, operating loading and unloading equipment.

The ROW will be accessed over existing roads. Most major pieces of construction equipment will remain along the ROW during construction. The Generating Station Property will provide worker parking and will serve as the location for storing pipe and other pipeline construction materials. The construction contractor will select staging areas prior to construction mobilization. They will be located in non-sensitive areas. One or two staging areas will be required for this project. Staging areas are used for field offices, material storage, dirt stockpile if required, and worker parking. The pipe materials will be transported directly to the work site and strung along the ditch line on a daily basis, as needed. The balance of the pipe is stored at the main pipe yard and loaded out on a daily basis. Staging areas vary in size between 1 and 4 acres and will be in existing paved areas along the pipeline route. Pipeline construction will take approximately 6 months and is expected to begin toward the beginning of project construction.

During construction along the roadway, one lane would be blocked and traffic control would be required. Excavated earth material would be stored on the side of the road. When work is not in progress, trench plate would cover the exposed trench so that traffic can proceed in both lanes. If necessary, additional material-storage locations may be located along the ROW.

The construction of the natural gas pipeline will consist of the following:

1. **Trenching**-The trench will be excavated between 24 and 30 inches wide. Intersections requiring deeper installation to clear substructures will require wider trenches up to 4 or 5 feet in width. The depth of the trench will be 55 inches minimum to achieve 42-inch minimum cover. Typically the trench is excavated 6 inches deeper than the minimum to allow for padding material if required. Substructure crossings may require deeper depths along the route and in intersections. Special crossings of railroad tracks, freeways and flood control channels require deeper depths. Typically installations with these types of crossings range between 7 and 30 feet.

Trench construction is the primary type of construction. Trenchless construction (e.g., Horizontal Auger Boring and HDD) may be employed for railroad track crossings, freeway crossings, flood channel crossings, and primary intersections that are subject to heavy traffic flow or not suitable for open trench or night open trench work.

2. **Stringing** consists of trucking lengths of pipe to the ROW and laying them on wooden skids beside the open trench.

3. **Installation** consists of bending, welding, and coating the weld-joint areas of the pipe after it has been strung, padding the ditch with sand or fine spoil, and lowering the pipe string into the trench. Bends will be made using a cold bending machine or shop-fabricated as required for various changes in bearing and elevation. Welding will meet the applicable API standards and will be performed by qualified welders. Welds will be inspected in accordance with API Standard 1104. Welds will undergo 100 percent radiographical inspection by an independent, qualified radiography contractor. All coating will be checked for holidays (i.e., defects) and will be repaired before lowering the pipe into the trench.
4. **Backfilling** consists of returning spoil back into the trench around and on top of the pipe, ensuring that the surface is returned to its original grade or level. The backfill will be compacted to protect the stability of the pipe and to minimize subsequent subsidence.
5. **Plating** consists of covering any open trench in areas of foot or vehicle traffic at the end of a workday. Plywood plates will be used in areas of foot traffic and steel plates will be used in areas of vehicle traffic to ensure public safety. Plates will be removed at the start of each workday. Efforts will be made to minimize the length of open trench along the ROW.
6. **Boring/HDD** may be used for moderately short crossings under roads, canals, sensitive habitats, or where it would be environmentally unsound to use the open-cut method. Boring pits will be dug on each side of the crossing. The HDD method may be used when a longer crossing is required.
7. **Hydrostatic testing** consists of filling the pipeline with water, venting all air, increasing the pressure to the specified code requirements, and holding the pressure for a period of time. The water for use in testing will be obtained from a local fire hydrant, as arranged by the construction contractor. After hydrostatic testing, the test water will be chemically analyzed for contaminants and discharged to the sanitary sewer system under a permit obtained by SoCalGas, unless the analysis shows that the water is contaminated. In that case, the water would be trucked to an appropriate disposal facility. Temporary approvals for test water use and permits for discharge will be obtained by the construction contractor or SoCalGas, as required.
8. **Cleanup** consists of restoring the surface of the roadway or ROW by removing any construction debris, grading to the original grade and contour, and revegetating or repairing where required.
9. **Commissioning** consists of cleaning and drying the inside of the pipeline, purging air from the pipeline, and filling the pipeline with natural gas.
10. **Safety** consists of using SoCalGas' standard safety plan and the Department of Transportation Minimum Federal Safety Standards for the project, or if constructed by others, the contractor will prepare a safety plan. These plans would address specific safety issues, traffic control, working along traveled county streets, and other areas, as required by permits.

6.3.2 Metering Station

A gas-metering station will be required at the Project Site to measure and record gas volumes. In addition, facilities will be installed to regulate the gas pressure and to remove any liquids or solid particles.

Construction activities related to the metering station will include installing above- and belowground gas piping, metering equipment, gas conditioning, pressure regulation, and possibly pigging facilities. A distribution power line will also be installed to provide power for metering station operation, lighting and communication equipment. A chain-link fence will also be installed around the gas metering station for security.

6.4 Pipeline Operations

The proposed natural gas supply pipeline will be designed, constructed, and operated in accordance with 49 Code of Federal Regulations (CFR 192) and California Public Utilities Commission General Order No. 112. Specifically, the pipeline will be designed in accordance with the standards required for gas pipelines in proximity to populated areas, based on actual population densities along the proposed pipeline route. It will be installed a minimum of 36 inches deep, as required by the Code of Federal Regulations.

SoCalGas' standard operations and maintenance plan will be in place, addressing both normal procedures and conditions and any upset or abnormal conditions that could occur. Isolation block valves will be installed at both ends of the pipeline. These valves will be manually controlled, lockable, gear-operated ball valves. In addition, periodic leak surveys and cathodic protection surveys will be performed along the pipeline, as required by 49 CFR 192. The pipeline will be continuously protected by a cathodic protection system. SoCalGas' standard emergency plan will provide prompt and effective responses to upset conditions detected along the pipeline or reported by the public. This plan is reviewed with local agencies annually.

SoCalGas' has a proactive damage prevention program in place that will be applied to the pipeline. Markers identifying the location of the pipeline will be placed at all road crossings. The markers will identify a toll-free number to call before any excavation in the vicinity of the pipeline.

SoCalGas will own and operate the metering facility to measure the gas supply to the Highgrove Project. A pipeline Supervisory Control and Data Acquisition (SCADA) system will provide flow rate and pressure data to SoCalGas and the Applicant. Communication with SoCalGas pipeline operations will be by dedicated telephone lines or other means, such as Cellular Digital Pocket Data (CDPD).

Upon discovering that the Colton Joint Unified School District was conducting an environmental review of its Proposed High School Site Number 3, the Applicant commissioned a study to analyze the new proposed gas pipeline in accordance with California Department of Education Pipeline Risk Analysis protocol. The risk analysis is discussed in detail in Subsection 8.12, Hazardous Materials. The analysis concluded that due to the relatively small diameter and location of the pipeline will not expose students or

school employees to significant hazards associated with operation of the natural gas pipeline.

6.5 Permits

SoCalGas may be required to obtain various approvals prior to construction of the natural gas pipeline. These approvals may include City and County encroachment permits, Caltrans encroachment permit, railroad encroachment authorization, and streambed alteration agreements. These permits and approvals, including contact information, are discussed in more detail in each of the environmental resource sections where applicable.

