

4.2 AIR QUALITY

4.2.1 Setting

San Luis Obispo County encompasses 3,316 square miles with varied vegetation, topography and climate. From a geographical and meteorological standpoint, the County can be divided into three general regions: the Coastal Plateau, the Upper Salinas River Valley, and the East County Plain. Air quality in each of these regions is characteristically different, although the physical features that divide them provide only limited barriers to the transport of pollutants between regions.

About 75 percent of the County's population and a corresponding portion of the commercial and industrial facilities are located within the Coastal Plateau. Because of higher population density and closer spacing of urban areas, emissions of air pollutants per unit area are generally higher in this region than in other regions of the County.

The Upper Salinas River Valley, located in the northern one-third of the county, houses roughly 25 percent of the County's population. Historically, this region has experienced the highest ozone and particulate levels in the County. Transport of ozone precursors from the Coastal Plateau and from the San Joaquin Valley may contribute to this condition.

The East County Plain is the largest region by land area. However, less than one percent of the County population resides there. Dry land farming and unpaved roads in this region contribute to County totals for particulate emissions, but these emissions rarely affect other regions of the County.

a. Local and Regional Meteorology. San Luis Obispo County is part of the South Central Coast Air Basin (SCCAB), which also includes Santa Barbara and Ventura Counties. The climate of the San Luis Obispo area is strongly influenced by its proximity to the Pacific Ocean. Airflow around the county plays an important role in the movement and dispersion of pollutants. The speed and direction of local winds are controlled by the location and strength of the Pacific high pressure system and other global weather patterns, topographical factors, and circulation patterns that result from temperature differences between the land and the sea.

In spring and summer months, when the Pacific High attains its greatest strength, onshore winds from the northwest generally prevail during the day. At night, as the sea breeze dies, weak drainage winds flow down the coastal mountains and valleys to form a light, easterly land breeze. In the fall, onshore surface winds decline and the marine layer grows shallow, allowing an occasional reversal to a weak offshore flow. This, along with the diurnal alteration of land-sea breeze circulation, can sometimes produce a "sloshing" effect. Under these conditions, pollutants may accumulate over the ocean for a period of one or more days and are subsequently carried back onshore with the return of the sea breeze. Strong inversions can form at this time, trapping pollutants near the surface.

This effect is intensified when the Pacific High weakens or moves inland to the east. This may produce a "Santa Ana" condition in which air, often pollutant-laden, is transported into the County from the east and southeast. This can occur over a period of several days until the



high-pressure system returns to its normal location, breaking the pattern. The breakup of this condition may result in relatively stagnant conditions and a buildup of pollutants offshore. The onset of the typical daytime sea breeze can bring these pollutants back onshore, where they combine with local emissions to cause high pollutant concentrations. Not all occurrences of the “post Santa Ana” condition lead to high ambient pollutant levels, but it does play an important role in the air pollution meteorology of the County.

b. Regulatory Framework. The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate the emission of airborne pollutants and have established ambient air quality standards for the protection of public health. The United States Environmental Protection Agency (USEPA) is the federal agency designated to administer air quality regulation, while ARB is the state equivalent under the California Environmental Protection Agency (CalEPA). Local control in air quality management is provided by the ARB through multi-county and county-level Air Pollution Control Districts (APCDs). The ARB establishes statewide air quality standards and is responsible for the control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 15 air basins statewide. San Luis Obispo County is located in the SCCAB, which is under the jurisdiction of the San Luis Obispo Air Pollution Control District (APCD).

Federal and state standards have been established for six criteria pollutants, including ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulates less than 10 and 2.5 microns in diameter (PM₁₀ and PM_{2.5}), and lead (Pb) (refer to Table 4.2-1). California air quality standards are identical to or stricter than federal standards for all criteria pollutants. Table 4.2-1 illustrates the current Federal and State Ambient Air Quality Standards.

Table 4.2-1: Current Federal and State Ambient Air Quality Standards

Pollutant	Federal Standard	California Standard
Ozone	0.075 ppm (8-hr avg)	0.09 ppm (1-hr avg) 0.070 ppm (8-hr avg)
Carbon Monoxide	9.0 ppm (8-hr avg) 35.0 ppm (1-hr avg)	9.0 ppm (8-hr avg) 20.0 ppm (1-hr avg)
Nitrogen Dioxide	0.053 ppm (annual avg)	0.18 ppm (1-hr avg) 0.03 ppm (annual avg)
Sulfur Dioxide	0.03 ppm (annual avg) 0.14 ppm (24-hr avg) 0.5 ppm (3-hr avg)	0.04 ppm (24-hr avg) 0.25 ppm (1-hr avg)
Lead	1.5 µg/m ³ (calendar quarter)	1.5 µg/m ³ (30-day avg)
Particulate Matter (PM ₁₀)	150 µg/m ³ (24-hr avg)	20 µg/m ³ (annual avg) 50 µg/m ³ (24-hr avg)
Particulate Matter (PM _{2.5})	15 µg/m ³ (annual avg) 35 µg/m ³ (24-hr avg)	12 µg/m ³ (annual avg)

ppm= parts per million

µg/m³ = micrograms per cubic meter

Source: California Air Resources Board, <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, September 2, 2010.



c. Current Ambient Air Quality. The County's air quality is measured by a network of ten ambient air quality monitoring stations: Arroyo Grande (Cal Fire station), Atascadero (Lewis Avenue), Red Hills (east of Shandon), Carrizo Plains, Grover Beach (Lesage Drive), Morro Bay, Nipomo Regional Park, Nipomo (Guadalupe Road), Paso Robles (Santa Fe Avenue), and San Luis Obispo (Marsh Street and 3320 South Higuera Street). At these monitoring stations, information is collected 24 hours per day, seven days per week, on the ambient levels of pollutants, including ozone (O₃), particulate matter (PM₁₀), nitrogen oxides (NO_x), sulfur oxides (SO_x), and carbon monoxide (CO).

Between 2007 and 2009, these monitoring stations measured countywide exceedances of the state hourly ozone (eight days in 2008) and the state 8-hour ozone standard (45 days in 2007, 72 days in 2008, and 28 days in 2009). The County also experienced exceedances of the federal 8-hour standard during this time, exceeding the federal 8-hour standard 18 days in 2007, 43 days in 2008, and eight days in 2009. PM₁₀ is not monitored on a countywide basis. However, the monitoring station with the most exceedances of the PM₁₀ standard between 2007 and 2009 was the Nipomo (Guadalupe Road) station, which exceeded the state standard eight days in 2007, six days in 2008, and 12 days in 2009.

On a regional basis, ozone is the pollutant of greatest concern in the county, particularly within the coastal plateau. Ozone is a secondary pollutant, formed in the atmosphere by complex photochemical reactions involving precursor pollutants and sunlight. The amount of ozone formed is dependant upon both the ambient concentration of chemical precursors and the intensity and duration of sunlight. Consequently, ambient ozone concentration tends to vary seasonally with the weather. Reactive Organic Gases (ROG), also called Reactive Hydrocarbons (RHC), and Nitrogen Oxides (NO_x) are the primary precursors to ozone formation. NO_x emissions result primarily from the combustion of fossil fuels; ROG emissions are also generated by fossil fuel combustion and through the evaporation of petroleum products. Emissions of ROG and NO_x are fairly equally divided between mobile and stationary sources, with the Dynergy Morro Bay power plant being the largest, single stationary source of NO_x emissions in the County. Automobiles and electrical generation produce the majority of NO_x emissions.

Local concentrations of inert (non-reactive) pollutants such as Carbon Monoxide (CO) ozone, and PM₁₀ are primarily influenced by nearby sources of emissions, and thus, vary considerably between monitoring stations. SO₂ emissions are mainly concentrated around areas where large quantities of fossil fuels are either burned in electrical production or petroleum products are refined. SO₂ levels on the Nipomo Mesa and the Dynergy energy facility in Morro Bay are a good example of this.

d. Air Quality Management. Under state law, the APCD is required to prepare an overall plan for air quality improvement for the SCCAB, known as the Clean Air Plan (CAP). The most recent CAP was prepared in 2001. The 2001 CAP is the third update to the original 1991 CAP, adopted in 1992. The CAP is intended to bring the county into attainment of the State ozone standard within a three year timeframe through a comprehensive set of control measures designed to reduce ozone precursor emissions from a wide variety of stationary and mobile sources.



e. Sensitive Receptors. Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. The majority of sensitive receptor locations are therefore residences, schools, parks and playgrounds, day care centers, nursing homes, and hospitals.

4.2.2 Impact Analysis

a. Methodology and Significance Thresholds. This analysis of air quality issues follows the guidance and methodologies recommended for program-level analyses in the APCD's *CEQA Air Quality Handbook* (December, 2009). According to the APCD, program-level environmental review does not require a quantitative air emissions analysis at the project scale. Rather, a qualitative analysis of the air quality impacts should be conducted based upon criteria such as prevention of urban sprawl and reduced dependence on automobiles. A finding of significant impacts can be determined qualitatively by evaluating the project's consistency with the land use and transportation control measures and strategies outlined in the District's Clean Air Plan (CAP). If the project is consistent with these measures, it is considered consistent with the CAP.

The following thresholds are based on the County's Initial Study and Initial Study checklist and Appendix G of the State CEQA Guidelines. Air quality impacts would be significant if development facilitated by the proposed program would result in any of the following:

- *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.* Refer to Impacts AQ-1 and AQ-2, below.
- *Expose sensitive receptors to substantial pollutant concentrations, air toxins, diesel particulate matter, Naturally Occurring Asbestos (NOA), or fugitive dust.* Refer to Impact AQ-1, below.
- *Create objectionable odors affecting a substantial number of people.* Refer to Section 4.13: Effects Finds Not to be Significant
- *Conflict with or obstruct implementation of the District's Clean Air Plan.* Refer to Impact AQ-3, below.
- *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).* Refer to discussion on cumulative air quality impacts, below.



b. Project Impacts and Mitigation Measures.

Impact AQ-1 Construction activities resulting from the proposed Agricultural Cluster Subdivision Program would generate ozone precursors (ROG + NO_x) and fugitive particulate matter, and would potentially result in human exposure to Naturally Occurring Asbestos (NOA), a toxic air contaminant. These emissions would represent a substantial reduction from the potential emissions associated with development potential under the existing ordinance. Impacts compared to the existing ordinance are therefore Class III, *less than significant*. However, compared to existing conditions, development potential under the proposed ordinance revisions would generate construction-phase emissions. Impacts compared to existing conditions would therefore be Class II, *significant but mitigable*.

Compared to Development Potential under the Existing Ordinance

The following proposed program revisions would reduce overall development potential in agricultural areas of the county: elimination of minor agricultural clusters, elimination of agricultural cluster subdivision as an option in the RL category, reducing the distance to URLs for agricultural cluster eligibility, elimination of agricultural cluster development associated with properties under Williamson Act contract, and elimination of the density bonus. The result of these revisions would be that 4,163 fewer residential units could be constructed.

The program would also introduce the Agricultural Cluster Subdivision Program into the Coastal Zone; however, the coastal version of the program would only authorize the reconfiguration of existing underlying lots into residential cluster lots, essentially replacing current lot line adjustment procedures with more restrictive agricultural clustering standards.

As shown in Table 4.2-2, the revised program would reduce construction-related air pollutants by approximately 77 to 91 percent when compared to development potential under the existing program. Therefore fewer short-term air quality impacts resulting from grading and excavation would be generated. Impacts would be Class III, *less than significant*.

Table 4.2-2: Estimated Reduction in Construction-phase Emissions

Pollutant	Comparison of Total Construction Emissions (lbs/day)		
	Existing	Proposed	Reduction
Reactive Organic Gases (ROG)	7,006.67	654.25	6,352.42 (90.7%)
Nitrous Oxides (NO _x)	1,457.44	329.26	1,128.18 (77.4%)
Carbon Monoxide (CO)	1,449.53	245.48	1,204.05 (83.1%)
Sulfur Dioxide (SO ₂)	2.34	0.22	2.12 (90.6%)
Particulate Matter < 10 microns (PM ₁₀)	15,333.98	1,410.29	13,923.69 (90.8%)
Particulate Matter <2.5 microns (PM _{2.5})	3,192.5	306.09	2,886.41 (90.4%)
Carbon Dioxide (CO ₂)	286,587.06	46,304.51	240,282.55 (83.8%)

Source: URBEMIS 2007 (version 9.2.4). Refer to Appendix E: URBEMIS Output for Air Quality Analysis.



Compared to Existing Conditions

Construction Emissions

Compared to existing conditions, the proposed Agricultural Cluster Subdivision Program would allow for the development of up to 418 new residences in agricultural areas within five miles of the URLs of Arroyo Grande, Atascadero, San Luis Obispo, San Miguel, Nipomo, Paso Robles, and Templeton.

The Agricultural Cluster Subdivision Program would also allow for the reconfiguration of legally established underlying lots in eligible areas of the Coastal Zone (rural North Coast and Estero planning areas, excluding Hearst Ranch) to accommodate residential development. To date, 320 legal underlying lots have been identified in these areas. However, since many of these lots could already be developed in their current configuration with fewer restrictions than would be required under the proposed amendments, only a small percentage of the eligible lots would be likely to participate in the program. Nonetheless, any future reconfiguration would result in the construction of new single family residences in the Coastal Zone.

Construction of additional units would cause temporary, short-term emissions of various air pollutants. These impacts would occur through dust generated by on-site grading activities for construction of roads, driveways, and residential and commercial building foundations, and as a result of heavy construction vehicle emissions. NO_x and ROG would be emitted by the operation of construction equipment. Diesel combustion from construction equipment or trucks would generate the emission of diesel particulate matter (DPM), which may contain sulfates and silicates in addition to particulate matter (e.g. PM₁₀ down to PM_{0.1}). Fugitive dust (PM₁₀) would be emitted by activities that disturb the soil.

Based on historic cluster development trends¹, it's assumed that the proposed program could reach build-out in approximately 20 years, such that 20.9 units are constructed annually. Table 4.2 3, below, illustrates how the residential development resulting from the Agricultural Cluster Subdivision Program is not anticipated to exceed construction-phase emission thresholds when cluster development is phased over 20 years. Even in the unlikely event of a five year build-out scenario (where 83.6 units are constructed annually), construction emissions from the program would still fall below these thresholds.

Table 4.2-3: Construction Emissions Associated with Agricultural Cluster Subdivision Development Potential (418 new units)

Pollutant	Total Emissions 5-year build-out (tons/quarter)	Total Emissions 20-year build-out (tons/quarter)	Quarterly SLOAPCD Thresholds (tons/quarter)
Ozone Precursors (ROG +NO _x combined)	2.35	1.15	2.5
Fugitive Particulate Matter (PM ₁₀)	2.22	0.58	2.5
Diesel Particulate Matter (DPM) ¹	0.05	0.04	0.13

Source: URBEMIS 2007 (version 9.2.4). Refer to Appendix E: URBEMIS Output for Air Quality Analysis.

¹ Over the past 25 years, 367 agricultural cluster parcels were approved; an average of 14.68 units per year.



Although development under the proposed program is not anticipated to exceed SLOAPCD's thresholds for construction emissions, individual agricultural cluster projects could require mitigation in situations where a special condition or a corresponding law requires it. For example, development projects involving construction activities near existing sensitive receptors could be required to implement mitigation measures to reduce fugitive dust affecting nearby residents or local businesses. These mitigation measures would be necessary to prevent possible violations of SLOAPCD's 402 "Nuisance" Rule.

The County is still currently in non-attainment for the state standard for ozone precursors and fugitive particulate matter. As a result, even under a 20-year build-out scenario, program impacts with respect to these pollutants would be considered cumulatively significant. Implementation of the mitigation measures listed below will ensure that each project's contribution towards cumulative impacts will be reduced below a level of significance (refer to Section 4.2.2(c) for more discussion on cumulative impacts). Impacts would therefore be Class II, *significant but mitigable*.

Naturally Occurring Asbestos (NOA)

Grading and site preparation activities associated with individual agricultural cluster projects could occur in areas containing NOA. Determination if asbestos is present, and if so, compliance with all requirements outlined in the CARB's *Air Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations* in addition to the *National Emissions Standards for Hazardous Pollutants*, would reduce impacts from NOA to less than significant levels.

Toxic Diesel Emissions during Construction

Construction activities resulting from the proposed program would generate diesel particulate matter. In particular, grading and site preparation activities would generate the greatest intensity of diesel emissions. Since diesel particulate matter is listed as a Toxic Air Contaminant by the CARB (with no identified threshold) the amount of diesel exhaust anticipated to be produced by the aforementioned diesel equipment, as well as the diesel haul trucks during construction was calculated and is displayed in the column labeled Fugitive Particulate Matter (refer to Table 4.2-3). Construction emissions from heavy-duty diesel exhaust were calculated using the APCD's *CEQA handbook*.

At the present time, it is unknown whether or not future agricultural cluster subdivision projects would be located near sensitive receptors, or what type of construction equipment they would require. Nevertheless, implementation of the construction phase mitigation measures described below would be anticipated to reduce impacts to less than significant levels. Future projects would also be reviewed by SLOAPCD on a case-by-case basis. Depending on the construction equipment that would be required for such projects and their proximity to sensitive receptors (e.g. existing residences and schools), they could be required to implement additional mitigation measures.

Mitigation Measures. Although the proposed Agricultural Cluster Subdivision Program would result in fewer impacts compared to potential build-out under the existing agricultural cluster subdivision ordinance, CEQA requires that potential impacts be compared to the existing baseline physical conditions. As noted above, although the proposed program is not



anticipated to exceed SLOAPCD's quarterly thresholds for construction emissions, individual projects could require mitigation in situations where a special condition or a corresponding law requires it.

The following mitigation measures are required to reduce ozone precursor and diesel particulate matter emissions:

AQ-1(a) Construction Phase Mitigation. Based on their size, location, and proximity to sensitive receptors, individual agricultural cluster subdivision projects may be subject to the following mitigation measures:

- Maintain all construction equipment in proper tune according to manufacturer's specifications;
- Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State off-Road Regulation;
- Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NOx exempt area fleets) may be eligible by proving alternative compliance;
- All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5 minute idling limit;
- Diesel idling within 1,000 feet of sensitive receptors is not permitted;
- Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
- Electrify equipment when feasible;
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible;
- Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel; and
- If the estimated ozone precursor emissions from the actual fleet for a given construction phase are expected to exceed the APCD threshold of significance after the standard mitigation measures are factored into the estimation, then BACT needs to be implemented to further reduce these impacts.



The following mitigation measures are required to reduce the proposed program's contribution to cumulative impacts relative to PM₁₀ emissions:

AQ-1(b) Dust Control. The following measures shall be implemented to reduce PM₁₀ emissions during construction:

- Reduce the amount of the disturbed area where possible;
- Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Water shall be applied as soon as possible whenever wind speeds exceed 15 miles per hour. Reclaimed (nonpotable) water should be used whenever possible;
- All dirt-stock-pile areas shall be sprayed daily as needed;
- Permanent dust control measures shall be identified in the approved project revegetation and landscape plans and implemented as soon as possible following completion of any soil disturbing activities;
- Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast-germinating native grass seed and watered until vegetation is established;
- All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD;
- All roadways, driveways, sidewalks, etc., to be paved shall be completed as soon as possible. In addition, building pads shall be laid as soon as possible after grading unless seeding or soil binders are used;
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
- All trucks hauling dirt, sand, soil or other loose materials shall be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114;
- Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site; and
- Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible.

The above measures shall be shown on development plans.

Plan Requirements and Timing. Conditions shall be adhered to throughout all grading and construction periods for all project components. Prior to issuance of grading permits, applicants shall include, as a note on a separate informational sheet to be recorded with any map, the aforementioned dust control requirements. All requirements shall be shown on grading and building plans. **Monitoring.** Planning and Building inspectors shall perform periodic spot checks during grading and construction. APCD inspectors shall respond to nuisance complaints.



AQ-1(c) Cover Stockpiled Soils. If importation, exportation, or stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting material shall be tarped from the point of origin.

Plan Requirements and Timing. Conditions shall be adhered to throughout all grading and construction periods for all project components. **Monitoring.** Planning and Building inspectors shall perform periodic spot checks during grading and construction. APCD inspectors shall respond to nuisance complaints.

AQ-1(d) Dust Control Monitor. The contractor or builder shall designate a person or persons to monitor the dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20% opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.

Plan Requirements and Timing. The name and telephone number of dust monitor(s) shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork, or demolition. The dust monitor shall be designated prior to approval of a Land Use Permit. **Monitoring.** Planning and Building shall contact the designated monitor as necessary to ensure compliance with dust control measures.

The following mitigation measure is required to reduce impacts related to naturally occurring asbestos (NOA) during site disturbing activities:

AQ-1(e) NOA Evaluation. Prior to any grading activities at the site, project applicants shall ensure that a geologic evaluation is conducted to determine if NOA is present within the area that will be disturbed. If NOA is not present, an exemption request must be filed with the District. If NOA is found at the site, project applicants must comply with all requirements outlined in the Asbestos ATCM. This may include development of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program for approval by the APCD.

Public health risk benefits can be realized by idle limitations for diesel engines. To help reduce the emissions impacts of diesel vehicles and equipment used to construct the project, the applicant shall implement the following idling control techniques:

AQ-1(f) California Diesel Idling Regulations.

- **On-road diesel vehicles** shall comply with Section 2485 of Title 13 of the California Code of Regulations. This regulation limits idling from diesel-fueled commercial motor vehicles with gross vehicular weight



rating of more than 10,000 pounds and licensed for operation on highway. It applies to California and non-California based vehicles. In general, the regulation specifies that drivers of said vehicles:

- Shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location, except as noted in Subsection (d) of the regulation; and
 - Shall not operate a diesel-fueled auxiliary power system (ASP) to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 1,000 feet of a restricted area, except as noted in Subsection (d) of the regulations.
- **Off-road diesel equipment** shall comply with the 5 minute idling restriction identified in Section 2449(d)(2) of the California Air Resources Board's In-Use off-Road Diesel regulation.
 - Signs must be posted in the designated queuing areas and job sites to remind drivers and operators of the state's 5 minute idling limit.
 - The specific requirements and exceptions in the regulations can be reviewed at the following web sites:
www.arb.ca.gov/msprog/truck-idling/2485.pdf
www.arb.ca.gov/regact/2007/ordies107/froal.pdf.

AQ-1(g)

Diesel Idling Restrictions Near Sensitive Receptors. In addition to the State required diesel idling requirements, the project applicant shall comply with these more restrictive requirements to minimize impacts to nearby sensitive receptors:

- Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
- Diesel idling within 1,000 feet of sensitive receptors shall not be permitted;
- Use of alternative fueled equipment is recommended; and
- Signs that specify that no idling areas must be posted and enforced at the site.

AQ-1(h)

Developmental Burning. Effective February 25, 2000, the APCD prohibited developmental burning of vegetative material within San Luis Obispo County. Under certain circumstances where no technically feasible alternatives are available, limited developmental burning under restrictions may be allowed. This requires prior application, payment of a fee based on the size of the project, APCD approval, and issuance of a burn permit by the APCD and Cal Fire. Project applicants shall furnish the APCD with the study of technical feasibility which includes costs and other constraints) at the time of application.



AQ-1(I) Construction Permit Requirements. Individual agricultural cluster projects shall attain all necessary construction permits from the SLOAPCD. Portable equipment, 50 horsepower (hp) or greater, used during construction activities may require California statewide portable equipment registration (issued by the California Air Resources Board) or an APCD permit. Operational sources may also require APCD permits.

The following list is provided as a guide to equipment and operations that may have permitting requirements, but should not be viewed as exclusive. For a more detailed listing, refer to the Technical Appendices, page 4-4, in the APCD's 2009 CEQA Handbook.

- Power screens, conveyors, diesel engines, and/or crushers;
- Portable generators and equipment with engines that are 50 hp or greater;
- Electrical generation plants or the use of standby generator;
- Internal combustion engines;
- Rock and pavement crushing;
- Unconfined abrasive blasting operations;
- Tub grinders;
- Trommel screens; and
- Portable plants (e.g. aggregate plant, asphalt batch plant, concrete batch plant, etc).

Residual Impacts. When compared to development potential under the existing ordinance, impacts would be Class III, *less than significant*. Nonetheless, the Agricultural Cluster Subdivision Program would result in ozone precursor (ROG and NO_x) and diesel particulate matter emissions. Although these emissions are anticipated to fall below applicable SLOAPCD thresholds, they would incrementally contribute to cumulatively significant construction-phase air quality impacts. However, implementation of the mitigation measures described above would reduce these impacts to less than significant levels.

The program itself would not exceed APCD thresholds for PM₁₀. Because the APCD is in non-attainment for PM₁₀, however, the project's incremental contribution to cumulative PM₁₀ emissions would be potentially significant. The mitigation measures described above would reduce PM₁₀ emissions to the extent feasible. In addition, construction activities would be temporary and would not result in long term air quality impacts. Therefore, implementation of the above mitigation measures would reduce impacts associated with PM₁₀ emissions to a less than significant level. Construction-phase air quality impacts would therefore be Class II, *significant but mitigable*.



Impact AQ-2 Development under the proposed Agricultural Cluster Subdivision Program would generate long-term operational emissions. These emissions would represent a substantial reduction from the potential emissions associated with development potential under the existing ordinance. Impacts compared to the existing ordinance are therefore Class III, *less than significant*. However, compared to existing conditions, long-term operational emissions under the program could exceed SLOAPCD's 25 lbs/day threshold for these emissions. Impacts compared to existing conditions would therefore be Class I, *significant and unavoidable*.

Compared to Development Potential under the Existing Ordinance

As described in Impact AQ-1, several proposed program revisions would reduce overall development potential in agricultural areas of the county. The result of these revisions would be that 4,163 fewer residential units could be constructed. As shown in Table 4.2-4, below, the revised program would reduce long-term operational air pollutants by approximately 91 percent when compared to development potential under the existing program. Therefore fewer long-term air quality impacts resulting from developed authorized under the program would be generated. Impacts would be Class III, *less than significant*.

Table 4.2-4: Reduction in Operational Emissions

Pollutant	Comparison of Total Operational Emissions (lbs/day)		
	Existing Program	Proposed Program	Reduction
Reactive Organic Gases (ROG)	834.12	76.11	758.01 (90.88%)
Nitrous Oxides (NO _x)	807.47	73.68	733.79 (90.88%)
Carbon Monoxide (CO)	6,634.43	605.37	6,029.06 (90.88%)
Sulfur Dioxide (SO ₂)	4.85	0.44	4.41 (90.93%)
Particulate Matter < 10 microns (PM ₁₀)	981.23	89.53	891.70 (90.88%)
Particulate Matter <2.5 microns (PM _{2.5})	188.62	17.52	171.10 (90.71%)
Carbon Dioxide (CO ₂)	583,834.75	53,272.85	530,561.90 (90.88%)

Source: URBEMIS 2007 (version9.2.4). Refer to Appendix E: URBEMIS Output for Air Quality Analysis.



Compared to Existing Conditions

Ozone Precursors and Fugitive Particulate Matter

Upon build-out under the Agricultural Cluster Subdivision Program, long-term operational impacts pertaining to ozone precursors and fugitive particulate matter would exceed SLOAPCD thresholds, as described in Table 4.2-5, below. These emissions would primarily result from increased vehicle trips and residential energy usage. While full build-out of the proposed program could exceed SLOAPCD's thresholds for operational emissions, it is unlikely that any single project would exceed these thresholds.² In the unlikely event that a project does exceed these thresholds, the project applicant would be required to work with the County and SLOAPCD to develop an appropriate off-site mitigation strategy in accordance with SLOAPCD's *CEQA Air Quality Handbook*. However, since most cluster projects will not trigger the need for off-site mitigation, build-out under the program would result in a Class I, *significant and unavoidable*, impact.

Table 4.2-5: Operational Emissions Associated with Total Agricultural Cluster Subdivision Development Potential

Pollutant	Daily Operational Emissions at Build-out (lbs/day)	SLOAPCD Thresholds (lbs/day)
Ozone Precursors (ROG +NO _x combined)	149.79	25
Fugitive Particulate Matter (PM ₁₀)	89.53	25
Carbon Monoxide (CO)	605.37	550

Source: *URBEMIS 2007 (version 9.2.4)*. Refer to Appendix E: *URBEMIS Output for Air Quality Analysis*.

Each agricultural cluster subdivision the department considers will be subject to review and comment by the Air Pollution Control District. The District will estimate operational emissions likely to be generated by each project. Based on these estimates, if the project is anticipated to exceed a threshold, mitigation is applied as specified in the *CEQA Air Quality Handbook*.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, tasteless gas emitted during combustion of carbon-based fuels. This pollutant is of particular concern when emitted into partially or completely enclosed spaces such as parking structures and garages. Projects which emit more than 550 lbs/day of carbon monoxide and occur in a confined or semi-confined space must be modeled to determine their significance. Although build-out of the proposed program would exceed SLOAPCD's 550 lbs/day threshold, cluster development would be dispersed over a large geographic area and would not involve development within a confined or semi-confined space. Therefore, impacts related to carbon monoxide emissions would be less than significant.

² Based on the air quality modeling used in this chapter, an agricultural cluster subdivision project involving less than 60 new residential units would fall below SLOAPCD's 25 lbs/day threshold for criteria pollutants. Given the restrictive provisions of the proposed ordinance and the elimination of the density bonus, it is unlikely for any agricultural cluster project to develop 60 or more residential units. Based on a 40-acre minimum parcel size, a 60-unit project would require a minimum of 2,400 acres of irrigated agricultural land; yet, the largest single parcel in the project area is 1,709 acres.



Residential and Agricultural Burning

The proposed program would introduce residential development into agricultural areas of the county and would require the preservation of agricultural land. This could increase residential backyard burning and agricultural burning. APCD's Rule 501 does allow backyard burning for residential homes outside of urban or village reserve lines when homeowners have APCD backyard burning permits. It also allows for agricultural burning of agricultural green waste. However, green waste burning within or around agricultural cluster developments can result in nuisance and negative health impacts to residents. To address this potential impact, green waste burning will be prohibited for agricultural cluster development, and agricultural burning will be limited to downwind locations that are further than 1,000 feet from residential units.

Mitigation Measures. Although the proposed Agricultural Cluster Subdivision Program would result in fewer impacts compared to potential build-out under the existing agricultural cluster subdivision ordinance, CEQA requires that potential impacts be compared to the existing baseline environmental conditions. As noted above, build-out under the program could exceed SLOAPCD's thresholds for Ozone Precursors and Fugitive Particulate Matter.

AQ-2(a) Application of Standard Operational Mitigation. Projects which individually do not exceed the 25 pound-per-day threshold for both ozone precursors (ROG and NO_x) and fugitive particulate matter (PM₁₀) do not require operational mitigation. Projects which exceed one or both of these thresholds shall have the following mitigation measures applied:

- Projects generating 25-29 lbs/day of ozone precursors or fugitive particulate matter shall select and implement at least **eight** of the mitigation measures listed in Table 3-5 of the Air Pollution Control District's 2009 CEQA Air Quality Handbook.
- Projects generating 30-34 lbs/day of ozone precursors or fugitive particulate matter shall select and implement at least **14** of the mitigation measures listed in Table 3-5 of the Air Pollution Control District's 2009 CEQA Air Quality Handbook.
- Projects generating 35-50 lbs/day of ozone precursors or fugitive particulate matter shall select and implement at least **18** of the mitigation measures listed in Table 3-5 of the Air Pollution Control District's 2009 CEQA Air Quality Handbook.
- Projects generating more than 50 lbs/day of ozone precursors or fugitive particulate matter shall implement **all feasible** mitigation measures listed in Table 3-5 of the Air Pollution Control District's 2009 CEQA Air Quality Handbook.

AQ-2(b) Off-site Mitigation. Operational phase emissions from large development projects that cannot be adequately mitigated with on-site mitigation measures alone will require off-site mitigation in order to reduce air quality impacts to a level of insignificance. An off-site mitigation strategy should be developed and agreed upon by all parties prior to start of construction.



The off-site mitigation strategies include but are not limited to the list provided below:

- Develop or improve park-and-ride lots;
- Retrofit existing homes in the project area with APCD-approved natural gas combustion devices;
- Retrofit existing homes and /or businesses in the project area with energy-efficient devices;
- Construct satellite worksites;
- Fund a program to buy and scrap older, higher emission passenger and heavy-duty vehicles;
- Replace/repower transit buses;
- Replace/repower heavy-duty diesel school vehicles (i.e. bus, passenger or maintenance vehicles);
- Fund an electric lawn and garden equipment exchange program;
- Retrofit or repower heavy-duty construction equipment, or on-road vehicles;
- Install bicycle racks on transit buses;
- Purchase Verified Diesel Emission Control Strategies (VDECS) for local school buses, transit buses or construction fleets;
- Install or contribute to funding alternative fueling infrastructure (i.e. fueling stations for CNG, LPG , conductive and inductive electric vehicle charging, etc.);
- Fund expansion of existing transit services;
- Fund public transit bus shelters;
- Subsidize vanpool programs;
- Subsidize transportation alternative incentive programs;
- Contribute to funding of new bike lanes;
- Install bicycle storage facilities; and
- Provide assistance in the implementation of projects that are identified in city or county bicycle master plans.

AQ-2(c) Residential Backyard and Agricultural Burning. The following mitigation measures are required to minimize public nuisance and health impacts due to residential backyard and agricultural burning:

- a. Residential green waste burning shall be prohibited for all agricultural cluster development.
- b. Agricultural burning of materials from the agricultural land that is upwind of residential units shall be prohibited; for downwind locations, agricultural burning shall be prohibited within 1,000 feet of residential units.

AQ-2(d) Residential Wood Combustion. Under APCD Rule 504, only APCD approved wood burning devices can be installed in new dwelling units. These devices include:



- All EPA-certified phase II wood burning devices;
- Catalytic wood burning devices which emit less than or equal to 4.1 grams per hour of particulate matter which are not EPA-certified but have been verified by a nationally-recognized testing lab;
- Non-catalytic wood burning devices which emit less than 7.5 grams per hour of particulate matter which are not EPA-certified but have been verified by a nationally recognized testing lab;
- Pellet-fueled wood heaters; and
- Dedicated gas-fired fireplaces.

Residual Impacts. When compared to development potential under the existing ordinance, impacts would be Class III, *less than significant*. Nonetheless, the Agricultural Cluster Subdivision Program would result in long-term operational emissions. The County of San Luis Obispo is currently in non-attainment for the state standard for ozone precursors and fugitive particulate matter. Based on the analysis, agricultural cluster projects would be unlikely to exceed SLOAPCD's 25 lbs/day operational threshold; however, their incremental contribution to cumulative operational emissions would not be mitigated. Specifically, in the build-out scenario, the proposed Agricultural Cluster Subdivision Program would exceed SLOAPCD's 25 lbs/day operational threshold for criteria pollutants. Operational impacts would therefore remain Class I, *significant and unavoidable*

Impact AQ-3 **The proposed Agricultural Cluster Subdivision Program is consistent with all applicable provisions of the Clean Air Plan. Therefore impacts are anticipated to be Class III, less than significant.**

As described in Section 4.2.2(a), the Agricultural Cluster Subdivision Program would be considered consistent with the 2001 CAP if it is found to be consistent with the land use and transportation control measures and strategies outlined in SLOAPCD's Clean Air Plan (CAP).

As described in San Luis Obispo County's Resource Management System, the County will implement applicable transportation and land use planning strategies recommended in the CAP. According to CAP Land Use Management Strategy L-1:

- Cities and unincorporated communities should be developed at higher densities that reduce trips and travel distances and encourage the use of alternative forms of transportation.

Consistency: The proposed Agricultural Cluster Subdivision Program reduces the overall number of residential dwellings that could be constructed in rural areas. Under the current program, agricultural cluster subdivisions could be developed at a density as high as one residence per 10 acres⁵. The proposed program would reduce that overall density to one residence per 50 acres⁶. The result is a reduction in potential rural development, a reduction in the incentives to develop in the rural areas, and further

⁵ Assuming 100 percent density bonus, qualifying on a 20-acre minimum parcel size.

⁶ Assuming no density bonus, qualifying on a 40-acre minimum parcel size (use test), 2.5 acre minimum cluster parcel size, and 95 percent open space preservation.



implementation of the County's existing policies which seek to encourage development in existing urban areas rather than the undeveloped countryside.

- Urban growth should occur within the urban reserve lines of cities and unincorporated communities. Rural areas of the county should be maintained as open space, agricultural lands and very low density residential development (20 acre or larger parcel size).

Consistency: As specified above, the proposed program would allow residential development to occur in rural areas at an overall density of one residence per 50 acres. This is less than half the density identified in the Clean Air Plan as allowable for very low density rural residential development. Additionally, although the Agricultural Cluster Subdivision Program is designed to regulate residential development in agricultural areas, eligibility criteria relating to distance from urban reserve lines are proposed. The purpose of these criteria is to limit use of the program only to those areas within five road miles of existing urban areas.

- Local planning agencies should encourage transit use by planning neighborhoods and commercial centers at densities to allow for convenient access to and use of local and regional transit systems.

Consistency: This policy is focused on planning for a mix of uses and convenient access to alternative transportation in urban areas. The Agricultural Cluster Subdivision Program is generally applicable only to rural areas, where commercial development would be inappropriate and alternative transportation would be infeasible. As a result, this policy is not directly applicable to the Agricultural Cluster Subdivision Ordinance. When considered on a broad perspective, the proposed program will be in alignment with the intent of this policy, because it would reduce the overall number of residences that could be developed in rural areas and would focus agricultural cluster developments around existing urban areas. The result is a reduction in vehicle miles traveled.

Summary. The proposed Agricultural Cluster Subdivision Program would be consistent with the CAP, which would be a Class III, *less than significant*, impact.

Mitigation Measures. The Agricultural Cluster Subdivision Program is consistent with the Clean Air Plan. Therefore, no mitigation measures are necessary.

Residual Impacts. Impacts would be Class III, *less than significant*.

c. Cumulative Impacts. This section describes the cumulative impacts of the proposed Agricultural Cluster Subdivision Program compared to development potential under both the existing ordinance and existing conditions. The geographic scope for the air quality cumulative analysis includes the county's unincorporated areas.



Compared to Development Potential under the Existing Ordinance

When compared to development potential under the existing ordinance, the proposed amendments would reduce the number of residential cluster parcels that could potentially be created in the county from 4,582 to 418, a 91 percent reduction. As a result, the program would be anticipated to reduce emission of air pollutants by more than 80 percent at build-out. Additionally, because the program reduces residential density and requires that properties be located close to urban areas in order to qualify for development, the number of potential vehicle miles traveled at build-out is expected to be commensurately reduced. Although the program would introduce agricultural clustering provisions into the Coastal Zone, it would only allow for the reconfiguration of existing underlying lots, essentially replacing current lot line adjustment procedures with more restrictive agricultural clustering standards. As a result, this program is consistent with the Clean Air Plan and its related strategies, which seek to reduce rural development. Cumulative impacts are therefore anticipated to be Class III, *less than significant*.

Compared to Existing Conditions

Cumulative Construction Phase Impacts. As described in Impact AQ-1, the proposed Agricultural Cluster Subdivision Program could lead to the construction of up to 418 new single family residences within five miles of the identified URLs, as well as additional residences in the Coastal Zone. When considered together with the cumulative projects listed in Table 3.3-1, the proposed program's contribution to construction phase air quality impacts would be cumulatively considerable. For example, development authorized under the proposed amendments could be constructed during build-out of the 102 new residences proposed for the Laetitia agricultural cluster project. Although many of the projects approved under the program would not individually exceed the 2.5 tons-per-quarter threshold for ozone precursors (ROG and NOX) and fugitive particulate matter (PM10), they would incrementally contribute to the construction phase emissions resulting from the Laetitia agricultural cluster project and other construction activities in the area. However, with implementation of the mitigation measures described under Impact AQ-1, the program's incremental contribution to these emissions would be reduced to less than significant levels. Cumulative impacts related to construction phase emissions would therefore be Class II, *significant but mitigable*.

Cumulative Operational Impacts. As described in Impact AQ-1, the proposed Agricultural Cluster Subdivision Program could lead to the construction of up to 418 new single family residences within five miles of the identified URLs, as well as additional residences in the Coastal Zone. When considered together with the cumulative projects listed in Table 3.3-1, the proposed program's contribution to long-term operational impacts would be cumulatively considerable. Operational impacts occurring at build-out are expected to result in threshold exceedences for ozone precursors and diesel particulate matter. Implementation of Mitigation Measure AQ-2(a) and AQ-2(b) would reduce these impacts to a less than significant level for individual projects exceeding SLOAPCD's 25 lbs/day threshold for Ozone Precursors and Fugitive Particulate Matter. However, since future agricultural cluster projects would be unlikely to individually exceed this threshold, their incremental contribution to cumulative operational air quality impacts would go unmitigated. Therefore, under build-out of the program, cumulative impacts would remain Class I, *significant and unavoidable*.



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