

8. Alternative 4 (Chino Hills Routes): Impacts and Mitigation Measures

8.1 Direct and Indirect Effects Analysis

Alternative 4 is described in Section 1.2.4. This set of five route alternatives remains within the same local air district jurisdictions and air basins as Alternative 2. However, these transmission route alternatives cover one more SCAQMD SRA (16 – North Orange County) than Alternative 2.

This alternative's construction methods do not change from those described for Alternative 2. The proposed route for this alternative does not change from that of the proposed Project within the KCAPCD or AVAQMD jurisdictions; therefore, the construction emissions for this alternative are only presented numerically, in Appendix A, for the SCAQMD jurisdiction.

This alternative would cause construction activities similar to those of the proposed Project, except it would:

For Alternative 4A

- Would require the construction of a new 6.2 acre⁶ gas-insulated switching station (in SRA 33).
- Would decrease the number of new towers by approximately 54 in comparison with Alternative 2.
- Would not require the construction of 16 miles of Segments 8A or 8C.
- Would not require wreckout and construction of 66kV lines.

For Alternative 4B

Construction activities would be the same as 4A, other than route, and:

- Would require approximately 19 more new towers than 4A and route would be a corresponding amount longer.

For Alternative 4C

Construction activities would be the same as 4A, other than route, and:

- Would require approximately 40 more towers than 4A, route would be a corresponding amount longer, and would require the wreckout of approximately 29 existing towers.

For Alternative 4C Modified

Construction activities would be the same as 4A, other than route, and:

- Would require 29 more towers than 4A, route would be a corresponding amount longer, and would require the wreckout of 23 existing towers.
- Would require an unbalanced cut/fill switchyard (700,000 cubic yards cut, 1,000 cubic yard fill) that would increase heavy haul trips.

⁶ SCE provided updated switchyard design information for Alternative 4C and 4C Modified that increased the size of the switchyard to 6.2 acres. For air quality emission calculation purposes it is assumed that the switchyard is 6.2 acres for all Alternative 4 options.

For Alternative 4D

Construction activities would be the same as 4A, other than route, and:

- Would require approximately 29 more new towers than 4A and route would be a corresponding amount longer.

The maximum daily construction emissions for each route under this alternative are assumed to be identical, with no additional overlapping construction activities, to that assumed for the proposed Project. Annual emissions are identical to that estimated for the proposed Project for every year other than 2010, 2011, and 2012. Appendix A provides the emission assumptions and detailed emission calculations for this alternative and shows a comparison with the annual emissions estimated for the Alternative 2.

Regional Emission Thresholds (Criterion AIR1)

Construction emissions would exceed the SCAQMD, AVAQMD, and/or KCAPCD regional emission thresholds (Impact AQ-1). Alternative 4 is the same as Alternative 2, with the exception of a Project route adjustment in the SCAQMD jurisdiction that does not change the construction methods or the maximum construction schedule overlap. Therefore, the SCAQMD, and other jurisdiction, maximum daily emissions are identical to those of Alternative 2 (see Table 6-1). Accordingly, this alternative has significant and unavoidable (Class I) regional air quality impacts for SCAQMD and AVAQMD. The recommended mitigation measures are identical to those recommended for Alternative 2, with the exception of additional mitigation measures for the Alternative 4C Modified and switchyard construction. Two additional mitigation measures are added to mitigate the Alternative 4C Modified switchyard construction waste soil hauling emissions to reduce the construction emissions to the maximum feasible degree. However, after mitigation the regional construction emission impacts are still significant and unavoidable (Class I).

Additional Mitigation Measures for Impact AQ-1 (Alternative 4C Modified Only)

AQ-1k Waste Soil Trip Distance Minimization. The haul trip distances for the switchyard construction waste soil shall be minimized to the extent feasible by working with other agencies to identify the closest locations for reuse (sand and gravel plants) or disposal of the waste soil.

AQ-1l Waste Soil Truck Capacity. Double trailer trucks with a minimum total effective capacity of 20 cubic yards will be used to haul the switchyard construction waste soil.

Operating emissions would exceed the SCAQMD, AVAQMD, and/or KCAPCD regional emission thresholds (Impact AQ-2). Alternative 4 would have nearly identical direct and identical indirect operating emissions as Alternative 2. There would be some minor additional inspection and maintenance activities associated with the new switchyard, but these emissions would be well below the SCAQMD regional significance criteria. Therefore, like Alternative 2, due to the Project's indirect emission reductions this alternative's operating emissions would provide a beneficial regional operating emissions impact (Class IV).

SCAQMD Localized Significance Thresholds (Criterion AIR2)

Construction of the Project would expose sensitive receptors to substantial pollutant concentrations (Impact AQ-3). Alternative 4 is a route adjustment in a sparsely populated area. It will also eliminate construction in more populated areas from the Chino Substation to the Mira Loma substation. Therefore, in comparison with Alternative 2, this alternative would have a lower potential for adverse impacts to sensitive receptors. However, overall it will not change the level of localized impact in the SCAQMD jurisdiction, so the localized emissions presented in Table 6-3, with the removal of the Mira Loma substation row, are still valid for this alternative.

The new switchyard construction, for Alternative 4B and 4D only, adds another potential location for localized impacts. Alternative 4A, 4C, and 4C Modified also have a new switchyard, but for those alternatives the switchyard would be more than a mile and more than 700 meters, respectively from the nearest residential or other sensitive receptor. The switchyard for Alternative 4B and 4D is approximately 400 meters from the nearest residential receptor. For this location that is located in SRA 33 the NO_x, PM₁₀ and PM_{2.5} LST significance thresholds for 400 meters from a 5 acre site, assuming linear interpolation between the 200 and 500 meter values shown in Table 4-3, would be 680, 261, and 128 pounds per day respectively. The Switchyard construction daily emissions will be nowhere near those values so no additional significant impacts will result from Alternative 4.

The mitigation measures recommended for Impact AQ-1 mitigate construction emissions to the maximum feasible extent, so no additional mitigation is recommended for this impact. Therefore, this alternative, like Alternative 2, will have significant and unavoidable (Class I) temporary air quality impacts to sensitive receptors in SCAQMD jurisdiction.

Operation of the Project would expose sensitive receptors to substantial pollutant concentrations (Impact AQ-4). Alternative 4 would have nearly identical direct and identical indirect operating emissions as Alternative 2. There would be some minor additional inspection and maintenance activities associated with the new switchyard, but these emissions would not be anywhere near the SCAQMD localized significance criteria that would apply to this remote switchyard. Therefore, like Alternative 2, this alternative's operating emissions would have a less-than-significant impact (Class III) to local sensitive receptors.

Air Toxic Contaminant Emissions (Criterion AIR3)

Construction or operation of the Project would generate toxic air contaminant emissions that would exceed SCAQMD risk thresholds (Impact AQ-5). Alternative 4 does not, with the exception of the construction and operation of the new switchyard, impact the Project's construction methods or direct operating emissions within SCAQMD jurisdiction, and does not impact emissions in the AVAQMD or KCAPCD jurisdiction. Additionally, the Project's construction occurs over a very limited period that would further reduce the long term chronic exposures (carcinogenic and non-carcinogenic exposures) to DPM and other air toxic contaminants. Therefore, like Alternative 2, the risk from Project construction at any given receptor area would be well below the SCAQMD significance thresholds so the Project would have less-than-significant (Class III) health risk impacts.

Federal General Conformity Rule (Criterion AIR4)

The Project would not conform to Federal General Conformity Rules (Impact AQ-6). Alternative 4 does not change the emissions in the ANF. Therefore, the impacts for this alternative are identical to Alternative 2. Like Alternative 2 this alternative would conform to the SIP and would have a less-than-significant impact (Class III).

Odors (Criterion AIR5)

The Project would create objectionable odors (Impact AQ-7). Alternative 4 would have essentially identical construction and operation odor potential as Alternative 2. Therefore, like Alternative 2, this alternative would have less-than-significant (Class III) odor impacts.

Angeles National Forest Strategy Conformance (Criterion AIR6)

The Project would not conform to Angeles National Forest air quality strategies (Impact AQ-8). Alternative 4 does not change the construction requirements and methods within the Angeles National Forest from those in Alternative 2. Therefore, like Alternative 2, with the incorporation of the air quality Mitigation Measures AQ-1a through AQ-1j, the air quality strategy would be compliant with ANF air quality strategies and the Project impacts would be less than significant (Class II).

Conformance with Applicable Air Quality Management Plans (Criterion AIR7)

The Project would not conform with applicable Air Quality Management Plans (Impact AQ-9). Alternative 4 has identical impacts, and recommended mitigation measures, as Alternative 2 in respect to conforming to AQMPs. Therefore, like Alternative 2, with incorporation of mitigation measures AQ-1a, AQ-1b, and AQ-1d, this alternative would be consistent with the currently approved Air Quality Management Plans and would have a less-than-significant impact (Class II).

Climate Change Impacts (Criterion AIR8)

Emissions would contribute to climate change (Impact AQ-10). The GHG emissions estimated for construction and operating activities, while slightly different than that shown for Alternative 2 (Tables 6-5, and 6-6), would due to the very large indirect emissions reduction have the same overall significant Project GHG emission reduction. Therefore, this alternative has essentially the identical impacts as the proposed Project and would provide a beneficial GHG emissions impact (Class IV).

8.2 Cumulative Effects Analysis

Alternative 4 is a reroute of Alternative 2 in Segment 8, and as such has the same general geographic extent, existing cumulative conditions, reasonably foreseeable future projects and changes, and impacts as Alternative 2. Specifically, the new route would not have as many cumulative projects within one mile as the original route for Segment 8, and as such would have a lower potential for cumulative impacts along Segment 8. However, Alternative 4 would have the same cumulative impact levels as Alternative 2 (see Section 6.2).