6.3 AIR QUALITY

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less than Significant Impact*	*No Impact*
Would the project:				
a) Conflict with or obstruct implementation of the applicable Air Quality Attainment Plan?	☐	☒	☐	☐
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

6.3.1 Approach to Analysis

The following air quality analysis identifies the types of emissions sources that would be associated with the project and evaluates their significance, taking into account such factors as the types and amounts of the different pollutants that would be emitted and the applicable criteria. Emissions estimates consider such factors as fuel types, applicable air district regulations and standards, and expected usage rates for different pieces of equipment.

6.3.2 Impact Significance Criteria

The analysis of significance of impacts of the project is based on the criteria listed above.

6.3.3 Impact Mechanisms

Air quality impacts due to the project would vary between the construction phase and the operational phase. Project construction would involve installing new underground conduit for fiber optic cable and pulling the cable through the newly-installed conduit as well as segments of pre-existing conduit. The project would employ two different construction techniques for installing new conduit: street trenching and directional boring. Over the short-term, activities related to installing new conduit would result in emissions of ozone precursors and particulate matter (PM_{10}) from operation of construction equipment and construction worker commute trips and in emissions of fugitive dust from earthmoving operations and vehicle travel over unpaved surfaces. Fugitive emissions are those that are released to the atmosphere through a means other than through a stack or tailpipe. Fugitive dust refers to such sources as earthmoving activities, vehicle movement over paved or unpaved roads, and wind blowing over unvegetated surfaces.

On a regional level, the equipment and vehicle emissions associated with installing new conduit would contribute incrementally to atmospheric loading of pollutant compounds, or their precursors that are involved in the formation of ozone and PM_{10}. On a local level, the fugitive dust emissions would contribute to local PM_{10} concentrations and may result in nuisance-type impacts from particulate settling, and in reduced local visibility. In contrast to installing new conduit, cable pulling through newly installed and pre-existing conduit would involve less equipment and would generate substantially less emissions.

Once operational, the project would result in emissions over the long term of ozone precursors and PM_{10} from testing (for maintenance purposes) and use (during actual emergencies) of diesel-powered back-up generators. Emissions from the diesel storage tank used in connection with the back-up generators and from vehicle emissions generated in connection with periodic maintenance of the POPs would be minimal. Similar to that described for construction equipment and vehicle emissions, emissions from back-up generators would contribute incrementally to regional atmospheric loading of pollutant compounds, or their precursors, that are involved in the formation of ozone and PM_{10}. On the local level, the project would result in the potential for exposure of people to diesel particulate emissions in the immediate vicinity of POP sites due to occasional use of diesel-powered back-up generators.

6.3.4 Impact Assessment

Emissions increases from the project are evaluated against specific significance criteria recommended by the two regional air quality management districts whose jurisdictions cover the areas in which the project would be located: the Bay Area Air Quality Management District (BAAQMD) for the San Francisco Bay Area Network and the South Coast Air Quality Management District (SCAQMD) for the Los Angeles Basin Network.

6.3.4.1 San Francisco Bay Area Network

a. Would the proposed project conflict with or obstruct implementation of the applicable Air Quality Attainment Plan?

Impact AQ-1: Introduction of additional emissions sources in a region for which air quality plans have been developed. (Less than Significant with Identified Mitigation)

As described in the section 5.3, four regional air quality plans have been developed to address nonattainment, or maintenance pollutants in the Bay Area: two related to the national ozone standard, one related to the state ozone standard, and one related to the national carbon monoxide standard.

Project construction in the Bay Area would occur over approximately 4 to 6 months. Over this period, the project would result in emissions primarily due to the use of construction equipment. Emissions from worker commute trips would represent less than 10 percent of overall construction-related emissions. Construction equipment would emit ozone precursors and carbon monoxide. However, as a general matter, these emissions are included in the emission inventories that are the basis for regional air quality plans, and would not be expected to impede attainment or maintenance of ozone or carbon monoxide standards in the Bay Area (Bay Area Air Quality Management District 1996).

Once operational, the project would involve operation of electronic equipment at POPs, occasional use of back-up generators, use of diesel storage tanks associated with the generators, and motor vehicle trips associated with maintaining equipment at the POPs. The electronic equipment at the POPs would normally run on electricity from the utility power grid or from batteries; however, five of the POPs would be equipped with diesel-powered engines (generators) that would be used to generate emergency power during an interruption in power from the utility grid. Each of these back-up generators would have a rating of approximately 80 horsepower (hp) and would deliver 60-kilowatts (kW) of electrical power. These generators would emit pollutants during routine testing and during actual interruptions of power from the utility grid. Routine testing would occur on a weekly basis; each test would normally last less than one hour. The POP facilities would be unmanned sites that would generate a negligible number of motor vehicle trips (approximately four to five per week).

As discussed in section 5.3, the Bay Area ozone plans rely heavily upon stationary source control measures set forth in BAAQMD's *Rules and Regulations*. This stationary source program, as embodied in the BAAQMD *Rules and Regulations*, was developed such that new stationary sources can be allowed to operate in the Bay Area without obstructing the goals of the regional air quality plans through such programs as New Source Review, BACT requirements, and offsets. Under the exemption provided in BAAQMD Regulation 1, Rule 1-110.2, Metromedia would not be required to secure BAAQMD permits for the installation or use of the proposed back-up generators. This exemption would apply as long as the back-up generators are not used in connection with any utility voluntary electricity demand reduction program. Generally, with such generators, the BAAQMD requests notification that such sources will be operated, but no further documentation need be provided as long as the aggregate duration for routine maintenance and testing for each generator does not exceed 150 hours per year (Elliot 2000). With respect to the diesel storage tank, Metromedia would be exempt from BAAQMD permit requirements under BAAQMD Regulation 2, Rule 1-123.3.

Given the connection between the stationary source control program as embodied in the BAAQMD *Rules and Regulations* and the control strategies set forth in the regional ozone plans, the project would not conflict with or obstruct implementation of the applicable air quality plans as long as the Metromedia complies with applicable BAAQMD stationary source requirements in connection with the proposed back-up generators. As described below, Metromedia would comply with these requirements.

In contrast to the ozone plans, the Bay Area carbon monoxide maintenance plan relies heavily on mobile source control measures, and since, once operational, the project would generate a very small number of vehicle trips, it would not conflict with or obstruct implementation of the maintenance plan for the national carbon monoxide standard.

Mitigation Measure AQ-1: Metromedia would submit a letter to the permit services division of the BAAQMD prior to project construction indicating that five back-up generators would be installed as part of the project and where those generators would be located. This letter would also certify that the generators would not be used in connection with any utility voluntary electricity demand reduction program and that Metromedia would notify BAAQMD if the annual hours of operation for routine maintenance and testing of any of the generators exceeds 150 hours. (Proposed as Part of the Project)

b. Would the proposed project violate any air quality standard or contribute to an existing or projected air quality violation?

Impact AQ-2: Increase in local pollutant concentrations. (Less than Significant with Identified Mitigation)

As discussed in section 5.3, the project would be located in a region that experiences occasional exceedances of ozone and PM_{10} standards. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of reactive organic gases (ROG) and nitrogen oxides (NO_x) under the influence of wind and sunlight. PM_{10} is both a regional and local air pollutant since some sources, such as motor vehicle exhaust, are more regional in nature while others, such as construction activities, have a more local effect. Prior to the mid-1990s, the Bay Area also experienced occasional exceedances of the eight-hour average carbon monoxide standard. The regional monitoring network no longer records exceedances of the carbon monoxide standard but the region is designated as a maintenance area since it had once been nonattainment. Carbon monoxide is a local pollutant emitted directly from combustion sources. Elevated carbon monoxide concentrations are typically associated with congested intersections and heavily traveled freeways under stagnant wintertime conditions.

The project would affect local pollutant concentrations in two ways. First, during project construction, the project would affect local particulate concentrations primarily due to fugitive dust sources. During the operational phase, the project would affect local concentrations in the immediate vicinity of the POPs due to occasional use of back-up generators and due to occasional maintenance-related vehicle trips.

Project construction would involve the underground installation of approximately 113 miles of conduit for fiber optic cable in the San Francisco Bay Area, mostly along Union Pacific and Caltrain railroad rights-of-way. On any given day, the construction zone at each work site would be approximately 20 to 40 feet wide and, typically, no more than 1,000 feet long for a total disturbed area of less than 1 acre. There could be as many as 12 active work spreads on any given day of construction over the 4- to 6-month construction period. In addition, the project would involve construction at POPs, which would vary in size from 4,000 to 7,000 square feet for Type II POPs to 1,000 to 2,000 square feet for Type III POPs.

During the 4- to 6-month construction period, the project would result in fugitive dust emissions primarily from earthmoving activities and vehicle travel over unpaved surfaces. Fugitive dust emissions from construction activities would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. In the absence of mitigation measures, project construction activities could emit significant quantities of dust. As a result, local visibility and PM_{10} concentrations may be adversely affected on a temporary and intermittent basis during the construction period. In addition, larger dust particles would settle out of the atmosphere close to the construction zone resulting in a soiling nuisance for adjacent uses.

For construction-phase impacts, BAAQMD recommends that significance be based on a consideration of the control measures to be implemented (Bay Area Air Quality Management District 1996). If appropriate mitigation measures are implemented to control PM_{10} emissions, then the impact may be considered less than significant. Metromedia would implement the BAAQMD-recommended mitigation measures as discussed below.

With respect to carbon monoxide, the project would not significantly affect local concentrations either during the construction phase or the operational phase. During the construction phase, the linear progression of the construction process would ensure that carbon monoxide concentrations would not accumulate in any one location such that exceedances would be likely to occur due to construction equipment exhaust. Also, since Metromedia would use directional boring techniques (rather than open trenching) to cross major roadways, local traffic patterns, and associated local carbon monoxide concentrations, would be largely unaffected by project construction. Once operational, the project would generate four to five vehicle trips per week for maintenance purposes at the POPs, and this minimal amount of traffic generation would have essentially no affect on local carbon monoxide concentrations along the roads leading to the POPs.

Mitigation Measure AQ-2: Metromedia would require the construction contractors to implement the following dust abatement program:

- Water all active construction areas at least twice daily;
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard;
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites;
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites; and
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

Implementation of the measures included in the dust abatement program would reduce the chance that PM_{10} standards would be violated in the vicinity of the project site or that visibility would be significantly affected during the construction period. Based on the BAAQMD-recommended approach, the residual impact of project construction on air quality would be less than significant.

c. Would the proposed project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Impact AQ-3: Increase in nonattainment pollutant emissions. (Less than Significant)

The Bay Area is designated nonattainment for ambient standards for ozone and PM_{10}. Ozone is a secondary pollutant formed through photochemical reactions involving ROG and NO_x. PM_{10} is emitted directly to the atmosphere from such sources as entrained road dust and exhaust and is also a secondary pollutant formed through photochemical reactions involving ROG, NO_x, and sulfur oxides.

The project would result in emissions of ROG, NO_x, and PM_{10} during the construction phase and during the operational phase. To evaluate construction-phase impacts, BAAQMD recommends a qualitative approach and emphasizes implementation of appropriate dust control measures. As

explained under Impact AQ-2, Metromedia would implement an appropriate dust control program and, thus, construction-phase emissions would not be significant.

Once operational, the project would result in emissions on ROG, NO_x, and PM_{10} from operation of both stationary and motor vehicle sources. However, motor vehicle source emissions would be negligible since the POPs would be unmanned and routine motor vehicle activity would amount to approximately four to five trips per week for each POP.

Stationary source emissions would result from operation of five back-up, diesel-powered generators during weekly routine testing and during unforeseen emergency electricity loss. Emissions from the underground diesel storage tank would be negligible. Table 6.3-1 presents emissions estimates on a daily and annual basis for operation of the five proposed back-up generators that would be installed. Appendix I provides additional details on how the estimates shown in Table 6.3-1 were calculated.

Table 6.3-1. Estimated Operational-Phase Emissions for the San Francisco Bay Area Network

	EMISSIONS (POUNDS PER DAY)		EMISSIONS (TONS PER YEAR)	
Pollutant	*Project*[a]	*Significance Criterion*[b]	*Project*[a,c]	*Significance Criterion*[b]
Reactive Organic Gases	1	80	0.1	15
Nitrogen Oxides	13	80	0.9	15
Particulate Matter (PM_{10})	1	80	0.1	15

[a] Project-related emissions were estimated by using U.S. EPA emissions factors from *Compilation of Air Pollutant Emission Factors*, AP-42, Section 3.3 (October 1996) and by assuming operation of four 60-kW generators. Project-related daily emissions estimates assume that all four back-up generators would be tested on a given day and that each would be tested for 1 hour on that day.

[b] Significance criteria are from *BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans* (April 1996).

[c] Project-related annual emissions estimates assume that all five generators would be operated for the maximum foreseeable number of hours (150 hours) in a given year.

Source: ESA 2000a.

The daily emissions estimates shown in Table 6.3-1 assume that all five generators would be tested for 1 hour on a single day. The annual estimates assume that each generator would operate for the maximum foreseeable number of hours in a given year (150 hours), which is substantially higher than the expected number of hours in a given year that each would operate for testing and maintenance purposes (52 hours at 1 hour per week).

For operational-phase impacts, BAAQMD recommends using 80 pounds per day and 15 tons per year as the significance criteria for emissions of ROG, NO_x, or PM_{10} (Bay Area Air Quality Management District 1996). Table 6.3-1 shows that the emissions from the back-up generators would be substantially less than these criteria; therefore, the project would result in less-than-significant emissions of nonattainment pollutants or their precursors.

Mitigation Measure: No mitigation is required.

d. Would the proposed project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-4: Expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Identified Mitigation)

The project could result in exposure of sensitive receptors, such as residents, to substantial pollutant concentrations during construction from fugitive dust emissions sources such as vehicle travel over unpaved surfaces since residences would be located along certain segments of Union Pacific and Caltrain railroad rights-of-way. This impact would be mitigated to a less-than-significant level with implementation of the dust abatement program that Metromedia would require of its construction contractors (see Impact AQ-2 and related mitigation measure).

During project operations, use of back-up generators would not exposure sensitive receptors to substantial pollutant concentrations, with two possible exceptions, due to the relatively small quantities of emissions that would be generated, their infrequent use, and the distance between the generators and the nearest sensitive receptors. Except at the Hayward and Santa Clara sites, the distance between the generators and the nearest sensitive receptor would be greater than 200 feet at each POP that would have a back-up generator. At the Hayward and Santa Clara POP sites, the back-up generators would be located approximately 35 and 100 feet from the nearest residences, respectively. Even though the back-up generator would be used infrequently and exposure of residents to generator exhaust would be very limited, the project could lead to exposure of sensitive receptors to substantial pollutant concentrations at these two POPs, given the proximity between the residence and the generator and the identification of diesel particulate as a toxic air contaminant. To address this issue, Metromedia would use California on-road diesel fuel to power the back-up generator at the Hayward and Santa Clara POPs.

Mitigation Measure AQ-4: Metromedia would use "California" diesel fuel to power the back-up generator at the Hayward and Santa Clara POPs.

Under California law, diesel-powered, off-road equipment such as back-up generators are not required to use the same diesel fuel formulation as diesel-powered, on-road motor vehicles. Both on-road (California) and off-road (federal) diesel fuel formulations have similar sulfur content, but California diesel fuel has a lower aromatic hydrocarbon content, which leads to lower diesel particulate emissions compared to federal diesel fuel. Specifically, diesel particulate emissions generated from use of California diesel fuel are approximately 20 percent less than the corresponding emissions generated from use of federal diesel fuel (Air Resources Board 1997). With use of California diesel fuel to power the back-up generator at the Hayward and Santa Clara POP sites, the associated risk from diesel particulate emissions would be reduced to less than significant, particularly given its infrequent use.

e. Would the proposed project create objectionable odors affecting a substantial number of people?

The project would not include the types of emissions sources or activities that are normally associated with odor impacts.

6.3.4.2 Los Angles Basin Network

a. Would the proposed project conflict with or obstruct implementation of the applicable Air Quality Attainment Plan?

Impact AQ-5: Introduction of additional emissions sources in a region for which air quality plans have been developed. (Less than Significant with Identified Mitigation)

As described in section 5.3, current federal and state air quality planning requirements for the South Coast Air Basin have been consolidated into a single plan, the *1997 Air Quality Management Plan*, as amended in December 1999. This plan addresses nonattainment designations for ozone, PM_{10}, and carbon monoxide, and a maintenance designation for nitrogen dioxide.

Project construction in the Los Angeles Basin would occur over approximately 6 to 8 months. Over this period, the project would result in emissions of ozone precursors and carbon monoxide primarily from mobile sources, such as construction equipment and worker commute trips and in emissions of PM_{10}, primarily from fugitive dust sources. The ozone, carbon monoxide, and nitrogen dioxide strategies in the *1997 Air Quality Management Plan*, as amended, rely on mobile source control measures and a clean fuels program, which are enforced at the state and federal level on engine manufacturers and petroleum refiners and retailers. Project construction activities would not conflict with or obstruct the ozone, carbon monoxide, and nitrogen dioxide strategies so long as the equipment and fuel used by construction contractors complies with all applicable state and federal regulations.

The PM_{10} strategy included in the *1997 Air Quality Management Plan* relies on control of fugitive dust sources, such as construction sites. To regulate such sources in the South Coast Air Basin, the SCAQMD has adopted SCAQMD Rule 403 (Fugitive Dust). During construction, the project would be subject to this rule.

SCAQMD Rule 403 does not require a permit for construction activities, per se, but rather, sets forth general and specific requirements for all construction sites (as well as other fugitive dust sources) in the South Coast Air Basin. The general requirement prohibits a person from causing or allowing emissions of fugitive dust from construction (or other fugitive dust source) such that the presence of such dust remains visible in the atmosphere beyond the property line of the emissions source. SCAQMD Rule 403 also prohibits a construction site from causing an incremental PM_{10} concentration impact at the property line of more than 50 micrograms per cubic meter as determined through PM_{10} high-volume sampling, but the concentration standard and associated PM_{10} sampling do not apply if specific measures identified in the rule are implemented and appropriately documented.

SCAQMD Rule 403 identifies two sets of specific measures: one for high wind conditions and the other for more normal wind conditions.

When wind gusts exceed 25 miles per hour, neither the sampling requirement nor the general requirement apply as long as the following measures are implemented and appropriately documented:

Source	*Control Measure*
Earthmoving	Cease all active operations, or apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed Surface Areas	On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days, apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; or
	Apply chemical stabilizers prior to wind event, or
	Apply water to all unstabilized disturbed areas 3 times per day. (If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day); or
	Establish a vegetative ground cover within 21 days after active operations have ceased. (Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all time thereafter); or
	Utilize any combination of the three measures immediately preceding such that, in total, these actions apply to all disturbed surface areas.
Unpaved Roads	Apply chemical stabilizers prior to wind event, or apply water twice per hour during active operation, or stop all vehicular traffic.
Open Storage Piles	Apply water twice per hour, or install temporary coverings.
Paved Road Track-out	Cover all haul vehicles, or comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both pubic and private roads.

During normal wind conditions (i.e., with wind gusts less than 25 miles per hour), the sampling requirement does not apply as long as the following measures are implemented and appropriately documented:

Source	*Control Measure*
Earthmoving (not including cut and fill)	Maintain soil moisture content at a minimum of 12 percent, or for earthmoving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earthmoving (construction fill areas)	Maintain soil moisture content at a minimum of 12 percent. For areas which have an optimum moisture content for compaction of less than 12 percent, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content.
Earthmoving (construction cut areas)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed Surface Areas (except completed grading areas)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust, must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed Surface Areas (completed grading areas)	Apply chemical stabilizers within five working days of grading completion; or apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, except any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; or establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter.
Inactive Disturbed Surface Areas	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, except any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; or apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; or establish a vegetative ground cover within 21 days after active operations have ceased (ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter); or utilize any combination of the above three measures such that, in total, these actions apply to all inactive disturbed surface areas.
Unpaved Roads	Water all roads used for any vehicular traffic at least once per every two hours of active operations; or water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; or apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open Storage Piles	Apply chemical stabilizers; or apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; or install temporary coverings; or install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile.

Finally, SCAQMD Rule 403 requires those engaged in hauling operations to take actions necessary to prevent or remove (within 1 hour) the track-out of bulk material onto public paved roadways. Alternatively, one may implement these specific actions:

- Pave or apply chemical stabilization at sufficient concentrations and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and a width of at least 20 feet; or

- Pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device.

Under either specific alternative course of action, the following additional requirements apply:

- Remove track-out material at anytime it extends for a cumulative distance of greater than 50 feet onto any paved public paved road during active operations; and

- Remove all visible roadway dust track-out upon public paved roadways as a result of active operations at the conclusion of each workday when active operations cease.

Once operational, the project would involve operation of electronic equipment at the POPs, which would run exclusively on electricity from the utility power grid, except at the four Type II POPs, which would be equipped with a diesel-powered engine (generator) to generate emergency power. Each of these back-up generators would have a rating of approximately 80 horsepower (hp) and would deliver 60-kilowatts (kW) of electrical power. These generators would emit pollutants during routine testing and during interruptions of power from the utility grid. Routine testing would occur on a weekly basis; each test would normally last less than 1 hour. A diesel storage tank would be installed for each of the proposed back-up generators. The POP facilities would be unmanned sites that would generate a negligible number of motor vehicle trips (approximately four to five per week).

The proposed back-up generators would represent new stationary sources within the South Coast Air Basin. The ozone strategy included in the *1997 Air Quality Management Plan*, as amended, relies on the stationary source control program embodied in the SCAQMD *Rules and Regulations*. The SCAQMD's stationary source control program sets forth pre-construction review requirements for new, modified, or relocated facilities to ensure that the operation of such facilities does not interfere with progress in attainment of state and national ambient air quality standards. Under SCAQMD Regulation II, Metromedia would be required to obtain permits to construct and permits to operate these back-up generators. (No permit would be required for the underground diesel storage tank pursuant to SCAQMD Rule 219 [Equipment not Requiring a Written Permit Pursuant to Regulation II].) In addition, the proposed back-up generators would be subject to SCAQMD's Regulation XIII (New Source Review [NSR]), which applies to all new stationary sources subject to Regulation II.

Under SCAQMD Regulation XIII (NSR), the proposed back-up generators would be required to be constructed with BACT to minimize emissions of carbon monoxide, ROG, NO_x and PM_{10}. Based on SCAQMD guidance, applicable BACT standards for an back-up generator, such as those

proposed for this project, would specify a maximum allowable emissions rate of 8.5 grams of carbon monoxide per brake horsepower-hour (bhp-hr), 1.0 gram of volatile organic compounds (VOC, which are essentially the same as ROG) per bhp-hr, 6.9 grams of NO_x per bhp-hr, and 0.38 gram of PM_{10} per bhp-hr (Tran 2000). Sulfur dioxide emissions would be minor since the sulfur content of the diesel fuel would be limited to 0.05 percent by weight (or less) under SCAQMD Rule 431.2 (Sulfur Content of Liquid Fuels).

In addition to BACT, NSR typically requires offsets if a new source would emit greater than specified quantities of pollutants after implementation of BACT; however, offsets are not required under SCAQMD Rule 1304 (Exemptions) for equipment used exclusively as back-up standby equipment for nonutility electrical power generation provided that the equipment does not operate more the 200 hours per year. Other SCAQMD rules provide specific requirements for stationary internal combustion engines (e.g., Regulation XI [Source Specific Standards]), Rule 1110.1), but they also exempt back-up generators.

Given the connection between SCAQMD's stationary source control program as embodied in their *Rules and Regulations* (particularly New Source Review, BACT and Rule 403 [Fugitive Dust]), and the regional air quality planning efforts, the project would not conflict with or obstruct implementation of the air quality plan as long as Metromedia complies with all applicable SCAQMD permitting requirements in connection with the proposed back-up generators and with SCAQMD Rule 403 requirements in connection with project construction.

Mitigation Measure AQ-5: Metromedia would comply with all SCAQMD permit requirements and SCAQMD Rule 403 as follows:

- Submittal of applications to the SCAQMD for permits to construct and permits to operate the four back-up generators associated with the Los Angeles Basin network. These generators would be manufactured (or modified to include emissions abatement devices) to achieve applicable BACT standards for such equipment: 8.5 grams of carbon monoxide per bhp-hr, 1.0 gram of VOC per bhp-hr, 6.9 grams of NO_x per bhp-hr, and 0.38 grams of PM_{10} per bhp-hr;

- Use of the generators for back-up, nonutility electrical power generation purposes only (or for related testing and maintenance purposes) for an aggregate period not to exceed 200 hours per year as documented by an engine-hour meter or equivalent method;

- Use of diesel fuel with a sulfur content not to exceed 0.05 percent by weight; and

- Implementation of the measures required under SCAQMD Rule 403 (as described above) for high wind and normal wind conditions to reduce PM_{10} emissions from the various fugitive dust sources associated with project construction, and maintenance of the necessary documentation that demonstrates compliance with the rule.

b. Would the proposed project violate any air quality standard or contribute to an existing or projected air quality violation?

Impact AQ-6: Increase in local pollutant concentrations. (Less than Significant)

As discussed in section 5.3, the project would be located in a region that experiences exceedances of ozone, PM_{10}, and carbon monoxide standards. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NO_x under the influence of wind and sunlight. The ozone problem in the South Coast Air Basin reflects the numerous stationary and mobile sources of precursors emissions that operate within the Air Basin and the influence of regional meteorological and topographic characteristics that are conducive to ozone formation. PM_{10} is both a regional and local air pollutant since some sources, such as motor vehicle exhaust, are more regional in nature while others, such as construction activities, have a more local effect. Carbon monoxide is a local pollutant emitted directly from combustion sources. Elevated carbon monoxide concentrations are typically associated with congested intersections and heavily traveled freeways under stagnant wintertime conditions.

The project would affect local pollutant concentrations in two ways. First, during project construction, the project would affect local particulate concentrations primarily due to fugitive dust sources. During the operational phase, the project would affect local concentrations in the immediate vicinity of the POP stations due to occasional use of back-up generators and due to occasional maintenance-related vehicle trips.

Project construction would occur over a 6- to 8-month period and would involve the underground installation of approximately 134 miles of new conduit for fiber optic cable in Los Angeles and Orange counties. Fugitive dust emissions associated with construction would be relatively minor since all of the installation of new conduit for the Los Angeles Basin network would occur in existing roadways, which would minimize the extent of vehicle travel over unpaved surfaces, one of the principal sources of fugitive dust, and since project construction would be subject to SCAQMD Rule 403. SCAQMD Rule 403 includes specific requirements to minimize fugitive dust emissions generated at construction sites. Metromedia would require that construction contractors comply with SCAQMD Rule 403 (see Impact AQ-5) and, as such, the effect of project construction on local PM_{10} concentrations would be less than significant along construction routes. Fugitive dust impacts in the vicinities of POPs would be minimal since all of the POPs associated with the Los Angeles Basin Network would be located in existing buildings.

With respect to carbon monoxide, the project would not significantly affect local concentrations either during the construction phase or the operational phase. During the construction phase, the linear progression of the construction process itself would ensure that carbon monoxide concentrations would not accumulate in any one location such that exceedances would be likely to occur due to construction equipment exhaust. Also, since Metromedia would use directional boring techniques (rather than open trenching) to cross major roadways, local traffic patterns, and associated local carbon monoxide concentrations, would be largely unaffected by project construction. Once operational, the project would generate four to five vehicle trips for maintenance purposes at the POPs, and this minimal amount of traffic generation would have essentially no affect on local carbon monoxide concentrations along the roads leading to the POPs.

Mitigation Measure: No mitigation is required.

c. Would the proposed project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Impact AQ-7: Increase in nonattainment pollutant emissions. (Less than Significant with Identified Mitigation)

The South Coast Air Basin is designated nonattainment for ambient standards for ozone, PM_{10}, and carbon monoxide. Ozone is a secondary pollutant formed through photochemical reactions involving ROG and NO_x. PM_{10} is emitted directly to the atmosphere from such sources as entrained road dust and exhaust and is also a secondary pollutant formed through photochemical reactions involving ROG, NO_x, and sulfur oxides. Carbon monoxide is emitted directly to the atmosphere from combustion sources.

The project would result in emissions of carbon monoxide, ROG, NO_x, sulfur oxides and PM_{10} during the construction phase and during the operational phase. During the construction phase, as many as 12 work crews would be operating simultaneously along the construction route. Each crew would have approximately 8 to 10 workers. The mix of construction equipment would vary between the two different types of construction: street trenching and directional boring. For street trenching, the equipment would include an asphalt paver, roller, windrow elevator, grinder, and two backhoes. For directional boring, the equipment would include a vacuum trailer, a drilling machine, a backhoe, a mini-excavator, and a water truck. Estimates have been made of the emissions associated with both construction techniques as shown in Table 6.3-2. Appendix I provides additional details on how the estimates shown in Table 6.3-2 were calculated.

SCAQMD has developed a *CEQA Air Quality Handbook* that provides guidance to lead agencies in determining whether a project would result in significant quantities of nonattainment pollutants or their precursors (South Coast Air Quality Management District 1993). For evaluating construction-phase impacts under CEQA, SCAQMD recommends using significance criteria defined on a daily basis and on a quarterly basis. For evaluating construction-related impacts, the SCAQMD-recommended significance criteria are used herein as mitigation thresholds. The recommended daily construction-related emissions criteria are as follows: 550 pounds of carbon monoxide, 75 pounds of ROG, 100 pounds of NO_x, and 150 pounds of sulfur oxides or PM_{10}; the recommended quarterly emissions criteria are as follows: 24.75 tons of carbon monoxide, 2.5 tons of ROG or NO_x, and 6.75 tons of sulfur oxides or PM_{10}. Table 6.3-2 compares project construction-related emissions estimates with SCAQMD-recommended significance criteria and shows that estimated NO_x emissions would be above both the daily and the quarterly criteria.

To mitigate this temporary impact, Metromedia would require construction contractors to implement a number of measures, such as using California diesel fuel, using construction equipment that is properly tuned and maintained in accordance with manufacturer's specifications, employing only ten work crews on any given workday, and suspending construction work during Stage 2 smog alerts. These measures are discussed in more detail below under Mitigation Measure AQ-7. Table 6.3-3 shows the extent to which these measures would reduce NO_x emissions. In Table 6.3-3, the measures related to fuel and properly-tuned equipment are referred to as Tier 1 measures and the measures related to activity levels and

Table 6.3-2. Estimated Unmitigated Construction-Phase Emissions for the Los Angeles Basin Network

			Maximum Daily Construction Scenario[A]				Maximum Quarterly Construction Scenario[B]			
Pollutant	*1 Crew Trenching (lbs/day)*	*1 Crew Boring (lbs/day)*	*9 Crews Trenching (lbs/day)*	*3 Crews Boring (lbs/day)*	*Total (lbs/day)*	*Significance Criterion[C] (lbs/day)*	*9 Crews Trenching (tons/qtr)*	*3 Crews Boring (tons/qtr)*	*Total (tons/qtr)*	*Significance Criterion[C] (tons/qtr)*
Carbon Monoxide	21	75	190	224	414	550	7	9	16	24.75
Reactive Organic Gases	3	5	27	14	41	75	1	1	2	2.5
Nitrogen Oxides	26	16	231	49	**281**	100	9	2	**11**	2.5
Sulfur Oxides	2	1	18	4	22	150	1	0	1	6.75
Particulate Matter (PM-10)	3	2	23	5	28	150	1	0	1	6.75

[a] Maximum daily construction scenario would involve 9 trenching crews and 3 drilling crews working simultaneously. Emissions estimates reflect construction equipment and worker commute trips.

[b] Maximum quarterly construction scenario would involve 9 trenching crews and 3 drilling crews working simultaneously 6 days per week for 13 consecutive weeks. Emissions estimates reflect construction equipment and worker commute trips.

[c] Significance criteria are from *SCAQMD CEQA Air Quality Handbook* (May 1993).

Note: Values shown in **bold** type exceed the applicable criterion.

Source: ESA 2000a.

Table 6.3-3. Estimated Mitigated Construction-Phase Emissions of Nitrogen Oxides for the Los Angeles Basin Network

EMISSIONS UNDER BASELINE AND TIER 1 MITIGATION											
				Maximum Daily Construction Scenario				Maximum Quarterly Construction Scenario			
Mitigation Scenario	*Pollutant*	*1 Crew Trenching lbs/day*	*1 Crew Boring lbs/day*	*9 Crews Trenching lbs/day*	*3 Crews Boring lbs/day*	*Total lbs/day*	*Significance Criterion[d] lbs/day*	*9 Crews Trenching tons/qrtr*	*3 Crews Boring tons/qrtr*	*Total tons/qrtr*	*Significance Criterion[d] tons/qrtr*
Baseline[a]	Nitrogen Oxides	26	16	231	49	**281**	100	9	2	**11**	2.5
Tier 1[b]	Nitrogen Oxides	23	15	211	45	**256**	100	8	2	**10**	2.5
EMISSIONS UNDER TIER 2 MITIGATION											
				Maximum Daily Reduced Construction Scenario[b]				Maximum Quarterly Reduced Construction Scenario[b]			
Mitigation Scenario	*Pollutant*	*1 Crew Trenching lbs/day*	*1 Crew Boring lbs/day*	*6 Crews Trenching lbs/day*	*4 Crews Boring lbs/day*	*Total lbs/day*	*Significance Criterion[d] lbs/day*	*6 Crews Trenching tons/qrtr*	*4 Crews Boring tons/qrtr*	*Total tons/qrtr*	*Significance Criterion[d] tons/qrtr*
Tier 2[c]	Nitrogen Oxides	23	15	141	60	**200**	100	5.5	2.3	**7.8**	2.5

a Baseline refers to unmitigated emissions as shown in Table 6.3-2.

b Tier 1 mitigation includes use of California diesel fuel for all diesel vehicles and use of construction equipment that is properly tuned and maintained in accordance with manufacturer's specifications.

c Includes all of Tier 1 mitigation measures plus a reduced number of construction crews and greater reliance on directional boring techniques rather than open trenching.

d Significance criteria are from *SCAQMD CEQA Air Quality Handbook* (May 1993).

Note: Values shown in **bold** type exceed the applicable criterion.

Source: ESA 2000a.

construction techniques are referred to as Tier 2 measures. Appendix I provides additional details on how the estimates shown in Table 6.3-3 were calculated.

As shown in Table 6.3-3, the measures that Metromedia would implement through its construction contractors would reduce NO_x emissions relative to the unmitigated condition by approximately 30 percent. These mitigated emissions would still exceed the SCAQMD NO_x emission thresholds of 100 pounds per day and 2.5 tons in a calendar quarter and would be potentially significant. However, project construction emissions would be split into 10 crews that would be separated by several miles throughput the SCAB. Additionally, emissions from each construction crew would be substantially below the SCAQMD daily NO_x threshold. As a result, project construction emissions would not be expected to produce impacts in a localized area that would contribute to an exceedance of the ambient O_3 standards, especially since the overall construction period would only last for six to eight months. The residual air quality impacts from construction activities would therefore be insignificant.

Once operational, the project would result in emissions of ROG, NO_x, and PM_{10} from operation of both stationary and motor vehicle sources. However, motor vehicle source emissions would be negligible since the POPs would be unmanned and routine motor vehicle activity would amount to approximately four to five trips per week for each POP.

Stationary source emissions would result from operation of four back-up, diesel-powered generators during weekly routine testing and during unforeseen back-up electricity loss. Emissions from the underground diesel storage tank would be negligible. Table 6.3-4 presents emissions estimates on a daily basis for operation of the four proposed back-up generators that would be installed as part of the Los Angeles Basin Network. Appendix I provides additional details on how the estimates shown in Table 6.3-4 were calculated.

For evaluating operational-phase impacts, SCAQMD recommends emissions-based significance criteria of 550 pounds per day of carbon monoxide, 55 pounds per day of VOC or NO_x, and 150 pounds per day of sulfur oxides or PM_{10}. Table 6.3-4 shows that the emissions from the back-up generators would be substantially less than these criteria; therefore, the project would not result in significant emissions of nonattainment pollutants or their precursors over the long-term.

Mitigation Measure AQ-7: Metromedia would require its construction contractors to comply with the following requirements for project construction:

- Use of California on-road diesel fuel for all diesel-powered construction equipment;
- Use of construction equipment that is properly tuned and maintained in accordance with manufacturer's specifications;
- Employ a maximum of 10 work crews on any given workday with a maximum of 6 work crews using the street trenching technique;
- Use of best management construction practices to avoid unnecessary emissions (e.g., trucks and vehicles in loading and unloading queues would be kept with their engines off, when not in use); and
- Suspension of emissions-generating construction activities during Stage 2 smog alerts. Stage 2 air pollution episodes occur under the California Air Pollution Emergency Episode Plan when hourly ozone concentrations reach 0.35 parts per million (Air Resources Board 1998). Stage 2 conditions have not occurred in the South Coast Air Basin since 1988.

Table 6.3-4. Estimated Operational-Phase Emissions for Los Angeles Basin Network

Pollutant	*Emissions Factors in grams per brake horsepower-hour*[a]	EMISSIONS (POUNDS PER DAY)	
		Project[b]	*Criterion*[c]
Carbon Monoxide	8.50	6	550
Reactive Organic Gases	1.00	1	55
Nitrogen Oxides	6.90	5	55
Sulfur Oxides	0.93	1	150
Particulate Matter (PM_{10})	0.38	< 0.5	150

[a] Project-related emissions were estimated by using SCAQMD BACT requirements for generators, except for sulfur dioxide, which was estimated based on U.S. EPA emissions factors from *Compilation of Air Pollutant Emission Factors*, AP-42, Section 3.3 (October 1996). All four proposed back-up generators for the Los Angeles Basin Network would generate 60 kW.

[b] Project-related daily emissions estimates assume that all four back-up generators would be tested on a given day and that each would be tested for 1 hour on that day.

[c] Significance criteria are from *SCAQMD CEQA Air Quality Handbook* (May 1993).

Source: ESA 2000a.

d. Would the proposed project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-8: Expose sensitive receptors to substantial pollutant concentrations. (Less than Significant)

The project would not result in exposure of sensitive receptors, such as residents, to substantial pollutant concentrations during construction from fugitive dust emissions sources since all or the construction would occur in existing roadways and since project construction would be subject to SCAQMD Rule 403 (see Impact AQ-5).

Once operational, use of the back-up generators would not be expected to result in exposure of sensitive receptors to substantial pollutant concentrations due to the relatively small quantities of emissions that would be generated, their infrequent use, and the distance between the generators and the nearest sensitive receptors. All of the generators for the Los Angeles Basin Network would be installed within existing buildings.

Mitigation Measure. No mitigation is required.

e. Would the proposed project create objectionable odors affecting a substantial number of people?

The project would not include the types of emissions sources or activities that are normally associated with odor impacts.