E.3.11 Air Quality

E.3.11.1 Environmental Setting

The air quality setting for the Route D Alternative is similar to that of the Central Link. The forested mountainous area is described in Section D.11.2.3. The Route D Alternative and the Central South Substation Alternative would be within San Diego County, administered by the SDAPCD.

E.3.11.2 Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Route D Alternative as a result of construction, operation, and maintenance of the alternative. Table E.3.11-1 summarizes the impacts of the Route D Alternative on air quality.

Table E.3.11-1. Impacts Identified – Route D Alternative – Air Quality

Impact No.	Description	Impact Significance
Route D Alternative and Central South Substation		
AQ-1	Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants	Class I
AQ-2	Operation, maintenance, and inspections would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants	Class III
AQ-3	Power generated during transmission line operation would cause emissions from power plants.	Class III
AQ-4	Project activities would cause a net increase of greenhouse gas emissions	Class I

Overall air quality impacts of the Route D Alternative would be similar to those of the Proposed Project described in Section D.11.13. Construction impacts vary because of the route, but impacts related to power generated during transmission line operation (Impact AQ-3) and the overall net increase of greenhouse gas emissions (Impact AQ-4) would be identical for this alternative transmission line route. This means that mitigation measures identified for overall air quality impacts in Section D.11.13 [Mitigation Measures AQ-1h (obtain NOx and particulate matter offsets), AQ-4a (offset construction-phase greenhouse gas emissions), AQ-4b (offset operation-phase greenhouse gas emissions), and AQ-4c (avoid sulfur hexafluoride emissions)] would remain applicable to the Route D Alternative as with the overall Proposed Project.

Impact AQ-1: Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants (Class I)

The Route D Alternative would generate dust and exhaust emissions from concurrent construction activity with multiple crews operating off-road equipment and on-road mobile sources at separate locations. General construction, structure foundation excavation, structure delivery and setup, wire installation, and fugitive dust from travel along the ROW could each occur simultaneously on any given day of construction. Table E.3.11-2 shows the estimated emissions for construction of the Route D Alternative.

Table E.3.11-2. Emissions from Construction of Route D Alternative Transmission Line

Construction Activity	NOx (lb/day)	VOC (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO (lb/day)	SOx (lb/day)	CO_2 (lb/day)
Off-Road Equipment and On-Road Vehicles	881.7	118.7	46.2	46.2	409.4	18.7	87,056.5
Fugitive Dust	---	---	3,374.0	393.6	---	---	---
Daily Activity Totals	881.7	118.7	3,420.2	439.8	409.4	18.7	87,056.5
Significance Criteria	250	75	100	55	550	250	0
Exceed Significance Threshold?	Yes	Yes	Yes	Yes	No	No	*

Source: EIR/EIS Appendix 10.
* For discussion of impact significance of CO2 emissions and greenhouse gases, see Section D.11.13.3.

The air quality impact of building the 500 kV segment for 39 miles under the Route D Alternative would cause emissions over the thresholds, and these emissions would occur as part of the remainder of the overall Interstate 8 Alternative. The construction equipment and emissions from motor vehicles used to mobilize the workforce and materials for construction would result in temporary significant ozone and particulate matter impacts. The APMs listed in Table D.11-10 would reduce this impact, but dust and exhaust emissions would exceed the significance thresholds. Mitigation Measures AQ-1a and AQ-1b would further reduce these impacts, but as described for the I-8 Alternative (Section E.1.11) and remainder of the Proposed Project, the construction-phase emissions would be significant and unavoidable (Class I). (See Appendix 12 for the full text of the mitigation measures.)

Mitigation Measures for Impact AQ-1: Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants

AQ-1a Suppress dust at all work or staging areas and on public roads.

AQ-1b Use low-emission construction equipment.

Impact AQ-2: Operation, maintenance, and inspections would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants (Class III)

Dust and exhaust emissions generated during activities necessary for the operation, maintenance, and inspection of the Route D alternative would involve new vehicle trips to patrol the portions of the alternative corridor that are new and that do not follow existing transmission lines. A minor increase in dust and exhaust emissions from the mobile sources would occur when compared to the existing conditions. Mobile source emissions related to vegetation clearing would also occur, but only occasionally, and the associated emissions would not contribute to a potentially significant impact. The incremental increase of emissions that would be caused by vehicular traffic for inspection and maintenance activities would be less than the thresholds for operation significance in Table D.11-8. Direct emissions from vehicular traffic for maintenance activities would cause an adverse but less than significant impact, and mitigation measures are not required (Class III).

Impact AQ-3: Power generated during transmission line operation would cause emissions from power plants (Class III)

The Route D Alternative would facilitate transmission of power into San Diego County from power plants that would increase operation outside of San Diego County, and it would reduce the need to generate power in San Diego County. Although some existing fossil fuel-fired power plants could increase operation, this would only occur within previously permitted limits. As in Overall Impacts of Proposed Project (Section D.11.13), the air quality effect of power plant operation would be adverse but less than significant (Class III).

Impact AQ-4: Project activities would cause a net increase of greenhouse gas emissions (Class I)

The Route D Alternative would cause an overall net increase of GHG emissions identical to that described in Overall Impacts of Proposed Project (Section D.11.13). Mitigation would reduce the GHG impact but not to a less than significant level (Class I).

Mitigation Measure for Impact AQ-4: Project activities would cause a net increase of greenhouse gas emissions

AQ-4a Offset construction-phase greenhouse gas emissions with carbon credits.

AQ-4b Offset operation-phase greenhouse gas emissions with carbon credits.

AQ-4c Avoid sulfur hexafluoride emissions.

E.3.11.3 Central South Substation Alternative

The Route D Alternative would require use of the Central South Substation Alternative in order to convert from 500 kV to 230 kV. This substation would be located on private land at the north end of the Route D Alternative transmission line segment and along the proposed route's 230 kV segment, west of the crossing of the San Diego River gorge. A map in Section E.3 illustrates the location of the substation.

Environmental Setting

The air quality setting for the Central South Substation Alternative is similar to that of the Central Link. The air quality in this forested mountainous area is described in Section D.11.2.3. This alternative substation would be within San Diego County, administered by the SDAPCD.

Construction Impacts

Impact AQ-1: Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants (Class I)

Construction activities for the Central South Substation Alternative would involve many of the same types of construction equipment that would be associated with construction of the proposed Central East Substation, and the resulting air quality impacts would be similar to those shown in Table D.11-15, in Section D.11.7. Please see Table D.11-15 for the maximum emissions expected from all activities related to construction of this alternative substation. Construction of the Central South Substation Alternative would cause emissions over the thresholds by itself, and as part of the overall Route D Alternative construction activities, the air quality impact would be significant. The APMs listed in Table D.11-10 would reduce this impact, but exhaust emissions would exceed the significance thresholds. Mitigation Measures AQ-1a and AQ-1b would further reduce these impacts, but as described for the I-8 Alternative (Section E.1.11) and remainder of the Proposed Project, the construction-phase emissions would be significant and unavoidable (Class I).

Mitigation Measures for Impact AQ-1: Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants

AQ-1a Suppress dust at all work or staging areas and on public roads.

AQ-1b Use low-emission construction equipment.

Operational Impacts

Impact AQ-2: Operation, maintenance, and inspections would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants (Class III)

Operation of the Central South Substation Alternative would cause minor vehicular traffic for maintenance and inspections, and the substation would be remotely operated. Direct emissions from occasional vehicular traffic to the substation would cause an adverse but less than significant impact (Class III).

E.3.11.4 Future Transmission System Expansion

For the Proposed Project and route alternatives along the Proposed Project route, Section B.2.7 identifies Future Transmission System Expansion routes for both 230 kV and 500 kV future transmission lines. These routes are identified, and impacts are analyzed in Section D of this EIR/EIS, because SDG&E has indicated that transmission system expansion is foreseeable, possibly within the next 10 years. For the SWPL alternatives, 500 kV and 230 kV expansions would also be possible. The potential expansion routes for the Route D Alternative are described in the following paragraphs.

230 and 500 kV Future Transmission System Expansion

The Route D Alternative would begin at approximately MP I8-70 and would head northward until it reached the Central South Substation Alternative at approximately MP 114.5 of the Proposed Project. The Route D Alternative would convert to 230 kV at the Central South Substation and a double-circuit 230 kV line would be constructed southwest from that substation to the Sycamore Canyon Substation. The Central South Substation would accommodate up to six 230 kV circuits and an additional 500 kV circuit. Only two 230 kV circuits are proposed at this time, but construction of additional 230 kV circuits and a 500 kV circuit out of the Central South Substation may be required in the future. There are two routes that are most likely for these future lines; each is addressed below. Figure E.1.1-6 illustrates the potential routes of the future transmission lines.

Additional 230 and 500 kV circuits could follow the Proposed Project corridor starting at MP 114.5. The routes could either: (1) follow the Proposed Project corridor southwest to the Chicarita Substation and then follow the Proposed Project's 230 kV Future Transmission Expansion System (see description in Section B.2.7) from Chicarita to the Escondido Substation; or (2) the Proposed Project northeast to the Proposed Central East Substation and then follow the Proposed Project's 500 kV Future Transmission Expansion route shown in Figure B-12b (see description in Section B.2.7). See Section D.11.2, D.11.7, D.11.8, and D.11.9 for the Air Quality setting, impacts, and mitigation measures for the Central, Inland Valley, and Coastal Links of the Proposed Project. See Section D.11.11 for the Air Quality setting, impacts, and mitigation measures for the Future Transmission System Expansion of the Proposed Project.