

E.1.11 Air Quality

E.1.11.1 Environmental Setting

The air quality setting for the I-8 Alternative varies across the alternative route. The setting for the eastern portion of the alternative (MP I8-0 to approximately I8-29) is similar to that of the Imperial Valley Link, which is described in Section D.11.2.1 and within the jurisdiction of the ICAPCD.

The dry mountainous area crossed by this alternative route (approximately MP I8-29 to I8-47) is similar to that of the Anza-Borrego Link, which is described in Section D.11.2.2, and the forested mountainous area (approximately MP I8-47 to I8-92.8) is similar to that of the Central Link, which is described in Section D.11.2.3. West of MP I8-29, the I-8 Alternative and the I-8 Alternative Substation are within San Diego County, administered by the SDAPCD.

E.1.11.2 Environmental Impacts and Mitigation Measures

Table E.1.11-1 summarizes the impacts of the Interstate 8 Alternative and Route Options for air quality.

Table E.1.11-1. Impacts Identified – Interstate 8 Alternative Substation and Route Options – Air Quality

| Impact No. | Description | Impact Significance |
|--|---|---------------------|
| Interstate 8 Alternative (Including All I-8 Route Options) | | |
| 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 |
| I-8 Alternative 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 |
| Future Transmission System Expansion for Interstate 8 Alternative | | |
| 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 for the I-8 Alternative and Route Options 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, Class III) and the overall net increase of greenhouse gas emissions (Impact AQ-4, Class I) would be identical for these

alternative transmission line routes, including the I-8 Alternative Substation, and Future Transmission System Expansion for the I-8 Alternative. 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 I-8 Alternative and Route Options as with the overall Proposed Project.

Construction Impacts

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

The I-8 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.1.11-2 shows the estimated emissions for construction of the I-8 Alternative.

Table E.1.11-2. Emissions from Construction of Interstate 8 Alternative

| 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 | 4,724.2 | 636.0 | 247.5 | 247.5 | 2,193.6 | 100.5 | 466,481.8 |
| Fugitive Dust | --- | --- | 4,984.6 | 581.5 | --- | --- | --- |
| Daily Activity Totals | 4,724.2 | 636.0 | 5,232.1 | 829.0 | 2,193.6 | 100.5 | 466,481.8 |
| Significance Criteria | 250 | 75 | 100 | 55 | 550 | 250 | 0 |
| Exceed Significance Threshold? | Yes | Yes | Yes | Yes | Yes | 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 65 miles with the 230 kV segment for 28 miles under this alternative would cause emissions over the thresholds, and as part of the remainder of the Proposed Project, 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 (Section D.11) 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 Proposed Project, the construction-phase emissions would be significant and unavoidable (Class I). The full text of all mitigation measures is presented in Appendix 12.

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)

Dust and exhaust emissions generated during activities necessary for the operation, maintenance, and inspection activities of the I-8 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 (mainly between MP I8-47 to I8-92.8), 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 Interstate 8 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 Interstate 8 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.1.11.3 Interstate 8 Alternative Substation

Environmental Setting

The air quality setting of the Interstate 8 Alternative Substation would be as described in Section E.1.11.1, with the optional route occurring entirely within the jurisdiction of the SDAPCD.

Environmental Impacts and Mitigation Measures

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 I-8 Alternative Substation would involve many of the same types of construction equipment that would be associated with construction of the transmission line, and the resulting air quality impacts would be similar to those shown in Table D.11-15. Please see Table D.11-15 for the maximum emissions expected from all activities related to construction of this alternative substation.

Construction of the I-8 Alternative Substation would cause emissions over the thresholds by itself, and as part of the overall Interstate 8 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 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

Operational Impacts AQ-3 (Power generated during transmission line operation would cause emissions from power plants) and AQ-4 (Project activities would cause a net increase of greenhouse gas emissions) would be similar to the Interstate 8 Alternative (see Table E.1.11-1 and Section E.1.11.2) and the same mitigation measures would apply to the Interstate 8 Alternative Substation.

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 I-8 Alternative Substation 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.1.11.4 Interstate 8 Route Options

Campo North Option

The air quality setting of the Campo North Option would be as described in Section E.1.11.1, with the optional route occurring entirely within the jurisdiction of the SDAPCD. Impacts AQ-1 through AQ-4 as detailed in Table E.1.11-1 and all mitigation measures identified for the I-8 Alternative would apply to the Campo North Option.

Buckman Springs Underground Option

The air quality setting of the Buckman Springs Underground Option would be as described in Section E.1.11.1, with the optional route occurring entirely within the jurisdiction of the SDAPCD. Impacts AQ-1 through AQ-4 as detailed in Table E.1.11-1 and all mitigation measures identified for the I-8 Alternative would apply to the Buckman Springs Underground Option.

West Buckman Springs Option

The air quality setting of the West Buckman Springs Option would be as described in Section E.1.11.1, with the optional route occurring entirely within the jurisdiction of the SDAPCD. Impacts AQ-1 through AQ-4 as detailed in Table E.1.11-1 and all mitigation measures identified for the I-8 Alternative would apply to the West Buckman Springs Option.

South Buckman Springs Option

The air quality setting of the South Buckman Springs Option would be as described in Section E.1.11.1, with the optional route occurring entirely within the jurisdiction of the SDAPCD. Impacts AQ-1 through AQ-4 as detailed in Table E.1.11-1 and all mitigation measures identified for the I-8 Alternative would apply to the South Buckman Springs Option.

Chocolate Canyon Option

The air quality setting of the Chocolate Canyon Option would be as described in Section E.1.11.1, with the optional route occurring entirely within the jurisdiction of the SDAPCD. Impacts AQ-1 through AQ-4 as detailed in Table E.1.11-1 and all mitigation measures identified for the I-8 Alternative would apply to the Chocolate Canyon Option.

E.1.11.5 Future Transmission System Expansion for Interstate 8 Alternative

As described in Section E.1.1, the Interstate 8 Alternative Substation that would be built as a part of the Interstate 8 Alternative would accommodate up to six 230 kV circuits and a 500 kV circuit. Only two 230 kV circuits are proposed by this alternative at this time, but construction of additional 230 kV circuits and a 500 kV circuit out of the Interstate 8 Alternative Substation may be required in the future. This section considers the impacts of construction and operation of these potential future transmission lines. There are three routes that are most likely for these future lines; each is addressed below. Figure Ap.1-29 illustrates the potential routes of the transmission lines.

Environmental Setting – 230 and 500 kV Future Transmission System Expansion

The future 230 and/or 500 kV lines from the Interstate 8 Alternative Substation would most likely follow one or more of the following routes:

Interstate 8 route including underground within Alpine Boulevard

Please note the Interstate 8 route including underground within Alpine Boulevard would only be applicable for future 230 kV lines.

Additional 230 kV circuits could be installed underground within Alpine Boulevard, with appropriate compact duct banks and engineering to avoid, or possibly relocate, existing utilities. See Section

E.1.11.1 and E.1.11.2 for a description of the Environmental Setting and Mitigation Measures for Air Quality along the Interstate 8 Alternative. The future transmission line route would follow the I8 Alternative's 230 kV route to the point where it meets the Proposed Project at MP 131. The future transmission route would then join the proposed route corridor to the west, continuing past the Sycamore Canyon Substation to the Chicarita Substation. See Section D.11.2, D.11.8, and D.11.9 for a description of the Environmental Setting and Mitigation Measures for Air Quality of the Inland Valley Link and the Coastal Link of the Proposed Project. The Interstate 8 230 kV future transmission route could then follow the Proposed Project's 230 kV Future Transmission Expansion route from Chicarita to the Escondido Substation shown in Figure B-12a. See Section D.11.11 for a description of the Environmental Setting and Mitigation Measures for the Proposed Project's Future Transmission Expansion route.

Route D Alternative corridor

Additional 230 or 500 kV circuits could follow the Route D Alternative corridor to the north of Descanso, after following the Interstate 8 Alternative 230 kV route from the Interstate 8 Substation to MP I8 70.3. The environmental setting and mitigation measures for Air Quality of the Route D Alternative can be found in Section E.3.11.1 and in Section E.3.11.2. It should be noted, however, that the Route D Alternative Air Quality impacts and mitigation measures are for a 500 kV transmission line, and the Interstate 8 future transmission line as detailed above could be either a 500 kV line or a 230 kV line. For a description of a typical 500 kV transmission support structure and a typical 230 kV support structure see Section B.3.1.

The Route D corridor would connect with the Proposed Project corridor at Milepost 114.5, and could then follow either: (1) the Proposed Project southwest to the Chicarita Substation and then follow the Proposed Project's 230 kV Future Transmission Expansion route (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 for more information on the Air Quality Setting of the Central, Inland Valley, and Coastal Links of the Proposed Project.

For the Air Quality Setting, Impacts, and Mitigation Measures of the Proposed Project's 230 kV Future Transmission Expansion route and the Proposed Project's 500 kV Future Transmission Expansion route see Section D.11.11.

Interstate 8 Alternative with Modified Route D alignment and West of Forest alignment

The future 230 or 500 kV lines could follow the proposed Interstate 8 Alternative route from the Interstate 8 Alternative Substation until reaching the Modified Route D Alternative corridor (within the 368 Corridor identified by the Department of Energy's Draft West-wide Corridor Programmatic EIS) and then follow the Modified Route D Alternative corridor south for 11 miles to MP MD-26. For the Air Quality Setting and Impacts along the Modified Route D corridor see Section E.4.11. At MP MD-26, new 230 or 500 kV circuits would turn west and connect with the northernmost segment of the West of Forest Alternative route as described in Section E.1.1. This route would meet up with the Interstate 8 Alternative at approximately MP I8-79 and would follow the I8 Alternative's overhead 230 kV route to the point where it meets the Proposed Project at MP 131. The future transmission route would then join the proposed route corridor to the west, continuing past the Sycamore Canyon Substation to the Chicarita Substation. It could then follow the Proposed Project's 230 kV Future Transmission Expansion route (see description in Section B.2.7) from Chicarita to the Escondido Substation.

For this future transmission line route the environmental setting would be similar to that of the Central Link, which is described in Section D.11.2.3. The administering local air district is the SDAPCD.

Environmental Impacts – 230 or 500 kV Future Transmission System Expansion

Construction Impacts

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

Construction activities, especially site preparation, excavation of trenches, and installing structure foundations, would involve travel on unpaved roads and surfaces and material handling that would create fugitive dust. Use of construction equipment and emissions from motor vehicles used to mobilize the workforce and materials for construction would result in temporary air quality impacts from dust and equipment exhaust. Accidental wildfire could cause adverse air quality impacts that would be avoided by reducing the likelihood of construction triggering a wildfire (described further in Section D.15). As with the Proposed Project, the construction-phase emissions would be significant and unavoidable (Class I).

All future 230 or 500 kV transmission lines that are part of the Interstate 8 future transmission expansion would require new applications by SDG&E, followed by preparation of project-level environmental documents and separate approvals from the CPUC prior to permitting and construction. During the environmental review process for the future expansion transmission lines, detailed mitigation measures would be identified to minimize the construction impacts. Implementation of Mitigation Measures AQ-1a (suppress dust at all work or staging areas and on public roads) and AQ-1b (use low-emission construction equipment), as well as mitigation measures containing provisions similar to those identified in the APMs identified for the remainder of the Proposed Project (Mitigation Measures AQ-1c through AQ-1g) would reduce the impact but not to a less than significant level (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.
- AQ-1c** Comply with Imperial County dust control requirements. [AQ-APM-1]
- AQ-1d** Implement dust reduction measures. [AQ-APM-2]
- AQ-1e** Prevent transport of mud and dust. [AQ-APM-3]
- AQ-1f** Encourage carpooling. [AQ-APM-4]
- AQ-1g** Minimize vehicle idling. [AQ-APM-5]

Operational Impacts

Operational Impacts AQ-3 (Power generated during transmission line operation would cause emissions from power plants) and AQ-4 (Project activities would cause a net increase of greenhouse gas emissions) would be similar to the Interstate 8 Alternative (see Table E.1.11-1 and Section E.1.11.2) and the same mitigation measures would apply to the Future Transmission System Expansion for Interstate 8 Alternative.

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

Once construction is complete, operational emissions would result from vehicle use that would be necessary for periodic maintenance, repair, and inspection of the 230 or 500 kV future expansion. Maintenance and inspections activities would be similar throughout the project area and would be the only notable direct air quality impact related to the project. Once operational, the future expansion would require few new vehicle trips compared to the existing conditions. The incremental increase of emissions that would be caused by project vehicular traffic for inspection and maintenance activities would be minor. The air quality effects of potential wildfire related to the operation and the presence of the line including emissions of particulate matter, increased adverse health effects, and diminished visibility would be adverse but short-term (see discussion in Section D.15). Direct emissions from project vehicular traffic for maintenance activities would cause a negligible, less than significant impact, and mitigation measures are not required (Class III).