10. Alternative 6 (Maximum Helicopter Construction in the ANF): Impacts and Mitigation Measures

10.1 Direct and Indirect Effects Analysis

Alternative 6 is described in Section 1.2.6. This alternative changes the construction method in the more remote areas of Segments 6 and 11, by increasing the number of towers that are constructed by helicopter construction. This will impact emissions within the SoCAB and AVAQMD portion of the MDAB from 2010 through 2013. This alternative would cause construction activities similar to those of the proposed Project, except it would:

- Require the helicopter construction of an additional 115 towers in comparison to Alternative 2.
- Require the helicopter wreckout of an additional 114 towers in comparison with Alternative 2.
- Require the construction of additional helicopter staging areas in comparison with Alternative 2.
- Require less road construction and road rehabilitation work in comparison with Alternative 2.

The maximum daily construction emissions for this alternative are the same as Alternative 2, while the annual emissions for this alternative are different from Alternative 2 in the SCAQMD and AVAQMD jurisdictions. Appendix A provides the emission assumptions and detailed emission calculations for this alternative and shows a comparison with the annual emissions estimated for Alternative 2.

Regional Emission Thresholds (Criterion AIR1)

Construction emissions associated with Alternative 6 would exceed the SCAQMD, AVAQMD, and/or KCAPCD regional emission thresholds (Impact AQ-1) in the same way as Alternative 2, with the exception that there would be more maximum emission days due to the increased duration of the helicopter construction. Therefore, the maximum daily emissions are identical to those of Alternative 2 (see Table 6-1) and the maximum annual emissions from KCAPCD are not impacted by this alternative. Accordingly, this alternative has significant and unavoidable (Class I) regional air quality impacts for SCAQMD and AVAQMD. The recommended mitigation measures for Impact AQ-1 are identical to those recommended for Alternative 2 (See Section 6.1) that provide maximum feasible mitigation for this Class I impact.

Operating emissions would exceed the SCAQMD, AVAQMD, and/or KCAPCD regional emission thresholds (Impact AQ-2). Alternative 6 would have identical direct and indirect operating emissions as Alternative 2. 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 6 covers an area that is generally remote, as would be expected for tower sites constructed by helicopter construction methods. The helicopter staging areas and the new towers constructed by helicopter are all more than 500 meters away from any sensitive receptor locations. Additionally, the majority of the helicopter emissions occur above ground level and are also well dispersed through the action of the rotors. Therefore, while the helicopters have relatively high emissions of certain pollutants (NOx in particular) the increase in helicopter construction from this alternative will not change the impacts to sensitive receptors.

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 6 would have identical direct and indirect operating emissions as Alternative 2. 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 6 does not, with the exception of the additional helicopter construction activities, impact the project's construction methods or direct operating emissions within SCAQMD and AVAQMD jurisdictions, and does not impact emissions in the KCAPCD jurisdiction. Additionally, the differences in the project's construction for this alternative occurs in remote areas with no nearby sensitive receptors and over a limited period of time, no more than 4 years, 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 is expected to be 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 6 results in changes to the annual construction emissions in the ANF portions of the SoCAB and the AVAQMD portion of the MDAB from 2010 through 2012. The revised annual emissions in the SoCAB and AVAQMD portion of the MDAB are provided below in Table 10-1. As shown for Alternative 2 in Table 6-4, the Project's CO, PM10, PM2.5, and SO_2 construction emissions are well below levels needed to exceed the general conformity applicability trigger levels, and the extra helicopter construction activities will not impact these pollutants to nearly the extent to reach anywhere near their trigger levels, so the emissions of these pollutants are not shown in Table 10-1.

Table 10-1. Alternative 6 Emissions/General Conformity Emissions Threshold Comparison

		Emissions (Tons/year)	
Air Basin		NOx	VOC
SoCAB	2010 Emissions	35.6	8.7
	2011 Emissions	38.1	6.4
	2012 Emissions	28.6	6.1
	Applicability Trigger	25	25
	Exceeds (YES/NO)	YES	NO
MDAB AVAQMD	2010 Emissions	12.6	3.0
	2011 Emissions	5.7	0.9
	2012 Emissions	26.4	5.5
	Applicability Trigger [a]	100	100
	Exceeds (YES/NO)	NO	NO

Table Note:
a-Antelope Valley portion of the MDAB.

A comparison of Table 6-4 and Table 10-1 shows that Alternative 6 has considerably higher construction NOx emissions for project construction during 2010 through 2012 and that for this Project alternative the annual NOx emissions during the years affected (2010 to 2012) exceed the general conformity de minimus level within the SoCAB. The annual emissions calculations and assumptions are provided in Appendix C. The proposed Project's emission estimates consider the implementation of Mitigation Measures AQ-1a, but are conservative as they do not fully consider implementation of Mitigation Measures AQ-1b through AQ-1j. If the estimated emissions of the recommended Project Alternative are determined to be above the General Conformity applicability thresholds, a complete conformity analysis on the selected Project alternative will be performed as required by statute and approved before the Record of Decision (ROD) is approved for this Project.

The following mitigation measure is recommended for this project alternative, or the agency-recommended preferred alternative if it also exceeds the General Conformity NOx or VOC emission de minimus levels, to ensure this impact to be less than significant (Class II) and provide assurance that the Project will comply with the General Conformity Rule and be shown to conform to the SIP.

Mitigation Measure for Impact AQ-6

AQ-6 **General Conformity Emission Offset Mitigation.** In the event that the final emission estimate for the selected Project alternative as provided in the Project's Conformity Analysis exceeds the NOx and/or VOC emission applicability thresholds, and assuming the SCAQMD does not provide confirmation that the Project's emissions are accounted for in the State Implementation Plan (SIP) emission estimates per 40 CFR §93.158(a)(1), then the Project will obtain emission reduction credits to fully offset the NOx and/or VOC emissions per 40 CFR §93.158(a)(2) for the years that the Project has been estimated to exceed the NOx and/or VOC emission applicability thresholds. Credits shall be submitted to the CPUC and FS for review and approval.

SCE will have several options for obtaining emission offset mitigation, including:

- Traditional NOx emission reduction credits (ERCs) that are in units of lbs/day, where 1 lb/day equals 365 lbs/year. These credits can now be subdivided into short-term yearly credits for purchase. These credits are available at market based prices that can be very expensive.
- Reclaim Trading Credits (RTCs) that are in units of lbs and are year specific. These credits have historically been much less expensive than traditional ERCs.
- Creation of new emission reduction credits, such as mobile source emission reduction credits (MSERCs), where considered enforceable by USEPA for purposes of General Conformity offsets, through methods such as the SCAQMD Regulation XVI Mobile Source Offset Programs or other methods similar to existing stationary source control programs such as the Carl Moyer Program.

While there are many options to obtain the necessary offset credits to comply with mitigation measures AQ-6, it is likely that RTCs will make up the bulk of the credits that SCE obtains, which should reduce the cost impact of this mitigation measure.

Odors (Criterion AIR5)

Project would create objectionable odors (Impact AQ-7). Alternative 6 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 6 increases the amount of helicopter construction within the Angeles National Forest from that required by Alternative 2. This change will increase certain emissions (NOx and SOx) and decrease others (PM10 during the periods when helicopter construction occurs). However, with the incorporation of the air quality Mitigation Measures AQ-1a through AQ-1j, this alternative would continue to have the same impact finding as Alternative 2. Therefore, the air quality strategy would be compliant with ANF air quality strategies and the project impacts would be less than significant after mitigation (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 6 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 are higher for this alternative than for Alternative 2 (Tables 6-5, and 6-6); however, due to the very large indirect emissions reductions would 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).

10.2 Cumulative Effects Analysis

Alternative 6 changes the construction methods but does not change the construction route; therefore, it has the same general geographic extent, existing cumulative conditions, reasonably foreseeable future projects and changes, impacts as Alternative 2. Therefore, Alternative 6 would have the same cumulative impact levels as Alternative 2 (see Section 6.2).