

C. ALTERNATIVES

This section is organized as follows: *Section C.1* is an overview of the alternatives screening process; *Section C.2* describes the methodology used for alternatives evaluation; *Section C.3* presents a summary of which alternatives have been selected for full EIR analysis and which have been eliminated based on CEQA criteria; *Section C.4* describes the alternatives that have been retained for full EIR analysis in *Section D*; *Section C.5* describes the alternatives eliminated from full EIR analysis and rationale for elimination and *Section C.6* provides a description of the No Project Alternative.

C.1 Alternatives Development and Screening Process

One of the most important aspects of the environmental review process is the identification and assessment of reasonable alternatives that have the potential for avoiding or minimizing the impacts of a proposed project. In addition to mandating consideration of the No Project Alternative, CEQA Guidelines (Section 15126.6[d]) emphasize the selection of a reasonable range of potentially feasible alternatives and adequate assessment of these alternatives to allow for a comparative analysis for consideration by decision makers. CEQA Guidelines state that the discussion of alternatives shall focus on alternatives capable of eliminating or reducing significant adverse environmental effects of a proposed project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. However, CEQA Guidelines declare that an EIR need not consider an alternative that fails to meet most of the basic project objectives, or whose effects cannot be reasonably ascertained, or whose implementation is remote or speculative.

The Proposed Project is described in detail in *Section B* of this EIR. Numerous alternatives to the Proposed Project were suggested during the scoping period (August through September 2005) by the general public, and federal, State and local agencies in response to the NOP. Other alternatives were developed by EIR preparers or presented by SDG&E in its PEA.

In total, 19 alternatives were considered in the screening process (see *Figure C-1*). Alternatives range from upgrading existing substations, to transmission substation location alternatives, to alternative substation technology, as well as non-wires alternatives. “Non-wire alternatives” include methods of meeting project objectives that do not require construction of a new substation (e.g., energy conservation and load management, etc.).

Figure C-1 Alternatives Considered in Screening Analysis

C.2 Alternatives Screening Methodology

The evaluation of alternatives to the proposed Silvergate Project was completed using a screening process that consisted of three steps:

- Step 1:** Clarify the description of each alternative to allow comparative evaluation.
- Step 2:** Evaluate each alternative using CEQA criteria (defined below).
- Step 3:** Determine the suitability of each alternative for full analysis in the EIR. If the alternative is unsuitable, eliminate it from further consideration. Infeasible alternatives and alternatives that clearly offered no potential for overall environmental advantage were removed from further analysis.

Following the three-step screening process, the advantages and disadvantages of the remaining alternatives were carefully weighed with respect to CEQA's criteria for consideration of alternatives.

CEQA Guidelines (Section 15126.6[a]) state that:

An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which 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.

In order to comply with CEQA's requirements, each alternative that has been suggested or developed for this project has been evaluated in three ways:

- Does the alternative meet most basic project objectives?
- Is the alternative feasible (legal, regulatory, technical)?
- Does the alternative avoid or substantially lessen any significant environmental effects of the Proposed Project (including consideration of whether the alternative itself could create significant environmental effects potentially greater than those of the Proposed Project)?

C.2.1 Consistency with Project Objectives

CEQA Guidelines require the consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may “impede to some degree the attainment of project objectives” (Section 15126.6[b]). Therefore, it is not required that each alternative meet *all* of SDG&E’s objectives. However, each alternative must be able to “feasibly” accomplish most of the basic objectives of the project (CEQA Guidelines 15126.6[c]).

The objectives of the Proposed Project are defined by SDG&E in its PEA and summarized in *Section A.2, Project Purpose and Need* of this EIR. According to SDG&E, the proposed Silvergate Project would meet the following SDG&E objectives:

- Upgrade Aging and Obsolete Equipment
- Provide Increased Substation Reliability
- Provide Increased Transmission System Reliability
- Provide Expansion Capability for Load Growth and Generation
- Work with Local Governments to Achieve Long-Term Land Use Goals

This EIR does not adopt or endorse the objectives that SDG&E has defined for its Proposed Project. The CPUC’s CPCN proceedings will separately and specifically evaluate the need for the project.

C.2.2 Feasibility

CEQA Guidelines (Section 15364) define feasibility as:

... capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

In addition, CEQA requires that the Lead Agency consider site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries, and proponent’s control over alternative sites in determining the range of alternatives to be evaluated in the EIR (CEQA Guidelines Section 15126.6[f]). Feasibility can include three components:

- **Legal Feasibility:** Does the alternative involve lands that have legal protections that may prohibit or substantially limit the feasibility of permitting a new 230/69 kV transmission substation and associated facilities?
- **Regulatory Feasibility:** Does the alternative have the potential to avoid lands that have regulatory restrictions that may substantially limit the feasibility of, or permitting of a 230/69 kV transmission substation and associated facilities so that it can be constructed and operated by 2008?
- **Technical Feasibility:** Is the alternative feasible from a technological perspective, considering available technology; the construction, operation, and maintenance or spacing requirements of multiple facilities using common rights-of-way, and the potential for common mode failure?

For the screening analysis, the legal, technical, and regulatory feasibility of potential alternatives was assessed. The assessment was directed toward reverse reason, that is, a determination was made as to whether there was anything about the alternative that would be infeasible on technical, legal, or regulatory grounds.

The screening analysis did not focus on relative economic factors or costs of the alternatives (as long as they were found to be economically feasible) since CEQA Guidelines require consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may “impede to some degree the attainment of project objectives or would be more costly” (CEQA Guidelines Section 15126.6[b]). The CPUC’s CPCN proceedings will separately and specifically consider cost issues.

C.2.3 Potential to Eliminate Significant Environmental Effects

CEQA requires that to be fully considered in an EIR, an alternative must have the potential to “avoid or substantially lessen any of the significant effects of the project” (CEQA Guidelines Section 15126.6[a]). If an alternative was identified that clearly does not provide potential overall environmental advantage as compared to the Proposed Project, it was eliminated from further consideration. At the screening stage, it is not possible to evaluate all of the impacts of the alternatives in comparison to the Proposed Project with absolute certainty, nor is it possible to quantify impacts. However, it is possible to identify elements of an alternative that are likely to be the sources of impact and to relate them, to the extent possible, to general conditions in the subject area.

C.3 Summary of Screening Results

Table C-1 provides a composite list of the alternatives considered, and the results of the screening analysis with respect to the criteria findings for consistency with project objectives, feasibility and environmental effectiveness. Alternatives carried forward for full EIR analysis are listed below in *Section C.3.1*. Alternatives eliminated from further consideration follow in *Section C.3.2*. Alternatives considered included alternative substation locations and upgrading existing transmission substation, alternative substation technology, alternatives that could replace the Proposed Project as a whole, non-wire alternatives, construction alternatives, and the No Project Alternative. If so desired, in its decision, the CPUC could elect to combine or match certain alternatives and project components.

C.3.1 Alternatives Analyzed in the EIR

The alternatives listed below are those that have been selected through the alternative screening process for detailed EIR analysis. Each of these alternatives meets all project objectives, is feasible, and avoids or reduces environmental effects of the Proposed Project. The alternatives are briefly described in *Table C-1* and *Section C.4*.

- Gas-Insulated Substation (GIS) Design Alternative
- Alternative to Open Trench Construction Methods- Use of Horizontal Directional Drilling

C.3.2 Alternatives Eliminated from EIR Consideration

The alternatives that have been eliminated through the alternative screening process from EIR analysis are listed below. As summarized in *Table C-1*, these alternatives have been eliminated due to project objectives and feasibility concerns, and because several would have greater environmental impacts than the Proposed Project. The rationale for elimination of each alternative is summarized in *Table C-1* and *Section C.4*.

230/69kV Substation Location Alternatives

- Expansion of Main Street Substation onto Existing SDG&E Property
- Expansion of Main Street Substation East to Sampson Street
- Use of SDG&E's Power Plant Building Area
- Exclusive Use of the Private Property on the Southwest Corner of Sampson Street and Harbor Drive

TABLE C-1
SDG&E Silvergate Transmission Substation Project – Summary of Alternatives Screening Analysis

Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
230/69 kV Substation Location Alternatives			
Expansion of Main Street Substation onto Existing SDG&E Property	Does not meet project objectives criteria. Would not meet most project objectives, including working with local governments to meet land use goals.	Does not meet technical feasibility due to lack of space.	Does not meet environmental criteria because it would not improve the visual quality or accommodate community goals to separate area residences from the Main Street Substation.
Expansion of Main Street Substation East to Sampson Street	Does not meet screening criteria for project objectives, including working with local governments to meet land use goals.	Meets criteria for technical, legal and regulatory feasibility.	Does not meet environmental criteria because it would not improve the visual quality or accommodate community goals to separate area residences from the Main Street Substation.
Use of the SDG&E's Silvergate Power Plant Building	Does not meet screening criteria for project objectives; would not provide increased transmission system reliability or provide expansion capability for load growth and generation.	Does not meet technical feasibility due to lack of space.	Would meet environmental criteria. Visual and land use impacts would be reduced when compared to the Proposed Project due to the smaller footprint and elimination of the need to acquire private property.
Exclusive Use of the Private Property on the Southwest Corner of Sampson Street and Harbor Drive	Does not meet screening criteria for project objectives; would not provide increased transmission system reliability or provide expansion capability for load growth and generation.	Does not meet technical feasibility due to lack of space.	Would not meet environmental criteria as the alternative does not avoid or minimize significant environmental effects of the Proposed Project.
Transmission System Upgrade Alternative			
Upgrade Old Town Substation	Does not meet most project objectives. Due to lack of space for 230 kV rack and larger transformer, would not meet project objectives of providing increased reliability as well as expansion capability	Does not meet technical feasibility due to lack of space	Does not meet the environmental criteria of avoiding or substantially reducing the significant environmental effects of the Proposed Project. Due to the proximity of sensitive residential land uses, construction

Red: Indicates alternative carried forward to full EIR analysis.
Black: Indicates alternative eliminated from further EIR analysis.
March 2006

TABLE C-1
SDG&E Silvergate Transmission Substation Project – Summary of Alternatives Screening Analysis

Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
	for load growth and generation.		related noise, traffic and land use impacts would be greater under this alternative than the Proposed Project.
Upgrade Mission Substation	Does not meet most project objectives. Due to distance from load center of downtown San Diego would not meet project objectives of providing increased reliability.	Does not meet technical feasibility due to lack of space	Does not meet the environmental criteria of avoiding or substantially reducing the significant environmental effects of the Proposed Project. Due to the proximity of sensitive residential land uses, construction related noise, traffic and land use impacts would be greater under this alternative than the Proposed Project.
Transmission Substation Design Alternatives			
Gas Insulated Substation Technology	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets criteria for technical, legal and regulatory feasibility.	Meets environmental criteria. Would lessen visual impacts when compared to the Proposed Project by occupying a smaller footprint and reducing the level of changes in existing conditions
New AIS 230/69kV Substation at Silvergate with Additional Harbor Drive Setback	Does not meet screening criteria for project objectives; would not provide increased transmission system reliability or provide expansion capability for load growth and generation.	Does not meet technical feasibility criteria due to lack of space that would result from increasing the setback and thus reducing the development footprint.	Meets environmental criteria. Would lessen visual impacts when compared to the Proposed Project by occupying a smaller footprint and increasing visual screening of the new substation.
Alternative Construction Methods			
Alternative to HDD – Use of Caltrans Bike Path-Sweetwater Marsh Avoidance Route	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Does not meet technical and regulatory feasibility due to lack of space and Caltrans restricted highway policies.	Meets environmental criteria by reducing impacts to San Diego Bay National Wildlife Refuge-Sweetwater Marsh Unit over proposed directional drilling.
Alternative to HDD – Use of Railroad ROW-Sweetwater	Meets CEQA screening criteria for project objectives. Meets all project	Does not meet technical and regulatory feasibility due to the narrow width of ROW	Does not meet environmental criteria as this alternative could increase temporary impacts

Red: Indicates alternative carried forward to full EIR analysis.
Black: Indicates alternative eliminated from further EIR analysis.
March 2006

TABLE C-1
SDG&E Silvergate Transmission Substation Project – Summary of Alternatives Screening Analysis

Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Marsh Avoidance Route	objectives.	and need to secure additional ROW.	through continuous trenching to the San Diego Bay National Wildlife Refuge-Sweetwater Marsh Unit.
Alternative to HDD – East of I-5 Route-Sweetwater Marsh Avoidance Route	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets technical feasibility. Does not meet regulatory criteria for timeliness by 2008 due to the legal and regulatory issues associated with securing additional easements and land rights.	Does not meet environmental criteria. Would create new underground utility easement instead of using existing SDG&E ROW and additional significant impacts to noise, traffic, land use, hazardous materials and utilities associated with additional underground in congested areas.
Alternative to Open Trench Alignment – Use of Bay Boulevard.	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets technical feasibility. Does not meet regulatory criteria for timeliness by 2008 due to the legal and regulatory issues associated with securing additional easements and land rights.	Does not meet environmental criteria. Would create new underground utility easement instead of using existing SDG&E ROW and additional significant impacts to noise, traffic, land use, hazardous materials and utilities associated with underground construction within public roadway.
Alternative to Open Trench Alignment – Use of Marina Parkway	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets technical feasibility. Does not meet regulatory criteria for timeliness by 2008 due to the legal and regulatory issues associated with securing additional easements and land rights.	Does not meet environmental criteria. Would create new underground utility easement instead of using existing SDG&E ROW and additional significant impacts to noise, traffic, land use, hazardous materials and utilities associated with underground construction within public roadway.
Alternative to Open Trench Construction Method – Use of HDD	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets criteria for technical, legal and regulatory feasibility.	Meets environmental criteria. Would reduce construction related impacts of Proposed Project to ongoing operations at Goodrich property.

Red: Indicates alternative carried forward to full EIR analysis.
Black: Indicates alternative eliminated from further EIR analysis.
March 2006

TABLE C-1
SDG&E Silvergate Transmission Substation Project – Summary of Alternatives Screening Analysis

Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Non-Wires Alternatives			
Energy Conservation	Does not meet project objectives criteria. Would not meet most project objectives, including working with local governments to meet land use goals.	Would not meet feasibility criteria as these options are not feasible on a scale that would be suitable to replace the Proposed Project.	Would meet environmental criteria, since impacts of Silvergate Project would be avoided, and no new significant environmental impacts would be created.
Transmission System Load Management	Does not meet project objectives criteria. Would not meet most project objectives including providing increased transmission system reliability, expansion capability for load growth and generation, and working with local governments to meet land use goals.	Would not meet feasibility criteria as these options are not feasible on a scale that would be suitable to replace the Proposed Project.	Would meet environmental criteria, since impacts of Silvergate Project would be avoided, and no new significant environmental impacts would be created.
Energy Conservation and Demand Side Management	Does not meet project objectives criteria. Would not provide increased transmission system reliability or provide expansion capability for load growth and generation.	Does not meet the feasibility criteria. Reductions in energy usage provided by this alternative would not occur at a scale that would eliminate the need for the Proposed Project.	Would meet environmental criteria, since impacts of Silvergate Project would be avoided, and no new significant environmental impacts would be created.
Renewable Energy Sources	Does not meet project objectives criteria. Would not meet most project objectives, including working with local governments to achieve long-term land use goals.	Would not meet feasibility criteria as renewable resources are infeasible alternatives to replace the proposed transmission project.	Would meet environmental criteria, since impacts of Silvergate Project would be avoided, and no new significant environmental impacts would be created.
Special Protection System Alternative			
Reconductoring of TL 13824	Meets CEQA screening criteria for project objectives. Meets all project objectives.	Meets criteria for technical, legal and regulatory feasibility.	Does not meet environmental criteria. Alternative would have greater construction related noise and traffic impacts in residential areas of Chula Vista, as well as increased long-term visual impacts.

Red: Indicates alternative carried forward to full EIR analysis.
Black: Indicates alternative eliminated from further EIR analysis.
March 2006

Transmission Substation Upgrade Alternatives

- Upgrade Old Town Substation
- Upgrade Mission Substation

Transmission Substation Design Alternatives

- New AIS 230/69 kV Substation with Additional Harbor Drive Setback

Alternative Construction Methods

- Alternative to Horizontal Directional Drilling (HDD) – Use of Caltrans Bike Path-Sweetwater Marsh Avoidance Route
- Alternative to HDD-Use of Railroad ROW- Sweetwater Marsh Avoidance Route
- Alternative to HDD- East of I-5 Route- Sweetwater Marsh Avoidance Route
- Alternative to Open Trench Alignment- Use of Bay Boulevard
- Alternative to Open Trench Alignment- Use of Marina Parkway

Non-wires Alternatives

- Energy Conservation
- Transmission System Load Management
- Energy Conservation and Demand Side Management
- Renewable Energy Sources

Special Protection System Alternative

- Reconductoring TL 13824

C.4 Alternatives Evaluated in this EIR

C.4.1 Introduction

As discussed in *Section C.2*, alternatives were assessed for their feasibility, their ability to reasonably achieve the project objectives, and their potential for reducing the significant environmental impacts of the Proposed Project. Based on these screening criteria, the following alternatives were selected for detailed analysis within this EIR.

C.4.2 Transmission Substation Design Alternative

C.4.2.1 Gas Insulated Substation Technology (see *Figure C-2*)

Description

This alternative was evaluated by SDG&E in the PEA (March 2005) and is similar to the Proposed Project with the exception that the new substation would be designed to use GIS technology for the 230 kV switchyard. All other project components as described for the Proposed Project would remain the same.

Under this alternative, use of the GIS alternative would result in a smaller development footprint when compared to the Proposed Project due to the elimination of A-frame structures needed for the air-insulated substation required under the Proposed Project. With the GIS Alternative, the Silvergate Substation would occupy approximately 3.7 acres (500 feet by 320 feet), which is 1.3 acres smaller than the Proposed Project. As shown in *Figure C-2*, the new Silvergate Substation built with GIS technology would occupy existing SDG&E property and a portion of an adjoining parking lot; the private property immediately southwest of the Harbor Drive and Sampson Street would not be needed as required under the Proposed Project.

Under this alternative, the new Silvergate Substation would ultimately have the same configuration as the Proposed Project and would include eleven 69 kV circuits and four 230 kV circuits with four 230/69 kV transformers, two 69 kV grounding transformers, and two 69 kV capacitor banks. The structures and equipment associated with the 230 kV switchyard would be housed in a metal building approximately 200 feet long and 85 feet wide. This alternative would require construction of a new masonry block control shelter approximately 32 feet wide by 50 feet long. The height of the 230 kV and 69 kV structures would be similar to the Proposed Project and would be approximately 65 feet and 45 feet tall, respectively.

The GIS Silvergate Substation would be fenced with a 10-foot high solid block wall. The solid block wall fence would provide visual screening and would be designed in accordance with architectural guidelines of the City of San Diego to the extent that these guidelines are generally consistent with the CPUC general order and guidelines. Access to the substation would be located off of Sampson Street where two 20-foot-wide sliding gates would be constructed in the perimeter wall.

Rationale for Full Analysis

The GIS Alternative meets the CEQA criteria for project objectives, feasibility, and environmental effectiveness by avoiding legal and regulatory feasibility issues associated with

Figure C-2

Gas Insulated Substation (GIS) Technology Alternative

acquiring private property and would minimize visual impacts of a new substation. This alternative would not result in potentially more overall environmental impacts than the Proposed Project. Consequently, this alternative was recommended to be carried forward to full EIR analysis.

C.4.3 Alternative Construction Methods

C.4.3.1 Alternative to Open Trench Construction Methods – Use of Horizontal Directional Drilling (see *Figure C-3*)

Description

This alternative was considered in response to NOP public scoping comments to avoid environmental impacts during construction and minimize impacts to Goodrich's operations at the North and South Campuses of the Goodrich properties located along Bay Boulevard between J Street to G Street in the City of Chula Vista. All other project components as described for the Proposed Project would remain the same.

Under this alternative, horizontal directional drilling construction techniques would be used to install the underground 138 kV line between J Street to G Street instead of open trench methods as proposed by the Project. The length of the horizontal directional drilling between J Street and G Street would be approximately 5,600 feet. The horizontal directional drilling activities would occur within the existing SDG&E ROW. The entry/exit bore pit would be located within SDG&E ROW and outside of Goodrich properties in areas subject to low traffic. Due to the length of the directional drill, SDG&E would require an approximately 250-foot long by 150-footwide work area for equipment staging and to set up and facilitate the drilling operation (see *Figure B-19*). Drilling fluid collection pits approximately ten feet long by ten feet wide by five feet deep would be dug at both the entry and exit hole locations to capture drilling fluids and cuttings. These drilling fluids are captured and disposed of at an approved disposal site. Upon completion of activities, the work sites would be restored to substantially their original condition. The trench, excavation and conduit work and much of the HDD work can be conducted during daylight hours. However, certain HDD activities must continue 24 hours per day until the activity is concluded. These activities include, but may not be limited to, pipe pull-in and conduit pull-in. To the extent possible, the duration of these activities would be minimized.

Rationale for Full Analysis

The Alternative to Open Trench Methods – Use of Horizontal Directional Drilling meets the CEQA screening criteria for project objectives, feasibility, and environmental effectiveness by

Figure C-3 Alternatives to Open Trench Alignment and Methods

minimizing construction activities and associated disruptive activities within the Goodrich properties located along Bay Boulevard between J Street to G Street in the City of Chula Vista. Because this alternative has the potential to minimize construction impacts to the Goodrich property, it was recommended to be carried forward for full EIR analysis.

C.5 Alternatives Eliminated from Full EIR Evaluation

As discussed in Section C.1, alternatives were assessed for their ability to reasonably achieve the project objectives and reduce the significant environmental impacts of the Proposed Project. Also, their technical, legal, and regulatory feasibility was evaluated. Based on these screening criteria, the alternatives eliminated from EIR consideration are listed above in Section C.3.2. The rationale for elimination of each alternative is summarized below.

C.5.1 Alternative to Construction Methods

C.5.1.1 Alternative to Open Trench Alignment – Use of Bay Boulevard (see *Figure C-3*)

Description

This alternative was considered in response to NOP public scoping comments to avoid environmental and operational impacts to both the North and South Campuses of the Goodrich properties located along Bay Boulevard between J Street to G Street in the City of Chula Vista. All other project components as described for the Proposed Project would remain the same.

Under this alternative, an alternative route following Bay Boulevard instead of the existing SDG&E ROW, which is located within the Goodrich property, would be used for the undergrounding of the 138 kV line. As shown in *Figure C-3*, the underground alignment at approximately J Street/Marina Parkway would exit the existing SDG&E ROW and turn east onto J Street and then north onto Bay Boulevard. The underground alignment would continue north within Bay Boulevard for approximately 1.1 miles until Lagoon Drive/F Street where the underground alignment would rejoin the existing SDG&E ROW. Construction methods for the open trenching would be similar to the Proposed Project. This alternative would require obtaining new underground utility easements for construction within City of Chula Vista roadways.

Rationale for Elimination

The Alternative to Open Trench Alignment – Use of Bay Boulevard Alternative would meet the CEQA screening criteria for project objectives but would not meet the legal and regulatory

feasibility criteria. In order to construct outside of existing SDG&E ROW and within City of Chula Vista roadways, easements would be required that are not currently in place. In addition, this alternative may avoid or minimize land use impacts to the Goodrich operation; however, other short-term construction impacts, such as public health/safety, traffic and noise, would be similar or greater as more businesses would be affected by this alternative route. For these reasons, this alternative was not carried forward for full EIR analysis.

C.5.1.2 Alternative to Open Trench Alignment – Use of Marina Parkway (see *Figure C-3*)

Description

This alternative was considered in response to NOP public scoping comments to avoid environmental and operational impacts to both the North and South Campuses of the Goodrich properties located along Bay Boulevard between J Street to G Street in the City of Chula Vista. All other project components as described for the Proposed Project would remain the same.

Under this alternative, an alternative route following Marina Parkway instead of the existing SDG&E ROW, which is located within the Goodrich property, would be used for the undergrounding of the 138 kV line. As shown in *Figure C-3*, the underground alignment at approximately J Street/Marina Parkway would exit the existing SDG&E ROW and turn west and north onto Marina Parkway. The underground alignment would continue north within Marina Parkway for approximately 1.2 miles until Lagoon Drive. At Lagoon Drive, the underground alignment would turn east for approximately 1,200 feet until it intersects and rejoins the existing SDG&E ROW. Construction methods for the open trenching would be similar to the Proposed Project. This alternative would require obtaining new underground utility easements for construction within City of Chula Vista roadways.

Rationale for Elimination

The Alternative to Open Trench Alignment – Use of Marina Parkway Alternative would meet the CEQA screening criteria for project objectives but would not meet the legal and regulatory feasibility criteria. In order to construct outside of existing SDG&E ROW and within City of Chula Vista roadways, easements would be required that are not currently in place. This alternative would not meet the environmental criteria. Although this alternative may avoid or minimize land use impacts to the Goodrich operation, there is a potential for greater groundwater contamination due to the overall hydrological flow in the project area. Marina Parkway is located west of the Goodrich property and with overall hydrology flowing east to west, there is potential for contamination to be greater in concentration within Marina Parkway than at the Goodrich site. In addition, other short-term construction impacts, such as traffic and noise,

would be greater as more businesses would be affected by this alternative route. For these reasons, this alternative was not carried forward for full EIR analysis.

C.5.1.3 Alternatives to Horizontal Directional Drilling-Use of the Caltrans Bike Path – Sweetwater Marsh Avoidance Route (see *Figure C-4*)

Description

The Use of the Caltrans Bike Path would replace the directional drilling under the Sweetwater Marsh as proposed under the 138 kV undergrounding component of the Silvergate Project in the City of Chula Vista. All other aspects of the Silvergate Project would remain unchanged.

This alternative was considered by SDG&E in its PEA (March 2005) to avoid and minimize impacts to the Sweetwater Marsh. This alternative involves the undergrounding of the 138 kV line from the South Bay Power Plant Switchyard as described under the Proposed Project, but would avoid the Sweetwater Marsh by exiting SDG&E's existing ROW near the proposed southern bore site near existing Tower 189503 and head east to the recently constructed Caltrans Bike Path west of the I-5. The Caltrans Bike Path is approximately eight feet wide. The underground 138 kV transmission cable would continue north for approximately 0.5 mile along the bike path in Caltrans' existing ROW and then transition overhead either on the south side or north side of the Sweetwater River where it would reconnect to the existing lattice steel bridge structures within SDG&E ROW. Because the bike path footbridge on the south side of the Sweetwater River would not be able to support the 138 kV facilities, the transition cable pole would be located at either the same transition cable pole site proposed under the Proposed Project, or the alternative would continue north under the Sweetwater River and transition overhead on a cable pole constructed on the north side of the river.

This alternative would include the following components:

- Installation of a 138 kV line underground, within the bike path located within Caltrans' existing right-of-way; and
- Installation of a new 138 kV cable pole to transition the 138 kV line from underground to overhead. The transition cable pole would be located at either the same cable pole site proposed under the Silvergate Project or at a site on the north side of the Sweetwater River.

Figure C-4 Alternatives to Horizontal Directional Drilling – Sweetwater Marsh
Avoidance Routes

Rationale for Elimination

This alternative meets the CEQA screening criteria for project objectives, but does not meet the feasibility criteria for technical or regulatory considerations. While this alternative would avoid some of the potentially significant impacts of the Silvergate Project to the Sweetwater Marsh, this alternative was eliminated due to the technical and regulatory feasibility issues associated with undergrounding in the narrow bike path and the Caltrans right-of-way policies for not allowing longitudinal encroachments in restricted highways (I-5). Consequently, this alternative was eliminated from further EIR analysis.

C.5.1.4 Alternative to Horizontal Directional Drilling- Use of the Railroad Right-of-Way – Sweetwater Marsh Avoidance Route (see *Figure C-4*)

Description

This alternative was considered by SDG&E in its PEA (March 2005) to avoid and minimize impacts to the Sweetwater Marsh. This alternative involves the undergrounding of the 138 kV line from the South Bay Power Plant Switchyard as described under the Proposed Project, but would avoid the Sweetwater Marsh by exiting SDG&E's existing ROW and near the proposed southern bore site near existing Tower 189503 and head east to the existing Arizona and Eastern Railway Companies railroad right-of-way located west of the I-5. The railroad right-of-way is approximately 40 feet wide centered on the railroad tracks. The underground 138 kV transmission cable would continue north for approximately 0.5 mile within the railroad ROW and then transition overhead either on the south side or north side of the Sweetwater River where it would reconnect to the existing lattice steel bridge structures within SDG&E ROW. Because the existing railroad bridge would not be able to support the 138 kV facilities, the transition cable pole would be located at either the same transition cable pole site as described under the Proposed Project, or the alternative would continue north under the Sweetwater River and transition overhead on a cable pole constructed on the north side of the river.

This alternative would include the following components:

- Installation of a new 138 kV line underground, within the railroad right-of-way; and
- Installation of a new 138 kV cable pole to transition the 138 kV line from underground to overhead. The transition cable pole would be located at either the same cable pole site proposed under the Silvergate Project or at a site on the north side of the Sweetwater River.

Rationale for Elimination

This alternative meets the CEQA screening criteria for project objectives, but does not meet the environmental criteria or feasibility criteria for technical considerations. While this alternative would avoid some of the potentially significant impacts of the Silvergate Project due to proposed boring underneath the Sweetwater Marsh, this alternative could potentially generate more overall temporary impacts to sensitive habitats due to required construction practices (trenching and boring) along the entire railroad right-of-way located adjacent to the Refuge. Additionally, due to the lack of space and associated technical feasibility issues of placing the 138 kV cable within the narrow railroad ROW, this alternative has been eliminated from further consideration in this EIR.

C.5.1.5 Alternative to Horizontal Directional Drilling-East of I-5 Route – Sweetwater Marsh Avoidance Route (see *Figure C-4*)

Description

This alternative was considered by SDG&E in its PEA (March 2005) to avoid and minimize impacts to the Sweetwater Marsh by establishing an underground route east of I-5 in existing roadways. All other project components as described for the Proposed Project would remain the same.

Under this alternative, the 138 kV line from the South Bay Power Plant Switchyard as described under the Proposed Project would be undergrounded, but would avoid the Sweetwater Marsh by exiting SDG&E's existing ROW at Marina Parkway. The 138 kV line would be undergrounded within Marina Parkway and head east of I-5 in existing roadways such as Broadway and National City Boulevard and then bore underneath SR-54 and the Sweetwater River where it would transition to overhead and reconnect to the existing lattice steel bridge structures located within existing SDG&E ROW.

Rationale for Elimination

This alternative does not meet the CEQA screening criteria for environmental considerations. While this alternative would avoid impacts to the Sweetwater Marsh, it would generate significant effects to residential neighborhoods and commercial/retail areas. This alternative would create two miles of new underground utility easement instead of using the existing SDG&E right-of-way. Additional significant impacts to noise, traffic, land use, hazardous materials and utilities would occur due to the additional trenching and boring activities required over a two-mile length within a dense urban environment. Additionally, this alternative does not meet regulatory criteria for timeliness by 2008 due to the legal and regulatory issues associated

with the need to secure easements and land rights. Consequently, this alternative was eliminated from further EIR analysis.

C.5.2 SDG&E 230/69 kV Substation Location Alternatives

C.5.2.1 Expansion of Main Street Substation onto Existing SDG&E Property Alternative (*see Figure C-5*)

Description

This alternative was evaluated by SDG&E in the PEA (March 2005). As shown in *Figure C-5*, a new substation would be constructed at the existing Main Street Substation site and adjacent SDG&E property to the east. The adjacent SDG&E property is currently occupied by two empty buildings and is approximately 0.7 acre. Due to the smaller site, this alternative would not be able to accommodate the same transmission configuration as the Proposed Project. Because of the lack of space, the 230 kV bus could not be constructed and expansion of the 69 kV rack could not occur. Maximum height of the substation facilities would be approximately 45 feet. A 10 foot tall perimeter fence would be constructed around the site to provide visual screening. The ability to maintain service from the existing Main Street Substation and simultaneously rebuild the facilities is doubtful.

Rationale for Elimination

This alternative does not meet the project objectives, including upgrading aging and obsolete equipment due to lack of space for construction of 230kV bus and expansion/rebuilding of the 69 kV rack. Without the construction of the 230 kV bus and upgrades to the 69 kV rack, this alternative would not meet the objective of providing increased substation reliability and transmission system reliability, as well as providing expansion capability for load growth and generation. In addition, this alternative would locate a new substation adjacent to existing residential land uses, which would result in potential land use compatibility conflicts and therefore, not meet the objective of working with local governments to achieve long-term land use goals.

While this alternative may meet legal and regulatory feasibility, it would not meet the technical feasibility criteria due to the lack of space at this alternative location to accommodate the proposed structure and equipment associated with a new 230/69 kV substation. This alternative would not meet the environmental criteria because unlike the Proposed Project, this alternative would not improve the visual quality or accommodate community goals to provide greater separation between area residences and the Main Street Substation.

Figure C-5 SDG&E 230/69kV Substation Location Alternatives – Expansion of Main Street Substation onto Existing SDG&E Property

C.5.2.2 Expansion of Main Street Substation East to Sampson Street Alternative (see Figure C-6)

Description

This alternative would involve the expansion of Main Street Substation east to Sampson Street. In its PEA, SDG&E considered expanding the Main Street Substation by encompassing both the adjacent SDG&E property and private property located to the east. This alternative would be bounded by Main Street to the north, Sampson Street to the east, Harbor Drive and the trolley tracks to the south and industrial uses to the west. The private property is approximately 2.1 acres and is currently occupied by warehouses. In total, this alternative would occupy approximately 3.1 acres in the City of San Diego.

It is anticipated that this alternative would include both 69 kV and 230 kV structures and equipment. Maximum height of the substation facilities would be approximately 45 feet and 65 feet for the 69 kV and 230 kV structures, respectively. A 10 foot tall perimeter fence would be constructed around the site to provide visual screening. Similar to the Proposed Project, a number of 69 kV lines would require rerouting. In addition, the 230 kV circuit would require boring under the trolley tracks located adjacent to Harbor Drive in order to connect to this substation alternative.

The other components of the Proposed Project, including the demolition of the Main Street Substation, installation of the Special Protection System, 138 kV undergrounding and removal, and removal of lattice steel bridge structures along the Chula Vista Bayfront, would occur as described under the Proposed Project.

Rationale for Elimination

This alternative does not meet the project objective of working with local governments to achieve long-term land use goals. Under this alternative, a new substation would be located adjacent to existing residential land uses. While this alternative may meet the feasibility criteria, this alternative would not meet the environmental criteria because unlike the Proposed Project, this alternative would not improve the visual quality or accommodate community goals to separate area residences from the Main Street Substation, increased long-term land use impacts associated with potential land use compatibility issues with surrounding residential land use would occur, as well as short-term construction related air, noise and traffic impacts. Consequently, this alternative was eliminated from further EIR analysis.

Figure C-6 SDG&E 230/69kV Substation Location Alternatives – Expansion of Main Street Substation East to Sampson Street

C.5.2.3 Use of the SDG&E's Silvergate Power Plant Property Alternative (*see Figure C-7*)**Description**

This alternative was considered by SDG&E in its PEA and involves construction of a new substation with GIS technology within the existing SDG&E Silvergate Power Plant building area. The transformers would be located outside of the building. As shown in *Figure C-7*, this alternative would encompass approximately 1.8 acres and would exclude the adjoining private property to the north that would be required under the Proposed Project. Because this alternative is smaller in size, fewer 230/69 kV structures and equipment would be accommodated at this location. The site is currently occupied by a decommissioned power plant. Site preparation would require substantial structural modifications to house a new substation.

The other components of the Proposed Project, including the demolition of the Main Street Substation, installation of the Special Protection System, 138 kV undergrounding and removal, and removal of lattice steel bridge structures along the Chula Vista Bayfront, would occur as described under the Proposed Project.

Rationale for Elimination

This alternative does not meet the CEQA screening criteria for project objectives. Because this alternative location is smaller in size than the Proposed Project, fewer equipment/structures and transmission lines would be accommodated. This alternative would not meet most of the project objectives including objectives of providing increased substation reliability and transmission system reliability, as well as providing expansion capability for load growth and generation. While this alternative may meet legal and regulatory feasibility and the environment criteria, it would not meet the technical feasibility criteria due to the lack of space for structures and equipment associated with a new 230/69 kV GI Substation. This alternative would also require substantial building modifications to house a new substation. Consequently, this alternative was eliminated from further EIR analysis.

C.5.2.4 Exclusive Use of Adjacent Private Property Alternative (*see Figure C-8*)**Description**

As shown in *Figure C-8*, this alternative proposes to construct a new 230/69 kV on 1.8 acres southwest of the intersection of Harbor Drive and Sampson Street. This alternative would occupy private property directly north of the decommissioned Silvergate Power Plant and

Figure C-7 SDG&E 230/69kV Substation Location Alternatives – Use of Existing
SDG&E Silvergate Power Plant Property

Figure C-8 SDG&E 230/69kV Substation Location Alternatives – Exclusive Use of
Adjacent Private Property

consists of a parking lot and machine shop. To the east of this alternative site is Sampson Street, to the north is Harbor Drive, and to the west are industrial uses. Maximum height of the substation facilities would be approximately 45 feet and 65 feet for the 69 kV and 230 kV structures, respectively. A 10 foot tall perimeter fence would be constructed around the site to provide visual screening. Because this alternative is smaller in size, fewer 230/69 kV structures, equipment and transmission lines would be able to be accommodated at this location.

The other components of the Proposed Project, including the demolition of the Main Street Substation, installation of the Special Protection System, 138 kV undergrounding and removal, and removal of lattice steel bridge structures along the Chula Vista Bayfront, would occur as described under the Proposed Project.

Rationale for Elimination

This alternative does not meet the CEQA screening criteria for project objectives. Because this alternative location is smaller in size than the Proposed Project, fewer equipment/structures and transmission lines would be accommodated. Therefore, this alternative would not meet the objectives of providing increased substation reliability and transmission system reliability, as well as providing expansion capability for load growth and generation. While this alternative may meet legal and regulatory feasibility, it would not meet the technical feasibility criteria due to the lack of space at this alternative location to accommodate the proposed structure and equipment associated with a new 230/69 kV substation. This alternative would not meet the environmental criteria as it would not substantially lessen significant environmental impacts of the Proposed Project. This alternative was not recommended to be carried forward for full EIR analysis.

C.5.3 Transmission System Upgrade Alternatives

C.5.3.1 Upgrade Old Town Substation Alternative (see *Figure C-9*)

Description

SDG&E considered alternatives in its PEA that would not require construction of a new substation. Under this alternative, the existing Old Town Substation, shown in *Figure C-9*, would be upgraded to increase capacity to the downtown area of San Diego. This alternative would require upgrades to the 230 kV structures, including transformers. Due to increased loads on the 69 kV system, upgrades to the 69 kV conductor and circuit breakers would also be necessary.

Figure C-9 Transmission System Upgrade Alternatives – Old Town and Mission Substation Upgrades

With this alternative, the other components of the Proposed Project, including the demolition of the Main Street Substation, installation of the Special Protection System, 138 kV undergrounding and removal, and removal of lattice steel bridge structures along the Chula Vista Bayfront, would occur as described under the Proposed Project.

Rationale for Elimination

This alternative does not meet most of the project objectives. Due to lack of space for expansion of the 230 kV rack and larger transformers, this alternative would not meet the project objectives of providing increased substation reliability and transmission system reliability, as well as providing expansion capability for load growth and generation. While this alternative may meet legal and regulatory feasibility, it would not meet the technical feasibility criteria due to the lack of space at this alternative location to accommodate any expansion of the substation footprint or upsizing of existing 230 kV equipment. In addition, this alternative would not meet the environmental criteria of avoiding or substantially reducing the significant environmental effects of the Proposed Project. The Old Town Substation is located in the Linda Vista Community of the City of San Diego and is surrounded by residential land uses. Due to the proximity of residential land uses, construction related noise, traffic and land use impacts would be greater under this alternative than the Proposed Project. Consequently, this alternative was eliminated from further EIR analysis.

C.5.3.2 Upgrade Mission Substation Alternative (see *Figure C-9*)

Description

SDG&E considered alternatives in its PEA that would not require construction of a new substation. Under this alternative, the existing Mission, shown in *Figure C-9*, would be upgraded to increase capacity to the downtown area of San Diego. The Mission Substation is located approximately 10 miles from the downtown area. This alternative would require upgrades to the 230 kV structures and due to increased loads on the 69 kV system, upgrades to the 69 kV conductor and circuit breakers would also be necessary

With this alternative, the other components of the Proposed Project, including the demolition of the Main Street Substation, installation of the Special Protection System, 138 kV undergrounding and removal, and removal of lattice steel bridge structures along the Chula Vista Bayfront, would occur as described under the Proposed Project.

Rationale For Elimination

This alternative does not meet some of the project objectives. Due to the distance between the Mission Substation and the load center of downtown San Diego, this alternative would not meet the objective of providing increased substation reliability and transmission system reliability. This alternative may meet the criteria for legal and regulatory feasibility; however, it may not meet the technical feasibility criteria to accommodate the proposed structure and equipment associated with a new 230 kV equipment and structures at this existing substation site. In addition, this alternative would not meet the environmental criteria of avoiding or substantially reducing the significant environmental effects of the Proposed Project. The Mission Substation is located adjacent to residential land uses. Due to the proximity of sensitive residential land uses, construction related noise, traffic and land use impacts would be greater under this alternative than the Proposed Project. For these reasons, this alternative was eliminated from further EIR analysis.

C.5.4 Transmission Substation Design Alternatives

C.5.4.1 New AIS 230/69kV Substation at Silvergate with Additional Harbor Drive Setback

Description

SDG&E considered an alternative in its PEA that would provide increased visual screening of a new substation. The alternative would essentially be the same as the Proposed Project with the exception that the setback along Harbor Drive would be increased by a minimum of 10 feet. The increased setback would allow for additional landscaping along Harbor Drive.

With this alternative, the other components of the Proposed Project, including the demolition of the Main Street Substation, installation of the Special Protection System, 138 kV undergrounding and removal, and removal of lattice steel bridge structures along the Chula Vista Bayfront, would occur as described under the Proposed Project.

Rationale For Elimination

This alternative does not meet the CEQA screening criteria for project objectives. Under the Proposed Project, the site plan meets the minimum standard for equipment and vehicular access. An increase in the setback would further reduce space available for equipment and vehicular access to below minimum standards. With an increased setback to provide for landscaping/visual screening, less equipment/structures associated with a new 230/69 kV substation would be accommodated due to less available space for equipment. Therefore, this alternative would not

meet the project objectives of providing increased substation reliability and transmission system reliability, as well as providing expansion capability for load growth and generation. While this alternative may meet legal and regulatory feasibility, it would not meet the technical feasibility criteria due to a reduced substation site. While this alternative would minimize potential visual impacts of the Proposed Project and therefore meet CEQA screening environmental criteria, this alternative was not recommended to be carried forward for full EIR analysis because it would not meet project objectives or the technical feasibility criteria.

C.5.5 Special Protection System Alternative – Reconductoring of TL 13824 (see *Figure C-10*)

Description

This alternative was considered by SDG&E in its Supplemental Application (July 2005) and was developed in the event that the Independent System Operator (ISO) did not approve the Special Protection System. This alternative would involve reconductoring portions of TL 13824 between the South Bay switchyard to the Las Coches Substation in order to increase ampacity to 285 MVA. Currently, TL 13824 is located on existing steel lattice towers and steel/wood pole structures within SDG&E ROW.

Reconductoring of TL 13824 would occur in three separate segments, Los Coches, Miguel and South Bay. At each of these segments, the existing conductor would be removed and replaced with a new bundled (two conductors per phase) 636 ACSR/AW conductor. Pull and stringing sites would be approximately 300 feet by 150 feet in size and would be sited in or near existing disturbed areas such as access roads. Construction activities would occur within existing SDG&E ROW.

The South Bay segment would consist of the following component:

- Reconductoring of an approximate four mile segment of TL 13824 within the existing SDG&E ROW from the South Bay switchyard east to SDG&E Park located west of I-805.

The Miguel segment would consist of the following components:

- Reconductoring of an approximate 0.5 mile segment of TL 13824 near the existing Miguel Substation and within the existing SDG&E ROW;
- Replacement of six existing wood structures near the Miguel Substation with taller wood pole structures to provide additional vertical clearance; and

- Figure C-10 Special Protection System Alternative – Reconductoring of TL 13824

-
- Installation of three new poles near the Miguel Substation to provide for clearance requirements.

The Los Coches segment would consist of the following:

- Reconductoring of an approximate one-mile segment located south of the existing Los Coches Substation and within the existing SDG&E ROW.

Rationale For Elimination

This alternative meets SDG&E's stated objectives for the SPS and is considered feasible. This alternative however, would not lessen any of the significant environmental effects of the proposed Silvergate Project. Rather, this alternative would create additional new significant impacts to residential and commercial areas of Chula Vista as a result of construction associated with reconductoring activities of over five miles of TL 13824 as described above. Consequently, this alternative was eliminated from further consideration in this EIR.

C.5.6 Non-Wire Alternatives

C.5.6.1 Energy Conservation Alternative

Description

Under the direction of the CPUC, SDG&E offers a number of energy conservation programs for customers, including financial incentives for installing specific energy-efficiency appliances or taking other measures to conserve energy. SDG&E also provides programs, such as inline energy profiling and in-home energy audits, to make customers more aware of their energy usage and of ways to conserve, as well as a variety of free brochures on improving energy efficiency.

Rationale For Elimination

Reductions in demand through related energy conservation programs are an important part of SDG&E's future operations and are incorporated into its long-term peak load forecasts. As separate and stand alone programs, however, these alternatives do not provide either the capacity or reliability needs of SDG&E, as stated in their project objectives. For these reasons, this alternative has been eliminated from further consideration.

C.5.6.2 Transmission System Load Management Alternative

Description

The Load Management programs are designed to reduce customer energy consumptions. Regulatory requirements dictate that supply-side and demand-side resource options should be considered on an equal basis in a utility's plan to acquire lowest cost resources. These programs are designed to either reduce the overall use of energy or to shift the consumption of energy to off-peak times.

Under this alternative, the need for a new substation would be met through increased load management activities similar to those noted above.

Rationale for Elimination

As separate and stand alone programs, these alternatives do not provide either the expansion capabilities or reliability needs of SDG&E, as stated in their project objectives. For these reasons, this alternative has been eliminated from further consideration.

C.5.6.3 Energy Conservation and Demand Side Management

Description

Energy Conservation and Demand Side Management programs are designed to reduce customer energy consumptions. Regulatory requirements dictate that supply-side and demand-side resource options should be considered on an equal basis in a utility's plan to acquire lowest cost resources. These programs are designed to either reduce the overall use of energy or to shift the consumption of energy to off-peak times.

Under the direction of the CPUC, SDG&E offers a number of energy conservation programs for customers, including financial incentives for installing specific energy-efficiency appliances or taking other measures to conserve energy. SDG&E also provides programs, such as in-line energy profiling and in-home energy audits, to make customers more aware of their energy usage and of ways to conserve, as well as a variety of free brochures on improving energy efficiency.

Impacts associated with these programs are routinely factored into the peak and energy forecasts prepared by SDG&E, including the forecasts for the area to be served by the proposed Silvergate project. Thus the need for the Project has considered the benefits associated with conservation and demand side management.

Rationale for Elimination

As separate and stand alone programs, these alternatives do not meet the CEQA screening criteria for project objectives. The two 138 kV transmission lines that currently serve the Main Street Substation are planned to be removed through an agreement between the City of Chula Vista and SDG&E. With the removal of these two lines, the Main Street Substation would be supplied with one remaining 138 kV line and the 230 kV transmission lines to be constructed as part of the OMPPA Transmission Project. However, there is insufficient space at the Main Street Substation to accommodate the upgrades necessary to provide for the new 230kV transmission service; therefore, construction of a new substation in the vicinity of the Main Street Substation is necessary to accommodate the new 230 kV transmission lines. With the planned removal of existing 138kV transmission and without construction of a substation that can accommodate a 230 kV system, service reliability to the area now served by the Main Street Substation would be materially reduced possibly requiring involuntary shedding of load in the San Diego downtown area. Therefore, this alternative would not meet the project objectives of providing increased substation reliability and transmission system reliability, providing expansion capability for load growth and generation or working with local governments to meet land use goals.

This alternative would also not meet the feasibility criteria. Reductions in energy usage provided by energy conservation and demand side management would not occur at a scale that would eliminate the need for the energy delivered by the Main Street Substation for the downtown San Diego area. While this alternative would avoid environmental impacts of the Proposed Project, this alternative was not recommended to be carried forward for full EIR analysis because it would not meet project objectives and feasibility criteria.

C.5.6.4 Renewable Energy Resources

Description

California's Renewable Portfolio Standard (RPS) requires retail sellers of electricity to increase their procurement of eligible renewable resources by at least 1 percent per year so that 20 percent of their retail sales are procured from eligible renewable energy resources by 2017. The RPS Program was mandated by Senate Bill 1078 (SB 1078, Sher, Chapter 516, Statutes of 2002) under Public Utilities Code sections 381, 383.5, 399.11 through 399.15, and 445. The CPUC, in collaboration with the California Energy Commission (CEC), has initiated rulemaking to implement the State's Program for Investor-owned utilities (IOU) (R.01-10-024). On March 8, 2003, the CEC and the CPUC approved an Energy Action Plan in addition to the Renewable Portfolio Standard. The shared goal of the Energy Action Plan is to:

“Ensure that adequate, reliable, and reasonably-priced electrical power and natural gas supplies, including prudent reserves, are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California’s consumers and taxpayers.”

The Renewable Resources Development Report (2003) prepared by the California Energy Commission, identifies renewable resources that are available to the SDG&E territory. These resources include wind and solar as the principal resources. Wind resources are more prevalent to the north, in the Altamont Pass, Tehachapi, and San Geronio areas of the state. Solar energy facilities are also located principally outside the SDG&E service territory; however, the southern portion of the State has the strongest solar resource potential.

At present, there are over 16,000 wind turbines in the U.S., with most of them located in California. In total, approximately 1,800 MW of electricity is generated from 105 separate wind farms. According to the San Diego Regional Energy Infrastructure Study (2002), San Diego could obtain significant amounts of wind power from the Laguna and Jacumba Mountains, located in eastern San Diego County. Class 5 and 6 winds are not uncommon in this region, and the study suggests that up to 500 MW of potential wind generation capacity could be developed over the next 30 years in the San Diego area. The main obstacle to utilizing wind generation is the lack of existing transmission infrastructure to transport the wind-generated power to the grid. In addition, wind energy technology requires approximately 5 to 6 acres per megawatt of wind power.

Currently, there are two types of solar generation available: solar thermal power (also known as concentrating solar power) and photovoltaic (PV) power generation. At present, California generates approximately 345MW of power with solar thermal power plants, with the majority of these facilities being parabolic-trough electric plants installed in the Mojave Desert, due to the large tracks of land required for this technology. Photovoltaic (PV) power systems are available on a significantly smaller scale, and have received increased support from private and public sections since the 1970s. PV systems typically convert about 10 percent of the available solar energy to alternating current electricity, and require approximately one square kilometer (247 acres) for a 100MW rated power system.

Rationale for Elimination

Renewable resources for wind and solar energy programs are an important part of SDG&E’s future operations and are incorporated into its long-term peak load forecasts. As separate and stand-alone programs, however, the renewable resource alternative does not provide either the capacity or reliability needs of SDG&E, as stated in their project objectives. For these reasons, this alternative has been eliminated from further consideration.

C.6 No Project Alternative

CEQA requires an evaluation of the No Project Alternative in order that decision makers can compare the impacts of approving the project with the impacts of not approving the project. According to CEQA Guidelines (Section 15126.6[e]), the No Project Alternative must include: (a) the assumption that conditions at the time of the Notice of Preparation (i.e., baseline environmental conditions) would not be changed since the Proposed Project would not be installed, and (b) the events or actions that would be reasonably expected to occur in the foreseeable future if the project were not approved. The first condition is described in the EIR for each environmental discipline as the “environmental baseline,” since no impacts of the Proposed Project would be created. This section defines the second condition of reasonably foreseeable actions or events. The impacts of these actions are evaluated in each issue area’s analysis in *Section D*.

Under the No Project Alternative, the Silvergate Substation would not be built, thereby requiring the existing Main Street Substation to remain in operation with the currently installed equipment. Due to the age of the equipment at the Main Street Substation, the system is at greater risk of an electric outage. It would be speculative to predict the type and location or schedule of development for new power plants and transmission needed to overcome the transmission system constraints remaining under the No Project Alternative. However, for purposes of this analysis, the No Project Alternative could include the following components in order to improve system reliability and to meet power demands in the downtown area:

- Rebuild a portion of the South Bay Substation to eliminate the common breaker problem with the 138 kV lines to the Main Street Substation
- Upgrade of the Main Street Substation 69 kV system by 2008 to meet power demands in the downtown San Diego area.