County of San Luis Obispo

Santa Margarita Ranch Project Off-Site Air Quality Mitigation Fee Assessment

Environmental Impact Report Addendum

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rincon

Environmental Scientists Planners Engineers

ENVIRONMENTAL IMPACT REPORT ADDENDUM

SANTA MARGARITA RANCH PROJECT OFF-SITE AIR QUALITY MITIGATION FEE ASSESSMENT

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Off-Site Air Quality Mitigation Fee Assessment Addendum to the Final EIR for the Santa Margarita Ranch Project

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1.0 INTRODUCTION

This document is an Addendum to the Santa Margarita Ranch Project Final Environmental Impact Report (EIR) (State Clearinghouse #2004111112; June 2008) prepared by the County of San Luis Obispo. The purpose of the EIR Addendum is to analyze and document additional evidence regarding the establishment of off-site mitigation fees for project impacts related to ozone precursor emissions.

According to Section 15164 of the California Environmental Quality Act (CEQA) Guidelines, an addendum to a previously certified EIR or Negative Declaration is the appropriate environmental document in instances when "only minor technical changes or additions are necessary" and when the new information does not involve new significant environmental effects beyond those identified in the previous EIR.

This Addendum has been prepared to evaluate and document additional evidence regarding the establishment of off-site mitigation fees for project impacts related to criteria pollutant emissions in light of the decision and Peremptory Writ of Mandate issued by the San Luis Obispo County Superior Court in *North County Watch, et al. v. County of San Luis Obispo, et al.* (Case No. CV098031). This Addendum evaluates that additional evidence, suggests a revised off-site mitigation fee for criteria pollutant emissions, and concludes that the revision will not result in any new significant impacts beyond those disclosed in the 2008 Final EIR.

2.0 BACKGROUND

2.1 ENVIRONMENTAL SETTING

The 14,000-acre Santa Margarita Ranch property is located immediately east of U.S. Highway 101, surrounding the unincorporated community of Santa Margarita. Of these 14,000 acres, 3,778 acres are included in an Agricultural Residential Cluster Subdivision, located southeast of the community of Santa Margarita and west of Pozo Road.

The entire 14,000-acre Santa Margarita Ranch property is bordered to the north by agriculture, rural lands, residential suburban uses, including those within the Garden Farms community, and commercial retail development. Agriculture, rural lands, single-family residences, agricultural accessory structures, quarries, and portions of the Salinas River border the site to the east. To the south agriculture, recreational, and open space uses exist, as well as trails and the Los Padres National Forest. To the north are agricultural uses, rural lands and residences. The Agricultural Residential Cluster Subdivision area is located near the center of the Ranch, and is bordered by Pozo Road/Highway 58 to the north, Pozo Road to the east, and agricultural uses, vineyards and/or livestock grazing, and dry farming to the south and west.

Local control of air quality management is provided by the California Air Resource Board (ARB) through County-level or regional (multi-county) Air Pollution Control Districts (APCDs). The ARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 14 air basins statewide. The Santa Margarita Ranch

is part of the South Central Coast Air Basin (SCCAB), which includes all of San Luis Obispo, Santa Barbara, and Ventura Counties. The San Luis Obispo County portion of the SCCAB is under the jurisdiction of the San Luis Obispo Air Pollution Control District (APCD). The APCD is required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or "non-attainment." The SCCAB is a non-attainment area for both the federal and state standards for ozone and particulate matter with a diameter of 10 micrometers or less (PM_{10}). The SCCAB is in attainment for the state and federal standards for nitrogen dioxide, and for carbon monoxide.

2.2 SANTA MARGARITA RANCH PROJECT

The Santa Margarita Ranch Agricultural Residential Cluster Subdivision Project involves development of 111 clustered home sites and one ranch headquarters unit on the 3,778 acres included in the Agricultural Residential Cluster Subdivision site. Total development area (lots and roads) would total 144 acres and the remaining 3,634 acres would be placed in agricultural conservation easements.

2.3 SANTA MARGARITA RANCH PROJECT ENVIRONMENTAL IMPACT REPORT – AIR QUALITY IMPACT SUMMARY

The 2008 Santa Margarita Ranch Project Final Environmental Impact Report ("2008 FEIR") concluded that project impacts to air quality would be significant and unavoidable. The analysis in the 2008 FEIR was conducted consistent with the April 2003 APCD *CEQA Air Quality Handbook* (2003 Handbook), which was the most recent guidance from APCD available at the time that the 2008 FEIR was certified.[1]

Regarding air quality, the 2008 FEIR concluded that the Agricultural Residential Cluster Subdivision would result in operational air pollutant emissions, primarily from vehicular traffic, which would exceed the daily San Luis Obispo County Air Pollution Control District (APCD) thresholds. The project would not exceed the annual thresholds. The 2003 Handbook required that all projects generating 25 or more pounds per day of any individual pollutant implement standard site design and energy efficiency measures, as well as all feasible discretionary site design and energy efficiency mitigation measures. In addition, in certain cases further mitigation measures were required for projects generating 25 or more pounds per day, including off-site measures, which were designed to offset emissions from large projects that could not be fully mitigated with on-site measures. Therefore, on-site and off-site mitigation measures were required for the Santa Margarita Ranch Project by the 2008 FEIR in accordance with APCD guidance in place at the time that the 2008 FEIR was certified. Of interest for this addendum is the off-site mitigation measure prescribed by the FEIR, which included the following:

[1] *The APCD updated the Handbook in April 2012, and the current analysis and mitigation fee calculations rely on the most recent APCD guidelines.*

Agricultural Residential Cluster Subdivision AQ-1(f)

Off-Site Mitigation. Prior to issuance of grading permits, the applicant shall work with APCD to define and implement off-site emission reduction measures to reduce emissions to below Tier 2 levels. In accordance with APCD methodology, the excess emissions shall be multiplied by the cost effectiveness of mitigation as defined in the State's current Carl Moyer Incentive Program Guidelines to determine the annual off-site mitigation amount. This amount shall then be extrapolated over the life of the project to determine total off-site mitigation. Off-site emission reduction measures may include, but would not be limited to:

- Developing or improving park-and-ride lots;
- Retrofitting existing homes in the project area with APCD-approved wood combustion devices;
- Retrofitting existing homes in the project area with energy-efficient devices;
- Constructing satellite worksites;
- Funding a program to buy and scrap older, higher emission passenger and heavy-duty vehicles;
- Replacing/re-powering transit buses;
- Replacing/re-powering heavy-duty diesel school vehicles (i.e. bus, passenger or maintenance vehicles);
- Funding an electric lawn and garden equipment exchange program;
- Retrofitting or re-powering heavy-duty construction equipment, or on-road vehicles;
- Re-powering marine vessels;
- Re-powering or contributing to funding clean diesel locomotive main or auxiliary engines;
- Installing bicycle racks on transit buses;
- Purchasing particulate filters or oxidation catalysts for local school buses, transit buses or construction fleets;
- Installing or contributing to funding alternative fueling infrastructure (i.e. fueling stations for CNG, LPG, conductive and inductive electric vehicle charging, etc.);
- Funding expansion of existing transit services;
- Funding public transit bus shelters;
- Subsidizing vanpool programs;
- Subsidizing transportation alternative incentive programs;
- Contributing to funding of new bike lanes;
- Installing bicycle storage facilities; and
- Providing assistance in the implementation of projects that are identified in City or County Bicycle Master Plans.

Plan Requirements and Timing. The applicant shall coordinate with APCD and implement off-site emissions reduction measures prior to issuance of grading permits. **Monitoring**. Planning and Building shall verify compliance prior to issuance of grading permits.

The 2008 FEIR was certified in December 2008 by the San Luis Obispo County Board of Supervisors. In addition, the Board adopted CEQA Findings of Fact for the significant environmental impacts identified for the Project and a Statement of Overriding Considerations for the eleven unavoidable significant environmental impacts identified in the EIR. Pursuant to Section 21081(a)(3) of the Public Resources Code, as described in the Statement of Overriding Considerations, the Board determined that the project's social, economic, and policy benefits make infeasible the alternatives identified in the 2008 FEIR and the identified unavoidably significant impacts were thereby deemed acceptable because of specific overriding considerations. Pursuant to the intent of mitigation measure AQ-1 to provide for off-site mitigation for air quality impacts, the Board of Supervisors adopted a condition of approval stating that the off-site air quality mitigation fee to be paid by the project "shall be similar to and not exceed the South County Air Mitigation Fee". This fee established a $204 per housing unit fee for projects that exceed air quality thresholds. In total, this would have required the applicant to pay $22,848 ($204x112=$22,848) as the applicable off-site air quality mitigation fee.

2.4 SAN LUIS OBISPO SUPERIOR COURT JUDGMENT

Following certification of the 2008 FEIR and approval of the Project, Petitioners North County Watch and the Endangered Habitat League filed suit challenging these actions in the San Luis Obispo Superior Court, *North County Watch, et al. v. County of San Luis Obispo*, Case No. CV 098031. The trial court entered judgment in that action on June 18, 2013, and issued a Peremptory Writ of Mandate commanding the County to undertake certain tasks before tract map recordation, grading permit, or construction permit issuance. The judgment determined that the off-site air quality mitigation measure and associated fee was not appropriate for the project, and did not include substantial evidence as to its applicability for use by this specific project. The Writ of Mandate requires the County, in relevant part, to "Develop a record based upon substantial evidence supporting establishment of off-site air quality impact fee to mitigate the Project's significant air quality impacts in compliance with CEQA," and to "Recirculate the off-site air quality impact fee and the analysis of said fee and hold any hearings as may be required by law". This Addendum is intended to supply substantial evidence supporting the establishment and calculation of the fee and will be circulated for comment from the public and interested parties in compliance with the Court's order.

3.0 DISCUSSION

This section includes information regarding the calculation of an appropriate off-site mitigation fee using the Carl Moyer program, justification for use of the Carl Moyer Program, and an evaluation of off-site mitigation fees required for the project.

3.1 CARL MOYER PROGRAM

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) provides grant funding for reductions in pollutant emissions in order to meet regulatory clean air requirements. Grants are awarded to individuals, private companies, and public agencies that reduce emissions beyond regulatory requirements. The Carl Moyer Program Guidelines (Guidelines) (2011) describe qualifying projects and how to determine emissions tonnage

reduced, project cost, and cost-effectiveness. As described in the Guidelines, a wide variety of emission reduction project categories are eligible for funding including: lawn and garden equipment replacement, accelerated light-duty automobile scrapping, or electrification or clean repowers of agricultural equipment or other off-road equipment (ARB, Carl Moyer Memorial Air Quality Standards Attainment Program, April 2014).

Emissions reduction project grants are administered by local air districts. According to the Guidelines, air districts are afforded considerable flexibility in implementing the Carl Moyer Program. Projects funded through Carl Moyer Program must be "real, surplus, quantifiable, and enforceable," and typically include replacement of in-use engines with cleaner engines, retrofitting existing engines with emissions control systems, fleet modernization, equipment replacement, and paying owners of older, more polluting vehicles to voluntarily retire them earlier than they would have otherwise. Administrative requirements are in place to ensure that emission reductions are enforceable and achievable. In its first 12 years, Carl Moyer Program funded projects collectively reduced approximately 100,000 tons of ozone precursor emissions (Carl Moyer Program Guidelines, 2011).

The Carl Moyer Program uses a "cost-effectiveness" value to reflect the current cost per ton of emissions reduced. Per Statute, the ARB updates the cost-effectiveness rate annually. Therefore, emissions reduction costs reflect current conditions. On April 3, 2014, the State issued their annual revision to the Carl Moyer cost-effectiveness value. The current rate is $17,720 per ton (ARB, "Mail-Out #MSC 14-04: Carl Moyer Program: Review and Update of the Cost-Effectiveness Limit and Capital Recovery Factors for 2014." April 2014). Although this project is a vesting subdivision map and ordinarily subject to the rules in effect at the time the project application was deemed complete in 2004, the Subdivision Map Act allows the reviewing agency to impose new rules required by changes in state or federal law. The ARB's revised "cost effectiveness" value is one such state law.

According to Section 3.8.3 of the APCD's CEQA 2012 Handbook, operational phase emissions from large development projects, such as residential subdivisions or commercial developments located far from the urban core, 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. To mitigate emissions, the project proponent can pay a mitigation fee based on the amount of emissions reductions needed to bring the project impacts below the applicable significance thresholds. Off-site mitigation fees are calculated using the Carl Moyer Program cost-effectiveness value as a reference for the cost of emissions reductions. The APCD then uses these funds to implement a mitigation program to achieve the required reductions.

Because air quality impacts related to criteria pollutants are basin-wide, and not confined to specific project sites or geographic regions within the SCCAB, off-site air quality mitigation can be used to reduce the impacts from criteria pollutant emissions associated with the project. Off-site emission reductions can result from either stationary or mobile sources, but must relate to the impacts from the project to provide a proper nexus for the air quality mitigation under CEQA. For example, NO_X emissions from increased vehicle trips from a large residential development could be reduced by funding the expansion of existing transit services in close proximity to the development project to reduce NO_X emissions. The APCD's 2012 Handbook

provides a list of potential off-site mitigation projects that can be considered to ensure equitable reductions are achieved.

The required off-site emission reductions can only be achieved by securing the funding necessary to pay for equally off-setting emission reduction projects. Cost-effectiveness is a measure of the dollars provided to a project for each ton of covered emissions reduced (currently $17,720 per ton). In order to receive Carl Moyer Program funding, off-site mitigation projects must meet the specified maximum cost-effectiveness limit. Cost-effectiveness represents the cost per ton of emissions reduced by an off-site mitigation project. To calculate Carl Moyer Program cost-effectiveness for off-site mitigation projects, the project grant amount is annualized based upon the project's life and an appropriate discount rate. This annual cost is divided by the project's estimated emission reductions to determine the overall cost-effectiveness. The value is updated annually to reflect current costs and is used to calculate funding for hundreds of clean-up projects across the state (ARB, "Mail-Out #MSC 14-04: Carl Moyer Program: Review and Update of the Cost-Effectiveness Limit and Capital Recovery Factors for 2014," Appendix G, April 2014). Therefore, as described in the paragraphs above, this method is an accurate means for defining equitable off-site mitigation to bring project air pollutant daily impacts to a level of less than significant. The APCD has successfully used this emission cost reference to help compute CEQA based off-site mitigation costs for many years.

3.2 OFF-SITE MITIGATION FEE EVALUATION

The 2003 Handbook established separate significance thresholds that applied to ROG and NO_X individually. The 2003 Tier 1 threshold for either pollutant was 10 pounds per day, the Tier 2 threshold was 25 pounds per day, and the Tier 3 threshold was 25 tons per year. The APCD adopted an updated *CEQA Air Quality Handbook* in April 2012 (2012 Handbook). The 2012 Handbook includes updated operational significance thresholds of 25 pounds per day or 25 tons per year for both ROG and NO_X combined. The 2012 Handbook combined the threshold for ROG and NO_X because both are ozone precursors. It should be noted that this threshold is more restrictive than the thresholds from the 2003 APCD Handbook used in the 2008 FEIR. As noted above, the project would exceed the daily threshold but would not exceed the annual threshold.

The following outlines the APCD's methodology for calculating off-site mitigation fees for a project that exceeds APCD's daily operational thresholds:

1) Calculate the operational phase emissions for the project using the California Emissions Estimator Model (CalEEMod) version 2013.2.2, accounting for mitigation where appropriate;

2) Project emissions above the pounds per day threshold must be converted to tons per year and divided by the daily-to-annual equity ratio value of 5.5 to obtain an equivalent tons per year value. This step is conducted because the APCD benchmark mitigation rate is based on the annual threshold of 25 tons per year and mitigation rate based on 25 pounds per day would be too high without an equitable de-rating factor;

3) The excess tons per year emissions are then multiplied by the project life (50 years for residential projects) and the applicable cost-effectiveness value as approved for the Carl Moyer Program (currently $17,720).

When a project exceeds the daily threshold but does not exceed the annual threshold, SLOAPCD recommends the use of the "5.5 equity ratio". The daily-to-annual equity ratio value of 5.5 has been developed based on the ratio between SLOAPCD's daily and annual emissions thresholds. The daily 25 pound per day threshold, converted to tons per year assuming 365 days of impacts per year, is approximately 4.5 tons per year, which when compared to the established 25 tons per year threshold, is significantly more stringent. As a result, a project that exceeds the daily threshold but does not exceed the annual threshold is unfairly subject to more stringent emissions thresholds. Since the daily threshold is more stringent than the 25 ton per year annual threshold, there is a need to adjust off-site mitigation for a 25 pound per day threshold into an equitable scale relative to off-site mitigation due to an annual threshold exceedance. This is done by defining how much more stringent the daily threshold is relative to the annual threshold: 25 tons per year divided by 4.5 tons per year = 5.5. When determining off-site mitigation, dividing the tons of project emission impacts that are above the daily threshold by 5.5 normalizes the daily mitigation rate to the annual rate.

It should be noted that the previous daily-to-annual conversion methodology recommended by APCD did not include the equity ratio of 5.5 to obtain an equivalent tons per year value. Original fee estimates from 2008 were excessively high, in part, due to the absence of the 5.5 equity ratio. Inclusion of the 5.5 equity ratio in the methodology allows fees to be calculated with more accuracy and "rough proportionality," consistent with constitutional provisions.

Operational emissions were calculated using CalEEMod version 2013.2.2. Projects with wood stoves require specific modeling methods to accurately predict daily project impacts over a given year. CalEEMod includes APCD-defined average wood stove usage rates for San Luis Obispo County. The County has a mild climate, and new homes are increasingly more insulated and efficient. Therefore, this analysis assumes that wood stoves in new construction will be used as supplemental heat and for ambiance. Based on APCD guidance, the average wood stove usage was estimated at 60 days per year with 2/3 of a cord of wood burned per year; therefore, this analysis estimates emissions for the 60-day portion of winter during which wood stoves would be most likely to be used, as well as the portion of winter during which wood stoves would not be likely to be used. This analysis assumes that there would be an average of one non-catalytic wood stove per residence (wood stoves are authorized as part of the project's conditions of approval).

Operational emissions for year 2016 (assumed operational year) associated with the 111 homes approved in the agricultural subdivision and one ranch headquarters unit (for a total of 112 units) on 144 acres are summarized in Table 1. Emissions and exceedances during summer, winter with wood stoves, and winter without woodstoves are presented in pounds per day (lbs/day) and compared to the APCD's 25 lbs/day threshold for ozone precursors to accurately estimate the change in exceedances during each period of the year.

Table 1
Agricultural Residential Cluster Subdivision, 2016 Emissions

Emissions Calculations	**2016 Emissions (lbs/day)**		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	~~35.64~~ 41.29	13.06	12.59
NO_X	25.71	21.95	20.77
Excess Impact Evaluation	**2016 Emissions (lbs/day)**		
ROG + NO_X	~~61.36~~ 67.00	35.01	33.35
CEQA Sig. Threshold	25	25	25
Excess ROG + NO_X	~~36.36~~ 42.00	10.01	8.35
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	~~2,181.41~~ 2,520.18	1,230.97	1,520.03
Converted to Tons	~~1.09~~ 1.26	0.62	0.76
Tons of Excess ROG + NO_X in 2016			~~2.47~~ 2.64
SLOCAPCD's Daily to Annual Equity Ratio			5.5
Equivalent Annual Excess ROG + NO_X Emissions in 2016			**~~0.45~~ 0.48**
Carl Moyer Program Cost-Effectiveness Value			$17,720
Cost for 2016 Impacts			~~$7,946~~ $8,491

See Appendix A for complete emissions calculations, including operational years 2019, 2021, 2024, 2030, and 2035.

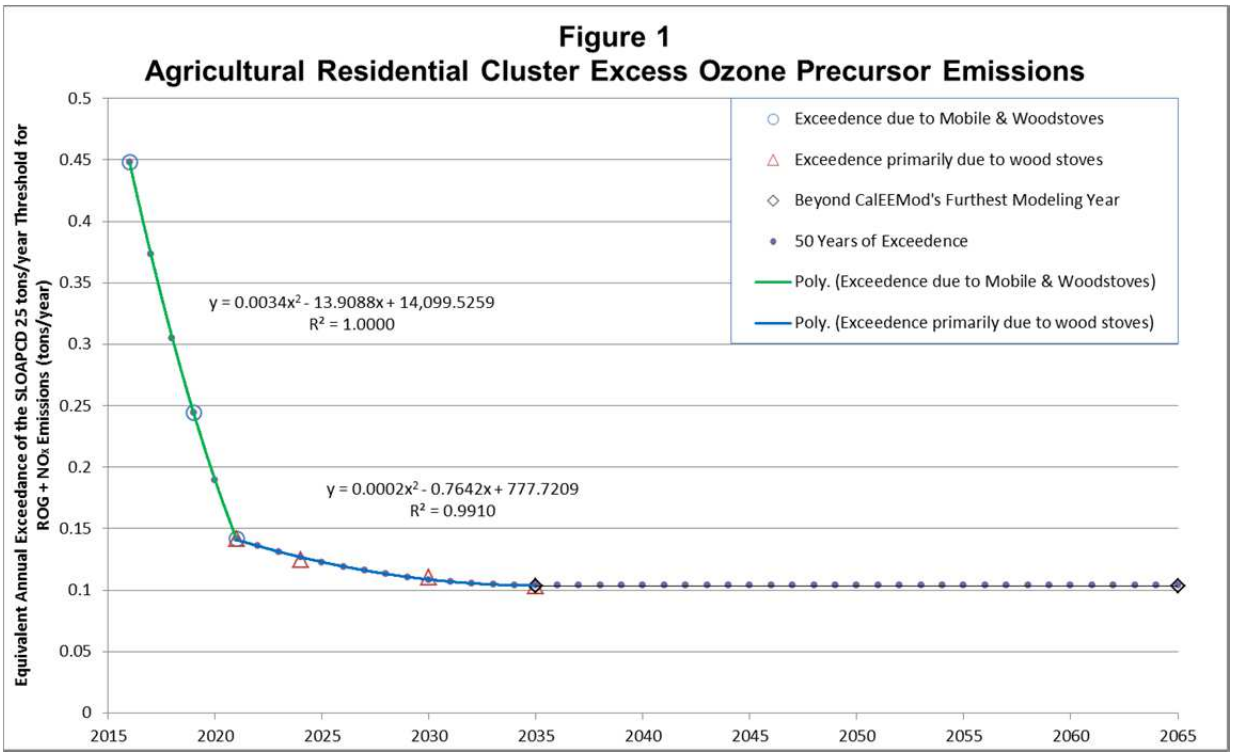
As shown in Table 1, the project's operational phase emissions for year 2016 would exceed APCD's current daily threshold of 25 pounds per day for ozone precursors (ROG + NO_X) for all scenarios (winter with wood stoves, winter without wood stoves, and summer without wood stoves). The exceedance is primarily due to emissions from mobile sources and wood stoves. Operational phase emissions for years 2019, 2021, 2024, 2030, and 2035 are shown in Appendix A. CalEEMod estimates indicate that mobile source emissions will drop off steadily over the course of the project's lifetime, as fleet turnover introduces cleaner new car and fuel technologies. The emissions associated with wood stoves are not anticipated to change over time, and would continue to exceed APCD thresholds throughout the project's lifetime.

To accurately estimate the overall exceedance over the anticipated 50-year lifetime of the project, the annual exceedances of APCD's threshold for ozone precursors was estimated based on CalEEMod runs for calendar years 2016, 2019, 2021, 2024, 2030, and 2035. These years were selected for the analysis, as they provide a reasonable estimate of the overall trend in operational emissions anticipated from the Agricultural Residential Cluster Subdivision through 2035. Operational phase emissions for year 2016 is are shown in Table 1. Operational phase emission for years 2019, 2021, 2024, 2030, and 2035 are shown in Appendix A. CalEEMod does not predict emissions beyond 2035; therefore, emissions from 2035 are used as an estimate for emissions through 2065. As described above, actual emissions beyond 2035 are expected to continue to decrease over time as a result of cleaner new car and fuel technologies; therefore, this assumption provides a conservative and reasonable worst-case estimate of future ozone precursor emissions. To determine the project exceedance for calendar years 2016 (assumed operational year), 2019, 2021, 2024, 2030, and 2035, the simulation for each year was separated

into three periods: 60 days of winter emissions with wood stoves operating, 123 days of winter emissions without wood stoves operating, and 182 days of summer emissions without wood stoves operating. The daily exceedance for each period was multiplied by the number of days in the period. This sum of the exceedances for the three periods was converted to tons of excess ROG + NO_X from the project for the given year. Between 2016 and 2021, the annual exceedances were primarily the result of both mobile and wood stove sources. Between 2022 and 2035 the annual exceedances were primarily the result of emissions from wood stoves.

To determine the project exceedance for each of the interim years during the project lifetime, the exceedances for calendar years 2016, 2019, 2021, 2024, 2030, and 2035 were graphed against the calendar year, and the interim annual exceedances were determined based on a polynomial regression analysis, which fits a trend line to a non-linear relationship between two variables – in this case the annual exceedance and the year. In other words, the interim exceedances were determined by graphing a trend of emissions for the years 2016, 2019, 2021, 2024, 2030, and 2035. The formula that describes the trend line allows interpolation of the exceedance for each year of the project lifetime based on the CalEEMod estimates for 2016, 2019, 2021, 2024, 2030, and 2035, and the reasonable worst-case assumption that 2065 emissions will be identical to 2035 emissions (because emissions from wood stoves would not change). The period from 2014 to 2021, during which the annual exceedances were primarily the result of both mobile and wood stove sources, is represented by one polynomial regression to graph the trend over time. The period from 2021 to 2035, during which the annual exceedances were primarily the result of emissions from wood stoves, is represented by a second polynomial regression. Figure 1 shows the equivalent annual exceedance of ozone precursor emissions in tons per year over the project lifetime, as well as the polynomial regression trend lines used to interpolate the exceedances for interim years not estimated in CalEEMod.

Figure 1
Agricultural Residential Cluster Excess Ozone Precursor Emissions



The annual exceedances for each year above the 25 tons/year threshold from 2016 through 2065 were multiplied by the current Carl Moyer cost-effectiveness value of $17,720 per ton to determine the annual off-site mitigation fee for the Agricultural Residential Cluster Subdivision (refer to Appendix A for calculations). As shown in Table 2, the total calculated off-site mitigation fee for the Agricultural Residential Cluster Subdivision if the project is permitted for operation in 2016 would be ~~$130,901~~ $162,280, based on the current Carl Moyer cost effectiveness value. This includes the APCD's 15% administrative fee. If the project is permitted for operation in years later than 2016, the applicable Carl Moyer fee shall be applied at that time, multiplied by the exceedance for that year, and the life of the project to determine the appropriate fee, using the methodologies contained herein, which would maximize the effectiveness of the mitigation fee. The operational year shall be determined based on the year in which the final occupancy clearance is issued. Payment shall be due to the APCD at that time.

Table 2
Off-Site Mitigation Fee Calculation With Operation Occurring by 2016

Project Operational Year	Project Lifetime Off-Site Mitigation Amount	APCD Administrative Fee (15%)	Total Off-Site Mitigation Fee
2016	~~$113,827~~ $141,113	~~$17,074~~ $21,167	~~$130,901~~ $162,280

4.0 CONCLUSION

The 2008 Final EIR for the approved Santa Margarita Ranch Project determined that the project would exceed the APCD's daily operational emissions threshold of 25 pounds per day for ozone precursor emissions (ROG + NO_X) throughout the project's lifetime. Therefore, off-site mitigation is still required to reduce impacts to below a level of significance. The 2008 EIR included Mitigation Measure AQ-1(f), "Off-Site Mitigation," to reduce this impact to the maximum extent feasible. Based on the additional evidence and analysis included in this Addendum, Mitigation Measure AQ-1(f) would still mitigate the project's impacts to a level of insignificance and does not need to change. The required off-site emission reductions are achieved by securing funding to pay for equally off-setting emission reduction projects. Consistent with the APCD methodology for calculating off-site mitigation fees, excess emissions over the life of the project are multiplied by the cost-effectiveness of mitigation as defined by the Carl Moyer Program (currently $17,720 per ton). Cost-effectiveness is a measure of the dollars provided to a project for each ton of covered emissions reduced. The Carl Moyer Program cost- effectiveness value is a proven measure of costs for emission reductions. Based on the current cost-effectiveness value, the off-site mitigation fee for the subdivision project if the project is permitted for operation in 2016 would be ~~$130,901~~ $162,280. Payment of ~~$130,901~~ $162,280 would effectively mitigate air quality impacts of the Santa Margarita Ranch Project. As shown in Table 2, if project implementation is delayed beyond 2016, the applicable Carl Moyer fee shall be applied at that time, multiplied by the exceedance for that year, and the life of the project to determine the appropriate fee, using the methodologies contained herein, which would maximize the effectiveness of the mitigation fee. The operational year shall be determined based on the year in which the final occupancy clearance is issued. Payment shall be due to the APCD at that time.

5.0 DECISION NOT TO PREPARE SUBSEQUENT EIR

In accordance with Section 15164 of the *CEQA Guidelines* (Addendum to an EIR or Negative Declaration), a lead agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred. The conditions described in Section 15162 include the following:

> *(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*
>
> *(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or*
>
> *(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:*
>
> *(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;*
>
> *(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;*
>
> *(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or*
>
> *(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*

As described in detail in the discussion above, the evaluation of off-site mitigation for project ozone precursor emissions impacts would not result in new significant impacts or identify new mitigation measures that the project proponents decline to adopt. It is important to note that the project would not undergo any changes from the original approval; therefore, no new analysis is required to disclose potential impacts of any project changes. The purpose of this Addendum has been to disclose the revisions of mitigation measure AQ-1 in accordance with the Superior Court judgment. Accordingly, pursuant to CEQA Guidelines Section 15164, an EIR Addendum is the appropriate level of supplemental CEQA review for the project.

Based on these findings, substantial evidence has been provided to support the decision not to prepare a subsequent EIR pursuant to Section 15162 and, as such, this Addendum is the appropriate environmental documentation under CEQA. This Addendum has been prepared in accordance with relevant provisions of the CEQA of 1970 (as amended) and the State CEQA Guidelines.

6.0 COMMENTS AND RESPONSES

6.1 INTRODUCTION

In accordance with § 15088 of the State California Environmental Quality Act (CEQA) Guidelines, the County of San Luis Obispo, as the lead agency, has reviewed the comments received on the Addendum to the Santa Margarita Ranch Project Final EIR and has prepared written responses to the written comments received. The Draft EIR Addendum was circulated for a 30-day public review period, beginning July 31, 2014 and concluding September 1, 2014.

Each written comment that the County received is included in this Comments and Responses section. Responses to these comments have been prepared to address the environmental concerns raised by the commenters and to indicate where and how the EIR Addendum addresses pertinent environmental issues. The comment letters included herein were submitted by public agencies, citizens groups, and private citizens.

The Draft EIR Addendum and this Comments and Responses section collectively comprise the Final EIR Addendum for the Santa Margarita Ranch Project. Any changes made to the text of the Draft EIR Addendum correcting information, data or intent, including any minor typographical corrections or minor wording changes, are noted in the Final EIR Addendum as changes from the Draft EIR Addendum. This Comments and Responses section consists of this introduction (Section 6.1), and comment letters and responses to comments, including revisions to the Draft EIR Addendum (Section 6.2).

The focus of the responses to comments is the disposition of environmental issues that are raised in the comments, as specified by § 15088 (b) of the State CEQA Guidelines. Detailed responses are not provided to comments on the merits of the proposed project. However, when a comment is not directed to an environmental issue, the response indicates that the comment has been noted and forwarded to the appropriate decision-makers for review and consideration, and that no further response is necessary.

6.2 WRITTEN COMMENTS AND RESPONSES ON THE DRAFT EIR ADDENDUM AND REVISIONS TO THE EIR ADDENDUM

Each written comment regarding the Draft EIR Addendum received by the County of San Luis Obispo is included in this section (refer to table below). Responses to these comments have been prepared to address the environmental concerns raised by the commenters and to indicate where and how the EIR Addendum addresses pertinent environmental issues. The comment letters have been numbered sequentially, and each issue within a comment letter has a number assigned to it. Each comment letter is reproduced in its entirety with the issues of concern numbered in the margin. References to the responses to comments identify the specific comment (Response 2.3, for example, would reference the response to the third issue of concern within the second sequential comment letter).

Table 3
Comment Letters Received on the Draft EIR Addendum

Letter #	Commenter	Organization	Date
1	Dennis Larson, Principal	Krout & Associates	August 26, 2014
2	Ellison Folk	Shute Mihaly & Weinberger LLP	August 28, 2014
3	Aeron Arlin Genet, Planning & Outreach Division Manager	San Luis Obispo County Air Pollution Control District (SLOAPCD)	August 29, 2014
4	David Blakely	Private Citizen	August 31, 2014

This section presents clarification and modifications to information contained in the Draft EIR Addendum. Additions are underlined (<u>underlined</u>) where text is added and deletions are strike-through (~~strike-through~~) type. These revisions clarify or amplify the EIR Addendum and would not result in new significant environmental effects beyond those discussed in the Draft EIR Addendum. Pursuant to State CEQA Guidelines Section 15088.5(b), recirculation of the EIR is not required.

Letter 1

Krout & Associates

August 26, 2014

Attention: Rob Fitzroy
San Luis Obispo County Department of Planning and Building

Comment Letter on San Luis Obispo County's Santa Margarita Ranch Project Off-Site Air Quality Mitigation Fee Assessment Environmental Impact Report Addendum (SCH#2004111112)

Prepared by: Dennis Larson, Principal
Krout & Associates

This letter ("Letter") is intended to provide comment on San Luis Obispo County's Santa Margarita Ranch Project ("Project") Off-Site Air Quality Mitigation Fee Assessment Environmental Impact Report Addendum SCH#2004111112 ("Addendum"). Krout & Associates was asked by the owners of the Santa Margarita Ranch to review the Addendum and provide appropriate comments to assist decision makers in complying with a Superior Court remand to the County to prepare a complete record determining an appropriate air quality mitigation fee consistent with sound and accepted methodologies. Our firm was selected because of extensive experience and expertise in project reviews involving air quality mitigation fees (Please see the author's resume which is attached, together with reference documents which should be included with these comments.)

Based upon a review of various documents, the 2008 Santa Margarita Ranch Project Final Environmental Impact Report ("2008 FEIR") for the Project, various portions of the Superior Court Administrative Record, the Draft Addendum, the following subjects have been determined to be the most substantial to inform the public and decision makers concerning the air quality fees which should be applied to the Project: 1.1

1. How the Addendum's use of the April 2012 San Luis Obispo Air Pollution Control District's (SLO APCD) CEQA Air Quality Handbook (2012 Handbook) instead of the April 2003 SLO APCD CEQA Air Quality Handbook (2003 Handbook) affected the calculation of air quality emissions and off-site air quality mitigation fees.
2. SLO APCD errors in the calculation of ozone precursor emissions as found in the memorandum, "Santa Margarita Ranch Agricultural Residential Cluster Mitigation Measures", dated December 18, 2008 ("SLO APCD 2008 Fee").
3. SLO APCD overestimation of the off-site air quality mitigation fee related to the Project's lifecycle impacts as found in the SLO APCD 2008 Fee memorandum.
4. An evaluation of the relationship between timing of Project occupancy, Project amenities, and the mitigation fee.

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1.0 Effects from application of the 2012 Handbook methodology versus the 2003 Handbook methodology

SLO APCD updated the *CEQA Air Quality Handbook* in April 2012, and the Addendum's analysis and mitigation fee calculations rely on these most recent SLO APCD guidelines. Changes in methodologies from the 2003 Handbook to the 2012 Handbook have large effects on calculation of the Project's Phase 1 operational emissions and the associated Project's off-site air quality mitigation fee. The two most substantial changes include: 1) Combining the threshold for the ozone precursors, reactive organic gases (ROG) and nitrogen oxides (NO_X) and 2) Conversion of "daily-to-annual" emissions via the "Equity Ratio".

1.1 Combining the threshold for ozone precursors, ROG and NO_X

As noted in the Addendum, the 2003 Handbook applied operational significance thresholds to emissions of the ozone precursors, ROG and NO_X, separately. The 2003 Handbook's Tier 2 threshold was 25 pounds per day and Tier 3 threshold was 25 tons per year, for each ozone precursor. However, the 2012 Handbook updated operational significance thresholds of 25 pounds per day or 25 tons per year for both ROG and NO_X combined (2012 Handbook, p3-5). The 2012 Handbook methodology effectively reduced the Tier 2 threshold by 25 pounds per day for ozone precursors. As stated in the Addendum, "this threshold is more restrictive than the thresholds from the 2003 APCD Handbook used in the 2008 FEIR" (p8).

Conclusion: The Addendum's application of the 2012 Handbook's Tier 2 and Tier 3 operational significance thresholds results in emissions exceedance greater than would be calculated under the 2003 Handbook methodology.

1.2

1.2 Application of the Equity Ratio

The Addendum states: "a project that exceeds the daily threshold but does not exceed the annual threshold is unfairly subject to more stringent emissions thresholds. Therefore, the 2012 Handbook introduced a "daily-to-annual equity ratio value of 5.5 to obtain an equivalent tons/year value" that effectively normalizes the daily and annual thresholds (Addendum, p3-21).

This new methodology is directly applicable to the Project as it exceeds the Tier 2 daily threshold for ROG and NO_x combined, but not the annual threshold. The SLO APCD 2008 Fee report did not account for the differences in daily and annual thresholds and applied an unnecessarily more stringent threshold. As noted in the Addendum:

> "The daily-to-annual conversion methodology recommended by SLO APCD [in 2008] did not include the equity ratio of 5.5 to obtain an equivalent tons per year value. Original fee estimates from [SLO APCD Fee] 2008 were excessively high, in part, due to the absence of the 5.5 equity ratio. Inclusion of the 5.5 equity ratio in the methodology allows fees to be calculated with more accuracy and "rough proportionality," consistent with constitutional provisions" (Addendum, p9).

Conclusion: The Addendum's application of the 2012 Handbook's "Equity Ratio" results in a calculation that more accurately represents the Project's *annual* air quality emissions.

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2.0 SLO APCD Errors in the Calculation of the Project's Air Quality Emissions

The SLO APCD 2008 Fee memorandum did not provide the methodology used to derive the annual operational air quality emissions exceedance for the Project (10.29 tons per year according to the SLO APCD 2008 Fee, p2). However, following guidance from the SLO APCD 2008 Fee memorandum, the 2003 Handbook, and insight provided by the Addendum, the SLO APCD 2008 Fee was replicated.

REPLICATION OF PROJECT PHASE 1 OPERATIONAL EMISSIONS

The SLO APCD 2008 Fee memorandum made specific reference to the "Final EIR (AQ-1f)" (Admin Record 00532) and therefore this Letter's analysis assumed the use of values consistent with Chapter 4.2 Air Quality of the 2008 FEIR. Specifically:

> "The proposed Agricultural Residential Cluster Subdivision is projected to generate ~~20.45~~ 38.85 lbs./day of ROG, ~~14.88~~ 41.52 lbs./day of NO_x, and ~~12.61~~ 37.42 lbs./day of PM_{10} as a result of operational emissions associated with project vehicular traffic and electrical and natural gas usage." (Admin Record 00529)

SLO APCD 2008 FEE Calculation (Winter Pounds per Day/ Unmitigated)

	ROG + NO_X
Total[a]	80.37
Tier 2 Threshold[b]	24
Emissions Exceedance	56.37
Days per Year	365
Contribution to Annual Emissions: (lbs./year)	20,575
Tons[2] /Year	**10.29**

a. SMR FEIR (Admin Record 00529)
b. SLO APCD 2008 Fee memorandum

1.3

The replication of the SLO APCD 2008 Fee revealed a series of errors, including:

1. Misapplication of 2003 Handbook by combining ozone precursors,
2. Application of an incorrect Tier 2 operational significance threshold, and
3. Misapplication of 2003 Handbook methodology to account for seasonality.

Each issue is discussed in more detail below. The discussions include a description of the SLO APCD 2008 Fee error; the Addendum's approach to the calculations; and this Letter's opinion on the Addendum's response to, and/or resolution of, the inaccuracies or overestimations found in the SLO APCD 2008 Fee memorandum.

2.1 Misapplication of 2003 Handbook methodology by combining ozone precursors

As previously noted in Section 1.1 of this Letter, the 2003 Handbook applied operational significance thresholds to emissions of the ozone precursors, ROG and NO_X, *separately* (2003 Handbook, Table 2-1, p2-6). However, the SLO APCD 2008 Fee memorandum *combined* them in the emissions calculation for the Project. The SLO APCD Fee 2008 approach effectively lowered the Tier 2 threshold by 25 pounds per

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day for ozone precursors. This erroneous approach by SLO APCD resulted in a *perceived* exceedance of Project operational emissions for ozone precursors by 25 pounds per day.

Conclusion:
By not following the 2003 Handbook methodology, the SLO APCD 2008 Fee memorandum overestimated the Project's exceedance of Tier 2 operational emissions threshold by 25 pounds per day.

2.2 *Application of an incorrect Tier 2 operational significance threshold*

The SLO APCD 2008 Fee report states its intent:

> *"To provide a better understanding of the amount of mitigation funds needed to reduce the Phase 1 project emissions (reactive organic gases + nitrogen oxides) to the APCD's Tier 2 CEQA significance threshold of 24 lbs. /day, staff calculated the project's excess annual emissions at approximately 10.29 tons per year."*

The preceding statement is inaccurate. According to the 2003 Handbook (p2-6):

> "Tier 2: greater than or equal to 25 lbs./day or more of ROG, NO_x, SO2, PM_{10} or greater than or equal to 550 lbs./day of CO"

SLO APCD's use of a 24 pounds per day threshold is an error that would substantially affect the Fee calculation. (Note: Without provision of the methodology for the SLO APCD Fee 2008, it can only be assumed SLO APCD utilized the 24 pounds per day value resulting in an overestimation of daily air quality emission exceedance for ROG and NO_x. 1.3

Addendum approach:
The Addendum states: "The 2012 Handbook includes updated operational significance thresholds of 25 pounds per day." (Addendum, p 8)

Conclusion:
The Addendum's application of the 2012 Handbook methodology accurately represents the operational significance threshold for Tier 2 emissions and corrects for this specific inaccuracy in the SLO APCD 2008 Fee calculation.

2.3 *Misapplication of 2003 Handbook methodology accounting for seasonality*

The 2008 FEIR states:

"The proposed Agricultural Residential Cluster Subdivision is projected to generate 20.45 38.85 lbs./day of ROG, 14.88 41.52 lbs./day of NO_x, and 12.61 37.42 lbs./day of PM_{10} as a result of operational emissions associated with project vehicular traffic and electrical and natural gas usage." (Admin Record 00529)

The same statement had an associated footnote:

> *"Although winter emissions were used as a worst case scenario, summer emissions would similarly exceed Tier 2 thresholds for ROG, NOX and PM10."* (Admin Record 00529)

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The SLO APCD 2008 Fee memorandum utilized only the winter emissions in its calculation and therefore is inconsistent with the methodology provided by the 2003 Handbook to calculate air quality impacts.

The 2003 Handbook states: "When calculating emissions for the year, use a weighted average with 2/3 of the total emissions from summer outputs and 1/3 of the total emissions from winter outputs." (p.3-2). The use of winter emissions instead of a "seasonal adjustment" blending summer and winter emissions, overestimates the air quality emissions of the project and led to an overestimation of the off-site air quality mitigation fee.

RECALCULATION OF PROJECT PHASE 1 OPERATIONAL EMISSIONS

Krout & Associates recalculated the Project's Phase 1 operational emissions following guidance from the 2003 Handbook and using variables from the 2008 FEIR. The following two tables show the results of the winter and summer operational emissions calculations from area sources and vehicular traffic associated with the proposed Project. The values shown in Line 1 are summations of ROG and NO_X for Area Sources and Operational (vehicles) as calculated by URBEMIS 2007 Version 9.2.0 (FEIR Appendix D: Detail Report for Winter Area Source Unmitigated Emissions (Pounds/Day) and Detail Report for Winter Operational Unmitigated Emissions (Pounds/Day)[Admin Record 01212 and 01213]. The values were then multiplied by the days of the year and then divided by 2,000 (converting to tons).

PROJECT PHASE 1 OPERATIONAL EMISSION EXCEEDANCE (Winter Pounds per Day/ Unmitigated)

		ROG	NO_X
1	Total[a]	38.85	41.52
2	Tier 2 Threshold[a]	25	25
3	Emissions Exceedance[a]	13.85	16.52
4	Days per Year[b]	122	122
5	Contribution to Annual Emissions: (lbs./year)	1,685	2,010
6	**Tons[1] /Year**	**0.84**	**1.00**

c. SMR FEIR Appendix D (Admin Record 01212 and 01213)
d. 2003 Handbook (p3-2)

1.3

OPERATIONAL EMISSION ESTIMATES (Summer Pounds per Day/ Unmitigated)

		ROG	NO_X
1	Total[a]	28.78	30.99
2	Tier 2 Threshold[a]	25	25
3	Emissions Exceedance[a]	3.78	5.99
4	Days per Year[b]	243	243
5	Contribution to Annual Emissions: (lbs./year)	920	1,458
6	**Tons[2] /Year**	**0.46**	**0.73**

a. SMR FEIR Appendix D (Admin Record 01208 and 01209)
b. 2003 Handbook (p3-2)

[1] The SLO APCD CEQA Air Quality Handbook 2003 uses the Standard system for measurement. While the measurement of a "ton" is not specifically defined, the reference to "lb." (pound) reinforces the assumption that the Standard system is used. Therefore, 1 ton = 2,000 lbs.

5

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Applying the SLO APCD 2003 Air Quality Handbook methodology would result in excess annual emissions of 1.3 tons for ROG and 1.73 NO_x. Combined, this value is 7.26 tons less than SLO APCD's 2008 Fee calculation of 10.29 tons. The SLO APCD 2008 Fee calculation of operational emissions is inaccurate and overestimated the emissions by 338 percent. (Please note: This calculation does not include the "Equity Ratio" introduced by the 2012 Handbook.)

Addendum approach:
The Addendum's notes that, "The exceedance [of Project emissions] is primarily due to emissions from mobile sources and wood stoves". The Addendum then proceeds to apply "specific modeling methods [that account for wood stoves] to accurately predict daily project impacts over a given year." Unlike the SLO APCD 2008 Fee calculation, the Addendum's weighted approach using 1) Summer emissions without wood stoves, 2) Winter emissions without wood stoves, and 3) Winter emission with wood stoves, allowed for changes in seasonal impacts (Addendum, p9). 1.3

Conclusion:
The Addendum methodology accurately accounts for seasonality in the calculation of air quality emissions for the Project and corrects for the SLO APCD 2008 Fee's worst-case scenario approach.

3.0 SLO APCD Overestimation of the Project's Off-site Air Quality Mitigation Fee

The SLO APCD 2008 Fee methodology incorrectly assumed air quality impacts would remain constant throughout the duration of the Project. Specifically, the methodology for the SLO APCD 2008 Fee calculation stated:

> *"To fully mitigate the emissions impacts over the life of the project, the annual cost is multiplied by the expected life of the development (50 years as deemed for residential projects). [SLO APCD 2008 Fee, p2]*

The assumption that air quality emissions will remain constant throughout the life of the project is inconsistent California's policies to reduce emissions. The State of California's Executive Order S-01-07, adopted January 18, 2007, known as the Low Carbon Fuel Standard (LCFS), will improve California's air quality by reducing the amount of carbon pollution released from the fuels sold in California by 10 percent by 2020 (CARB 2014). New cars sold in California will have to be consistent with LCFS and produce *fewer* emissions. As a result, the Project will, assuming turnover of existing vehicle fleet, produce fewer mobile emissions over time as a direct result of the implementation of the LCFS. 1.4

Addendum approach:
The Addendum "accurately estimates the overall exceedance over the anticipated 50-year lifetime of the Project" by performing "CalEEMod runs for calendar years 2016, 2019, 2021, 2024, 2030, and 2035". The Addendum further states: "The exceedance is primarily due to emissions from mobile sources and wood stoves. (The model,) CalEEMod estimates indicate that mobile source emissions will drop off steadily over the course of the project's lifetime, as fleet turnover introduces cleaner new car and fuel technologies." (p10) The assumption of cleaner new cars and fuel technologies is consistent with LCFS.

Conclusion: The Addendum's methodology accurately accounts for reductions in air quality impacts over the Project lifecycle as compared to the SLO APCD 2008 Fee memorandum.

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4.0 Relationship between Project Occupancy and Amenities with the Mitigation Fees

The Addendum performed CalEEMod runs for calendar years 2016, 2019, 2021, 2024, 2030, and 2035 that revealed reductions in air quality emissions over the Project life. The Addendum's calculation of off-site air quality mitigation fees assumes the operational year of the Project is 2016. However, as the Project is planned in multiple phases, it is unlikely to be fully built-out in 2016. Therefore, any Project occupancy after 2016 would assume a reduction in air quality impacts as illustrated in the Addendum. In addition, the Addendum allows for flexibility in the future fee calculation based upon occupancy, stating:

> "If project implementation is delayed beyond 2016, the applicable Carl Moyer fee shall be applied at that time, multiplied by the exceedance for that year, and the life of the project to determine the appropriate fee, using the methodologies contained herein, which would maximize the effectiveness of the mitigation fee. The operational year shall be determined based on the year in which the final occupancy clearance is issued. Payment shall be due to the [SLO] APCD at that time" (Addendum, p12).

1.5

The Addendum also states:

> "The exceedance is primarily due to emissions from mobile sources and wood stoves. The emissions associated with wood stoves are not anticipated to change over time, and would continue to exceed APCD thresholds throughout the project's lifetime" (Addendum, p10).

However, if the Project development were to no longer incorporate wood stoves into the residences, the air quality emissions would decrease.

Conclusion: Project occupancy occurring after 2016 would lead to a reduction in the annual *and* cumulative (i.e., Project life) off-site air quality mitigation fees. Changes to the Project amenities, specifically exclusion of wood stoves, would lead to a reduction in the annual *and* cumulative off-site air quality mitigation fees.

5.0 Summary

This Letter concludes that the Addendum's transparent methodology to calculate the air quality emissions and corresponding off-site air quality mitigation fee is appropriate and corrects the for inaccuracies and overestimations in the SLO APCD 2008 Fee memorandum. While application of the 2012 Handbook protocols may lead to more stringent thresholds as compared to the 2003 Handbook (i.e., combining ozone precursors), the addition of the "Equity Ratio" provides an equitable approach to projects that exceeds daily operational thresholds, but not annual operational thresholds. This Letter also supports the Addendum's approach to model emissions over the Project lifecycle and allow for emissions to adjust based on changes in technology or Project amenities.

1.6

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Sources:

1. California, State of
Air Resources Board
2007. Low Carbon Fuel Standards: Final Regulation Order. January 18.
Superior Court, County of San Luis Obispo, Paso Robles Branch
2013. Statement of Decision and Proposed Judgment and Order on Writ of Mandamus: Case No. CV 098031. Filed May 3.
2. County of San Luis Obispo
Department of Planning and Building
2008. Santa Margarita Ranch Final Environmental Impact Report, Chapter 4.2 Air Quality, June. Administrative Record.
2008. Santa Margarita Ranch Final Environmental Impact Report, Appendix D Air Emissions Calculations, June. Administrative Record.
2014. Environmental Impact Report Addendum. Santa Margarita Ranch Project Off-Site Air Quality Mitigation Fee Assessment. July.
San Luis Obispo Air Pollution Control District.
2003, CEQA Air Quality Handbook, April
2008, December 18. Santa Margarita Ranch Agricultural Residential Cluster Mitigation Measures ("SLO APCD 2008 Fee")
2012, CEQA Air Quality Handbook, April

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Dennis P. Larson, Principal

Education
MA, Economics, San Diego State University
BA, Geography, San Diego State University

Affiliations
Member, American Planning Association
Member, Urban Land Institute

Dennis P. Larson is a Principal at Krout & Associates. An economist and planner for more than 12 years, Mr. Larson manages and performs the firm's technical analyses and environmental review. He has substantial expertise in economic and fiscal impact assessments; climate change and air quality policies; and California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) compliance. Mr. Larson's experience in the private and public sectors gives him a valuable dual perspective, resulting in project contributions of great depth and breadth.

EXPERIENCE (PRIOR TO KROUT & ASSOCIATES)

Senior Economist/Environmental Planner, EDAW/AECOM, San Diego, CA (2008-2012)

- Performed environmental impact analyses for Department of Defense environmental programs, California Department of Water Resource projects, and municipal Specific Plans and General Plans, including technical analyses of land use, socioeconomics, public facilities, greenhouse gas emissions, and air quality.
- Performed financial, fiscal, and economic impact analyses of private development projects, including impacts of CEQA mitigation strategies.
- Developed the protocols for the evaluation of economic impacts related greenhouse gas emissions and the corresponding mitigation and adaptation measures.

Program Manager/Land Use Planner, MW Steele Group, San Diego, CA (2006-2008)

- Managed multiple concurrent land use planning projects including the review of all technical studies, CEQA documentation, and mitigation fee assessments.
- Directed planning staff and environmental consultants through CEQA process for entitlements and master planned projects.
- Prepared written, oral, and visual reports in support of policy planning projects.

Associate Economist, San Diego Association of Governments (SANDAG), San Diego, CA (2004-2006)

- Analyzed impacts of public financing programs, including tax increment financing, development impact fees, and community benefit districts.
- Provided technical peer review of public agency financial mechanisms intended to offset environmental impacts.

Geographic Information Systems Specialist, City of Chula Vista, Chula Vista, CA (2002 - 2004)

- Performed technical analyses and provided review of Planning Department projects and developer applications.

Letter 1

Commenter: Dennis Larson, Principal, Krout & Associates

Date: August 26, 2014

Response:

Response 1.1

The comment notes that the commenter reviewed the Draft EIR Addendum on behalf of the owners of the Santa Margarita Ranch and provides comments to assist decision makers in complying with the Peremptory Writ of Mandate issued by the San Luis Obispo County Superior Court to prepare a complete record determining the appropriate air quality mitigation fee. The commenter lists the following subjects applicable to the public and decisions makers, which are addressed in further detail in subsequent comments and responses:

- *Effects from application of the April 2012 SLOAPCD CEQA Air Quality Handbook versus the April 2003 Air Quality Handbook;*
- *SLOAPCD errors in calculating ozone precursor emissions;*
- *SLOAPCD overestimation of the project's off-site air quality mitigation fee; and*
- *Evaluation of the relationship between project occupancy and amenities with the mitigation fee.*

Response 1.2

The commenter notes that SLOAPCD updated the *CEQA Air Quality Handbook* in April 2012, including combining the threshold for reactive organic gases and nitrogen oxides and introducing the "equity ratio" for converting daily to annual emissions. Regarding the combination of the threshold for reactive organic gases and nitrogen oxides, the commenter notes that the updated threshold is more restrictive than the thresholds from the 2003 Handbook used in the previous "Santa Margarita Ranch Agricultural Residential Cluster Mitigation Measures" memorandum, dated December 18, 2008 (2008 SLOAPCD Fee Memorandum), and results in a greater emissions exceedance than would be calculated under the 2003 Handbook methodology. The project emissions analysis in the EIR Addendum was prepared based on the updated 2012 *SLOAPCD CEQA Air Quality Handbook* methodologies; therefore, the calculated emissions exceedance and associated off-site mitigation fee is based on the most recent (and most restrictive) 2012 SLOAPCD guidance.

The commenter notes that the daily-to-annual equity ratio is provided to normalize the daily and annual thresholds, which allows the calculation of the off-site mitigation fee based on the project's annual emissions. As described in Section 3.2 of the Draft EIR Addendum, since the daily threshold is more stringent than the 25 ton per year annual threshold, there is a need to adjust off-site mitigation for a 25 pound per day threshold into an equitable scale relative to off-site mitigation due to an annual threshold exceedance. The calculation of the off-site mitigation fee in the Draft EIR Addendum includes the daily-to-annual equity ratio in order to provide greater accuracy and "rough proportionality" of the off-site mitigation fee.

Response 1.3

The commenter states that the 2008 SLOAPCD Fee Memorandum did not provide the methodology used to derive the annual operational emissions for the project, but that the guidance from the 2008 SLOAPCD Fee Memorandum, the 2003 Handbook, and the Draft EIR Addendum provide the necessary methodology to replicate the calculated off-site mitigation fee from the 2008 SLOAPCD Fee Memorandum. The commenter provides the calculation from the 2008 SLOAPCD Fee Memorandum, and states that the 2008 SLOAPCD Fee Memorandum contained errors, including inappropriately combining reactive organic gases and nitrogen oxides, application of the incorrect Tier 2 operational significance threshold, and misapplication of the 2003 Handbook methodology to account for seasonality. Each of the described three errors is discussed briefly in the following paragraphs.

The commenter notes that the 2003 Handbook applied operational significance thresholds to reactive organic gases and nitrogen oxides emissions separately, rather than in combination (as described in Response 1.2, above), and that the 2008 SLOAPCD Fee Memorandum combined reactive organic gases and nitrogen oxides, overestimating the project's exceedance of the applicable Tier 2 operating threshold.

The commenter notes that the 2008 SLOAPCD Fee Memorandum used a threshold for ozone precursors of 24 lbs/day, which is lower than the 25 lbs/day threshold recommended in the 2003 Handbook. The commenter notes that the Draft EIR Addendum correctly applies the Tier 2 operational emissions threshold from the 2012 Handbook.

The commenter notes that the 2008 SLOAPCD Fee Memorandum used the estimated winter results in calculating the project's operational emissions, which is inconsistent with the methodology described in the 2003 Handbook. The commenter provides a recalculation of the project's operational emissions using estimated emissions for winter and summer, and combining them based on the number of winter versus summer days per year. The calculation provided by the commenter is broadly similar to the approach used in the Draft EIR Addendum in that it correctly estimates annual emissions based on a combination of winter (with woodstove use) and summer (without woodstove use) emissions, and results in an estimate of operational emissions that is substantially lower than the emissions estimate from the 2008 SLOAPCD Fee Memorandum. The commenter correctly notes that the use of winter results in the 2008 SLOAPCD Fee Memorandum overestimated the project's estimated operational emissions.

Response 1.4

The commenter notes that fee methodology applied in the 2008 SLOAPCD Fee Memorandum assumed that air quality impacts would remain constant throughout the duration of the project, which would result in a higher lifetime emissions estimate than would be anticipated as a result of new regulations that would reduce emissions from fuels sold in California in future years. The commenter states that the Draft EIR Addendum correctly accounts for reduction in air quality impacts over the project lifetime as compared to the 2008 SLOAPCD Fee Memorandum.

Response 1.5

The commenter notes that the Draft EIR Addendum includes estimates of project emissions for operational years 2016, 2019, 2021, 2024, 2030, and 2035, which demonstrate that emissions would be reduced for future operational years. This future reduction in operational emissions results from turnover in the vehicle fleet associated with long-term increased efficiency in project operations. The commenter also notes that the Draft EIR Addendum shows the project's exceedance of the applicable ozone precursor threshold is the result of emissions from mobile sources and wood stoves. The commenter states that the Draft EIR Addendum allows for flexibility in the future fee calculation based on the year of project occupancy or changes in project amenities that would reduce ozone precursor emissions; in particular, exclusion of wood stoves.

Response 1.6

The commenter summarizes their conclusions in regard to the Draft EIR Addendum, and states that the methodologies used to calculate the off-site mitigation fee is appropriate and corrects overestimations in the 2008 SLOAPCD Fee Memorandum. The commenter supports the Draft EIR Addendum approach in estimating emissions for future years over the project's anticipated lifetime.

ATTACHMENT 2 **Letter 2**

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August 28, 2014

Via FedEx

Robert Fitzroy
San Luis Obispo County
Department of Building and Planning
976 Osos Street
San Luis Obispo, CA 93408

Re: Santa Margarita Ranch Project Off-Site Air Quality Mitigation Fee Assessment Addendum

Dear Mr. Fitzroy,

This firm represents North County Watch on matters related to the environmental review for the Santa Margarita Ranch project. We submit these comments on the above-referenced addendum on behalf of NCWATCH.

In general, NCWATCH supports the County's use of the Carl Moyer program to determine an appropriate mitigation fee for the significant air quality impacts of the Santa Margarita Ranch subdivision. However, it appears the County's use of a "daily/annual equity ratio" results in undercounting of emissions and as a result under-mitigation of the project's significant impacts.

According to the addendum, the Carl Moyer program establishes a cost of $17,720 per ton to implement programs that reduce air pollution emissions. Therefore the addendum proposes to mitigate for the project's significant air quality impacts by requiring a payment for each ton of ROG/NOx over the significance threshold of 25 lbs/day over the sixty year lifetime of the project. However, after calculating total number of pounds per day emitted by the project and then converting that to the number of tons/year, the addendum then divides the total number of tons by 5.5 to come up with the amount of emissions requiring mitigation. 2.1

Apparently the County applies the 5.5 daily/annual equity ratio to account for the fact that the pounds per day significance threshold is lower than the tons per year threshold. However, a daily significance threshold is designed to reflect the more immediate impacts of air pollution emissions, such as ozone. See Exhibit A; San Luis Obispo County Air Pollution Control District, CEQA Handbook at § 3.5.2. And, the project's significant impact is its

exceedence of the daily emission standard. Therefore, any mitigation should address the actual emissions over the significance threshold.

For example, the project will emit 4,932.41 pounds of ROG/NOx per day over the 25 lbs/day significance threshold in 2016. When converted to tons, the total amount over the threshold – i.e., the amount requiring mitigation – is 2.47 tons that year. Relying on the daily/annual equity ratio, the County then reduces this amount by dividing the emissions by 5.5. However, once the number of pounds per day is converted into tons/year, there is no reason to further reduce the amount of air emissions requiring mitigation by dividing by 5.5. In fact, doing so means that the County is not mitigating for the full amount of emissions over the significance threshold.

The addendum's mitigation fee of $113,827 indicates that the County is mitigating for the emission of 6.42 tons of ROG/NOx over the lifetime of the project. However, the actual emissions of ROG/NOx over the daily significance threshold is 35.31 tons over the lifetime of the project. If the County had not divided these total emissions by 5.5, the mitigation fee would be $626,048.48. 2.1

Unless the County imposes a fee that addresses the full emissions over the significance threshold, it cannot make a finding that the project's emissions will be reduced below a level of significance, as it previously determined. Moreover, the County must impose all feasible mitigation that will reduce the project's significant impacts below a level of significance. If it does not include the full mitigation fee or determines it is infeasible, the County would be required to prepare a supplemental EIR as set forth in CEQA Guidelines section 15162. Therefore, North County Watch requests that the County impose the full mitigation fee consistent with the requirements of CEQA.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Ellison Folk

619591.1

Exhibit A

2.2

Exhibit A

ATTACHMENT 2

http://www.epa.gov/apti/ozonehealth/population.html#other
Last updated on Wednesday, March 12, 2014

Ozone and Your Patients' Health
Training for Health Care Providers

Health Effects of Ozone in the General Population

Review Key Points

Introduction

Breathing ground-level ozone can result in a number of health effects that are observed in broad segments of the population. Some of these effects include:

- Induction of respiratory symptoms
- Decrements in lung function
- Inflammation of airways

2.2

Respiratory symptoms can include:

- Coughing
- Throat irritation
- Pain, burning, or discomfort in the chest when taking a deep breath
- Chest tightness, wheezing, or shortness of breath

In addition to these effects, evidence from observational studies strongly indicates that higher daily ozone concentrations are associated with increased asthma attacks, increased hospital admissions, increased daily mortality, and other markers of morbidity. The consistency and coherence of the evidence for effects upon asthmatics suggests that ozone can make asthma symptoms worse and can increase sensitivity to asthma triggers.

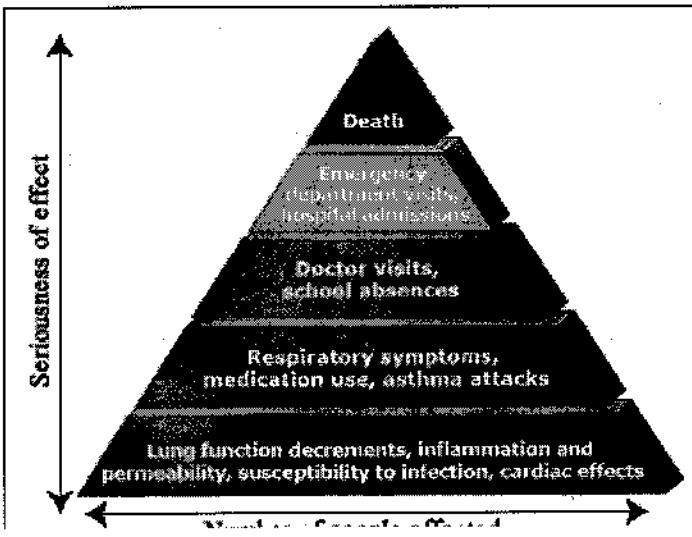

Figure 2: Pyramid of effects caused by ozone
The relationship between the severity of the effect and the proportion of the population experiencing the effect can be presented as a pyramid. Many individuals experience the least serious, most common effects shown at the bottom of the pyramid. Fewer individuals experience the more severe effects such as hospitalization or death.

Number of people affected

Enlarge or print this figure

This section of the course addresses exposure and health effects issues common to all people. The next section of the course, Health Effects in Patients with Asthma and Other Chronic Respiratory Disease, addresses those issues specific to people with asthma and other chronic lung disease.

How are people exposed to ozone?

Primary exposure occurs when people breathe ambient air containing ozone. The rate of exposure for a given individual is related to the concentration of ozone in the surrounding air and the amount of air the individual is breathing per minute (minute ventilation). The cumulative amount of exposure is a function of both the rate and duration of exposure.

Although ozone concentrations in the outside (ambient) air are generally similar across many locations in a particular airshed, a number of factors can affect ozone concentration in "microenvironments" within the larger airshed (e.g., inside a residence, inside a vehicle, along a roadway). Ozone concentrations indoors typically vary between 20% and 80% of outdoor levels depending upon whether windows are open or closed, air conditioning is used, or other factors such as indoor sources. People with the greatest cumulative exposure are those heavily exercising outdoors for long periods of time when ozone concentrations are high. In addition, during exercise people breathe more deeply, and ozone uptake may shift from the upper airways to deeper areas of the respiratory tract, increasing the possibility of adverse health effects. People with the lowest cumulative exposure are those resting for most of the day in an air-conditioned building with little air turnover. 2.2

Ozone levels may also affect indoor levels of some aldehydes formed as reaction products of ozone with indoor substances (Apte et al 2008). This provides a potential pathway for people indoors to experience respiratory effects mediated by ozone reaction products. Further research is needed to test the importance of these exposures on health effects.

How does ozone react in the respiratory tract?

Because ozone has limited solubility in water, the upper respiratory tract is not as effective in scrubbing ozone from inhaled air as it is for more water soluble pollutants such as sulfur dioxide (SO_2) or chlorine gas (Cl_2). Consequently, the majority of inhaled ozone reaches the lower respiratory tract and dissolves in the thin layer of epithelial lining fluid (ELF) throughout the conducting airways of the lung.

In the lungs, ozone reacts rapidly with a number of biomolecules, particularly those containing thiol or amine groups or unsaturated carbon-carbon bonds. These reactions and their products are poorly characterized, but it is thought that the ultimate effects of ozone exposure are mediated by free radicals and other oxidant species in the ELF that then react with underlying epithelial cells, with immune cells, and with neural receptors in the airway wall. In some cases, ozone itself may react directly with these structures. Several effects with distinct mechanisms occur simultaneously following a short-term ozone exposure and will be described below.

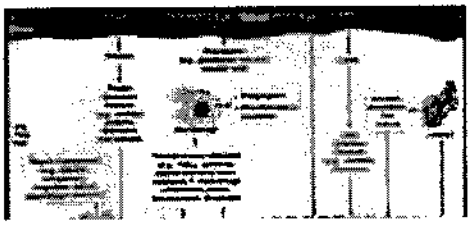

Figure 3: Ozone is highly reactive in the respiratory tract
When breathed into the airways, ozone interacts with proteins and lipids on the surface of cells or present in the lung lining fluid, which decreases in depth from 10 µm in the large airways to 0.2 µm in the alveolar region.

Epithelial cells lining the respiratory tract are the main target of ozone and its products. These cells become injured and leak intracellular enzymes such as lactate dehydrogenase into the airway lumen, as well as plasma components. Epithelial cells also release a variety of inflammatory mediators that can attract polymorphonuclear leukocytes (PMNs) into the lung, activate alveolar macrophages, and initiate a train of events leading to lung inflammation. Antioxidants present in cells and lining fluid may protect the epithelial barrier against damage by ozone or its reaction products.
Source: Devlin et al., (1997)

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What are ozone's acute physiological and symptom effects?

The predominant physiological effect of short-term ozone exposure is being unable to inhale to total lung capacity. Controlled human exposure studies have demonstrated that short-term exposure - up to 8 hours - causes lung function decrements such as reductions in forced expiratory volume in one second (FEV1), and the following respiratory symptoms:

- Cough
- Throat irritation
- Pain, burning, or discomfort in the chest when taking a deep breath
- Chest tightness, wheezing, or shortness of breath

The effects are reversible, with improvement and recovery to baseline varying from a few hours to 48 hours after an elevated ozone exposure.

Current thinking is that changes in symptoms and lung function are due to stimulation of airway neural receptors (probably airway C-fibers) and transmission to the central nervous system via afferent vagal nerve pathways. Although ozone exposure results in some airway narrowing, neural inhibition of inhalation effort at high lung volumes is believed to be the primary cause of being unable to inhale to total lung capacity. 2.2

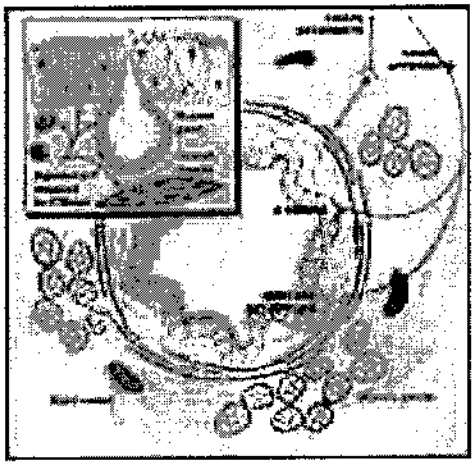

Figure 4: Ozone induces neurally mediated responses in the bronchial airways
Stimulation of nociceptive interepithelial nerve fibers by ozone leads to reflex cough and a decrease in maximal inspiration that is relieved by opioid agonists, which block sensory pathways. Two possible mechanisms are involved: (1) stimulation of irritant receptors contributes to cough and induces a vagally mediated reflex that increases airway resistance, probably via airway smooth muscle contraction that is blocked by atropine; (2) C fiber stimulation releases neurokinins such as substance P that dilate nearby capillaries, activate mucous glands, and contract airway smooth muscle via neurokinin receptors. Prostaglandin E2 released by epithelial cells exposed to ozone or to ozone reaction products also sensitizes C fibers.
Source: Devlin et al. (1997)

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The overall effect is thus primarily restrictive in nature with a smaller obstructive component that reflects itself in decreases in forced vital capacity (FVC), FEV1 and other spirometric measures that require a full inspiration. It is likely that these lung function changes and respiratory symptoms are responsible for observations that short-term ozone exposure limits maximal exercise capability.

Ozone-induced changes in breathing pattern to more rapid shallow breathing may also be a manifestation of C-fiber stimulation and may be a protective response to limit penetration of ozone deep into the respiratory tract. Such effects may also contribute to changes in deposition pattern and retention of other inhaled substances such as allergens and particle pollution (also called particulate matter).

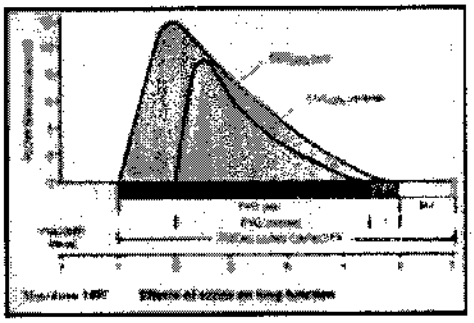

Figure 5: Effects of ozone on lung function
Ozone reduces the maximal inspiratory position (at the left of the curves) and may slightly increase the residual volume (at the right). Reduction in maximum inspiration reduces forced vital capacity (FVC), and this causes a reduction in expiratory flow measurements, such as flow at 50% of FVC expired (FEF50%). Because ozone causes only a small change in resistance, the relationship between flow and volume is not changed to a large extent.
Source: Devlin et al. (1997)
Enlarge or print this figure

What effects does ozone have at the cellular level? 2.2

As a result of short-term exposure, ozone and/or its reactive intermediates cause injury to airway epithelial cells followed by a cascade of other effects. These effects can be measured by a technique known as bronchoalveolar lavage (BAL), in which samples of epithelial lining fluid (ELF) are collected during bronchoscopy on volunteers experimentally exposed to ozone. Cells and biochemical markers in the lavage fluid and in the blood can be analyzed to provide insight into the effects of exposure.

Evidence for airway inflammation following ozone exposure includes visible redness of the airway seen during bronchoscopy as well as an increase in the numbers of neutrophils in the lavage fluid. Cellular injury is suggested by an increase in the concentration of lactate dehydrogenase (LDH), an enzyme released from the cytoplasm of injured epithelial cells, in the ELF. Mediators (e.g., cytokines, prostaglandins, leukotrienes) that are released by injured cells include a number that attract inflammatory cells resulting in a neutrophilic inflammatory response in the airway. In addition, ozone reaction products as well as some mediators produced in the lung can be detected in the blood providing a possible mechanism for extrapulmonary effects of ozone exposure.

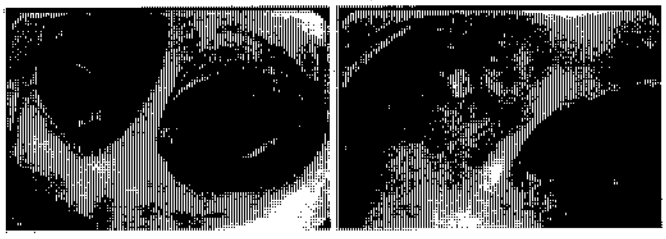

Figure 6: Effects of ozone on lung function
These photos show a healthy lung airway (left) and an inflamed lung airway (right). *Photos courtesy of PENTAX Medical Company.*
Enlarge or print this figure

Other documented ozone-induced effects that may be related to the underlying injury and inflammatory response are:

- An increase in small airway obstruction
- A decrease in the integrity of the airway epithelium
- An increase in nonspecific airway reactivity
- A decrease in phagocytic activity of alveolar macrophages

The decrease in epithelial integrity can be measured by an increase in the concentration of plasma proteins appearing in the ELF following exposure and by more rapid clearance of inhaled radio-labeled markers from the lung to the blood. This has the potential for allowing increased movement of inhaled substances (e.g. allergens or particulate air pollution) from the airway to the interstitium or the blood and could modify the known effects of inhaled allergen on asthma and particulate matter on mortality.

Although the significance of increased nonspecific airway reactivity to substances such as methacholine or histamine is not understood in healthy individuals, it is clearly of concern for people with asthma, as increased airway reactivity is a predictor for asthma exacerbations. (See section entitled How does ozone affect people with asthma?).

A decrease in macrophage function has the potential to interfere with host defense. Over a period of several days following a single short-term exposure, inflammation, small airway obstruction, and increased epithelial permeability resolve; damaged ciliated airway epithelial cells are replaced by underlying cells; and damaged type I alveolar epithelial cells are replaced by more ozone-resistant type II cells. Over a period of weeks, the type II cells differentiate into type I cells, and following this single exposure, the airway appears to return to the pre-exposure state.

How does response vary among individuals?

One striking characteristic of the acute responses to short-term ozone exposure is the large amount of variability that exists among individuals. For example, for a 2-hour exposure to 400 ppb ozone (note: 400 ppb is equal to .4 ppm) that includes 1 hour of heavy exercise, the least responsive individual may experience no symptom or lung function changes while the most responsive individual may experience a 50% decrement in FEV1 and have severe coughing, shortness of breath, or pain on deep inspiration. A similar range of response is evident for a 6.6-hour exposure to 80 ppb with 5 hours of moderate activity. Other individual responses fall into what appears to be a unimodal distribution between these two extremes. Those with large responses following exposure on one day also tend to have large responses upon re-exposure. Similarly, those with small responses following exposure on one day tend to have small responses upon re-exposure. A small fraction of the observed variability in lung function and symptom responsiveness can be explained by differences in age and in body mass index (BMI) with young adults (teens to thirties) and those with high BMI being much more responsive than older adults (fifties to eighties) and those with low BMI. Results similar to those in Figure 8 are also seen with longer duration exposures to concentrations more relevant to ambient levels (e.g. over a range of 60 to 120 ppb).

2.2

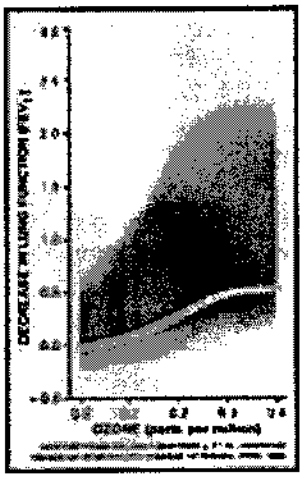

Figure 7: Variability of response to ozone exposure *Source: Devlin et al. (1997)*

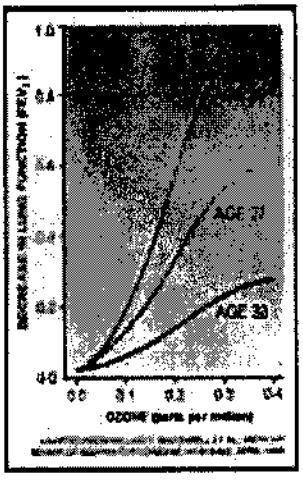

Figure 8: Sensitivity to ozone exposure is age related *Source: Devlin et al. (1997)*

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Individual differences in the intensity of the inflammatory response also exist, and it appears that these differences in response are also stable over time. The magnitude of the neurally-mediated lung function response, however, is not related to the degree of cell injury and inflammation for a given individual suggesting that these two effects are the result of different mechanisms of action. Further evidence for multiple mechanisms of action is provided by drug intervention studies. There is some evidence that Vitamin C and E supplements may slightly reduce the lung function effects of ozone but not the inflammatory or symptom responses. Pre-treatment with non-steroidal anti-inflammatory drugs (NSAID) reduces lung function and symptom responses but not the inflammatory responses in non-asthmatics. In asthmatic volunteers NSAID pretreatment did not block the restrictive lung function changes seen in nonasthmatics, but did blunt some of the changes due to airway obstruction. Pre-treatment with high doses of inhaled steroids has been shown to reduce the neutrophil influx following ozone exposure in people with asthma, but not in those without asthma.

True differences in individual responsiveness to ozone can be the result of either environmental or genetic factors. Research has demonstrated that genetic differences among strains of mice can explain the large range of inflammatory responses seen. Some preliminary evidence suggests that genetic polymorphisms for antioxidant enzymes and for genes regulating the inflammatory response may modulate the effect of ozone exposure on pulmonary function and airway inflammation.

What are the effects of ozone on mortality?

Studies show:

- Ozone is associated with increased mortality
- The absolute effect of ozone on mortality is considerably higher in older adults
- The ozone-mortality relationship is most prominent during the warm season

2.2

Recent epidemiologic research has clearly demonstrated that both short-term and longer-term exposures to low concentrations of particle pollution, a common air pollutant, are associated with increased mortality. Re-examination of the data upon which those findings are based as well as new studies indicate that short-term exposure to ozone is also associated with increased daily mortality.

The study most representative of the U.S. population (Bell et al 2004) evaluated the relationships between daily mortality counts and ambient ozone concentration for 95 large U.S. communities over the period of 1987-2000. Although there was considerable heterogeneity in the magnitude of effect among the various communities, a 0.5 % overall excess risk in non-accidental daily mortality was observed for each 20 ppb increase in the 24-hour average ozone concentration (approximately equal to a 30 ppb increase in the 8-hour average) on the same day. There was evidence that the effect was greatest on the day of exposure with smaller residual effects being evident for several days. A cumulative 1.04% excess risk was observed for each 20 ppb increase in the 24-hour average concentration during the previous week. The ozone-mortality relationship was robust even after controlling for possible effects of particulate matter and other air pollutants.

Although ozone mortality risk estimates tend to be only slightly higher for the older population compared to the younger population (based predominantly on Medicare studies of people 65 and older), the absolute effect of ozone on mortality is considerably higher in older adults due to their higher baseline death rates. Even for older adults, however, the risk of dying on any given day as a result of ozone exposure is quite small. However, because of the large number of individuals at risk across the country, an effect of this magnitude has meaningful public health implications.

A preponderance of other time series studies supports the existence of an ozone-mortality relationship although with a wider range of effect estimates primarily due to the smaller sizes of the studies. An independent review of this literature by the National Research Council concludes that short-term ozone is likely to be associated with premature mortality.

Other observations made in these studies include the finding that the ozone-mortality relationship is most prominent during the warm season, with few or smaller effects in the winter. It also appears that the ozone-mortality association persists when deaths are limited to those caused by either cardiac or pulmonary disease or to those caused by cardiovascular disease alone. Risk estimates for other causes of death are generally inconsistent across studies probably reflecting the lower statistical power associated with smaller daily death rates. In the Bell study of 95 cities, the observed city-specific effect rates varied widely. The degree to which this variability reflects different ozone-mortality relationships in the different cities is not clear, but it does raise the question as to whether a single average 0.5% increase in daily mortality rates should be applied to all cities. Other unanswered questions pertain to the lowest concentrations at which these effects occur and the possible mechanisms of action responsible for increased mortality among many who spend much of their time indoors where ozone levels are generally quite low. Bell et al. divided days into those with a 24-hour average ozone concentration above and below 60 ppb and found that the relationship was similar for both subsets suggesting that the relationship is present at even very low levels of ozone. Biological mechanisms responsible for the ozone-mortality relationship are largely unknown although effects of ozone on the autonomic control of the cardiovascular system, on coagulation mechanisms, and on vasoactive substances in the blood are being actively investigated.

What are the other potential effects of short-term ozone exposure?

Other potential effects of short-term ozone exposure include:

- hospital admissions and emergency room visits for respiratory causes
- school absences

There is consistent epidemiologic evidence that ambient ozone levels are associated with other markers of respiratory morbidity, particularly during the warm season. In general, studies have reported positive relationships between short-term ozone concentrations and hospital admissions and emergency room visits for respiratory causes. Although not all studies have found significant effects, risk estimates for the majority of studies are positive. It is likely that those most at risk of serious respiratory morbidity are those with underlying respiratory disease. The evidence indicates that some of the increase in hospital visits for respiratory morbidity is due to exacerbations of asthma and possibly chronic obstructive pulmonary disease (COPD). Because of the small numbers of daily hospital admissions, the effects of ozone on other subcategories of respiratory disease are not clear. 2.2

A relationship has also been observed between ozone and school absences in two studies. However, in one case the absences were related to a measure of longer-term exposure, and in the other case absences were not limited to those due to illness. Although these latter results are consistent with increased infections secondary to impaired host defense, more research needs to be done before reaching any conclusion regarding any effect of ozone exposure on respiratory infection.

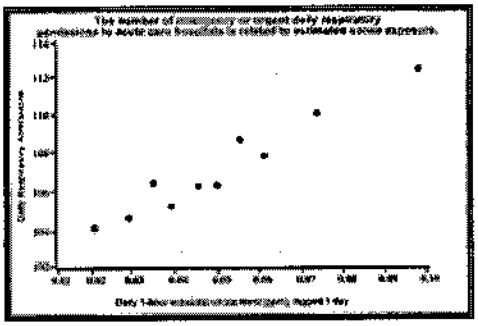

Figure 9: The number of emergency or urgent daily respiratory admissions to acute care hospitals is related to estimated ozone exposure
Respiratory admission rates to 168 hospitals in Ontario, Canada during the period 1983 through 1988 are plotted against the distribution (deciles) of the daily 1-hour maximum ozone concentration, lagged by 1 day. Admission rates were adjusted for seasonal patterns, day-of-week effects, and hospital effects. Ozone displayed a positive and statistically significant association with respiratory admissions for 91% of the hospitals during the Spring through Fall seasons, but not during the Winter months of December to March when ozone levels were low. *Source: Burnett et al., 1994; U.S. EPA, 1996*

Enlarge or print this figure

Ozone has been associated with daily hospitalizations for cardiovascular disease in some studies but it is not a consistent finding. A number of studies have explored the relationships between ozone and various other aspects of cardiovascular pathophysiology including heart rate variability, acute myocardial infarction, and tachyarrhythmias in those with implanted cardiac devices. Although some data are suggestive of a relationship, the results at this time do not fully substantiate a relationship between ozone exposure and adverse cardiovascular events.

At what exposure levels are effects observed?

The concentration of ozone at which effects are first observed depends upon the level of sensitivity of the individual as well as the dose delivered to the respiratory tract. The dose, in turn, is a function of the ambient concentration, the minute ventilation, and the duration of exposure. This can be expressed as a rough formula:

Dose = Ambient concentration X Level of exertion (minute ventilation) X Duration of exposure.

Thus individuals performing strenuous activity (higher minute ventilation) for several hours are likely to respond to lower concentrations than when exposed at rest (lower minute ventilation) for a shorter time. The following examples illustrate this point:

- An average young adult playing an active sport such as soccer or full court basketball outdoors for 2 hours would be expected to experience small to moderate lung function and symptom effects as well as lung injury and inflammation following exposure to 120 ppb ozone.
- If the same average young adult is at rest outdoors for the two hours, such effects would not be expected until exposures reach 300-400 ppb.
- An average outdoor laborer doing intermittent work might experience similar small to moderate lung function and symptom effects as well as lung injury and inflammation following an 8-hour exposure to 60 to 70 ppb ozone.

2.2

More sensitive individuals will experience such effects at lower concentrations while less sensitive individuals will experience these effects only at higher concentrations.

Children without asthma experience lung function decrements similar to those of young adults. But children often do not report respiratory symptoms at the lowest ozone concentrations. It is not clear whether this is the result of reduced sensitivity with regard to symptoms or whether children are less likely to recognize and report symptoms.

There are chamber studies and field studies that look at the ozone exposure level at which effects are first observed. It is not surprising that field studies show effects at much lower levels than chamber studies. This is because field studies can look at sensitive populations (including children), include exposure to all oxidant species of pollution, and may include longer exposure times. For example, field studies of agricultural workers and hikers suggest that lung function changes may be associated with prolonged ozone exposures at lower levels than those observed in chamber studies. Below are findings from key field and observational studies.

Although the results vary somewhat, several field studies suggest that the lung function of highly active asthmatic and ozone sensitive children and the exercise performance of endurance athletes may be affected on days when the 8-hour maximum ozone concentration is less than 80 ppb ozone.

Emergency room data from one study indicate that asthma attacks in the most sensitive population (e.g., children with asthma or reactive airway disease) increase following days on which the 1-hour maximum ozone concentrations exceeded 110 ppb (approximately equivalent to an 8-hour average of 82 ppb). (White et al., 1994) Another study observed increased emergency room visits for

asthma on days following those when 7-hour averages exceeded 60 ppb compared to those with lower ozone concentrations. (Weisel et. al., 1995).

For effects measured in some other types of observational studies, the lowest levels at which effects are expected to occur are more difficult to identify for a number of reasons. Effects of ozone on daily mortality have been detected even when study days are restricted to those with a 24-hour average ozone concentration below 60 ppb (approximately equivalent to an 8-hour average below 90 ppb). In one study, hospital admissions for respiratory causes appear to follow a linear relationship down to background levels. (Figure 9). Limited exposure-response modeling suggests that if a population threshold for these ozone effects exists, it is likely near the lower limit of ambient ozone concentrations in the United States.

What are the effects of recurrent or long-term exposure to ozone?

One of the major unanswered questions about the health effects of ozone is whether repeated episodes of damage, inflammation, and repair induced by years of recurrent short-term ozone exposures result in adverse health effects beyond the acute effects themselves.

Daily ozone exposure for a period of 4 days results in an attenuation of some of the acute, neurally-mediated effects (e.g., lung function changes and symptoms) for subsequent exposures occurring within 1 to 2 weeks. Some health experts have, therefore, suggested that individuals living in high ozone areas may be protected from any harmful effects of long-term ozone exposure. Others suggest, however, that the attenuation of the ozone-induced tendency to take rapid and shallow breaths may blunt a protective mechanism, resulting in greater delivery and deposition of ozone deeper in the respiratory tract and other airway responses described below.

Studies including bronchoalveolar lavage and bronchial mucosal biopsies indicate that, unlike the neurally-mediated lung function changes, the processes of airway injury, inflammation, and repair continue to occur during repeated exposure. After either 4 or 5 days of exposure, markers of cell injury and increased epithelial permeability remain elevated, and an increase in airway mucosal PMN, which was not present following a single exposure, has been noted. Also, unlike the neurally-mediated effects, small airway function has been observed to remain depressed over the course of exposures and is thought to be related to the ongoing inflammation. 2.2

Studies of laboratory animals have consistently demonstrated that long-term exposure to ozone concentrations above ambient levels results in persistent morphological changes that could be a marker of chronic respiratory disease. Exposed animals experience mucous cell metaplasia and epithelial cell hyperplasia in the upper airway as well as structural changes in the lower airway including an increase in fibrous tissue in the basement membrane area and a remodeling of the distal conducting airways. In addition to airway remodeling and basement membrane changes, concurrent long-term exposure of very young primates to ozone and house dust mite allergen has been observed to result in changes in the innervation of the airways as well as an accumulation of eosinophils in the distal airways suggesting induction of an allergic phenotype. Other studies indicate that sensitization of animals to antigen occurs more easily during ongoing ozone exposures. Based on traditional measures, there is little evidence that long-term exposure in animals results in substantial changes in airway function. However, these morphological findings suggest that long-term ozone exposure might play a role in the development or progression of chronic lung disease and/or asthma.

The epidemiologic evidence is inconclusive with regard to whether long-term exposure of humans is related to chronic respiratory health effects in humans. Several cross-sectional studies have found that young adults who spent their childhoods in locales with high ozone concentrations had lower measures of lung function than those from locales with lower ozone. Similar results have not been observed, however, in a recent well-conducted longitudinal study of lung function in children or in other cross-sectional studies. Two longitudinal studies have observed associations between development of asthma and long-term ozone concentrations in subgroups of the population. These

findings have not been confirmed in other longitudinal or cross-sectional studies, but they are consistent with the animal toxicological literature. Part of the difficulty in evaluating such associations has been the small number of longitudinal epidemiologic studies specifically designed to evaluate respiratory health in samples with differing ozone exposures. The mobility of the population as well as the inability to precisely estimate exposure to ozone and other potential confounders over a period of many years degrades the power of, and leads to bias in, both longitudinal and cross-sectional studies. 2.2

In spite of the inconclusive nature of the epidemiologic literature, the repeated cycles of damage, inflammation, and repair in humans and the morphological findings from the animal toxicological studies suggest that it would be prudent to avoid repeated short-term exposures, particularly in young children, until more is known about the effects of long-term ozone exposure.

Review Key Points

Previous Next

Letter 2

Commenter: Ellison Folk, Shute Mihaly & Weinberger LLP

Date: August 28, 2014

Response:

Response 2.1

The commenter notes that their comments on the Draft EIR Addendum are submitted on behalf of North County Watch, and states that North County Watch supports the County's use of the Carl Moyer program to determine the appropriate mitigation fee for the air quality impacts associated with the project. The commenter describes the methodology used to calculate the off-site mitigation fee, which involves determining the daily exceedance over the SLOAPCD's 25 lbs/day threshold, summing the excess emissions over one year to determine the annual exceedance in lbs/year, converting the annual exceedance from pounds to tons, dividing the annual exceedance by the daily-to-annual equity ratio of 5.5, and multiplying the result by the current Carl Moyer cost-effectiveness value ($17,720 per ton).

The commenter further states that the use of the daily-to-annual equity ratio results in undercounting of the ozone precursor emissions associated with the project, and therefore, that the off-site mitigation fee does not mitigate the full amount of emissions over the significance threshold. The commenter adds that the SLOAPCD daily threshold is appropriate because it is designed to reflect the more immediate impacts of air pollution emissions, such as ozone, and references a U.S. Environmental Protection Agency document discussing the human health effects of ozone (referred to in the comment as "Exhibit A"). Note that the U.S. Environmental Protection Agency document is specifically addressed in Response 2.2; whereas this response addresses the appropriateness of the Draft EIR Addendum's application of the daily-to-annual equity ratio.

Section 3.8.3 of the APCD's 2012 Handbook describes the methodology for determining the emissions requiring off-site mitigation fees, which is consistent with the methodology applied in the Draft EIR Addendum, and described by the commenter. This methodology includes multiplying the annual exceedance by the daily-to-annual equity ratio of 5.5. This step is necessary to the off-site mitigation fee calculation, because the APCD benchmark mitigation rate is based on the annual threshold of 25 tons per year and a mitigation rate based on the daily threshold of 25 lbs/day would be too high (i.e., not roughly proportional to the impact) without an equitable de-rating factor. As described in the Draft EIR Addendum, the daily-to-annual equity ratio value of 5.5 has been developed based on the ratio between SLOAPCD's daily and annual emissions thresholds. The daily 25 pound per day threshold, converted to tons per year assuming 365 days of impacts per year, is approximately 4.5 tons per year. Since the daily threshold is more stringent than the 25 ton per year annual threshold, there is a need to adjust off-site mitigation for a 25 pound per day threshold into an equitable scale relative to off-site mitigation due to an annual threshold exceedance. This is done by defining how much more stringent the daily threshold is relative to the annual threshold: 25 tons per year divided by 4.5 tons per year = 5.5. When determining off-site mitigation, dividing the tons of daily project

emission impacts that are above the daily threshold by 5.5 normalizes the daily mitigation rate to the annual rate. When determining off-site mitigation, dividing the tons of project emission impacts that are above the daily threshold by 5.5 normalizes the daily mitigation rate to the annual rate. As a result, this approach does not "undercount" emissions relative to applicable thresholds, rather it adjusts the emissions results to correct for the daily to annual conversion differences. In addition, emissions have been calculated and disclosed in accordance with approved methodologies, which include, in part, use of the California Emissions Estimator Model (CalEEMod). Therefore, the Draft EIR Addendum correctly applied the off-site mitigation fee calculation consistent with SLOAPCD guidance in the 2012 Handbook.

Response 2.2

The commenter provides a document from the U.S. Environmental Protection Agency website describing the human health effects of ozone, which include respiratory symptoms such as coughing, throat irritation, pain, burning, or discomfort in the chest when breathing deeply, chest tightness, wheezing, or shortness of breath, as well as decrements in lung function and inflammation of airways. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors. Exposure to ozone occurs when breathe air containing ozone, with cumulative exposure being a function of the rate and duration of exposure. The U.S. Environmental Protection Agency document also describes how ozone reacts in the respiratory tract, acute physiological and symptom effects, effects of ozone at the cellular level, variance in response among individuals, the effects of ozone on short- and long-term mortality, the exposure levels at which health effects are observed, and the effects of recurrent or long-term exposure to ozone.

The project is located within the South Central Coast Air Basin (SCCAB), and is within the jurisdiction of SLOAPCD. SLOAPCD is required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or "non-attainment." The SCCAB is a non-attainment area for both the federal and state standards for ozone and PM_{10}. The Basin is in attainment for the state and federal standards for nitrogen dioxide, and for carbon monoxide (SLOAPCD, August 2013). SLOAPCD operates a network of nine ambient air monitoring stations throughout the SCCAB. ARB operates two additional stations in the SCCAB, one in Paso Robles and the other in San Luis Obispo (ARB, February 2013). The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the California and federal standards. The air quality monitoring station located nearest to the project site is the Atascadero-Lewis Avenue monitoring station, located approximately 8 miles north of Santa Margarita Ranch. The second closest station is the San Luis Obispo- 3220 South Higuera Street station in San Luis Obispo, located approximately 10 miles south of Santa Margarita Ranch. The third closest station is the Morro Bay Boulevard monitoring station in Morro Bay, located approximately 14 miles west of Santa Margarita Ranch.

The table below indicates the number of days that each of the standards has been exceeded at the closest three monitoring station to the project area.

Table 4
Ambient Air Quality Data

Pollutant	2011	2012	2013
Atascadero-Lewis Avenue station			
Ozone, ppm - Worst Hour	0.073	0.083	0.073
Number of days of State exceedances (>0.09 ppm)	0	0	0
Number of days of Federal exceedances (>0.12 ppm)	0	0	0
Ozone, ppm - Worst 8 Hours	0.064	0.070	0.070
Number of days of State exceedances (>0.07 ppm)	0	0	0
Number of days of Federal exceedances (>0.075 ppm)	0	0	0
San Luis Obispo- 3220 South Higuera Street station			
Ozone, ppm - Worst Hour	0.078	0.070	0.067
Number of days of State exceedances (>0.09 ppm)	0	0	0
Number of days of Federal exceedances (>0.12 ppm)	0	0	0
Ozone, ppm - Worst 8 Hours	0.066	0.057	0.061
Number of days of State exceedances (>0.07 ppm)	0	0	0
Number of days of Federal exceedances (>0.075 ppm)	0	0	0
Morro Bay Boulevard station			
Ozone, ppm - Worst Hour	0.067	0.059	0.067
Number of days of State exceedances (>0.09 ppm)	0	0	0
Number of days of Federal exceedances (>0.12 ppm)	0	0	0
Ozone, ppm - Worst 8 Hours	0.062	0.052	0.056
Number of days of State exceedances (>0.07 ppm)	0	0	0
Number of days of Federal exceedances (>0.075 ppm)	0	0	0

Source: California Air Resources Board, 2011, 2012, 2013 Annual Air Quality Data Summaries available at http://www.arb.ca.gov/adam/topfour/topfour1.php

As shown, the ozone concentration did not exceed state or federal standards in 2011, 2012, or 2013 at any of the three closest monitoring stations of the project area.

With implementation of the off-site mitigation fee program described in Mitigation Measure AQ-1(f), operation of the project would not exceed the applicable SLOAPCD emissions threshold for ozone precursors, and would therefore not cause San Luis Obispo County to experience additional exceedances of state standards for criteria pollutants, including ozone. Because project operation would not increase the number of exceedance days, human health effects resulting from criteria pollutant emissions would be less than significant.

ATTACHMENT 2
Letter 3

SLO COUNTY apcd | Air Pollution Control District
San Luis Obispo County

August 29, 2014

Rob Fitzroy
San Luis Obispo County Department of Planning and Building
County Government Center
San Luis Obispo, CA 93408-2040

SUBJECT: APCD Comments Regarding the Addendum to the Final Environmental Impact Report for the Santa Margarita Ranch Agricultural Residential Cluster Subdivision (SMRAC; S030115U)

Dear Mr. Fitzroy,

Thank you for including the San Luis Obispo County Air Pollution Control District (APCD) in the environmental review process. We have completed our review of the above identified Addendum which was circulated for public review as a result of litigation and the Peremptory Writ of Mandate issued by the San Luis Obispo County Superior Court in North County Watch, et al. v. County of San Luis Obispo, et al. (Case No. CV098031).

The Addendum was prepared to evaluate and document additional evidence regarding the establishment of off-site mitigation fees for impacts of the SMRAC related to criteria pollutant emissions; specifically reactive organic gases (ROG) and nitrogen oxides (NOx), both of which are ozone precursors. 3.1

Based on APCD's review, the Addendum uses the correct method to refine both the project's lifetime ozone precursor impact analysis and the off-site mitigation necessary to reduce those impacts to a level of insignificance.

However, the APCD recommends one change to the air quality modeling input parameters to ensure a reasonable worst case CEQA evaluation. The Addendum states that the representative wood stove type used in the CalEEMod land use model for this project was non-catalyzed. Catalyzed wood stoves would need to be selected in order to provide reasonable worst case emissions because the U.S. EPA AP-42 based catalyzed wood stove emission rates used in CalEEMod are greater than those of non-catalyzed wood stoves. 3.2

The APCD recommends that the Addendum modeling be revised using catalyzed wood stoves to ensure that the off-site air quality mitigation provided by the applicant ensures that the SMRAC project reasonable worst case lifetime impacts are mitigated to a level of insignificance.

T 805.781.5912 F 805.781.1002 W sloclean... 3433 Roberto Court, San Luis Obispo, CA 93401

Again, thank you for the opportunity to comment on this proposal. If you have any questions or comments, feel free to contact me at 781-5912.

Sincerely,

for

Aeron Arlin Genet
Planning & Outreach Division Manager

AAG/arr

Cc: Santa Margarita Ranch Headquarters

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Letter 3

Commenter: Aeron Arlin Genet, Planning & Outreach Division Manager, San Luis Obispo County Air Pollution Control District (SLOAPCD)

Date: August 29, 2014

Response:

Response 3.1

The commenter states that SLOAPCD has reviewed the Draft EIR Addendum, and that the Draft EIR Addendum uses the correct method to calculate the off-site mitigation necessary to reduce impacts from criteria pollutant emissions to a level of significance.

Response 3.2

The commenter recommends that the air quality modeling input parameters be revised to assume catalyzed wood stoves to provide a reasonable worst-case estimate of ozone precursor emissions because U.S. EPA AP-42 based catalyzed wood stove emission rates used in the CalEEMod model are greater than those of non-catalyzed wood stoves. The commenter notes that assuming catalyzed wood stoves in the emissions modeling would ensure that the off-site air quality mitigation would reduce criteria pollutant emissions below a level of significance.

In response to this comment, the emissions calculations for the "winter with wood stoves" portions of the project were recalculated assuming catalyzed wood stoves. The revised emissions calculations for 2016 are shown in Table 1:

Table 1
Agricultural Residential Cluster Subdivision, 2016 Emissions

Emissions Calculations	**2016 Emissions (lbs/day)**		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	~~35.64~~ 41.29	13.06	12.59
NO_X	25.71	21.95	20.77
Excess Impact Evaluation	**2016 Emissions (lbs/day)**		
ROG + NO_X	~~61.36~~ 67.00	35.01	33.35
CEQA Sig. Threshold	25	25	25
Excess ROG + NO_X	~~36.36~~ 42.00	10.01	8.35
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	~~2,181.41~~ 2,520.18	1,230.97	1,520.03
Converted to Tons	~~1.09~~ 1.26	0.62	0.76
Tons of Excess ROG + NO_X in 2016			~~2.47~~ 2.64
SLOCAPCD's Daily to Annual Equity Ratio			5.5
Equivalent Annual Excess ROG + NO_X Emissions in 2016			~~**0.45**~~ **0.48**
Carl Moyer Program Cost-Effectiveness Value			$17,720
Cost for 2016 Impacts			~~$7,946~~ $8,491

See Appendix A for complete emissions calculations, including operational years 2019, 2021, 2024, 2030, and 2035.

See Appendix A for the complete revised emissions calculations, including operational years 2019, 2021, 2024, 2030, and 2035.

In addition, Section 3.2, Of-Site Mitigation Fee Evaluation, was revised to reflect the updated annual exceedance of ozone precursor emissions and the updated total calculated off-site mitigation fee, as shown in Figure 1 and Table 2:

Table 2
Off-Site Mitigation Fee Calculation With Operation Occurring by 2016

Project Operational Year	**Project Lifetime Off-Site Mitigation Amount**	**APCD Administrative Fee (15%)**	**Total Off-Site Mitigation Fee**
2016	~~$113,827~~ $141,113	~~$17,074~~ $21,167	~~$130,901~~ $162,280

These revised calculations clarify the correct value of the off-site mitigation fee, but do not represent a new impact not described in the Draft EIR Addendum, as payment of the fee would mitigate impacts to a less than significant level.

Letter 4
ATTACHMENT 2

Addendum to final EIR for the Santa Margarita Ranch
David Blakely
to:
rfitzroy
08/31/2014 11:35 AM
Hide Details
From: "David Blakely" <dn@dbnb.us>

To: <rfitzroy@co.slo.ca.us>

Rob,

Please enter my comments into the record on the project- Addendum to the Final Environmental Impact Report for Santa Margarita Ranch Agricultural Residential Cluster Subdivision.

I have concerns with this document on three points.

1. The threshold for determining a "level in operational air pollutant emissions, primarily from vehicular traffic, which would exceed the daily San Luis Obispo County Air Pollution Control District (APCD) thresholds." The threshold is set at 25 Lbs./day. This project is estimated to produce 27.47 lbs./day. This is 2.47 lbs./ in excess of the threshold. The concern that I have is that the fee established to mitigate this impact is only on the 2.47 lbs./day and not on the entire 27.47 lbs./day. Therefore this mitigation mitigates the excess air pollution but does nothing to mitigate the 25 lbs./day that are estimated to be produced every day. That amounts to over 9000 lbs./year or 4.5 ton/year of unmitigated air pollution. It is my opinion that the proposed mitigation does not mitigate the air pollution from this project but on partially mitigates it. I would hope that the mitigation would mitigate all the air quality problems associated with this project. 4.1
2. There is no discussion of cumulative impacts on air quality from this project. This is an additional concern I have with the use of the 25 lbs./day threshold in determining significance. There is no discussion of cumulative impacts of this project on air quality. Yes, there was some discussion in the original EIR but there is no evidence that the cumulative impacts have been discussed given the recommended mitigations articulated in the Addendum. There I believe this document is inadequate in that there is no discussion of the CEQA required cumulative impacts of this project on air quality given the recommended mitigations and the lack of mitigation of the base 25 lbs./year. A lack of this discussion weakens this document and opens it to challenge. 4.2
3. There has recently been granted some additional uses at the Santa Margarita Ranch Assistencia. A permit was issued for the Savor the Central Coast event. Has the additional impacts of air quality of this new permit been adequately addresses in the Addendum or the original EIR. 4.3

Pax Vobiscum,
David Blakely

Letter 4

Commenter: David Blakely

Date: August 31, 2014

Response:

Response 4.1

The commenter notes that the project's operational phase emissions would exceed SLOAPCD's current daily threshold of 25 pounds per day for ozone precursors (ROG + NO_X), and that the Draft EIR Addendum calculates the off-site mitigation fee for the Agricultural Residential Cluster Subdivision based on the emissions in excess of the SLOAPCD threshold. The commenter states the opinion that the mitigation fee should be calculated based on the project's total operational phase emissions, rather than the emissions in excess of the SLOAPCD threshold. However, CEQA requires that feasible mitigation measures reduce significant environmental impacts identified in an EIR below applicable thresholds to a level of less than significance (CEQA Guidelines Section 15126.4). Relative to air quality, the applicable thresholds are those established by SLOAPCD. Emissions below threshold are considered less than significant because the emissions would not impact air quality. Emissions in excess of the threshold are required to be mitigated below applicable thresholds. The off-site mitigation fee, as described in the Addendum, is appropriately calculated to provide mitigation that reduces the project's operational phase emissions to below the SLOAPCD's threshold.

Response 4.2

The commenter states that the Draft EIR Addendum does not include a discussion of cumulative impacts on air quality. The commenter notes that cumulative impacts were discussed in the Final EIR for the Santa Margarita Ranch Project, but states that cumulative impacts should be addressed separately in the Draft EIR Addendum. As described in the EIR Addendum, the purpose of the EIR Addendum is to evaluate and document additional evidence regarding the establishment of off-site mitigation fees for project impacts related to ozone precursor emissions in light of the decision and Peremptory Writ of Mandate issued by the San Luis Obispo County Superior Court in *North County Watch, et al. v. County of San Luis Obispo, et al.* (Case No. CV098031). The off-site mitigation fee was originally required for the project pursuant to Mitigation Measure AQ-1(f) of the Final EIR. Cumulative impacts associated with air quality are discussed in the certified Final EIR for the project. With payment of the off-site mitigation fee, cumulative impacts associated with air quality would be reduced; however, as described in Section 3.2.2(d) of the Final EIR, cumulative impacts would remain significant and unavoidable, because the project would independently exceed operational thresholds, and is potentially inconsistent with the Clean Air Plan. The modification to Mitigation Measure AQ-1(f) analyzed in this Addendum does not alter the conclusions in the Final EIR concerning cumulative air quality impacts.

Response 4.3

The commenter states that additional uses have recently been granted at the Santa Margarita Ranch Asistencia, including the Savor the Central Coast event, and asks whether the air quality impacts of these uses have been addressed in the Draft EIR Addendum or the Final EIR. The Santa Margarita Ranch Agricultural Residential Cluster Subdivision Project addressed in the Final EIR involves development of 111 clustered home sites and one ranch headquarters unit on 144 acres of the Agricultural Residential Cluster Subdivision site. The remaining 3,634 acres of the Agricultural Residential Cluster Subdivision site would be placed in agricultural conservation easements. The project considered in this Draft EIR Addendum is unchanged from the project as analyzed in the certified Final EIR. The project does not include events held at the Santa Margarita Ranch Asistencia event barn, and does not propose any changes to the event schedule or location.

The cumulative impact analysis for air quality in the Final EIR considers the incremental air quality impacts of the proposed project in addition to the air quality impacts of other regional projects. As described in Section 3.2.2(d) of the Final EIR, in San Luis Obispo County, a project that does not exceed SLOAPCD thresholds and is consistent with the 2001 Clean Air Plan would have a less than significant cumulative impact on the airshed. Conversely, a project that exceeds the SLOAPCD significance thresholds or is found to be inconsistent with the CAP would result in significant cumulative impacts. With payment of the off-site mitigation fee, the project would not exceed SLOAPCD Tier 2 thresholds; however, cumulative impacts would remain significant and unavoidable, as the project would independently exceed operational thresholds, and is potentially inconsistent with the Clean Air Plan.

7.0 REFERENCES

California Air Resources Board (ARB). April 2011. *The Carl Moyer Program Guidelines.* Available online: http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmpgl_04_01_14.pdf

California Air Resources Board (ARB). April 2014. "Carl Moyer Memorial Air Quality Standards Attainment Program" website. Available online: http://www.arb.ca.gov/msprog/moyer/moyer.htm

California Air Resources Board (ARB). April 1, 2014. "Mail-Out #MSC 14-04: Carl Moyer Program: Review and Update of the Cost-Effectiveness Limit and Capital Recovery Factors for 2014." Available online: http://www.arb.ca.gov/msprog/mailouts/msc1404/msc1404.pdf

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Appendix A

2016, 2019, 2021, 2024, 2030, and 2035
CalEEMod output; and
Off-Site Mitigation Calculations

Agricultural Residential Cluster Subdivision - 2016 Emissions

Emissions Calculations	2016 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	35.6437	13.0589	12.5864
NOX	25.7131	21.9490	20.7654

Excess Impact Evaluation	2016 Emissions (lbs/day)		
ROG + NOX	61.3568	35.0079	33.3518
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	36.3568	10.0079	8.3518
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	2181.4080	1230.9717	1520.0276
Converted to Tons	1.0907	0.6155	0.7600

Tons of Excess ROG + NOX in 2016	2.4662
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2016	**0.4484**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2016 Impacts	$7,946

Agricultural Residential Cluster Subdivision - 2019 Emissions

Emissions Calculations	2019 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	34.0828	11.4980	11.1757
NOX	20.8928	17.1287	16.2410

Excess Impact Evaluation	2019 Emissions (lbs/day)		
ROG + NOX	54.9756	28.6267	27.4167
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	29.9756	3.6267	2.4167
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	1798.5360	446.0841	439.8394
Converted to Tons	0.8993	0.2230	0.2199

Tons of Excess ROG + NOX in 2019	1.3422
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2019	**0.2440**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2019 Impacts	$4,324

Agricultural Residential Cluster Subdivision - 2021 Emissions

Emissions Calculations	2021 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	33.5504	10.9656	10.6868
NOX	17.5020	13.7379	13.0009

Excess Impact Evaluation	2021 Emissions (lbs/day)		
ROG + NOX	51.0524	24.7035	23.6877
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	26.0524	0.0000	0.0000
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	1563.1440	0.0000	0.0000
Converted to Tons	0.7816	0.0000	0.0000

Tons of Excess ROG + NOX in 2019	0.7816
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2021	**0.1421**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2021 Impacts	$2,518

Agricultural Residential Cluster Subdivision - 2024 Emissions

Emissions Calculations	2024 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	32.9859	10.4011	10.1644
NOX	14.8886	11.1245	10.5308

Excess Impact Evaluation	2024 Emissions (lbs/day)		
ROG + NOX	47.8745	21.5256	20.6952
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	22.8745	0.0000	0.0000
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	1372.4700	0.0000	0.0000
Converted to Tons	0.6862	0.0000	0.0000

Tons of Excess ROG + NOX in 2024	0.6862
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2024	**0.1248**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2024 Impacts	$2,211

Agricultural Residential Cluster Subdivision - 2030 Emissions

Emissions Calculations	2030 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	32.3658	9.7810	9.5870
NOX	12.8204	9.0563	8.6048

Excess Impact Evaluation	2030 Emissions (lbs/day)		
ROG + NOX	45.1862	18.8373	18.1918
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	20.1862	0.0000	0.0000
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	1211.1720	0.0000	0.0000
Converted to Tons	0.6056	0.0000	0.0000

Tons of Excess ROG + NOX in 2030	0.6056
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2030	**0.1101**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2030 Impacts	$1,951

Agricultural Residential Cluster Subdivision - 2035 Emissions

Emissions Calculations	2035 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	32.0521	9.4673	9.2895
NOX	11.8659	8.1017	7.7185

Excess Impact Evaluation	2035 Emissions (lbs/day)		
ROG + NOX	43.9180	17.5690	17.0080
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	18.9180	0.0000	0.0000
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	1135.0800	0.0000	0.0000
Converted to Tons	0.5675	0.0000	0.0000

Tons of Excess ROG + NOX in 2035	0.5675
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2035	**0.1032**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2035 Impacts	$1,829

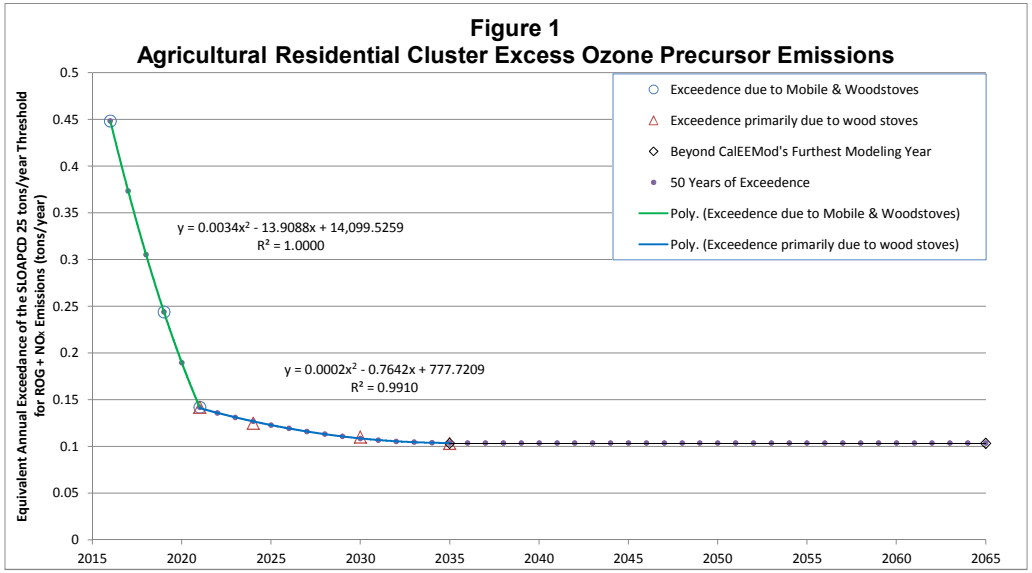
ATTACHMENT 2

	Equivalent Annual Excess ROG + Nox Emissions (tons)
2016	0.448400664
2019	0.244041773
2021	0.142104
2024	0.12477
2030	0.110106545
2035	0.103189091
2065	0.103189091

$/Ton Rate = $17,720

	Equivalent Annual Excess ROG + Nox Emissions (tons)	Annual Exceedence Off-site Mitigation Amount ($)
2016	**0.448401156**	**$7,946**
2017	0.373421229	$6,617
2018	0.305301599	$5,410
2019	**0.244042267**	**$4,324**
2020	0.189643232	$3,360
2021	**0.142104495**	**$2,518**
2022	0.135917752	$2,408
2023	0.131187897	$2,325
2024	**0.126833556**	**$2,247**
2025	0.122854729	$2,177
2026	0.119251416	$2,113
2027	0.116023618	$2,056
2028	0.113171333	$2,005
2029	0.110694563	$1,962
2030	**0.108593306**	**$1,924**
2031	0.106867564	$1,894
2032	0.105517336	$1,870
2033	0.104542621	$1,852
2034	0.103943421	$1,842
2035	**0.103719735**	**$1,838**
2036	0.103719735	$1,838
2037	0.103719735	$1,838
2038	0.103719735	$1,838
2039	0.103719735	$1,838
2040	0.103719735	$1,838
2041	0.103719735	$1,838
2042	0.103719735	$1,838
2043	0.103719735	$1,838
2044	0.103719735	$1,838
2045	0.103719735	$1,838
2046	0.103719735	$1,838
2047	0.103719735	$1,838
2048	0.103719735	$1,838
2049	0.103719735	$1,838
2050	0.103719735	$1,838
2051	0.103719735	$1,838
2052	0.103719735	$1,838
2053	0.103719735	$1,838
2054	0.103719735	$1,838
2055	0.103719735	$1,838
2056	0.103719735	$1,838
2057	0.103719735	$1,838
2058	0.103719735	$1,838
2059	0.103719735	$1,838
2060	0.103719735	$1,838
2061	0.103719735	$1,838
2062	0.103719735	$1,838
2063	0.103719735	$1,838
2064	0.103719735	$1,838
2065	0.103719735	$1,838

Project Lifetime Off-site Mitigation Amount (2016)	APCD Admin Fee	2016 Total Off-Site Mitigation Fee
$113,827	$17,074	$130,901



trendline formula: y=ax^2-bx+c

Trendline 1: Exceedence due to Mobile & Woodstoves

a = 0.003430149
b = 13.90876999
c = 14099.52591

Trendline 2: Exceedence primarily due to wood stoves

a = 0.000187757
b = 0.764207035
c = 777.7209358

Operational Year	Project Lifetime Off-Site Mitigation Amount	APCD Admin Fee	Total Off-Site Mitigation Fee
2016	$113,827	$17,074	$130,901

Supplemental information as provided by Comment Letter #1 (Larson)

Statement of Decision and Proposed Judgment and Order on Writ of Mandamus

May 3, 2013

SUPERIOR COURT OF CALIFORNIA

COUNTY OF SAN LUIS OBISPO

PASO ROBLES BRANCH

NORTH COUNTY WATCH, a California Non-Profit Corporation, ENDANGERED HABITAT LEAGUE, a California Non-Profit Corporation,

Petitioners,

v.

COUNTY OF SAN LUIS OBISPO, BOARD OF SUPERVISORS OF THE COUNTY OF SAN LUIS OBISPO,

Respondents.

SANTA MARGARITA RANCH, LLC, and DOES 1-20,

Real Parties in Interest.

Case No.: CV 098031

STATEMENT OF DECISION AND PROPOSED JUDGMENT AND ORDER ON WRIT OF MANDAMUS

Petitioners North County Watch and Endangered Habitat League seek a writ of mandate directing the County of San Luis Obispo to vacate and set aside certification of the environmental impact report which was used for approval of Santa Margarita Ranch, LLC's proposal for an agricultural residential cluster subdivision. The writ seeks an order directing Respondents to comply with the California Environmental Quality Act (CEQA), the CEQA guidelines[1], the Subdivision Map Act, state planning and zoning laws, and the San Luis Obispo County Code. Petitioner also requests a temporary stay or injunctive relief blocking Respondents and real parties from taking any action to implement the project approvals which are the subject of the lawsuit.

The matter came on for hearing in Department P2, of the above-entitled court. The law firm of Shute, Mihaly and Weinberger, together with Michael Fittz, appeared on behalf of Petitioners, and Hollister and Brace, together with William S. Walter, appeared on behalf of real party in interest, Santa Margarita Ranch, LLC. Respondents did not appear in the action. Respondent's counsel plays a limited role in the case. For example, County Counsel hosted the Public Resources Code section 21167.8 settlement conference and actively participated in the numerous case management conferences, but Respondents have elected not to participate in briefing or argument.

INTRODUCTION

Real Party RPI seeks to develop the Santa Margarita Ranch ("the Ranch"). This property has a history dating back to its establishment as a Spanish land grant and Mexican rancho; in its present day configuration, the ranch consists of approximately14,000 acres (one of the largest properties in San Luis Obispo County, AR 2:655-56) and throughout its long history, the ranch has been engaged in agricultural use such as grazing and crop production. The project is for an Agricultural Residential Cluster Sub-division ("ARCS") on a 3,778 acre portion of the Santa Margarita ranch in the unincorporated area of San Luis Obispo County. The project lies south-east of the community of Santa Margarita. The ARCS sub-divides this portion of the Ranch into 111 residential lots, five agricultural parcels, one 2.5 acre building

[1] All references to the Guidelines are to the State CEQA guidelines. (Cal. Code Regs. Tit.14, Sec.1500, et al.)

envelope with a primary dwelling and ranch headquarters site on an open space parcel, one ranch headquarters site located at the Portuguese corrals and a remainder parcel, that would place 3,633 acres in Agricultural Conservation Easements (ACEs). The project is to be done in three phases. In each phase thirty to forty lots would be recorded, with build-out taking approximately twenty years. (1 AR 193;16 AR 8755) The real parties in interest ("RPI") contend they are entitled to a vesting tentative subdivision map, and conditional use permit as granted by County's Board of Supervisors ("Board").

The EIR for the project evaluated a conceptual future development program for build out of several locations within the remaining portions of the 14,000 acre ranch property. No action was taken as to those possible future developments.

Access to the property would be provided by one existing driveway and one new driveway from West Pozo Road. Sewer service would be provided by individual septic systems and ground water would be provided by a mutual water company or the existing community services district. The project would bring in a supplemental water supply through a connection to the Nacimiento Water Project to offset the use of ground water. The water line connection would occur at Encina Avenue within the community of Santa Margarita. A pipeline has been completed for possible future use as a supplemental water source available at the Encina Avenue right-of-way at the southern Ranch boundary. This pipeline could supply untreated Nacimiento water that would then be land-applied through the existing agricultural irrigation system. (see project description. (1 AR 9)

In order to understand the context of the General Plan provisions at issue, some discussion of the motivating factors in creation of agricultural cluster subdivisions is necessity. The record reflects that San Luis Obispo County has for the last twenty years or so, been concerned about preservation of its agricultural industry. The record reflects concern over the spread "hobby farm" estates which tend to make agricultural production more difficult and expensive and create an additional market demand for

rural land that is inflated higher than the value of commercial agriculture. (21 AR 1031) The County first adopted the agriculture cluster ordinance in 1985 as an incentive for landowners to place valuable agricultural land into permanent conservation easements. The record before the Court states that this concept won planning awards and has actually been utilized for development of three prior agricultural cluster subdivisions within San Luis Obispo County (*Ibid.*) The record states that these agricultural clusters had been "compatibility providing ranching, farming and residential uses and have collectively preserved over 9000 acres of permanent productive agricultural land and open space." (*Ibid.*) In an agricultural cluster subdivision, home site development would be confined to a building envelope, which is much smaller than the homeowners' property. The record depicts an example at 21 AR 10353. The homeowner may have exclusive possession of the property within the building envelope, however, the property outside that envelope but within the homeowners' property lines will be subject to an agricultural conservation easement (ACE). (1 AR 9) The ACE will be devoted to grazing and "a network of interconnected spaces for wild life corridors leading to larger areas." (21 AR 10353;16 AR 8897)

It is apparent from the record that the majority of planning commissioners and the majority of Board members had strikingly different views about how the General Plan applied to this agricultural cluster subdivision (21 AR 10218-10295) The Planning Commission found that the proposed project was not consistent with several standards of the land use ordinance (hereinafter "LUO") generally due to project design, location and density, as well as inconsistency with several policies and regulations. The Board, on the other hand, sided with the applicant.

ADMINISTRATIVE PROCEEDINGS

Before the present project was proposed, the owners of the Ranch had sought a 2,000 lot subdivision. The controversy arising from the proposal led to a draft agreement with the Santa Margarita advisory council in which the County and Real Party would enter into a development agreement pursuant to Government Code §65864

which described a project consisting of 550 housing units and non-residential improvements in an area of 1,800 acres. The agreement also called for 8,400 acres of the Ranch property to be converted to permanent open space easements and a minimum of 3,600 acres was to be placed under 40 year Williamson Act contracts for preservation of agricultural land. In return, the County agreed to process, review and approve or disapprove a specific plan and apply its current zoning and other land use regulations to the plan without change for up to five years during the review and approval period.

The development agreement was challenged by a community group, Santa Margarita Area Residents Together ("sometimes referred to as SMART"). This development agreement was ultimately approved by the Court of Appeal. (*Santa Margarita Area Residents Together, et al. v. San Luis Obispo County Board of Supervisors* (2000) 84 Cal.4th 221.) Although the development agreement was for a limited period, the County's "rural area standards", which existed in 1995 when this process started, have been maintained to the present time. The Court judicially notices San Luis Obispo County Ordinance Code section 22.104.040, (as well as the other ordinances in RPI May 29, 2012 Evidence Code §452(b) request).

The controversies with SMART did not abate. In 2001, SMART filed a lawsuit in an effort to block County approval of a lot line adjustment requested by RPI. That case was ultimately settled with the Court retaining jurisdiction for purposes of enforcing the terms of the settlement agreement (AR 22:10772-10793). As a part of this settlement agreement, the County, SMART, and RPI agreed that if an agriculture cluster sub-division was proposed for development, RPI would prepare a programic EIR that would comprehensively evaluate reasonable development scenarios on all of the Ranch parcels, provided there would be no requirement to include projects which the Ranch parties did not intend to pursue. Any disputes concerning the scope of the EIR were to be submitted informally for resolution by the Court, rather than by separate litigation. (22 AR10776). SMART sued again to prevent RPI from planting a vineyard. That action was later dismissed. The Chumash tribe sued for protection of cultural

resources, which was settled with a protocol for protection cultural resources. SMART reactivated its petition to stop the present application before the Planning Commission, which was denied by another judge on this court. (8AR 4415)

The application for the current project was approved for processing on June 7, 2004. (AR 15:6275.) The County released the draft EIR in January 2007, with eleven Class I (significant but unavoidable) impacts. (AR 6:3265; 17:9254 and 9301.) The project was revised, and the revised draft EIR was released on February 7, 2008. (AR 15:8414; 17:9386.) The final EIR was released in June of 2008 (AR 1:247); the environmental review process brought much criticism of the project. For example, the U.S. Fish and Wildlife Service ("USFWS"), the Department of Fish and Game ("DFG") and the National Marine Fishery Service ("NMFS" or "NOAA Fisheries") submitted a total of eight letters regarding the EIR to the Planning Commission and the Board of Supervisors ("Board") discussing the draft and subsequent changes to the EIR and CEQA findings. (AR 4:2026-32; 6:2860 – 62 2868-83 2906-10; 8:4720-25; 12:6427-30; 13:6478-79, 6782-85.) The San Luis Obispo Air Pollution Control District ("APCD") advised that it could not support the project due to its "sprawling nature" and inconsistency with the County Clean Air Plan. (AR 6:2896-01.) The County Agriculture Department advised that the project was inconsistent with the agricultural elements of the general plan because it would convert a 676.7 acre grazing unit into an area which would include 111 home sites. The Department opined that human and cattle interaction could lead to accidents and this type of design would ultimately interfere with long-term agricultural production on the affected acreage.

Many members of the public also voiced their concerns over endangered habitats and, in particular, the oak woodland mitigation measures. The Ranch's groundwater resources were also the subject of extensive comment. (AR 4:1955-70; 6:2812-18; 10:5471-76.) The League of Women Voters, the Upper Salinas - Las Tablas Resource Conservation District, the Sierra Club, the California Native Plant Society, the California Oak Foundation, Morro Coast Audubon, Santa Margarita Area Residences Together, and ECO SLO, all submitted comments criticizing the project. (AR 15:8255; 16:9108-09.)

The Planning Commission commenced hearings on the project in the summer of 2008. During its hearings, the Commission found 24 inconsistencies with applicable plans and ordinances. (AR 13:7210-11, 7219 noting four inconsistences with the Land Use Ordinance 22.22.150(g).) Some members of the public were urging Real Party to move its development so that it would become an extension of the town of Santa Margarita. (Alternative 11.) At the Commission's August 28, 2008 meeting, Real Party's representative requested the Commission to simply take an up or down vote on the project which had been pending more than four years. (17AR 9295.) On July 9, 2008, the Commission made findings in support of denying the project and refused to certify the EIR.

Real Party then appealed the project denial to the Board, leading to five public hearings. (14 AR 7459-7483; 16AR 8594-9140, 17AR 9141-9154.) During its hearings, the Board considered testimony from various experts regarding mitigation and project impacts.(AR 10:5454-56 5579-710; 21 RPAR 10218-10391.)

The Board ultimately approved the mitigated project alternative for 111 lot agricultural residential cluster subdivision on 3,788 acres of Ranch property, with three agriculture parcels, for agriculture supportive uses, a remainder parcel and the placement of 3,633 in permanent Agricultural Conservation Easements ("ACEs"). The agricultural cluster subdivision is intended to result in residential building envelopes adjacent or near a grazing livestock, or vineyards. (See AR 1:6-9, 72.) Alternative 12, with a reorganized lot layout, mitigated some of the problems brought forward at the Planning Commission. Lots were moved to avoid placement on prime soils. Visual impacts were mitigated. The roadway network for the development was changed so that it would coincide with the Ranch roads and existing stream crossings. (AR 8:4354-4357.)

The Board found the amended project was the "environmentally superior alternative" and the Board determined that the mitigated project alternative was consistent with applicable Salinas River Plan, Land Use category, and Agriculture Cluster Ordinance. The Board also found that the project would not have "a specific adverse impact upon health or safety, that it is a significant, quantifiable, direct and

unavoidable impact based on objective, general planning and zoning standards applicable to the property, and made overriding finds. (1 AR 67-74)

CEQA ISSUES

An EIR is presumed legally adequate and the agency's certification of an EIR as complying with the requirements of CEQA is presumed correct. (*Cherry Valley Pass Acres & Neighbors v. City of Beaumont* (2010) 190 Cal.App.4th 216-327.) This concept was well explained in the case of *Santa Clarita Organization for Planning the Environment v. City of Santa Clarita* (2011) 197 Cal.App.4th 1042-1054.)

> In any action challenging the decision of a public agency, "the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the agency has not proceeded in a manner required by law or if the determination or decision is not supported by substantial evidence." (Pub. Resources Code, § 21168.5; *Gentry, supra,* 36 Cal.App.4th at p. 1375, 43 Cal.Rptr.2d 170.) However, "[n]oncompliance with substantive requirements of CEQA or noncompliance with information disclosure provisions 'which precludes relevant information from being presented to the public agency ... may constitute prejudicial abuse of discretion ... regardless of whether a different outcome would have resulted if the public agency had complied with those provisions.' [Citation.]" (*County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946, 91 Cal.Rptr.2d 66; Pub. Resources Code, § 21005, subd. (a).) In other words, when an agency fails to proceed as required by CEQA, harmless error analysis is inapplicable. (*County of Amador,* at p. 946, 91 Cal.Rptr.2d 66.)

"Substantial evidence" is defined in the CEQA guidelines as "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached." (Cal.Code Regs., Title 14, §15384, subd. (a).) "The agency is the finder of fact and we must indulge all reasonable inferences from the evidence that would support the

agency's determinations and resolve all conflicts in the evidence in favor of the agency's decision. (*Santa Clarita Organization for Planning the Environment v. City of Santa Clarita* (2011) 197 Cal.App.4th 1042, 1050.)

For purposes of CEQA, substantial evidence "means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached." (Guidelines section 15384(a).) Questions concerning proper interpretation or application of the requirements of CEQA are matters of law. (*Save Our Peninsula Committee v. Monterey Board of Supervisors* (2001) 87 Cal.App.4th 99, 118.) An EIR must include detailed information concerning, among other things, the significant environmental effects of the project under consideration. (Public Resources Code, §§21100, 21100.1) If the information requirements of CEQA are not met by the agency, and the agency proceeds nevertheless to certify the EIR as meeting those requirements, the agency fails to proceed in a manner required by law and abuses its discretion. (*Save Our Peninsula Committee v. Monterey Board of Supervisors, supra,* at pp. 117-118.) " 'the EIR is the heart of CEQA' in the integrity of the process dependent on the adequacy of the EIR." (*Ibid.*)

In reviewing the lead agency's actions under CEQA, we do not "'pass upon the correctness of the EIR's environmental conclusions, but only upon the insufficiency as an informative document.'" (*Native Son/Lyon Communities v. City of Escondido* (1993) 15 Cal.App.4th 892, 905.)

> "Our limited function is consistent with the principal that 'the purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind. CEQA does not, indeed cannot, guarantee that these decisions will always be those which in favor environmental considerations.' [Citations.] We may not, in sum, substitute our judgment for that of the people and their local representatives. We can, and must, however scrupulously enforce all legislative mandated CEQA requirements.' " (*Ibid.*)

In considering each of the following CEQA issues, the Court will be deciding if the Board's action constituted abuse of discretion by either not proceeding in a manner required by law or if its decision was not supported by substantial evidence. (*Preservation Action Council v. City of San Jose* (2006) 141 Cal.App.4th 1336-1352; Public Resources Code §21168.)

In its FEIR, the County approved the project with eleven significant environment affects and acknowledged that they could not be avoided or substantially lessened. In so doing, the Board of Supervisors adopted a statement describing the projects overall social, economic and policy benefits and stated the adverse consequences to agricultural lands, air quality, oak woodlands, water, natural resources, noise, and transportation were considered, publicly acknowledged but overridden. Public Resources Code § 21081(b) and Guideline 15093(a) require the agency to adopt a statement which sets forth the reasons for the action being taken on the final FEIR. The statutory policy expressed by these sections, as well as Guideline 15043 mandates agencies to engage in weighing proposed projects benefits against its unavoidable environmental risks, and find that these adverse impacts are "acceptable" in those cases where the benefits outweigh those effects. Public Resources Code 21081(b). The decision maker must identify the mitigation measures and alternatives found to infeasible, and state the economic, legal, social, technologic or other considerations that make the mitigation measure or alternative infeasible (*California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 982-283) [2]

The jurisprudence surrounding these issues has not yet sufficiently developed to offer a clear understanding of what level of impacts may remain after mitigation or what will trigger the requirement for a statement of overriding considerations. The override decision "ever at the core of the legal agency's discretionary responsibility." (*Ibid.*,983) Override findings are sufficient if they "demonstrate the balance struck" by

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[2] The CEB publication California Environment Quality Act, 2nd Ed. suggests that because of this uncertainty public agencies should adopt statements of overriding considerations for any environmental impacts that will not be reduced to a level of insignificance.

an agency in "weighing the benefits of the proposed project against its unavoidable adverse impacts." (*Ibid*) Courts generally defer to the policy judgments in the agency's statement of overriding considerations. (Public Resources Code section 210816); Guidelines section 15093(a).) The balancing test required for overriding findings involves a high degree of discretion and that discretion rests with the agency not the court (*City of Marina v. Board of Trustees of Cal. State University* (206) 39 Cal.4th 341, 368)

When an agency finds there are significant environmental impacts that will not be avoided or substantially lessened by mitigation measures it must also consider the environmentally superior alternatives identified in an FEIR and make findings regarding the feasibility of those alternatives. (Public Resources Code 21081(a)(3); 14 CCR 15091(a)(3)) If significant impacts would be avoided or substantially lessened by adopting mitigation measures, any alternatives described in the FEIR that can avoid or reduce the impact must be found infeasible if not adopted. (Public Resources Code section 2108(a)(1)–(3)) The FEIR describes the specific reasons for rejecting each of the alternatives described. (14 CCR 15091(a)) Furthermore, the finding must be supported by substantial evidence in the record.

A finding that the projects benefits override its significant environmental impacts may not serve as substitute for findings rejecting mitigation measures or alternatives as infeasible. (Guidelines section 15091(f); *Village of Laguna Beach, Inc. v. Board of Supervisors* (1982) 1934 Cal.App.3rd 1022, 1034) A statement of overriding considerations supplements those findings by explaining the agency's reasons for deciding to proceed with the project despite its significant environmental effects. (*California Native Plant v. City of Santa Cruz, supra,* at 983.)

To the extent mitigation measures are feasible, or project alternatives are available to "mitigate" or "avoid" the significant environmental effects identified in the FEIR they are to be required or incorporated in the project. *(Laurel Heights Improvement Ass'n v. Regents of University of California* (1988) 47 Cal.3rd 376, 407.)

During oral argument the parties appeared to agree that Petitioners focus is directed at the adequacy of support for County's findings infeasibility.

GLOBAL CLIMATE CHANGE

ANALYSIS OF GREENHOUSE GASES

At the time the FEIR was certified (2008), regulation of Green House Gases (GHGs) was an emerging concept; the cumulative worldwide impact of human activities was determined by the California legislature to be adding carbon dioxide, oxides of nitrogen, methane and fluorocarbons to the atmosphere at an unprecedented rate. The legislature's objectives in adopting the Global Warming Solutions Act (AB32) was to set time lines and establish general regulatory framework from which GHGs could be managed, in much the same way other air pollutants had previously been managed. (Health and Safety Code §38501) The act directed the Air Resources Board to set up regulations implementing the act. Those regulations were to be phased in starting in 2012. (Health & Safety Code §38562)

In 2008, there was little accepted legal or regulatory guidance to analyze the projects' impacts on global climate change. The Final Environmental Impact Report (FEIR) relied on the guidance provided by the publication created by the Governor's "climate action team" (established by Executive Order S-3-05). This tool was intended to provide guidance to public agencies in fulfilling their CEQA obligations during the development of the regulatory methodology required by the act. (1 AR 549) San Luis Obispo County recognized that the climate action team suggested strategies for "smart land use and intelligent transportation." That policy was intended to promote jobs/housing proximity, transit-oriented development, and high density residential/commercial development along transit corridors. This project would be located in a rural area, would be developed at a relatively low density and unlikely prospects for near term public transportation service, and jobs centers five to ten miles away from the project site.

The City of Rialto was also reacting to the climate action team strategies in 2008 when it certified an EIR for a Wal-Mart super store and commercial shopping center. *Rialto Citizens for Responsible Growth* challenged the city's EIR certification on various grounds, including the EIR's analysis of project impacts with respect to GHGs. In *Rialto*, the trial court found the EIR was defective because it "improperly dismisses the cumulative impacts of greenhouse gas emissions and climate change impacts because of [the City's] inability to analyze the individual impacts of the project." The trial court went on to overturn the City's decision to certify the EIR. The City and developer appealed the trial court's decision. (*Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal.App.4th 889.) In deciding to reverse the trial court's decision, the Court of Appeal explained:

> Notwithstanding AB 32's greenhouse gas emission limits and reduction measures, the EIR observed that AB 32 "primarily provides a timeframe for establishing plans, policies, and studies to address global climate change," but did not "provide thresholds or methodologies for analyzing a project's impacts" on global climate change. The EIR also noted that while "several" unspecified "studies" were available regarding "the overall impacts associated [with] global climate change, the conclusions and predictions vary with each report." On this basis, the EIR concluded that the project's impacts on greenhouse gas emissions and global climate change were too speculative to determine. (Guidelines, §15145)
>
> Indeed, when the EIR was certified in July 2008, there were no legal or regulatory standards for determining whether a given project's greenhouse gas emissions should be considered cumulatively considerable. (*See* 2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act, *supra,* §§ 20.81–20.81A, pp. 1019–1026.) As stated in the EIR, AB 32 did not "provide thresholds or methodologies for analyzing a project's impacts" on global climate change. And, though the 2006 legislation acknowledged that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California" (Health & Saf.Code, § 38501, subd. (a)), it did not "reference CEQA or provide any guidance regarding CEQA analysis of greenhouse gas emissions" on global climate change (2 Kostka & Zischke,

Practice Under the Cal. Environmental Quality Act, *supra,* § 20.81, p. 1020).[17] In 2010, new Guidelines were adopted which provide lead agencies with critical guidance in calculating and determining the significance of greenhouse gas emissions (Guidelines, § 15064.4) and in formulating feasible mitigation measures to reduce their impacts (Guidelines, § 15126.4, subd. (c)). But none of these Guidelines were in effect when the EIR was certified in July 2008; thus they were not available to guide the City in preparing the EIR.[18]

Given the absence of legal or regulatory standards or accepted methodologies for gauging the project's cumulative impact on global climate change at the time the EIR was certified in July 2008, the City reasonably concluded that the impact was too speculative to determine. (*Laurel Heights Improvement Assn. v. Regents of University of California* (1993) 6 Cal.4th 1112, 1137–1138, 26 Cal.Rptr.2d 231, 864 P.2d 502 [lead agency not required to analyze cumulative effect of project's toxic emissions with those of other anticipated projects in the absence of accepted methodologies or standards by which to quantify all of the emissions]; *Alliance of Small Emitters/Metals Industry v. South Coast Air Quality Management Dist.* (1997) 60 Cal.App.4th 55, 67, 70 Cal.Rptr.2d 54 [future impacts of air pollution regulatory program too speculative to determine because future technology unknown]; cf. *Communities for A Better Environment v. City of Richmond, supra,* 184 Cal.App.4th at pp. 89–95, 108 Cal.Rptr.3d 478 [EIR required to analyze and adopt mitigation measures to reduce project's contributions to greenhouse gas emissions once EIR concluded the project would have a significant impact on greenhouse gas emissions].)

To be sure, the absence of a "single methodology" that would provide a "precise" or "'universally accepted' " quantification of a particular impact does not excuse the lead agency from "do[ing] the necessary work to educate itself about the methodologies that *are* available." (*Berkeley Keep Jets Over the Bay Com. v. Board of Port Cmrs.* (2001) 91 Cal.App.4th 1344, 1370, 111 Cal.Rptr.2d 598.) Here, however, the City did the necessary work to educate itself about the methodologies that were available. The EIR acknowledges that "several studies are available regarding the overall impacts associated [with] global climate change," but observes that "the conclusions and predications vary with each report." The City did not decline to

> gauge the project's cumulative impact on greenhouse gases and global climate change merely because there was no single, universally accepted methodology for gauging the impact.

The Court of Appeal concluded that [T]he City did not abuse its decision in concluding that the impact was too speculative to determine, given the established legal or regulatory guidelines, or accepted mythologies to gauge the cumulative impact." (*Id.* at 937) Petitioners argue this holding is factually distinguishable from the present case, and is in conflict with other published public opinions. Petitioner argues that because the EIR was able to quantify an estimate of 15,219.14 lbs. per day of carbon dioxide, this case is more akin to *Los Angeles Unified School District v. City of Los Angeles* (1997) 58 Cal.App.4th 1019. In that case, the School District used a computer model to predict the noise levels under the specific plan being considered. When the analysis was criticized as inadequate the City argued that it would be too speculative to tell whether the specific plan would "resolve an increased traffic noise around the schools, and what impact, if any, such increased noise would have. (*Id.* at 1026-27.) This argument was rejected by the Court of Appeal; "the EIR took precise measurements of existing traffic noise" and used the model to predict future traffic noise, the record could not support the City's claim that determining the impact of cumulative noise on schools was speculative. (*Id.* at 1027.) In the present case, the County used established models to create its estimate for C02 [the EIR utilized URBEMIS 2007, Version 9.2 computer modeling program to quantify both construction and related emissions and operational emissions for carbon dioxide.] (3AR1203) More importantly, none of the other GHGs were analyzed nor was there any analysis concerning the interaction of those gases when exposed to sunlight. In Petitioners' Objections to the Tentative Statement of Decision they argue that the FEIR "has already measured greenhouse gases---water vapor, methane, nitrous oxide and ozone" emissions. In support of their position they note that APCD stated its expectation that the project's emissions of these gases would be insignificant. That estimate is not a "quantification" These gases were

never "quantified". *Los Angeles School District* offers no guidance on the facts presented by this case. (See also Petitioner's supplemental brief on *Rialto*, p. 3, lines 14-16.) It appears to the Court that the reason the County made no quantitative findings on the level of significance of GHG admissions, is because no one had yet analyzed what combination of these gases when blended with carbon dioxide could form a scientifically supported threshold for greenhouse gases. This view is buttressed by the CAPCOA, CEQA and climate change (January 2008) publication (13AR 6979 – 7163) What the Court carries away from this document is that during 2008 scientists were seriously investigating at least 10 possible ways to determine global warming thresholds (See chart at 13AR7042 and 7043) together with a discussion of those charts commencing at 7017 through 7041.) Most importantly, it is apparent that the State's Air Pollution Control Officers, including the Cal ARB official, Mr. Goldsteine, were unable to make many recommendations to local government regarding setting thresholds of significances for GHGs. What was apparent is that in January, 2008, this issue was the object of intense scientific scrutiny, but fell far short of any regulatory guidance to local government. The Court has concluded that the situation with respect to greenhouse gases in 2008 was exactly as the *Rialto* court depicted it. It was far different than the noise analysis discussed in *Los Angeles Unified School District*. As in *Rialto*, the SMR FEIR addressed the appropriate threshold of significance as follows:

> No air district in California, including San Luis Obispo Air Pollution Control District (APCD) has identified a significant threshold for GHG admissions or methodology of analyzing air impacts related to GHGs. Even though the GHGs admissions associated with an individual development project could be established, there is no emission threshold that could be used to evaluate the California Environmental Quality Act (CEQA) significance of these emissions. In addition, GCG models are not sensitive enough to be able to predict the effect of individual projects on global temperatures and the resultant effect on climate . . . *For these reasons, determining the CEQA significance of the impact of the [project] at a project – or program – level is speculative.* (1 AR 549, emphasis added.)

A similar discussion can be found in the Rialto EIR :

> "Based on the scientific literature, it would be speculative to determine whether the contribution of *any particular project or plan* to greenhouse gas emissions and climate change is significant. Based on an investigation of [the projects] compliance with local air quality thresholds, future long term operational impacts, and WalMart's commitment to increasing the company's environmental sustainability goals and policies . . . the project would still have potential to resolve impacts associated with greenhouse gas emissions and global climate change. However, there is significant uncertainty in making predictions of the extent [to] which the project operations have on greenhouse gas emissions and global climate change . . ." (Rialto, *supra*, at p.938). (*Italics added*)

The other cases cited by Petitioner did not pertain to global warming analysis, and are inapposite. Petitioners have two additional complaints concerning the FEIR's analysis of greenhouse gases; first the FEIR fails to discuss the greenhouse gas effects stemming from conversion of oak woodlands. Second, the FEIR's greenhouse gas discussion fails to analyze greenhouse gas emissions caused by transportation of Nacimiento Lake water to the site. That complaint is dependent on the scope of the Nacimiento pipeline EIR which not part of the record before the Board. The FEIR predicted impact on 250 to 350 oak trees as a result of the project (1 AR 57, 68) and stated "the worst case scenario would result in removal of .02% of mature trees within the project site." (*Ibid*) Real Party responds that greenhouse gas analysis of lost oak tree oxygen emission would be speculative and stresses that the replacement mitigation at the required ratios contained in the FEIR "would eventually increase photosynthesis on the ranch." (6 AR 3078) Home landscaping would create comparable biomass (17 AR 9364-65).

In its opening brief, Petitioner relies upon a letter from the California Attorney General addressed to the City of Sacramento concerning a project in that jurisdiction. In that letter, the Attorney General's Office states, "the lack of an official threshold does not absolve [a lead agency] from the obligation under CEQA to determine the significance of the anticipated [greenhouse gas] emissions [of the project]." Yet in

Note 14, the Attorney General acknowledges that the guidelines, "encourage, but do not require, agencies to publish thresholds of significance, and therefore are expected to undertake "a project by project analysis" [citing Guidelines §15064.7(a).] (10 AR 5413)

The letter to Sacramento was written in August 2008, four years in advance of *Rialto's* guidance on Guidelines section 15145. *Rialto* supersedes the Attorney General's advice for projects adopted during this period.

Petitioners also argue that the court should be guided by the new guidelines on GHG emissions in deciding this case. Guideline 15007(b) makes it clear that where an amendment is adopted after agency action the court should refuse to apply the amendment to pending cases. (*National Parks and Conservation Assn. v. County of Riverside* (1999) 71 Cal. App. 4th 1341, 1357.)

The County did not abuse its discretion by declining to set thresholds. The County did not abuse its discretion by its finding the project's impacts on global temperatures were to speculative. The County did not abuse its discretion by declining to apply the measures mentioned by the California Attorney General in that office's correspondence with the City of Sacramento to either set thresholds or project conditions. The Court declines to use Petitioner's suggestion that its decision be guided by the 2010 Guidelines. That would ignore Guideline 15007.

VERNAL POOLS

The County determined that the project's impacts concerning protected species that may be present in the vernal pools was Class II, significant but subject to reduction to insignificance by the proposed mitigation measures. Seasonal pools are wetlands habitats that contain standing water on an ephemeral basis. These pools contain emergent wetland vegetation or may be classified as vernal pools. Seasonal pools are those with shorter hydro periods and may continue few emergent wetland plant species. These areas are biologically important because they contain threatened and endangered species such as Vernal Pool Fairy Schrimp (VPFS), and a variety of aquatic

invertebrates. Bird and mammal species also use these areas as a water source. Seasonal pools comprise 4.8 acres or less than 1% of the onsite cover, consisting of seven seasonal pools located within the ARCS. (2 AR 570, 572.) It should be noted that there are over 35 seasonal pools observed and recorded within the 14,000 acre Ranch property and 7 are on the project site. (2 AR 646.) The seven vernal pools were described, and mapped in the DEIR. (4 AR1781-1783, and 1789-1791.)

The project will impinge on potential habitat of Vernal Pool Fairy Shrimp (VPFS), the Tiger Salamander.[3] (4 AR1743-1906.) Both parties agree that the standard protocol for VPFS studies requires a second year of observation which has not been completed. The FEIR also required complete federal protocol compliant surveys by a federally qualified biologist for "VPFS and "additional special status species." The options concerning when and how the studies could be completed were clearly described in the DEIR (4 AR1759.) The FEIR required that if the habitats are found to be occupied by these special status species they will be "avoided when possible" or mitigated on a 3:1 ratio.(1 AR 25.) Although there were numerous observations of non-protected fairy shrimp species were observed, the record supports RPI's position that the 172 hours of vernal pond and stock pond observation conducted in 2006 did not reveal the presence of either VPFS or the Tiger Salamander. (4 AR 1759 and worksheets at 1765-1771.) . No reason was given as to why the second year of the study was not completed in 2007. (4 AR1743-1906.) The court infers from the language of FEIR B-6 (a) (1 AR 25) that because over four years has passed since the first study an entirely new study of two rain years duration will be required to satisfy the federal protocol, and the County's condition.

Petitioners say the FEIR's deferred determination of the presence of the protected species will lead to "reactive compensatory mitigation". (USFWS comments at 4 AR 2029;6 AR 2906-2910.) Petitioners side with the USFWS position that subdivision design changes may be needed to achieve necessary set-backs, or

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[3] RPI's trial brief notes that 3,000 hours were spent in field observation of ranch property for biological resources (1 AR 557; RPI Brief at 14:17-24). RPI stresses that the habitat for all three protected species is that for VPFS.

replacement habitat, in order "to minimize or avoid the take". (6AR2906-2910.) Petitioners also note there is no support for the FEIR's conclusion that there are no Tiger Salamanders on the project site. This assertion by the resource agency was contradicted in response R-140 of April 2, 2008. (6AR2913) What the FEIR said is that "suitable habitat" was present on site but the Tiger Salamander was not observed during VPFS and CRLF surveys, and concluded that the species was "unlikely to occur on site due to regional distribution."(2 AR 577.) The County is requiring surveys to determine the presence of "VPFS or additional special status species" to be completed with reporting and mapping before grading would be permitted (1 AR 25.)

Petitioners stress that the SMART settlement agreement (*supra*) contained a promise by RPI to "perform reconnaissance surveys for . . . Tiger Salamanders." (22 AR 10728 13-20.) It was clear from oral argument that although special study focused on Tiger Salamanders was not completed, several extensive observational studies were done on the Ranch wetlands with respect to VPFS, and CRLF with no observation of Tiger Salamander reported. (4 AR1821-1906) The DEIR included extensive study of CRLF in that part of the Ranch known as the Robert Mondovi Safe Harbor. That study reported observation of other non-protected species but not the Tiger Salamander. (Althouse and Mead, 2004: 4 AR 1836.) Also, the DEIR references fourteen studies in the general vicinity of the Ranch, and studies of 35 pools on the ranch without a single mention of Tiger Salamanders. (4AR 1833 and 1831.) The 2004 studies noted that nine unprotected species of amphibians were found on Ranch property, but no Tiger Salamanders. (4 AR 1893-1894.) The 2006 studies by Rincon concentrated on the seven vernal pools located on the project site. This report was based on five months of extensive observation. (4 AR 1765-1771.) No Tiger Salamander was observed. Apart from the resource agencies assertion the habituate could accommodate the species they have cited no contradictory studies to counter the County's conclusion that the Tiger Salamander is not found in this region. Where a party is depending on unsubstantiated opinion they bear the burden of showing that the studies on which the decision is based "are clearly inadequate or unsupported." *(Laural Heights Improvement Association v.*

Regents of University of California (1998) 47 Cal. 3d 376, 408; *State Water Resource Control Board Cases* (2006) 136 Cal. App. 4th 674, 795.) The Court finds the failure to make a siting over the long periods of observation provides substantial support for the Board's finding. It must be understood, however, that future studies of the seven vernal pools which were required by the Board must be done in a manner that would promote, rather than limit the possibility of a future sighting of the Tiger Salamander.

The FEIR lists numerous mitigation protective measures such as 300 foot buffers where the species is present, 200 foot buffers from habitat with the understanding that they may be increased by the Corps, RWQCB, CDF, NMFS, and USFWS. Shrimp cists are to be stored for future use in protecting the species. County also required extensive drainage protection with twice annual maintenance of all grease traps, silt basins, and outlet structures. After the resource agencies impose their permit conditions, County required filing a restorative plan to be completed which would provide 2:1 replacement of adversely affected habitat. County also required future observational studies, designation of open space and future monitoring. (1 AR 21-23.) Neither Petitioners nor the resource agencies have found fault with the mitigation measures required for the vernal pools.

Petitioner says this situation is similar to those described in *Communities for Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70 at 92 and *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670. Those cases held that an FEIR is inadequate if "'[t]he success or failure of the mitigation effort . . . may largely depend upon the plans that have not yet been formulated, and have not yet been subject to analysis and review within the EIR.' "

In *Communities for Better Environment*, supra, at p.93, the refinery proposed a plan for compliance with green house gas emissions but only a "handful of cursorily described mitigations measures", which were undefined, untested, and of unknown efficacy. In *San Joaquin Raptor Rescue Center*, supra at 670 there was also a "general goal" for maintaining the integrity of the vernal pool habitat but there were "no specific

criteria or standards for performance". There, like here, the County of Merced assumed the presence of the species without confirming its existence on site, but the mitigation measures had no specific performance measures. In contrast, here there are wide buffer zones, construction detail for drainage, and erosion control, fencing requirements, ongoing maintenance, and a minimum of 2:1 replacement of habitat with more if required by the resource agencies.

Petitioners argues the court must conclude that the information gathering phase of the analysis has not been completed as to the seven vernal pools before approval and that it should have been. Once again Petitioners support their position by reference to repeated resource agency comments. The U.S. Fish and Wildlife Service told the County that protocol surveys had not been done and would be necessary for a the EIR to meet its informational requirements. This was a prominent point its 2007 letter, and in its letters of April 2, 2008. (4 AR 2026-2032.) The CDF&G gave similar warning with its letters March 28, 2008 and again December 10, 2008. (6 AR 2868; 8AR 4307.) County took the position that the vernal pools would not be affected by the project and the Tiger Salamander is "unlikely to inhabit this region". The resource agencies say the pools may contain both species. Those agencies insist on a complete cycle of observation was necessary before approval, and complain about lack of consultation. The Petitioners, agree with the resource agencies and take the position that even though the vernal pools are distant from the home sites, subdivision design, and drainage modifications that have not been previously considered may be needed to avoid a take.

Contrary to Petitioners brief and oral argument the court's analysis must be based on the substantial evidence standard which "applies to conclusions, findings, and determinations", and to challenges to the scope of the EIR's analysis of a topic, the methodology used for studying an impact, and the reliability or accuracy of the data on which the EIR relied, because these types of challenges involve factual questions, rather than a claim that the agency proceeded in a manner other than required by law

as discussed by Petitioner. (Santa Monica Baykeeper v. City of Mlibu (2011) 193 Cal.App. 4th 1538, 1546.)

In response to Petitioner's criticisms RPI cites *Clover Valley foundation v. City of Rocklin* (2011) 197 Cal. App. 4th 200. In that case the marsh on applicant's property was known to be visited by a protected bird species. One of the mitigation measures required resource agency permits. The resource agencies may comment on what is proposed in an EIR, but they will not establish permit conditions in advance of local agency approval of the EIR. The court of appeal acknowledged that the exact nature of the mitigation measures to be required by the resource agencies could not be known at the time of approval. The court of appeal said it is not a deferral of CEQA's informational requirements where one knows that the full array of mitigation measures will not be known until those agencies announce their permit conditions. The court clearly held that there no deferral of local agency analysis where the resource agency may be requiring its own conditions. The court of appeal concluded that "deferring the formulation of the details of mitigation measures where another agency will issue a permit that must impose mitigation requirements independent of the CEQA process" is not a violation of CEQA "so long as the EIR included performance criteria and the lead agency committed itself to mitigation." (Id. at 237). The court in *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal. App. 4th 777, 793-794 reached the same conclusion.

RPI also relies on *California Native Plant Society v. City of Rancho Cordova* (2009) 91 Cal. App.4th 571. There the applicant sought to defer determination of the location of relocated vernal pool habitat. The applicant's project was within an area being studied by the USEPA and the Corp of Engineers with the goal establishing mitigations requirements for waters of the United States in the entire Sunrise-Douglas area. Morrison Creek extended the full length of the project site. The court found that it was not a deferral of the type described in *Sundstrom v. County of Mendocino* (1988) 202 Cal App.3d 296, 301-306 which held that "formulation of mitigation measures

should not be deferred until some future time. However measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way." (Guidline 15126.4.) The following cases reach similar conclusions: *National Parks Conserv. Ass'n V. County of Riverside* (1999) 71Cal. App. 4th 1341; *Riverwatch v. San Diego*(1999) 76Cal. App. 4th 1428, 1447.

In summary, here there are seven vernal pools surrounding the ARCS but somewhat distant from the area to be developed for home sites. The mitigation measures for the project are based upon an assumption that the species exists in one or more of these pools, and the pools would be appropriate aquatic habitat. Neither the Petitioners, nor the resource agencies have criticized the County's mitigation measures, for the vernal pools. Each of the cases cited above supply support for County's position regarding the adequacy of the information, and the formulation and timing of the array of mitigations that may be required for protection the special species. The risks to the species, including possible take and take by relocation, are clearly disclosed in the FEIR. The fact that the final formulation of mitigations must await federal permit conditions is not a deferral, where as here the project specifies adequate performance standards such as habitat buffers for habitat avoidance, 3:1 replacement, 200 foot buffers for unoccupied habitat, a minimum 300 foot buffer for occupied habitat, and numerous construction standards for or drainage, ane preservation of habitat. The Court will conclude that Guideline 15126.4(a)(1)(B) has been satisfied by the FEIR's described performance measures.

Substantial evidence supports the County's decision to find necessary mitigation measures have been formulated, with adequate performance standards. It is also clear that the County has recognized those mitigations may become even more onerous once the resource agencies permitting conditions are known. The Court finds that the court of appeal decisions cited above support the court's conclusion that CEQA's informational requirements have be satisfied by the FEIR.

GRASSLAND RESTORATION FINDINGS

The County determined the 39.6 acre disturbance to California Grassland habitat associated with the project was "Class III, less than significant." (2 AR 589) The FEIR reports and inventory of habitat types and the areas impacted by the development. It requires the County to contract with a biologist to formulate a plan with the following benchmarks; 2 to 1 ratio of restoration area to impacted area; at least 10% cover by purple beetle grass, deer grass or California oak grass; open areas within Blue Oak woodlands and Coast Live Oak woodlands; the restoration area to have species composition and relative cover as those of the areas lost. (*Ibid.*)

The County also required a monitoring plan to assure maintenance of the restored areas with 10% cover by the species mentioned above, and assured reseeding of disturbed areas with native plants, mowing, and protection from invasive non-native plant species. (AR 19-20; 2 AR 593-596) The EIR also acknowledges that the San Luis Obispo mariposa lily and the San Luis Obispo County morning glory are present on the property. The restoration and monitoring plan for these species would require the County to employ a biologist to oversee a plant of collection and restoration for these special species. The mitigation measures include a worker training program that would include identification of the species, its habitat and methods of reducing construction impacts. Benchmarks for the plan call for collection of lily bulbs and seeds from both species located within 25 feet of the proposed lots and roads to be conducted at the appropriate season prior to clearing and grading activities. This work is to be overseen by the biologist, who will also be responsible for preparing a description of propagation techniques to be used on the collected material. The EIR directs the biologist to develop an adaptive management program to address both foreseen and unforeseen circumstances relating to the preservation and mitigation programs. The mitigation ratio will be 2 to 1 for special status plant species habitat impacted by the development. The FEIR permits the morning glory mitigation to occur within the area designated for needle grass land mitigation. The monitoring period for

these species is five years with annual monitoring reports made by the County and verified by a County approved botanist.

The EIR characterizes impact on these special status plant species as "Class II significant but mitigatible." The foregoing mitigations are required to occur before

issuance of grading permits. Petitioner complains that the restoration plan's lack adequate performance standards and measurable objectives. Petitioners stress that mitigation should be permitted only where performance standards are included in the EIR itself.

The Court is mindful that the requirement is for restoration plan. It seems foreseeable that meaningful details may not be available until civil engineers and contractors can predict the timing and deployment of needed grading equipment, and CDF&G determines permit conditions. The central question, here again, is whether the EIR has sufficient benchmarks to assure successful regeneration of damaged areas and proper propagation within the mitigation areas. The Court finds that these elements are present, as required by Guideline15126.4(a)(1)(B).

The trial court's role in CEQA review of the adequacy of mitigation measures starts with the presumption that the public agency's decision to certify the EIR is correct, thereby imposing on the party challenging it with the burden establishing otherwise. (*Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 253, 530.) Furthermore, there is no presumption that error is prejudicial. (Public Resources Code §2105(b); *Gilroy Citizens v. Responsible Planning* (2006) 140 Cal.App.4th 911, 919; Evidence Code §664.) The Court finds that reasonable inferences from the information concerning disturbances to the grasslands and special status species, demonstrates a fair argument can be made to support the County's conclusions regarding the adequacy of these mitigation measures, even though other conclusions may also be reached. [Guidelines 15384(a)]

The Court finds substantial evidence supports the County's decision to approve

the grassland restoration and sensitive botanical species mitigation and the court finds the conditions of approval substantially mitigates all impacts to these species (1 AR 194-197).

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WETLANDS AND CREEKS

The EIR identified Trout Creek and Tostada Creek and other wetlands and waters of the United States or State of California, as waters affected by the project. The EIR determined that the impacts to these waters, and their associated animal life were Class II, significant but mitigable. California Coast steelhead, trout, and red legged frogs have all been identified in Trout Creek and Tostada Creeks. The VPFS and Tiger Salamander have not been found in the riparian wetlands, but there is agreement that these wetlands may be adequate to support the VPFS. There is disagreement as to whether this habitat supports the Tiger Salamander.

Mitigations included 100 to 300 ft. setbacks; wetland and riparian identification with demarcation of setbacks are to be included on grading plans, and construction fencing lay out to protect those identified areas. Straw wattles, slit fences and fiber mats must be installed at the limits of grading areas for reduction of sediment measures to minimize disturbance in natural drainage such as fiber mats and rolls, willow wattling, and natural anchors are to be used for bank retention, and hard bank structures are to be avoided. Disturbance to drainage bottoms is to be avoided to the greatest extent possible, and only permitted by regulatory agencies with a compensatory mitigation program at a ratio of 2:1 for the loss of any wetlands. Grease traps or silt basins, or both, must be installed in all drop inlets closest to creeks to prevent oil, silt and other debris from entering the creek. Those inlets are to be maintained and cleaned out every spring and fall to prevent overflow situations and potential mosquito habitats from forming. RPI is also required to obtain Clean Water Act §404 permits, a water quality certification from the RWQCB pursuant to Clean

Water Act §401, and a streambed alteration agreement from the California Fish & Game in accordance with section 1600, et. seq. of the California Fish & Game Code before any grading or fill activity within drainages and wetlands. (1 AR 21-22.)

The FEIR contains additional mitigations directed at protecting these species. (1 AR 26-27.) A special mitigation for the Southwest Pond Turtle was also included in the EIR; these animals are to be physically moved away from the areas where construction activity will occur shortly in advance of that activity. (1 AR 31.) The protected mitigation for the red legged frog is similar to that for the pond turtle, in that it calls for a preconstruction survey of all suitable habitats within 330 feet of worksites followed by relocation if authorized by USFWS.

As discussed above, the Administrative Record indicates that there was no special survey for the Tiger Salamander and the second year of the survey for VPFS was not completed. The FEIR does contain extensive mitigations of habitat for these species, and more onerous mitigations where the species may actually be found. The Court interprets the text of the FEIR to mean that in the event the special species are found in wetland area that are not part of the vernal pools the same mitigations and performance standards will apply to those areas, such as observing a minimum 300 foot setback from occupied habitats, avoidance, or compensatory mitigation of habitat at a 3:1 ratio, and shrimp cysts collection during the dry season from existing habitat, together with storage.

The Petitioner contends that the County simply eliminated mitigation for the fairy shrimp and red legged frog altogether. Petitioner supports this allegation by reference to the County's response to the USFWS's comments, which stated that "changes have been incorporated into the FEIR." Petitioner says this response was "evasive and nonsensical." RPI explains that they do not know if additional set-backs will be from the creeks or vernal pool or a stock pond because they do not know where these species may be located. Once they know the species are present, that is where the measurement of the added buffer would start. (Petitioner's trial brief at 16:4-10; and

1AR125-126.) The Court understood this response to be in reference to the lengthening of setback requirements in the RDEIR (see Impact B4(c) at 1 AR 22-23.) Petitioner characterizes these mitigations as being improperly deferred. As discussed above, there is no deferral where the applicant is required to clearly identify wetlands and creeks, building envelopes, and call out construction detail in accordance with trustee agency requirements.

The Court notes that in several critical instances, the FEIR defers to agencies of the United States permitting requirements and construction guidelines (such as for creek crossings). These mitigation measures are of the type described in *Sacramento Old City Assn. v. City Council* (1991) 229 Cal.App.3d 1011, 1029. An EIR may properly conclude that compliance with regulatory agency requirements will have the effect of reducing environmental impact. (*Tracy First v. City of Tracy* (2009) 177 Cal.App.4th 912, 935.) Performance standards dictated by USFWS, and RWQCB, should not be characterized as deferred mitigations. *(Clover Valley v. City of Rocklin,* supra, 237), where as here there are clear performance standards. The FEIR's required coordination with NOAA National Marine Fishery Service and ACOE regarding steelhead trout mitigation is not deferral. The fact that these consultations may result in an NMFS biological opinion and a habitat conservation plan for steelhead is not deferral. The FEIR requires RPI to implement all measures prescribed by these agencies. (1 AR 26-27; 126; 130-131; 170-171; 175-176.)

The Court makes the following findings with respect to wetlands and creeks:

(1) The FEIR specifies performance standards and calls out specific avoidance measures, including setbacks, building envelopes, movement of animal species, and identifies specific required permits to be issued from other agencies (1 AR 202-216);

(2) The FEIR describes the nature of options to be considered to meet those performance standards, such as where avoidance is not possible compensatory mitigation ratios are specifically called out in the FEIR; (*Ibid.*) and

(3) The FEIR commits to mitigation by recognizing the permitting authority of other State and Federal agencies and concluding that construction permits will not be issued without RPI's commitment to those other agencies' performance criteria. (CEQA Guidelines, Sec. 15126.4, subd. (a)(1)(B); *Sacramento O City Assn. v. City Council*, *supra*, at 1029.)

The Court concludes that there is substantial evidence to support the County's approval of the mitigation measures required for wetlands and creeks, and that those measures are clear enough to be implemented lengthened set-backs once we learn the location of any species for which studies remain incomplete. At this point there is no substantial evidence that either the VPFS or Tiger Salamander live on the project site. Substantial evidence supports the County's position that the mitigaton measures, and conditions contained in the FEIR will adequately protect the habitat, and the County and RPI are required to comply with any federal or state permit conditions before construction. FEIR's formulation of mitigation measures is in full compliance with Guideline 15126.4(a)(1)(B).

MITIGATION FOR OAK TREES AND OAK WOODLAND

The Board determined that the Amended Project would result in removal or impact to 250 to 350 blue oak, coast live oak, valley oak, as well as conversion of native oak woodland. These serious impacts were determined to be Class I, significant and unavoidable and were determined by the Board to be overridden by social, economic and other considerations in accordance with Guideline sections 15093 and15092. (See Impact B-3, Overide findings; 1 AR 57-60 and 67-70.) In particular, the project will convert 60.1 acres of native oak woodland habitat (2 AR 596). Some of the area to be converted contains valley oak, which has been named a sensitive natural community by DFG.

The importance of oak woodlands has claimed the attention of the legislature in what the parties refer to as the "Kuelhl Bill" which enacted Public Resources Code §21083.4. This legislation requires four possible mechanisms for mitigating conversion of oak woodlands: (1) Conserve the woodlands through conservation easements; (2)

Plant an appropriate number of replacement trees; (3) Contribute funds to the oak woodland conservation fund, or (4) Other mitigation measures developed by the approving agency. Petitioner stresses that option (2), replacement planting, can only be used to mitigate for half of the mitigation requirements of the project. (Public Resources Code §21083.4(b)(2)(C).) (2 AR 597.) The County elected to use option

(2) for half of the 200 to 400 oak trees removed or impacted. (2 AR 603.) For the remaining trees, the County required a minimum of 2,000 square feet of conservation easement for each tree removed. RPI responds that it used all four of the methods contained in the Kuelhl Bill. RPI's plan is extensive and detailed. (18 AR 9707-9778.) The amended project will utilize open space and agricultural conservation easements to preserve the over 3,620 acres of oak woodlands on five separate parcels with permanent open space or agricultural conservation easements. If the plan is approved, it would preserve over 1,400 acres of oak woodlands (1 AR 69.) The Kuelhl Bill calls for planting "an appropriate number of trees" with a minimum of seven years of maintenance and Petitioner's plan calls for a 4 to 1 ratio of oak trees planted to those removed and a minimum replacement ratio of 2 to 1 for oak trees impacted.

The County has adopted project specific standard mitigations for tree removal, tree trimming, and other impacts that may affect oak trees. The County has utilized Public Resources Code §21083.4(b)(4) to provide additional mitigation measures. (1 AR 59-60, 128, 129, 173, 174, 200, and 202.) . The override decision "ever at the core of the legal agency's discretionary responsibility." (*SeeCalifornia Native Plant Society v. City of Santa Cruz*, supra, at 983) Override findings are sufficient if they "demonstrate the balance struck" by an agency in "weighing the benefits of the proposed project against its unavoidable adverse impacts." (*Ibid*) Courts generally defer to the policy judgments in the agency's statement of overriding considerations. (Public Resources Code section 210816); Guidelines section 15093(a).) The balancing test required for overriding findings involves a high degree of discretion and that

discretion rests with the agency not the court (*City of Marina v. Board of Trustees of Cal. State University,* supra, 39 Cal.4th at 368.)

The DEIR, the REIR, and the FEIR fully disclosed the projects effects on the oak woodlands, and on oak trees that will be removed or altered by the project. There is a fair argument that the FEIR has established by substantial evidence that its required mitigation measures, and the conditions for their implementation will substantially lessen the adverse effects of the project on the oak woodlands, and oak trees. There is substantial evidence to support the Board's conclusion that the imposed mitigation measures satisfy the Kuelhl Bill standards. The Court finds a fair argument exists favoring the Board's balancing of the overriding benefits for employment, housing, economics factors such as public agency revenue considerations, outweigh the serious impacts to oak trees and oak woodlands. (1 AR 199-203)

OFF SITE AIR QUALITY MITIGATION FEE

The FEIR found the project's construction activities could be mitigated to insignificance (1 AR 539.), but concluded that operational contributions to ozone precursors would cause a net increase of pollutants for which the region was in non-attainment status. (1 AR 539.) Additionally the FEIR determined that the project would bring Santa Margarita population over the APCD's planning estimate by 2015. This, coupled with the ARCS estimated 10 mile distance from commercial areas, meant the project would violate APCD policies such as prevention of urban sprawl, reduced dependency on automobiles. These factors lead to the conclusion by APCD that the ARCS would violate the Clean Air Plan. The APCD concluded that an off-site mitigation fee in excess of $9.4 million plus a 15% administration fee was necessary, and recommend a fee in that amount as a mitigation measure, and condition for the development. (8 AR 4469.) Although earlier APCD comments anticipated the need for off site mitigation, the Court was not able to find any indication that the actual calculation was ever provided before December 18, 2008 (nearing the time of final

project approval). (Compare 4 AR 2007 with 16 AR 8755) RPI complained at December 19, 2008 hearing that they had just been informed of a newer higher figure 9.5 million dollars off-site mitigation fee, and advised the Board that this would make the project infeasible. (16 AR 8755)

The Board imposed numerous on-site mitigation measures and conditions (1 AR 231,234-240) but concluded that there would still be Class I, significant, but

unavoidable impacts; it then utilized a 1990 Resolution which had been adopted for a then rapidly growing area along the County's southern border to resolve the off-site air mitigation fee issue. With this much less onerous mitigation fee as a replacement for the $9 million fee, the Board then balanced the social, economic, and other benefits of the project, and approved the FEIR as modified, and approved the project despite the predictions of added air pollution.

The Court will take judicial notice pursuant to Petitioners' December 13, 2012 request of the APCD's April 2003 "Air Quality Handbook" as the document applicable to this 2004 project. In argument the parties confirmed that all members of the Board, also sat on the governing body of the APCD, and were familiar with these rules. The Court will take judicial notice of the 2008 "Carl Moyer Program Guidelines" dated April 22, 2008, because that was the source of the only constant in the APCD's calculation, and was specifically referenced as supportive of its comments. The Court rejects the Petitioners other December 13, 2012 requests for judicial notice. Pursuant to RPI's request the Court will take judicial notice of the 1990 Board resolution adopting the South County Air Mitigation Fee (also referred to as the Nipomo Air Mitigation Fee or the off-site air mitigation fee), because the Board used that resolution as a basis for its calculation of the off-site air mitigation fee for the ARCS.

The Air Pollution Control District calculated the operational emissions (i.e. those associated with residential use) in Table 4.2-5 (1 AR 529). The APCD determined that the tier two thresholds for reactive organic gases "ROG", oxides of nitrogen "NOx", and particulate matter "PM10" would create a potentially significant

performance standard. *Endangered Habitat League v. County of Orange* (2005) 131 Cal.App.4th 777, 793-794) The record does not does not allow the Court to determine whether the off-site mitigation fees as capped by the Board, are "unavoidable." (Guideline § 15093(a)) The basis on which this 1990 South County Air Mitigation Fee was applied to this project is not present in the record. The Court finds that the Board abused its discretion by applying this fee without substantial evidence to support its decision.

WATER SUPPLY AND GROUND WATER MONITORING

The Board concluded that water and waste water impacts were Class I, significant and unavoidable, and determined the projects benefits outweighed the environmental consequences. In their reply brief (page 14) as well as during argument, Petitioners conceded that Nacimiento water is available to the project. However, Petitioners continue to advocate the need to monitor the ground water basin for "possible drawdown" for "possible" interconnection between ground water and surface flows and creeks. The FEIR concluded that the net consumptive use of the proposed project was 96 acre feet per year and further concluded that this usage may contribute to overdraft of the aquifer system." The DEIR went on to conclude that, "the ground water resources beneath Santa Margarita Ranch may not be sufficient to support the existing land uses and the proposed ARCS and the future development program." Luhdorff and Scalmanini submitted a study in response to DEIR that reached contradictory conclusions to those contained in DEIR. Luhdorff and Scalmanini studied wells along the Tostada Creek watershed Santa Margarita watershed, the Trout Creek watershed and Reconda Creek watershed. Based upon this study, Luhdorff and Scalmanini concluded that the draft FEIR's conclusion that the "average annual yield of the ground water basin beneath the ranch" was between 400 and 600 acre feet per year. (5 AR 2257) The figures contained in the DEIR were drawn from Hopkins estimated demand for irrigation of the existing vineyard on the ranch to be 1558 acre feet per

year. Luhdorff and Scalmanini concluded that this is approximately three times the actual irrigation demand as determined by ranch pumpage and irrigation data. (5 AR 2258)

Luhdorff and Scalmanini concluded that the operational records of the water requirements for irrigation, frost protection and related operations, comes to .67 acre feet per acre. (5 AR 2259; 20 AR 10100-10194) Hopkins own study noted that ground water levels in fact be stabilizing at a range between 25 and 50 feet below historic levels. (5 AR 2261) It is notable that Hopkins admitted that the study used in the draft DEIR could not create an accurate water analysis because of a "lack of pertinent data." (5 AR 2263) It is clear that Luhdorff and Scalmanini had access to that data. (5 AR 2303-2309) Luhdorff and Scalmanini concluded that current and projected demands of the Santa Margarita Ranch and other water uses in the area, including CSEA 23, Garden Farms, private wells and current ranch usage of 580 acre feet per year has not resulted in any over draft. That firm also estimated that consumptive use on return flows of 40% of residential uses and 9% for agricultural uses leaves the current consumptive use at 721 acre feet for all uses. (5 AR 2299) Luhdorff and Scalmanini projected that future demand in all four watersheds that encompass the Santa Margarita area at 221 acre feet with a projected consumptive use of estimated 1374 acre feet for all uses (*Ibid*). The perennial yield of the aquifers underlying the ranch was estimated to be 1300 acre feet (*Ibid*). Luhdorff and Scalmanini concluded that the hydrological study on which the DEIR was based had reached an unsupported conclusion that there was a "significant and unavoidable (class I)" impact related to water supply for the ranch and its level of development. Scalmanini, did however, recommend a ground water monitoring program "if adverse conditions do develop." (5 AR 2300)

The Board adopted numerous mitigation measures and made overriding findings. Petitioners have focused upon the lack of a monitoring requirement. The Board addressed this issue by limiting build-out to 40 lots, with a study of the situation at that time. Petitioners did not adequately address how this combination of 200 acre

feet of Nacimiento water, coupled with a pause and possible cessation in development, with further study to determine the effectiveness of the recharge system does not constitute a feasible approach to the water supply issue. (*Native Plant Society v. City of Santa Cruz, supra,* 177 Cal.App.4th at 983.)

This Court finds the adopted mitigation and conditions were supported by substantial evidence in the record, and sufficient for the purpose of supporting the Board's statement of overriding considerations. (1 AR 244-245)

DELETED OR WEAKENED MITIGATION MEASURES

In their opening brief at pages 17 through 27 Petitioners contend that the County violated its duty to make specific findings for any mitigation measures that were deleted or weakened for the following Class I or Class II impacts: grazing buffers; special concerns species buffers (American Badgers), the use of homeowners organizations for enforcement, the designation of SMR as a historic district, and the importation of 22 foot building height requirements to prevent visual impacts. Guideline section 15091 requires the public agency to make findings supporting its decision to approve a project on the basis that impacts have been avoided or substantially lessened (subdivision(a)(1)), or make overriding findings concerning the social, economic, legal, or "other considerations" (subdivision (a)(3)).

The buffers for agricultural operations as shown in the amended project plans were required to be delineated as a condition before construction permits would issue. (1 AR 79-80,193, 242; 20 AR sheets 1-8.) "Delineation" appears to require a field assessment based upon the conditions imposed by the resource agencies, and the practical aspects finding ground adequate to support fencing through this variegated landscape. Importantly, the lot purchaser will be informed of the particular restrictions on their lots (see "Lot Matrix" 8 AR 4354-4357; and as revised 20 AR 10196-10208), which are made enforceable by their neighbors through CC&Rs, and enforceable by the

County as a part of the conditional use permit, and enforceable by the Rangeland Trust. (16 AR 8896-8897; 21 AR 10345.)

Concerning the badger buffer, the mitigations were not weakened or eliminated; Petitioners do not correctly site the conditions of approval (1 AR 133, 178, 206). Similarly, the visual impacts included height limits as low as 17 feet for buildings within public view areas. (8 AR 4354-4357; 1 AR 242; and as revised 29 AR 10196-10208) These measures were implemented in the conditions of approval. (1 AR 49, 50-51, 86, 109, 155, 194, 229) Although a homeowners association was not required a road maintenance agreement and CCRs were used instead, with 45 pages of specific conditions enforceable by the lot owners, and the County. (1 AR 49, 136-184: 1 AR 193-246, and condition 131 at 1 AR 245)

Petitioners say the RPI and the County "effectively gutted the buffer requirement for creeks". (Pet. Opening Brief at 21.) The Board recognized the needs of future agricultural operations, installing utility lines, and stream crossings would be needed to construct home sites. RPI points out that the project would not be possible without such incursions into the protected areas. (1 AR 21, 21-29, 125, 130-131, 170,176, 197,203-204.) The set backs for Trout and Tostada Creek are 200 feet. Petitioner says aquatic habitat requires clearer definition because that is the starting point for the 200 foot measurement for Tostada Creek. As Petitioner points out the aquatic habitat will change with the seasons. It seems the Board recognized that the developer will be permitted to conduct more activity in the summer and fall during dry conditions.

Transportation improvements were also considered by Petitioner to fall into this category of weakened or eliminated mitigation measures. Their opening brief describes the problem as an "exacerbation of existing design deficiencies." The final FEIR did eliminate turn lanes, site distance changes, and other mechanism to prevent cueing. (2 AR 853-55; 1 AR 63-64, 9 AR 4781) The Board did adopt transportation and circulation mitigations, which reduced most of the impacts to a level of insignificance. (1 AR 48-49, 1 AR 86-87, 87-88, 88-89) The FEIR did note that while the adopted

mitigation measures could substantially lessen the significant environmental effects identified as transportation issues, those remaining impacts were found to be acceptable by reason or overriding considerations. The Board acknowledged that amended project would add 1154 average daily trips to the local road network. The Board also found that this added traffic volume would not result in exceedances of roadway or intersection level of service standards, with the exception of US 101 / SR58 interchange and northbound off-ramp. The Board acknowledged that the amended project would add traffic with "existing hazards and deficiencies." (1 AR 63) Concerning the US 101 Northbound and Southbound off-ramps to SR58, the Board concluded that further mitigations could not be supported by a rational nexus or rough proportionality between the impacts attributable to the project because the off-ramp deficiency was a "pre-existing condition" . . . beyond the control of applicant and . . . not feasible because it cannot be accomplished within a reasonable time period if at all." Finally, the Board found that the entire 101/Highway 58 improvement would be ultimately decided by Caltrans, thereby rendering imposition of the condition infeasible. (FEIR ES-33, 1 AR 291)

The Associated Transportation Engineers comment letters testimony and analysis support the Board's findings. (5 AR 2229-2241; 6 AR 2969-2979; 16 AR 8775 9039; 21 PAR 10284, 10285, 10390) In their report, Associated Transportation Engineers conclude that the project does not create capacity deficiencies for the road network in the Santa Margarita area. (21 RPR 10284) The report identifies the existing deficiencies at 101/58 off-ramps in 90 degree curve at Estrada Avenue (Highway 58), and the existing critical curve at Calf Canyon SR58. The report concludes that the project would leave the level of service forecast at Level of Service "C" (LOSC) or better. (4 AR 2092-93; 5 AR 2230-38; 6 AR 2970) These points were repeated discussed with the Board at the November 18, 2008 and December 19, 2008 hearings when Mr. Schell spoke. (16 AR 8575, and 9038)

The Court finds that the Board's adopted transportation mitigation measures substantially lessen the environmental affects identified in the FEIR. As to those

impacts found to be acceptable due to overriding considerations, there is substantial evidence supporting the Board's balancing decision. Pursuant to Guideline 15091(a)(3), the Court finds substantial evidence supports the conclusion that further mitigations would be infeasible pursuant to Guideline 15091(a)(2) because they would require RPI to solve the existing deficiencies of roadways controlled by the state. The associated uncertainties of dealing with state transportation spending, and construction priorities were also cited as objects which would render the project infeasible. (21 RPAR 10285; 1 AR 63, 291)

GENERAL PLAN

Petitioners claim that the amended project is not consistent with the County's general plan, land use ordinance, the Salinas River area plan, the state planning and zoning law and the subdivision map act. (Opening Brief at 27-35) When considering challenges under the planning and zoning law, the County's findings are entitled to "great difference" in recognition "that the body which adopted the general plan policies in its legislative capacity has unique competence to interpret those policies when applying them in its adjudicatory capacity." (*Friends of Lagoon Valley v. City of Vacaville* (2007) 154 Cal.App.4th 807-816; *Eureka Citizens for Responsible Government v. City of Eureka* (2007) 147 Cal.App.4th 357, 353) The Courts are in no position to micromanage these development decisions. Only a showing of abuse of discretion may overcome the "strong presumption of irregularity" in the County's consistency findings (*Friends of Lagoon Valley v. City of Vacaville, supra*, 154 Cal.App.4th at 816; *Napa Citizens for Honest Government v. Napa County Board of Supervisors, supra*, 91 Cal.App.4th at 357)

It is not an abuse of discretion for the governing body to approve a project that "does not conform precisely" with the land use designation for the site. As noted in *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal. App. 4th 704, 717-18:

> "In the first place, state law does not require an exact match between a proposed subdivision and the applicable general plan [citations]. Rather, to be "consistent

the subdivision map must be "compatible with the objectives, policies, general land uses specified in" the general plan." (Govt. Code section 66473.5) As interpreted, this provision means the subdivision map must be 'in agreement or in harmony with' the applicable plan. [citations]

//

The County made specific findings stating that the project is a housing development which complies with "applicable objective general plan and zoning standards and criteria," in effect at the time the application was determined to be complete. The County further determined that denial of the project or a reduction in density can only be based upon written findings supported by substantial evidence of both of the following: (1) the project would have a specific, adverse impact upon the public health or safety, which is defined as a "significant quantifiable, direct and unavoidable impact based upon objective, identified written public health or safety standards, policies, or conditions as they existed on the date the application was deemed complete;" and (2) that there is no feasible method to satisfactorily mitigate or avoid the adverse impact other than disapproval or approval or a reduced density. These findings are consistent with the state law favoring the creation of new housing. (Government Code section 65589.5(j); Public Resources Code section 21159.26, and Guideline section 15092(c); *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal. App. 4th at715) The County determined that the legal and factual findings necessary for denial of the amended project could not be supported by substantial evidence in the record. (1 AR 76)

The Court will take judicial notice of the documents labeled "A" through "E" attached to RPI's Request for Judicial Notice filed March 18, 2013 pursuant to Evidence Code section 452(b) and (c).

Petitioners contend that the amended project is inconsistent with the County's land use ordinance because it creates new lots rather than relocating and configuring

lots. (Opening Brief at 28-30) This issue was first addressed in 2004 when the Santa Margarita area residents together ("SMART") appealed the County's decision to accept Tract 2586 for processing. At that time SMART asserted that an agricultural clustered subdivision could not be found consistent with the area plan standard applicable to SMR. County staff responded on July 2, 2004. (12 AR 6441) As a part of the litigated settlement agreement reached with SMART, the court had retained jurisdiction over the County, RPI and SMART to resolve disputes. (22 AR 1072 – 10793) In accordance

with the settlement agreement the project opponents and the County were informed by SMR's counsel that SMR would be seeking subdivision approval consistent with the terms of settlement agreement, and the General Plan amendment that resulted from the settlement. (County Ordinance Code 22140.040; 22 AR 10898 – 10906)

As a result of the settlement of earlier disputes between SMR, the County, and community the County adopted the following ordinance language pertaining to land use development on SMR. County Ordinance section 22.104.040 provides:

> "The following standards apply to the Salinas River Planning Area outside of the Urban and Village Reserve Lines, In-land Use Categories and/or specific areas listed.
>
> **(A) Agriculture (AG-Santa Margarita Ranch.** The following standards apply only to the area shown in figure 104-24 [the entire SMR] within the Agricultural Land use Category.
>
> (1) Subdivision requirement. All new land divisions that are proposed prior to approval of the Specific Plan required by subsection A.2 shall cluster the allowed residential density of the Santa Margarita Ranch property ownership shown in figure 104-24 in compliance with agricultural land clustering standards of section 22.22.150. This agricultural clustering division shall reconfigure and/or relocate existing parcels with minimal or no visual impact on Santa Margarita, Garden Farms,

and Highway 101.(22 AR10761)

Other provisions of this ordinance require RPI to develop a Specific Plan before any subdivision of land other than an agricultural clustered subdivision. The first interpretative question faced by the Board was whether an agricultural clustered subdivision could occur prior to the enactment of a specific plan for the ranch. (1 AR 75-76, 21 AR 1020-10222) The Board expressly found that the vesting tentative map

was accepted as complete on June 7, 2004, and was consistent with the plans and policies of the County in effect on that date. This finding coincides with the Planning Department's interpretative letter dated August 17, 2004. (12 AR 6442-6443) That letter found the project was consistent with section 22.104.040 because the project is a "new land division prior to approval of a Specific Plan and is in compliance with the agricultural lands clustering standard of section 22.22 of the LUO." (1 AR 75 B) The Board agreed with the Planning Department's August 17, 2004 interpretation, and confirmed:

> "...that the proposed project is not subject to the provision of the second sentence of that standard, which is intended to apply only to a lot line adjustment which would not create any new lots, and that any other interpretation would render the first sentence of said standard meaningless, which provides: 'All new land divisions that are proposed prior to approval of a specific plan required by standard 2 [of 22.140.040, above] shall cluster allowed density of the Santa Margarita Ranch property ownership shown in figure 7.24 (now referred to as figure 104-24) in accordance with agricultural lands clustering standards of the land use ordinance chapter 22.22.150.' (1 AR 75)

Furthermore, the Board found that the interpretation contained in the August 17, 2004, letter had been provided to SMART and was not appealed to the Planning

Commission as provided in the LUO section 22.02.030 (1 AR76; 12 AR 6442-43; 18 AR 9701-9702)

Petitioners argue that the second sentence of Section 22.140.040 subdivision (A)(1) was intended to limit the number of parcels for an agricultural cluster subdivision to the existing parcels on the property. If that were true, what is the Court to make of the specific reference in the first sentence to the densities contained in chapter 22.22? Furthermore, it must be remembered that the language of this ordinance grew out of a settlement agreement connected to the 1996 Salinas River area plan

standards and at that time there was no limitation on the number of lots that could be reconfigured by a lot line adjustment, because the four lot limit was not enacted until 2001. (Stats. 2001 Ch. 873 (S.B. 497, section 2)). A reasonable reading of the entire language of subsection 1 of ordinance 22.140.040 could certainly lead to the conclusion that if development was proposed before adoption of a specific plan, it would have to be an agricultural clustered subdivision even it was a lot line adjustment, but in any case, the second sentence was intended to restrict visibility of the subdivision from Highways 101, and the communities of Santa Margarita, and Garden Farms. The Board's findings on this point are at 1 AR 75-76.

The Board of Supervisors interpretation of section 22.140.040 is a reasonable one, and may not be characterized as an abuse of their discretion. "We may neither substitute our view for that of the [governing body], or reweigh conflicting evidence presented to that body." (*Sequoyah Hills Homeowners Assn. v. City of Oakland* supra, 23 Cal.App.4th at 717) Simply put the court's review is highly differential to the local agency, "recognizing that the 'body which adopted the general plan policies in its legislative capacity has unique competence to interpret those policies when applying them in its adjudicatory capacity.'" (*Friends of Lagoon Valley v. City of Vacaville, supra* 54 Cal.App.4th at 816)

Petitioners also attack the Board's interpretation of the density provisions of the

General Plan because the open space element's policy 22(b) requires that density of a development in an agricultural cluster subdivision be no greater than 2 units per 40 acre.

What this argument neglects to note is that in 2008 there were 14 distinct area plans with official maps for each plan. The land use ordinance and land use element were used conjunctively when determining a project's consistency with the General Plan. The land use element establishes the location of land use categories, while the land use ordinance outlines which uses are appropriate in which land use categories and how the allowed land uses may be implemented. If a use or project is allowed in the land use category and meets the area specific development criteria in the land use ordinance it is consistent with the General Plan. (See Findings 1 AR 75-84; and supporting presentation 21 AR 10296-10394; 22 AR 10738) Framework for Planning notes that area plans refine the general policies contained in the framework into separate land use issues and policies for each community. The area plans describe where the land use categories are applied and indicate policies and development criteria for each community.(22 AR 10634-10636) Where the land use ordinance and area plan standards differ the framework specifically states that the "area plan standards of Article 9 (Community Planning Standards) take precedence over other standards in the Land Use Ordinance where standards differ." (22 AR 10738)

RPI made a clearly effective written presentation explaining how the "In land Area Framework for Planning" (22 AR 10622-10766) worked in conjunction with the Inand Chapter of the Land Use Ordinance to apply to the ARCS. (21 AR10307-10390). The written presentation was then supported it with testimony and discussion by Mr. Ferber, Mr. Kirk and Mr. Walter. (16 AR 8980-8903.)

For the rural lands category the first test for minimum parcel size is the "remoteness test." (County Ordinance Code section 22.22.150). The Board determined that the ARCS was "consistent with Planning Area Standard because it is located" in close proximity to the town of Santa Margarita. The record also reflects that the ARCS

is within five miles of the Atascadero Urban Reserve Line.. (County Ordinance Code section 22.22.150(A)(1)(a); 1 AR 76; see also 21AR 1033.) The Board also determined that the project was consistent with the Salinas Area Plan's requirement of "encouraging agriculture as an economic entity" and for "its secondary benefit of maintenance of rural character". (1AR76, 79-80, 81; 21 AR 10335.)

Petitioners argue that for agricultural parcels without irrigation the minimum parcel size is 320 acres. Once again, however, the Petitioners neglected to account for the fact that the specific ordinances governing agricultural clustered projects within the Salinas Area Plan have a different standard.

Petitioners also contend that no structural development is permitted on Class I or Class II soils. In response, RPI cites USDA-NRCS capability classifications show that the areas of possible prime agricultural soils do not qualify because none of areas are irrigated. (1 AR 52; 21 AR 10337) RPI also argues that the areas that might be considered prime soils without irrigation are small non-contiguous units primarily covered with oak trees which could not sustain viable agriculture without clearing adjacent oak trees. (21 AR 10354)

Petitioners' Opening Brief (p. 32) says that project is inconsistent with the General Plan because County Code section 22.22.150(B) because it has not been:

> "designed to: (1) locate proposed development to avoid and buffer prime agricultural lands on the site, other agricultural production areas on the site, as well as agricultural operations on adjoining properties" . .

The Board concluded that 22 acres of prime soil might be affected, but then went on to make overriding findings. The Board found the project was consistent with section 22.22.150(B) and (G)(2)(a) because the ARCS has located the residential development to avoid and buffer prime soils. (1AR 52, 80; 21AR10337-10338)

The fact that a governing body's decision may not precisely conform to the land use designations in its general plan, does not mean that the subdivision map incapable or inconsistent with the general plan. (*Sequoyah Hills Homeowners Assn. v. City of*

Oakland, supra, 23 Cal. App. 4th at 717-718). There is a "strong presumption of regularity" favoring the governing body's decision. (*Friends of Lagoon Valley v. City of Vacaville, supra*, 154 Cal.App.4th at 816; *Napa Citizens for Honest Government v. Napa County Board of Supervisors, supra*, 91 Cal.App.4th at 357) "A court will uphold the agency action unless the action is arbitrary, capricious, or lacking in evidentiary support."(*California Manufacturers Assn. v. Industrial Welfare Com.* (1980) 109 Cal. App. 3d 95, 106.) To reverse the Board's conclusions regarding consistency with the General Plan the court must be convinced by a preponderance of evidence that the

Board "abused its discretion". (*Youngblood v, Board of Supervisors* (1978) 22 Cal.3d 644, 651; *Friends of Lagoon Valley v. City of Vacaville* (2007) 154 Cal.App.4th 807-816; *Eureka Citizens for Responsible Government v. City of Eureka* (2007) 147 Cal.App.4th 357, 353)

To decide if the Board abused it discretion the court must determine: (1) whether the Board's approval of this subdivision violated state or federal law; (2) whether the Board's findings and decision are supported by substantial evidence; (3) was there a failure to make findings. (*Sequoyah Hills Homeowners Assn. v. City of Oakland*, supra 23 Cal. App. 4th at 717

The Court concludes that the Board's interpretation of its planning rules and policies, and application of those rules and policies to this subdivision do not violate state or federal law. The court also finds substantial evidence supports the Board's interpretation and application of is land use planning policies to this subdivision. There was no failure to make necessary findings.

LIMITED REMAND

Public Resources Code section 21168.9 provides that when the court decides that an agency has failed to comply with CEQA the court must enter an order of peremptory writ of mandate that voids the erroneous decision in whole or in part.(subdivision (a)(1)) and the court must suspend specific project activities that may prejudice the determination, or interfere with compliance with CEQA. The court may

not however direct the agency to exercise its discretion in any particular way, and may only include mandates necessary to achieve compliance with CEQA. (Section 21168.9 (b) and (c)) Additionally the courts order must be limited to the determination, finding or decision or specific program activities that do not comply with CEQA in those cases where the court can find (1) the activities necessary are severable; (2) severance will not prejudice full compliance with CEQA; (3) the trial court has not found the remainder of the project to be in non-compliance with CEQA. (21168.9(b); *San Bernardino Valley Audubon Society v. Metropolitan Water District* (2001) 89 Cal. App. 4th 1097, 1104) The Court has concluded that this case is suitable for a limited remand pursuant to Public Resources Code section 21168.9.

Here the court has determined that County did not comply with CEQA when it adopted the off-site air mitigation fee for the ozone precursors related to the housing project. It may be possible for the County to build an appropriate record, recirculate on that issue, adopt an appropriate fee and then issue construction permits, before completion of the vernal pool study or resource agency studies and resource agency approvals. The Court is concerned that any construction activity at the site will prejudice the outcome of required studies and interfere with the resource agencies permitting activities in violation of section 21168.99(b). The Court will therefore mandate that no developmental activities of any type may occur before Resource agency permits are finalized.

In support of this decision the Court makes the following findings:

1) The off-site air mitigation fee is discreet from other aspects of the project;

2) The tasks necessary to determine by investigation and analysis a reasonable off site mitigation fee, and provide substantial support for it in the record is distinct and separate from other project activities;

3) The Court finds that the County did not abuse its discretion with respect to the other environmental quality act issues raised in this Petition and the court

finds substantial evidence exists in the record to support the Board of Supervisors determinations on those issues.

PROPOSED JUDGMENT AND ORDER ON WRIT OF MANDAMUS

NOW THEREFORE, the San Luis Obispo County shall not permit recordation of any tract map for the ARCS, nor shall it issue any grading or construction permits of any type until the following investigation and analytical activities are properly completed in accordance with the California Environmental Quality Act:

1) Conduct vernal pool studies and obtain all resource agency authorizations for all biological aspects of the project.
2) Develop a record based upon substantial evidence supporting establishment of an off-site air mitigation fee.
3) Recirculate said analysis of the off-site air mitigation fee, and hold hearings as required by law.
4) RPI is enjoined from recording any tract map for the ARCS, conducting any grading or construction activities on that portion SMR described in the record of this proceeding as the ARCS until the County and resource agencies have properly issued permits in conformance with this order.

Dated: May 3, 2013

JAC A. CRAWFORD
Judge of the Superior Court

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SUPERIOR COURT OF CALIFORNIA
COUNTY OF SAN LUIS OBISPO
Civil Division

Clerk's Certificate of Service

NORTH COUNTY WATCH VS. COUNTY OF SAN LUIS OBISPO	CV098031

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*
Attached Pleading:
Statement of Decision and Proposed Judgment and Order on Writ Mandamus

Under penalty of perjury, I hereby certify that I deposited in the United States mail, at Paso Robles, California, first class postage prepaid, in a sealed envelope, a copy of the foregoing addressed to each of the above.

OR

If counsel has a pickup box in the Courthouse that a copy was placed in said pickup box this date.

SUSAN MATHERLY, Court Executive Officer

by JANIS DUMOUCHELLE, Deputy Dated: MAY 08 2013

Administrative Record
Volume I
Chapter 4.2 – Air Quality
Pages 00523 to 00554

4.2 AIR QUALITY

Agricultural Residential Cluster Subdivision. There are several sources of air emissions associated with the proposed Agricultural Residential Cluster Subdivision. These include: long term emissions associated with vehicle traffic and electricity and natural gas usage; emissions associated with construction equipment; dust generated by grading required for the installation of infrastructure systems as well as individual lot development; and potential odor emissions associated with proposed private septic systems. Agricultural Residential Cluster Subdivision-related mobile and stationary source emissions have been determined to be Class II, significant and unavoidable impacts. Potential dust generation and odor impacts have been determined to be Class II, significant but mitigable. Odor nuisance impacts from private septic systems are Class III, less than significant. Since the Agricultural Residential Cluster Subdivision is potentially inconsistent with the CAP, this is a Class I, significant and unavoidable, impact.

Future Development Program. Because no active application exists for the Future Development Program subsequent to the Agricultural Residential Cluster Subdivision, the assessment of air quality impacts is based on a reasonable worst case scenario with regard to the future location and size of future land uses within anticipated development areas. Future Development Program air emissions sources would be similar to those associated with the Agricultural Residential Cluster Subdivision individually. ~~Future Development Program related mobile and stationary source emissions have been determined to be Class II, significant but mitigable impacts~~. Potential dust generation and odor impacts have been determined to be Class II, significant but mitigable. Since the Future Development Program is potentially inconsistent with the CAP, this is a Class I, significant and unavoidable, impact.

Cumulative air quality impacts would be significant and unavoidable. ***Global Climate Change related impacts are discussed in Section 4.2.3.***

4.2.1 Setting

The Santa Margarita Ranch is part of the South Central Coast Air Basin (SCCAB) which includes all of San Luis Obispo, Santa Barbara, and Ventura counties. The climate of San Luis Obispo County and all of the SCCAB is strongly influenced by its proximity to the Pacific Ocean and the location of the semi-permanent high pressure cell in the northeastern Pacific. With a Mediterranean-type climate, the Santa Margarita Ranch is characterized by warm, dry summers and cool winters with occasional rainy periods. Maximum summer temperatures in the County average about 70 degrees Fahrenheit near the coast, while inland valleys are often in the high 90's. Average minimum winter temperatures range from the low 30's along the coast to the low 20's inland.

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 patterns, topographical factors, and circulation patterns resulting from temperature differences between the land and the sea. The region is also subject to seasonal "Santa Ana" winds. These are typically hot, dry northerly winds which blow offshore at 15-20 mph, but can reach speeds over 60 mph. Two types of temperature inversions (warmer air on top of cooler air) are created in the area: subsidence and radiational. The subsidence inversion is a regional effect created by the Pacific high in which air is heated as it is compressed when it flows from the high pressure area to the low pressure areas

inland. This type of inversion generally forms at about 1,000 to 2,000 feet and can occur throughout the year, but it is most evident during the summer months. Surface inversions are formed by the more rapid cooling of air near the ground during the night, especially during winter. Both types of inversions limit the dispersal of air pollutants within the regional airshed, with the more stable the air (low wind speeds, uniform temperatures), the lower the amount of pollutant dispersion.

a. Air Pollution Regulation. Both the federal and state governments have established ambient air quality standards for the protection of public health. The U.S. Environmental Protection Agency (EPA) is the federal agency designated to administer air quality regulation, while the California Air Resources Board (CARB) is the state equivalent in the California Environmental Protection Agency. Local control in air quality management is provided by the CARB through regional-level Air Pollution Control Districts (APCDs). The CARB has established 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 CARB has established 14 air basins statewide.

The U.S. EPA has set primary and secondary ambient air quality standards for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM_{10}) and lead. In addition, the State of California has established health-based ambient air quality standards for these and other pollutants, which are more stringent than the federal standards. Table 4.2-1 shows the federal and state primary standards for the major pollutants. On July 18, 1997, the U.S. EPA announced changes to the National Ambient Air Quality Standards for ozone and particulate matter. The federal ozone standard was lowered to 0.08 parts per million (ppm) and the averaging period was changed from one-hour to an eight-hour running average. A new particulate matter standard for 2.5 micron particulates ($PM_{2.5}$) was created in addition to the standard for 10 micron particulates (PM_{10}).

Table 4.2-1 Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	—	0.09 PPM
	8-Hour	0.08 PPM	0.070 PPM
Carbon Monoxide	8-Hour	9.0 PPM	9.0 PPM
	1-Hour	35.0 PPM	20.0 PPM
Nitrogen Dioxide	Annual	0.053 PPM	**— 0.030 PPM**
	1-Hour	—	**~~0.25~~ 0.18 PPM**
Sulfur Dioxide	Annual	0.030 PPM	—
	24-Hour	0.14 PPM	0.04 PPM
	1-Hour	—	0.25 PPM
PM_{10}	Annual	~~50 µg/m³~~ —	20 µg/m³
	24-Hour	150 µg/m³	50 µg/m³
$PM_{2.5}$	Annual	15 ug/m³	12 ug/m³
	24-Hour	**~~65~~ 30** ug/m³	*
Lead	30-Day Average	—	1.5 µg/m³
	3-Month Average	1.5 µg/m³	—

** No separate State standard*
ppm = parts per million
µg/m³ = micrograms per cubic meter
*Source: ARB, ~~May 17, 2006~~ **February 22, 2007***

The local air quality management agency is required to monitor air pollutant levels to assure that air quality standards are met, and if they are not met, to develop strategies to meet these standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or as in "nonattainment." The proposed Agricultural Residential Cluster Subdivision and Future Development Program falls within the jurisdiction of the County of San Luis Obispo APCD. Federal air quality standards within the jurisdiction of the San Luis Obispo APCD have been attained, while the County is in non-attainment for the state standards for both PM_{10} and ozone. In addition, the San Luis Obispo Air Basin is in attainment for the state and federal carbon monoxide standards.

b. Current Ambient Air Quality. The nearest air monitoring station to the Agricultural Residential Cluster Subdivision and Future Development Program is located on Lewis Avenue in the City of Atascadero, approximately eight miles north of the community of Santa Margarita. This station measures ozone, PM_{10}, CO, and NO_x. Table 4.2-2 summarizes the available annual air quality data for the local airshed. As described therein, this monitoring station has recorded one exceedance of State standards for ozone in 2005 and one exceedance of State standards for PM_{10} in 2003. However, this monitoring station has not recorded exceedances of State or federal standards for ~~CO or~~ NO_x over the years 2003-2005, inclusive, or for CO between 2003 and 2004 (CO monitoring ceased in June 2004).

Table 4.2-2. Ambient Air Quality Data at the Atascadero Monitoring Station

Pollutant	2003	2004	2005
Ozone, ppm – Worst Hour	0.093	0.085	0.096
Number of days of State exceedances (>0.09 ppm)	0	0	1
Number of days of Federal exceedances (>0.12 ppm)	0	0	0
Particulate Matter <10 microns, $\mu g/m^3$ Worst 24 Hours	58	42	45
Number of samples of State exceedances (>50 $\mu g/m^3$)	1	0	0
Number of samples of Federal exceedances (>150 $\mu g/m^3$)	0	0	0
Carbon Monoxide (ppm), Highest 8-Hour Average	1.46	1.25	ND
Number of days of State exceedances (>9.0 ppm)	0	0	ND
Number of days of Federal exceedances (>9.0 ppm)	0	0	ND
Nitrogen Dioxide (ppm), Worst Hour	0.063	0.051	0.052
Number of days of State exceedances (>0.25 ppm)	0	0	0

Source: CARB, Annual Air Quality Data Summaries, 2003-2005.

Ozone is a secondary pollutant that is not produced directly by a source, but rather is formed by a reaction between nitrogen oxides (NO_x) and reactive organic gases (ROG) in the presence of sunlight. Reductions in ozone concentrations are dependent on reducing the amount of these precursors. In San Luis Obispo County, the major sources of ROG are motor vehicles, organic solvents, the petroleum industry, and pesticides; and the major sources of NO_x are motor vehicles, public utility power generation, and fuel combustion by various industrial sources.

~~Since 1989, San Luis Obispo County had been designated as non-attainment with the state health based standard for ozone. However, ozone forming pollutants throughout San Luis Obispo County have been significantly reduced since that time. For the years 2002 through 2004, no violations of the State hourly ozone standard (0.09 ppm) were measured at any of the six community-based monitoring stations in San Luis Obispo County. Accordingly, the State Air Resources Board re-designated the County as attainment with the state health based ozone standard in January 2004 (http://www.slocleanair.org/air/attainment.asp; February 22, 2006).~~

~~However, one violation of the State ozone standard was measured at the Atascadero Monitoring Station in 2005.~~ **On April 28, 2005, the California Air Resources Board (CARB) approved the nation's most health protective ozone standard with special consideration for children's health. The new 8-hour-average standard at 0.070 parts per million (ppm) will further protect California's most vulnerable population from the adverse health effects associated with ground-level ozone. Based on monitoring data, San Luis Obispo County has once again been deemed non-attainment for the new ozone standard.**

As noted above, San Luis Obispo County is in nonattainment for State ozone and PM_{10} levels. ~~but has recently achieved attainment status regarding the state standard for ozone. As measured at~~ **In 2005,** the Atascadero Monitoring Station~~, the PM_{10} State threshold was exceeded once in 2003 and was not exceeded in 2004 or 2005~~ **had one violation of the State 1-hour ozone standard and would have had at least three violations of the current 8-hour standard. The station also had one exceedance of the State PM_{10} standard between 2003 and 2005.**

Ground level ambient ozone is primarily generated by combustion byproducts reacting with sunlight and ambient conditions. San Luis Obispo County's primary areas where ozone violations occur are in the northern and eastern portions of the County where the summer temperatures are high. In addition, ozone is transported to San Luis Obispo County from upwind regions of the state.

Ambient PM_{10} concentrations have been primarily a localized issue of concern in the southern portion of San Luis Obispo County, providing the major impetus for the County's non-attainment designation for the State PM_{10} standard. The major sources for PM_{10} are mineral quarries, grading, demolition, agricultural tilling, road dust, and vehicle exhaust. PM_{10} levels in the Santa Margarita Ranch area are primarily due to agriculture tilling, road dust, motor vehicle emissions, and the sand and gravel quarry located northeast of the Ranch property.

4.2.2 Impact Analysis

a. Methodology and Significance Thresholds. This analysis of air quality issues follows the guidance and methodologies recommended in the APCD's *CEQA Air Quality Handbook* (April, 2003). The URBEMIS ~~2002 version 8.7~~ **2007 version 9.2** for Windows computer modeling program, which was developed by the California Air Resources Board, was utilized in estimating composite mobile emission factors for the Agricultural Residential Cluster Subdivision and is based on the number and length of vehicle trips to and from the proposed development. A program-level analysis was performed for the Future Development Program. According to the APCD, a 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 was 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 comparing consistency of the project with the Transportation and Land Use Planning Strategies outlined in the District's Clean Air Plan.

Pursuant to the State CEQA Guidelines, air quality impacts related to the proposed Agricultural Residential Cluster Subdivision and Future Development Program would be significant if they would:

- *Conflict with or obstruct implementation of the applicable air quality plan;*
- *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*
- *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);*
- *Expose sensitive receptors to substantial pollutant concentrations; and/or*
- *Create objectionable odors affecting a substantial number of people.*

The APCD has established four separate categories of evaluation for determining the significance of project impacts: 1) Comparison of calculated project emissions to District emission thresholds; 2) Consistency with the most recent Clean Air Plan (CAP) for San Luis Obispo County; 3) Comparison of predicted ambient pollutant concentrations resulting from the project to state and federal health standards, when applicable; and 4) The existence of special conditions which apply to certain projects.

Comparison to APCD Emissions Thresholds. The threshold criteria established by the District to determine the significance and appropriate mitigation level for long-term emissions from a project are presented in Table 4.2-3. Emissions which equal or exceed the designated threshold levels are potentially significant and should be mitigated. As shown in the table, the level of analysis and mitigation recommended follows a tiered approach based on the amount of emissions generated by the project.

Table 4.2-3 Significance Thresholds for Operational Emissions

Pollutant	Minimal Emissions	Tier 1	Tier 2	Tier 3
ROG, NOx, SO2, PM_{10}	< 10 lbs/day	10 lbs/day	25 lbs/day	25 tons/year
Carbon Monoxide	< 550 lbs/day		550 lbs/day	
Significance	Insignificant	Potentially Significant	Significant	Significant
Environmental Document	Negative Declaration (ND)	Mitigated ND	Mitigated ND or EIR	EIR

Comparison to Air Quality Standards. State and federal air quality standards are excerpted in Table 4.2-1. A project is to have a significant impact if its emissions are predicted to cause or contribute to a violation of any ambient air quality standard.

Short-Term Construction Impacts. Table 4.2-4 below shows the approximate level of construction activity that would result in a potentially significant impact for each pollutant of concern:

Table 4.2-4. Level of Construction Activity Requiring Mitigation

Pollutant of Concern	Thresholds		Amount of Material Moved	
	Tons/Qtr	Lbs/Day	Cu. Yds/Qtr	Cu. Yds/Day
ROG	2.5	185	247,000	9,100
	6.0	185	593,000	9,100

Table 4.2-4. Level of Construction Activity Requiring Mitigation

Pollutant of Concern	Thresholds		Amount of Material Moved	
	Tons/Qtr	Lbs/Day	Cu. Yds/Qtr	Cu. Yds/Day
NO_x	2.5	185	53,500	2,000
	6.0	185	129,000	2,000
PM10	2.5		Any project with a grading area greater than 4.0 acres of continuously worked area will exceed the 2.5 ton PM10 quarterly threshold. Combustion emissions should also be calculated based upon the amount of cut and fill expected.	

All calculations assume working conditions of 8 hours per day, 5 days per week, for a total of 65 days per quarter.
Source: San Luis Obispo County APCD, CEQA Air Quality Handbook, April 2003.

In addition, since the County is in nonattainment for **both PM_{10} and ozone**, construction mitigation measures are required for all projects involving earthmoving activities regardless of size or duration.

Consistency with the District's Clean Air Plan (CAP). Projects and programs requiring an analysis of consistency with the Clean Air Plan include: General Plan Updates and Amendments, Specific Plans, Area Plans, large residential developments and large commercial/industrial developments. Therefore, both the proposed Agricultural Residential Cluster Subdivision and the Future Development Program are evaluated for impacts related to CAP consistency. The consistency analysis must evaluate the following questions:

- *Are the population projections used in the plan or project equal to or less than those used in the most recent CAP for the same area?*
- *Is rate of increase in vehicle trips and miles traveled less than or equal to the rate of population growth for the same area?*
- *Have all applicable land use and transportation control measures from the CAP been included in the plan or project to the maximum extent feasible?*

If the answer to all of the above questions is yes, then the proposed project or plan is consistent with the CAP. If the answer to any one of the questions is no, then the emissions reductions projected in the CAP may not be achieved, which could delay or preclude attainment of the state ozone standard. This would be inconsistent with the Clean Air Plan.

b. Agricultural Residential Cluster Subdivision Impacts and Mitigation Measures.

Agricultural Residential Cluster Subdivision Impact AQ-1

The proposed Agricultural Residential Cluster Subdivision will result in operational air pollutant emissions, primarily from vehicular traffic. This would result in an exceedance of the APCD thresholds, and would be a Class I, *significant and unavoidable*, impact.

Based on APCD criteria, a project that generates more than 10 pounds per day (lbs/day) of ROG, NO_x or PM_{10} would exceed ~~the County's~~ **Tier 1** significance thresholds, **while a project that generates more than 25 lbs/day of ROG, NO_x or PM_{10} would exceed Tier 2 significance**

thresholds (refer to Table 4.2-3). Agricultural Residential Cluster Subdivision-related vehicle emissions were calculated using the URBEMIS ~~2002 version 8.7~~ **2007 version 9.2** air quality model. The model assumed a buildout year of ~~2007~~ **2008**, which is a reasonable worst case scenario.

Table 4.2-5 summarizes the emissions from area sources and vehicular traffic associated with the proposed Agricultural Residential Cluster Subdivision. Assumptions used in the mobile emissions analysis included a project fleet mix of ~~55.2~~ **41.7%** light ~~duty~~ automobiles; ~~31.2~~ **38.6%** light-~~duty~~ trucks; ~~7.1~~ 8% medium-~~duty~~ trucks; ~~3.4~~ **4.7%** heavy-~~duty~~ trucks; ~~1.7~~ **5.1%** motorcycles; ~~1.2~~ **1.7%** motor home; and 0.2% urban, ~~and~~ school **and other** buses. Average trip type, ~~length, and~~ speed and cold/hot start default percentages provided with the model were used. **Average trip length was based on the remote nature of the Agricultural Residential Cluster Subdivision, per guidance from the San Luis Obispo APCD.**

Table 4.2-5. Operational Emissions Associated with Proposed Agricultural Residential Cluster Subdivision (lbs/day)*

Emission Source	ROG	NO_x	CO	PM_{10}
Area Source	~~9.96~~ **13.47**	~~1.42~~ **3.18**	~~4.5~~ **63.4**	~~0.02~~ **10.25**
Operational (Vehicle)	~~10.47~~ **25.38**	~~13.46~~ **38.34**	~~131.13~~ **291.4**	~~12.59~~ **27.17**
Totals	***~~20.43~~ 38.85***	***~~14.88~~ 41.52***	***~~135.63~~ 354.8***	***~~12.61~~ 37.42***
~~Significance~~ Tier 1 Threshold	*10*	*10*	*~~550~~*	*10*
Tier 2 Threshold	***25***	***25***	***550***	***25***
Threshold Exceeded?	*Yes, **Tier 2***	*Yes, **Tier 2***	*No*	*Yes, **Tier 2***

** Although winter emissions were used as a worst case scenario, summer emissions would similarly exceed Tier 2 thresholds for ROG, NO_x and PM_{10}.*
Note: See Appendix D for Calculations

The proposed Agricultural Residential Cluster Subdivision is projected to generate ~~20.45~~ **38.85** lbs/day of ROG, ~~14.88~~ **41.52** lbs/day of NO_x, and ~~12.61~~ **37.42** lbs/day of PM_{10} as a result of operational emissions associated with project vehicular traffic and electrical and natural gas usage. When compared to the County's thresholds of significance, the Agricultural Residential Cluster Subdivision would exceed the ~~Tier 1 threshold for ROC, NOx, or PM_{10}~~ **the Tier 2 threshold for ROG, NOx and PM_{10}.** This is a potentially significant impact.

Mitigation Measures. The San Luis Obispo County APCD *CEQA Air Quality Handbook* (April 2003) requires that all projects generating ~~20 to 24~~ **25 or more** pounds per day of any individual pollutant implement standard site design and energy efficiency measures, as well as ~~additional~~ **all feasible** discretionary **site design and energy efficiency** mitigation measures. **Standard and discretionary measures are described in greater detail below. In addition, in certain cases further mitigation measures are required for projects generating 25 or more pounds per day, including off-site measures, which are designed to offset emissions from large projects that cannot be fully mitigated with on-site measures.**

APCD requires standard site-design measures for urban uses, such as: linking cul-de-sacs and dead-end streets to encourage pedestrian and bicycle travel; providing traffic calming modifications to project roads, such as narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds; easements or land dedications for bikeways and pedestrian walkways; and, providing continuous sidewalks separated from the roadway by landscaping and on-street parking. These measures apply primarily to urban residential development and would not ~~feasibly reduce impacts associated with~~ **be applicable**

to the Agricultural Residential Cluster Subdivision. **Similarly, not all discretionary site-design measures would be feasible due to the rural location of the Agricultural Residential Cluster Subdivision, including providing transit turnouts and pedestrian signalization and signage. Due to the infeasibility of standard and discretionary site-design measures, as well as the remote nature and size of the Agricultural Residential Cluster Subdivision, off-site mitigation would be required.**

It should be noted, however, that several Agricultural Residential Cluster Subdivision measures in Section 4.12, *Transportation and Circulation,* improve pedestrian and bicyclist infrastructure. These measures include Agricultural Residential Cluster Subdivision measures T-1(a) (SR 58 South of J Street), T-1(e) (Estrada Avenue/H Street Warning Beacon), T-4(a) (El Camino Real/Encina Avenue In-Pavement Flashing Lights) and T-4(b) (Pedestrian Pathway). Although these measures would not reduce the transportation-related air quality impacts to a less than significant level, they would partially reduce vehicle trips in the vicinity.

~~However, the~~ **The** following ~~standard energy efficiency~~ **mitigation** measures ~~and discretionary measures~~ are required, **which incorporate all applicable and feasible standard and discretionary measures, as well as off-site measures in accordance with APCD guidance:**

Agricultural Residential Cluster Subdivision AQ-1(a)

Energy Efficiency. The applicant shall increase building energy efficiency ratings by at least 10% above what is required by Title 24 requirements. Potential energy consumption reduction measures include, but are not limited to:

- Using roof material with a solar reflectance value meeting the EPA/DOE Energy Star® rating to reduce summer cooling needs and/or installing photovoltaic roof tiles;
- Using high efficiency gas or solar water heaters;
- Using built-in energy efficient appliances;
- Installing double-paned windows;
- **Installing door sweeps and weather stripping if more efficient doors and windows are not available;**
- Installing low energy interior lighting;
- Using low energy street lights (i.e. sodium); and
- Installing high efficiency or gas space heating.

Plan Requirements and Timing. The applicant shall incorporate the listed provisions into ~~building and improvement~~ **development** plans or shall submit proof of infeasibility prior to issuance of grading permits. **Monitoring.** Planning and Building shall site inspect to ensure development is in accordance with approved plans prior to occupancy clearance.

Agricultural Residential Cluster Subdivision AQ-1(b)

Shade Trees. Shade trees native to the Santa Margarita Ranch shall be planted to shade the southern exposure of on-site homes and structures, decreasing indoor temperatures and reducing energy demand for air conditioning. The landscape

plan shall be submitted to the San Luis Obispo APCD for review and comment. County Planning and Building shall review project landscaping plans for consistency with this mitigation measure.

Plan Requirements and Timing. The applicant shall incorporate the listed provision into development plans. **Monitoring.** Planning and Building shall conduct a site inspection to ensure development is in accordance with approved plans prior to occupancy clearance. Planning and Building staff shall verify installation in accordance with approved building plans.

Agricultural Residential Cluster Subdivision AQ-1(c)

Outdoor Electrical Outlets. All new homes shall be constructed with outdoor electrical outlets to encourage the use of electric appliances and tools.

Plan Requirements and Timing. The applicant shall incorporate the listed provision into development plans. **Monitoring.** Planning and Building shall conduct a site inspection to ensure development is in accordance with approved plans prior to occupancy clearance. Planning and Building staff shall verify installation in accordance with approved building plans.

Agricultural Residential Cluster Subdivision AQ-1(d)

Telecommuting. All new homes shall be constructed with internal wiring/cabling that allows telecommuting, teleconferencing, and telelearning to occur simultaneously in at least three locations in each home. This control measure seeks to reduce emissions by promoting telecommuting for any employee whose job can accommodate working from home.

Plan Requirements and Timing. The applicant shall incorporate the listed provision into development plans. **Monitoring.** Planning and Building shall conduct a site inspection to ensure development is in accordance with approved plans prior to occupancy clearance. Planning and Building staff shall verify installation in accordance with approved building plans.

Agricultural Residential Cluster Subdivision AQ-1(e)

Residential Wood Combustion. All new homes shall only be permitted to install APCD-approved wood burning devices, as applicable. Approved 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 or equal to 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.

"Backyard" green waste burning shall be prohibited due to nuisance and negative health effects.

Plan Requirements and Timing. Wood burning devices shall be shown on development plans submitted to Planning and Building for review and approval prior to issuance of building permits, as applicable. **Monitoring.** Planning and Building shall review site plans for compliance prior to issuance of building permits. County inspector shall inspect site for installation of APCD-approved wood burning devices prior to occupancy of the structures.

Agricultural Residential Cluster Subdivision AQ-1(f)

Off-Site Mitigation. Prior to issuance of grading permits, the applicant shall work with APCD to define and implement off-site emission reduction measures to reduce emissions to below Tier 2 levels. In accordance with APCD methodology, the excess emissions shall be multiplied by the cost effectiveness of mitigation as defined in the State's current Carl Moyer Incentive Program Guidelines to determine the annual off-site mitigation amount. This amount shall then be extrapolated over the life of the project to determine total off-site mitigation. Off-site emission reduction measures may include, but would not be limited to:

- **Developing or improving park-and-ride lots;**
- **Retrofitting existing homes in the project area with APCD-approved wood combustion devices;**
- **Retrofitting existing homes in the project area with energy-efficient devices;**
- **Constructing satellite worksites;**
- **Funding a program to buy and scrap older, higher emission passenger and heavy-duty vehicles;**
- **Replacing/re-powering transit buses;**
- **Replacing/re-powering heavy-duty diesel school vehicles (i.e. bus, passenger or maintenance vehicles);**
- **Funding an electric lawn and garden equipment exchange program;**
- **Retrofitting or re-powering heavy-duty construction equipment, or on-road vehicles;**
- **Re-powering marine vessels;**
- **Re-powering or contributing to funding clean diesel locomotive main or auxiliary engines;**
- **Installing bicycle racks on transit buses;**

- **Purchasing particulate filters or oxidation catalysts for local school buses, transit buses or construction fleets;**
- **Installing or contributing to funding alternative fueling infrastructure (i.e. fueling stations for CNG, LPG, conductive and inductive electric vehicle charging, etc.);**
- **Funding expansion of existing transit services;**
- **Funding public transit bus shelters;**
- **Subsidizing vanpool programs;**
- **Subsidizing transportation alternative incentive programs;**
- **Contributing to funding of new bike lanes;**
- **Installing bicycle storage facilities; and**
- **Providing assistance in the implementation of projects that are identified in City or County Bicycle Master Plans.**

Plan Requirements and Timing. The applicant shall coordinate with APCD and implement off-site emissions reduction measures prior to issuance of grading permits. Monitoring. Planning and Building shall verify compliance prior to issuance of grading permits.

Residual Impacts. ~~Because s~~Standard site-design mitigation measures required by the APCD would not be applicable to the proposed Agricultural Residential Cluster Subdivision, **and discretionary site design measures would be largely infeasible. Off-site measures would reduce emissions to below Tier 2 thresholds. However, the Agricultural Residential Cluster Subdivision would still exceed Tier 1 thresholds. i**Impacts would therefore remain Class I, *significant and unavoidable.*

Agricultural Residential Cluster Subdivision Impact AQ-2

The Agricultural Residential Cluster Subdivision will generate construction-related emissions as the site develops. These emissions would exceed ~~recommended ozone precursor and~~ PM_{10} significance thresholds. Construction activities could also expose people to naturally-occurring asbestos. Construction related air quality impacts are Class II, *significant but mitigable.*

Construction activities are expected to result in temporary short-term air quality impacts. These impacts are associated with dust generated by on-site grading activities and as a result of heavy construction vehicle emissions. No import or export of material is anticipated. Agricultural Residential Cluster Subdivision grading includes earthwork for construction of roads (including off-site circulation improvements), driveways, tank sites, and residential building pads.

Table 4.2-6 summarizes the dust generation from construction activities. ~~Fugitive dust emissions associated with grading activities assume that grading occurs on up to 32 acres per day.~~ As identified in Table 4.2-6, Agricultural Residential Cluster Subdivision construction emissions of ~~NO_x and~~ PM_{10} are potentially significant.

~~**Table 4.2-6 Emissions During Agricultural Residential Cluster Subdivision Development (lbs/day)**~~

~~Emission Source~~	~~ROG~~	~~NO_x~~	~~PM_{10}~~
~~Construction~~	~~176.22~~	~~207.41~~	~~328.96~~
~~**Totals**~~	~~**176.22**~~	~~**207.41**~~	~~**328.96**~~
~~*APCD Thresholds for Short term Emissions*~~	~~*185*~~	~~*185*~~	~~***~~
~~*Threshold Exceeded?*~~	~~*No*~~	~~*Yes*~~	~~*Yes***~~

~~** Any project with a grading area greater than 4.0 acres of continuously worked area will exceed the 2.5 ton PM10 quarterly threshold.*~~
~~*** The project is anticipated to result in grading of up to 32 acres of continuously worked area.*~~

Table 4.2-6 Emissions During Agricultural Residential Cluster Subdivision Development

Pollutant of Concern	Tons per Quarter (Tons/Qtr)		
	Emissions	Threshold	Threshold Exceeded?
ROG	1.92	2.5	No
NO_x	1.61	2.5	No
PM_{10}	2.98	2.5	Yes

The proposed Agricultural Residential Cluster Subdivision is projected to generate 1.92 tons/qtr of ROG, 1.61 tons/qtr of NO_x, and 2.98 tons/qtr of PM_{10} as a result of construction emissions. When compared to the County's thresholds of significance, the Agricultural Residential Cluster Subdivision would exceed the tons per quarter threshold for PM_{10}. This is a potentially significant impact.

The Agricultural Residential Cluster Subdivision would be required to comply with standard APCD permitting and requirements, including the prohibition of developmental burning of vegetative material within San Luis Obispo County.

Given that San Luis Obispo County violates the state standards for PM_{10}, any amount of dust generated from construction activities is potentially significant and mitigation measures are required. Additionally, grading activities may uncover naturally occurring asbestos. Human contact with asbestos would result in significant adverse health effects. Measures must be taken to assure proper handling if asbestos is present.

Refer also to Agricultural Residential Cluster Subdivision Impact S-6 in Section 4.9, *Public Safety*, for a discussion of impacts related to valley fever.

Mitigation Measures. Portable equipment 50 horsepower or greater will require California statewide portable equipment registration (issued by the California Air Resources Board) or an APCD permit. In addition, the following mitigation measures are recommended to minimize emissions and to reduce the amount of dust that drifts onto adjacent properties. These measures would apply to both tract grading and development of individual lots:

Agricultural Residential Cluster Subdivision AQ-2(a) **Construction Equipment Controls.** Upon application for grading permits, the applicant shall submit grading plans, the proposed rate of material movement and a construction

equipment schedule ~~demonstrating the rate of material movement~~ to the APCD. ~~If the rate of grading will be more than 53,500 cubic yards (cy) in a quarter or 2,000 cy in a day, then~~ **In addition,** the applicant shall implement the following measures to mitigate equipment emissions:

- All construction equipment and portable engines shall be properly maintained and tuned according to manufacturer's specifications;
- All off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, shall be fueled exclusively with CARB-certified motor vehicle diesel fuel;
- The applicant shall maximize to the extent feasible, the use of diesel construction equipment meeting the California Air Resources Board's 1996 (or newer) certification standard for off-road heavy-duty diesel engines.
- All on and off-road diesel equipment shall not be allowed to idle for more than 5 minutes. Signs shall be posted in the designated queuing areas to remind drivers and operators of the 5 minute idling limit;
- The applicant shall electrify equipment where feasible;
- The applicant shall substitute gasoline-powered for diesel-powered equipment where feasible;
- The applicant shall use alternatively fueled construction equipment, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, where feasible; and
- The applicant shall apply Best Available Control Technology (CBACT) as determined by the APCD.

Plan Requirements and Timing. The applicant shall provide the grading amounts and schedule to the APCD Planning Division at least 3 months prior to the start of construction, at which time the APCD will define the appropriate level of BACT for the Agricultural Residential Cluster Subdivision. The application of all BACT features shall occur prior to Agricultural Residential Cluster Subdivision construction. These measures shall be shown on all grading and construction plans prior to issuance of construction permits. Compliance with these measures shall be included as bid specifications submitted to contractors.
Monitoring. The applicant shall provide the APCD with proof that the above listed measures, as well as those required by the APCD upon review of grading plans, have been implemented prior to the start of the Agricultural Residential Cluster Subdivision's construction activity. The grading inspector shall

perform periodic site inspections.

Agricultural Residential Cluster Subdivision AQ-2(b)

Dust Control. The following measures shall be implemented to reduce PM_{10} emissions during Agricultural Residential Cluster Subdivision 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, the applicant 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.

Agricultural Residential Cluster Subdivision AQ-2(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.

Agricultural Residential Cluster Subdivision AQ-2(d)

Dust Control Monitor. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering as necessary to prevent transport of dust off-site. Their duties shall include holiday and weekend periods when work may not be in progress.

Plan Requirements and Timing. The name and telephone number of such persons shall be provided to the APCD **prior to land use clearance for map recordation and finished grading of the area.** 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.

Agricultural Residential Cluster Subdivision AQ-2(e)

Active Grading Areas. Prior to commencement of tract improvements, a Construction Management Plan shall be submitted for county approval that shows how the project will not exceed continuous working of more than four acres at any given time (according to the APCD, any project with a grading area greater than 4 acres of continuously worked area will exceed the 2.5 ton PM_{10} quarterly threshold). The Dust Control Monitor shall verify in the field during tract improvements that the Construction Management Plan is being followed.

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.

Agricultural Residential Cluster Subdivision AQ-2(f)

Naturally Occurring Asbestos. Prior to grading on the Agricultural Residential Cluster Subdivision site, the applicant shall ensure that a geologic evaluation is conducted to determine if naturally occurring asbestos is present within the areas that will be disturbed. At a minimum, the geologic evaluation must include:

1. A general description of the property and the proposed use;
2. A detailed site characterization which may include:
   a. A physical site inspection;
   b. Offsite geologic evaluation of adjacent property;
   c. Evaluation of existing geological maps and studies of the site and surrounding area;
   d. Development of geologic maps of the site and vicinity;
   e. Identification and description of geologic units, rock and soil types, and features that could be related to the presence of ultramafic rocks, serpentine, or asbestos mineralization; and
   f. A subsurface investigation to evaluate the nature and extent of geologic materials in the subsurface where vertical excavation is planned; methods of subsurface investigation may include, but are not limited to borings, test pits, trenching, and geophysical surveys;
3. A classification of rock types found must conform to the nomenclature based on the International Union of Geological Science system;
4. A description of the sampling procedures used;
5. A description of the analytical procedures used, which may include mineralogical analyses, petrographic analyses, chemical analyses, or analyses for asbestos content;
6. An archive of collected rock samples for third party examination; and
7. A geologic evaluation report documenting observations, methods, data, and findings; the format and content of the report should follow the Guidelines for Engineering Geologic Reports issued by the State Board of Registration for Geologists and Geophysicists.

If naturally occurring asbestos is not present, an exemption request must be filed with the APCD. If naturally occurring asbestos is found, the applicant must comply with all requirements outlined in the State ARB's Asbestos Air Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations. These requirements may include

but are not limited to: 1) an Asbestos Dust Mitigation Plan which must be approved by APCD before construction begins, and 2) an Asbestos Health and Safety Program.

The Asbestos Dust Mitigation Plan must specify dust mitigation practices which are sufficient to ensure that no equipment or operation emits dust that is visible crossing the property line, and must include one or more provisions addressing: track-out prevention and control measures; adequately watering or covering with tarps active storage piles; and controlling for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days.

An Asbestos Health and Safety Program would be required if ~~substantial~~ grading were to occur in serpentine or ultramafic rock deposits with ~~high~~ **such** concentrations of asbestos **present that there is potential to exceed the Cal OSHA asbestos permitable exposure limit (PEL: 0.1 fiber/cc)**. If required, the Asbestos Health and Safety Program shall be designed by a certified asbestos consultant to ensure the personal protection of workers. The Asbestos Health and Safety Program will include, but will not be limited to, **an air monitoring plan approved by the APCD to include: air monitoring** in the worker breathing zone, the use of respirators, and/or decontamination.

Plan Requirements and Timing. Prior to grading activities, a geologic evaluation shall be conducted by a registered geologist in all areas of disturbance. If naturally occurring asbestos is not present, the applicant shall file an exemption request with the APCD. If naturally occurring asbestos is found, the applicant shall comply with the State ARB's Asbestos Air Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations. **Monitoring.** The APCD shall ensure compliance with applicable requirements.

Residual Impacts. With implementation of the above mitigation measures, construction air quality impacts would be reduced to a less than significant level.

Agricultural Residential Cluster Subdivision Impact AQ-3

The Agricultural Residential Cluster Subdivision involves development of private septic systems, which have the potential to generate odor nuisance effects. These impacts are Class III, *less than significant.*

The Agricultural Residential Cluster Subdivision includes the use of individual septic systems. The septic systems are required to be installed per County Private Sewage Disposal System standards. If not properly installed, these have the potential of creating nuisance odors on the Agricultural Residential Cluster Subdivision site, or to existing residential development in the community of Santa Margarita. The APCD would respond to septic system odor complaints on a case-by-case basis, taking enforcement action as necessary. According to the APCD, however,

odor complaints from septic systems are rare. As a result, no mitigation is required and impacts are less than significant.

Mitigation Measures. No mitigation is required.

Residual Impacts. Impacts would be less than significant.

Agricultural Residential Cluster Subdivision Impact AQ-4

The Agricultural Residential Cluster Subdivision would exceed the population growth assumptions of the 2001 Clean Air Plan (CAP). In addition, due to the distance of the site from services, Agricultural Residential Cluster Subdivision implementation would result in a substantial increase in vehicle miles traveled. Therefore, the Agricultural Residential Cluster Subdivision is inconsistent with the CAP. This is a Class I, *significant and unavoidable* impact.

As described in *Methodology and Thresholds*, above, the Agricultural Residential Cluster Subdivision would be consistent with the 2001 CAP if: (1) the population projections used in the Agricultural Residential Cluster Subdivision are equal to or less than those used in the CAP; (2) the rate of increase in vehicle trips and mile traveled is less than or equal to the rate of population growth for the same area; and (3) all applicable transportation control measures and land use management strategies from the CAP have been included in the Agricultural Residential Cluster Subdivision to the maximum extent feasible. The consistency of the Agricultural Residential Cluster Subdivision with each of these thresholds is discussed in the paragraphs below.

Population Projection Consistency. The 2001 CAP population statistics and projections for the County of San Luis Obispo are based on the San Luis Obispo County Planning Department and San Luis Obispo Council of Governments population estimates for January 1, 1999 and growth projections. San Luis Obispo County had a 1999 population of approximately 241,600 people, an increase of about 14,375, or 6%, since 1995. The CAP estimates the number of rural San Luis Obispo residents to increase 16% between the years 1995 and 2015. The proposed Agricultural Residential Cluster Subdivision would increase the population of the community of Santa Margarita by approximately 22.8%, which would exceed the CAP growth rate estimate. Therefore, the Agricultural Residential Cluster Subdivision would be inconsistent with the CAP based on this CAP consistency criterion.

Vehicle Trip Rate of Increase and Miles Traveled. The CAP assumes a population growth rate of approximately 16% between the years 1995 and 2015 in rural San Luis Obispo. The proposed development of 112 residential units would generate approximately 1,150 trips per day. This increase in trips would represent a relatively large percentage of total trips on roadways in the project vicinity. The Agricultural Residential Cluster Subdivision would not provide a land use that would be considered a destination for substantial vehicles. However, residential development outside of urban areas tends to generate more, and longer trips compared with similar development within urban areas. Therefore, the Agricultural Residential Cluster Subdivision would be expected to substantially increase trip lengths and vehicle miles traveled in the vicinity. The rate of increase in vehicle trips and miles traveled would exceed the rate of population growth for the same area. Therefore, the Agricultural

Residential Cluster Subdivision would be inconsistent with the CAP based on this CAP consistency criterion.

Implementation of Transportation Control Measures (TCMs). The following TCMs would apply to the proposed Agricultural Residential Cluster Subdivision: T-1C (Voluntary Commute Options Program); T-3 (Bicycling and Bikeway Enhancements); and T-8 (Telecommuting, Teleconferencing, and Telelearning). The Agricultural Residential Cluster Subdivision would partially implement TCM T-3 by including a trail between the Agricultural Residential Cluster Subdivision and the community of Santa Margarita (refer to Section 4.12, *Transportation and Circulation*). However, no other TCMs would be implemented in the Agricultural Residential Cluster Subdivision as proposed.

In addition, 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.
- 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).
- 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.

The proposed Agricultural Residential Cluster Subdivision does not meet the intent of CAP Land Use Management Strategy L-1. The Agricultural Residential Cluster Subdivision would be developed at a relatively low density, and would be expected to substantially increase trip lengths and vehicle miles traveled in the vicinity (refer to *Vehicle Trip Rate of Increase and Miles Traveled* discussion above). In addition, the Agricultural Residential Cluster Subdivision would place suburban uses in a rural area; thereby converting open space and fragmenting agricultural land (refer to Section 4.1, *Agricultural Resources*). Additionally, the Agricultural Residential Cluster Subdivision would not be located near a commercial center, and would be unlikely to create demand for transit facilities due to the relatively low density of the proposed development (refer to Section 4.12, *Transportation and Circulation*). Therefore, the Agricultural Residential Cluster Subdivision is inconsistent with the CAP based on this CAP-consistency criterion.

Because the proposed Agricultural Residential Cluster Subdivision does not include sufficient Transportation Control Measures or Land Use Management Strategies, and because the rate of increase in vehicle trips and miles traveled may exceed population growth rates for the area, the Agricultural Residential Cluster Subdivision would be potentially inconsistent with the CAP, which would be a Class I, *significant and unavoidable*, impact.

Mitigation Measures. No feasible measures are available to reduce the population generation associated with the Agricultural Residential Cluster Subdivision without substantially redesigning the proposed subdivision. In addition, no measures are available to

substantially reduce the vehicle miles traveled associated with the Agricultural Residential Cluster Subdivision, due to the distance between the project and community services.

Residual Impacts. Impacts would remain Class I, *significant and unavoidable*.

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c. **Future Development Program Impacts and Mitigation Measures.** The Future Development Program represents potential future buildout of the Santa Margarita Ranch, including the proposed Agricultural Residential Cluster Subdivision. Refer to Section 4.2.2(b) for a discussion of air quality impacts resulting from the Agricultural Residential Cluster Subdivision independently. It should be noted that the Air Pollution Control District (APCD) does not require quantified analysis of construction or operational air contaminant emissions impacts for program-level evaluations, such as for the Future Development Program. Future projects proposed on the property would be required to comply with APCD requirements regarding residential wood stove combustion and backyard burning, residential and commercial site design, energy efficiency, transportation demand and compatible uses. In addition, all development would be subject to APCD operational permitting (e.g., for portable generators, fuel dealers, dry cleaning, and other commercial and industrial operations). Mixed uses air quality incompatibilities would also be regulated by APCD. Additionally, future projects proposed on the property would be required to conduct individual air contaminant emissions analyses as part of the separate, additional, required project-level CEQA review.

Future Development Program Impact AQ-1	**The Future Development Program involves development of equestrian facilities, a livestock sales yard, nine wineries, and private septic systems. All of these uses have the potential to generate odor nuisance effects. These impacts are Class II, *significant but mitigable.***

There are four principal features of the Future Development Program subsequent to the Agricultural Residential Cluster Subdivision that have the potential to create odors which may be nuisance either to adjoining residents, including residents of the Agricultural Residential Cluster Subdivision and the community of Santa Margarita, or to residents and occupants of the Future Development Program land uses. These features include odors associated with equestrian uses, a livestock sales yard, nine wineries, and those that may be associated with individual septic systems on each lot.

Equestrian and livestock uses can generate odors that are perceived as unpleasant to some people. The degree of unpleasantness is partly a function of personal tolerance for short-term odors associated with horse manure, and the attending flies that are attracted. Horse manure is essentially highly–processed hay, with little additional organic material that produces long-term odors, such as those commonly associated with cow excrement. Odors generating from wineries may also be perceived as unpleasant, and result primarily from the fermentation and aging processes and the resultant ethanol emissions. Lastly, septic systems that are not properly installed have the potential of creating nuisance odors, as described in Agricultural Residential Cluster Subdivision Impact AQ-3.

The San Luis Obispo County Agricultural Commissioner responds to odor complaints from agricultural operations, including equestrian uses and livestock sales. The Agricultural Commissioner would respond to complaints on a case-by-case basis, taking enforcement action as necessary. The APCD would respond to septic system odor complaints in a similar manner. In both cases, odor nuisances are considered minor, and do not warrant mitigation beyond standard complaint procedures. However, odor from industrial uses, including wineries, could be significant.

Mitigation Measures. The following mitigation is required:

Future Development Program AQ-1(a)

Odor Abatement Plan. Future applicants for wineries shall develop and implement an Odor Abatement Plan (OAP). The OAP shall include the following:

- Name and telephone number of contact person(s) responsible for logging and responding to winery odor complaints;
- Policy and procedure describing the actions to be taken when an odor complaint is received, including the training provided to the responsible party on how to respond to an odor complaint;
- Description of potential odor sources (i.e. fermentation and aging processes and the resultant ethanol emissions);
- Description of potential methods for reducing odors, including minimizing potential add-on air pollution control equipment; and
- Contingency measures to curtail emissions in the event of a continuous public nuisance.

Plan Requirements and Timing. This plan shall be prepared prior to issuance of grading permits. **Monitoring.** Planning and Building shall review the OAP prior to issuance of grading permits.

Residual Impacts. With implementation of the above measure, the Future Development Program would have less than significant odor nuisance impacts.

Future Development Program Impact AQ-2

Many of the Future Development Program conceptual land uses are inconsistent with the land use designations and population assumptions of the San Luis Obispo County General Plan. In addition, Future Development Program implementation would result in a substantial increase in vehicle miles traveled. Therefore, the Future Development Program is inconsistent with the 2001 Clean Air Plan (CAP). This is a Class I, *significant and unavoidable* impact.

As described in *Methodology and Thresholds*, above, the Future Development Program would be consistent with the 2001 CAP if: (1) the population projections used in the project are equal to or

less than those used in the CAP; (2) the rate of increase in vehicle trips and mile traveled is less than or equal to the rate of population growth for the same area; and (3) all applicable transportation control measures and land use management strategies from the CAP have been included in the project to the maximum extent feasible. The consistency of the Future Development Program with each of these thresholds is discussed in the paragraphs below.

Population Projection Consistency. As discussed in Section 2.0, *Project Description,* Future Development Program components subsequent to the Agricultural Residential Cluster Subdivision would require various land use approvals prior to implementation. Many of these uses would require a General Plan Amendment and/or a Specific Plan. Because implementation of the Future Development Program subsequent to the Agricultural Residential Cluster Subdivision would require amendments to the General Plan, the Future Development Program is inconsistent with the land uses anticipated for the area and therefore inconsistent with the population projections of the CAP.

Vehicle Trip Rate of Increase and Miles Traveled. The development of 514 dwelling units included in the Future Development Program would generate approximately 9,290 trips per day. 1,150 of these trips would be generated by the Agricultural Residential Cluster Subdivision alone. This increase in trips would represent a substantial percentage of total trips on roadways in the Future Development Program vicinity. In addition, the Future Development Program would provide land uses that may be considered destinations for substantial vehicles, particularly the nine wineries and associated special events (with an estimated 120,000 visitors annually), golf course, and lodge. In addition, residential development outside of urban areas tends to generate more, and longer trips compared with similar development within urban areas. Therefore, the Future Development Program would be expected to substantially increase trip lengths and vehicle miles traveled in the vicinity. The rate of increase in vehicle trips and mile traveled would be expected to exceed the rate of population growth for the same area.

Implementation of Transportation Control Measures (TCMs). The following TCMs would apply to the Future Development Program: T-1C (Voluntary Commute Options Program); T-3 (Bicycling and Bikeway Enhancements); and T-8 (Telecommuting, Teleconferencing, and Telelearning). The Future Development Program would partially implement TCM T-3 by including a trail that would implement a portion of the County Trails Plan by connecting the East Cuesta Ridge Trail to the Community of Santa Margarita (refer to Section 4.11, *Recreation*).

Although the Future Development Program partially implements TCM T-3 (Bicycling and Bikeway Enhancements), the trail would not be a viable commuter route because of the distance to employment locations in Atascadero or San Luis Obispo. Consequently, it would not substantially reduce commute-related vehicular emissions. For this reason, and because the rate of increase in vehicle trips and miles traveled associated with the Future Development Program may exceed population growth rates for the area, the Future Development Program would be inconsistent with the CAP, which would be a Class I, significant and unavoidable, impact.

Mitigation Measures. Agricultural Residential Cluster Subdivision measure AQ-1(d) (Telecommuting) would apply to all Future Development Program land uses. The following additional mitigation measures are also required to reduce CAP inconsistency impacts:

Future Development Program AQ-2(a)

Trip Reduction Measures. To reduce overall trip generation and associated air contaminant emissions, future commercial tenants will be required to establish and maintain employee trip reduction programs that should include, but are not limited to, the following elements:

- Install bicycle racks and/or bicycle lockers at a ratio of 1 bicycle parking space for every 10 car parking spaces for customers and employees, or at a ratio otherwise acceptable the SLOAPCD to be determined prior to occupancy clearance;
- Post carpool, vanpool and transit information in employee break/lunch areas;
- Employ or appoint an Employee Transportation Coordinator;
- Implement a Transportation Choices Program. Project applicants should work with the Transportation Choices Coalition partners for free consulting services on how to start and maintain a program. Contact SLO Regional Rideshare at 541-2277;
- Provide for shuttle/mini bus service;
- Provide incentives to employees to carpool/vanpool, take public transportation, telecommute, walk, bike, etc.;
- Implement compressed work schedules;
- Implement telecommuting program;
- Implement a lunchtime shuttle to reduce single occupant vehicle trips;
- Include teleconferencing capabilities, such as web cams or satellite linkage, which will allow employees to attend meetings remotely without requiring them to travel out of the area;
- Provide on-site eating, refrigeration and food vending facilities to reduce employee lunchtime trips;
- Provide preferential carpool and vanpool parking spaces; and
- Provide shower and locker facilities to encourage employees to bike and/or walk to work (typically one shower and three lockers per every 25 employees).
- Provide off-site improvements to offset contaminant emissions, including: retrofitting existing homes and businesses with energy-efficient devices, replacing transit or school buses, contributing to alternative fueling infrastructure, and/or improving park and ride lots.

The specific components of a trip reduction program that will be required for a particular commercial development will be at the

discretion of the Planning and Building Department, based on the recommendations of the APCD.

Plan Requirements and Timing. Future commercial developers under the Future Development Program shall incorporate the listed provisions into development plans or shall submit proof of unfeasibility prior to initiation of construction. **Monitoring.** The Planning and Building Department shall site inspect to ensure development is in accordance with approved plans prior to occupancy clearance. Planning and Building staff shall verify installation in accordance with approved building plans.

Residual Impacts. Implementation of the above mitigation measure would reduce impacts. However, due to population projection inconsistencies and because no mitigation measures are feasible to sufficiently reduce vehicle miles traveled, impacts related to consistency with the CAP would remain Class I, *significant and unavoidable.*

Future Development Program Impact AQ-3

Buildout of envisioned Future Development Program land uses would result in construction-related emissions. These emissions may result in short-term adverse impacts to local air quality. Construction activities could also expose people to naturally-occurring asbestos. However, such emissions would be temporary and would be mitigated on a specific development basis. Construction air quality impacts are therefore considered Class II, *significant but mitigable.*

Construction activity, including off-site transportation improvements, that would occur in accordance with the Future Development Program would cause temporary, short-term emissions of various air pollutants. NO_x and CO would be emitted by the operation of construction equipment, while fugitive dust (PM_{10}) would be emitted by activities that disturb the soil, such as grading and excavation, road construction and building construction. Information regarding specific development projects, soil types, and the locations of receptors would be needed in order to quantify the level of impact associated with construction activity.

Taken individually, construction activities are not generally considered to have significant air quality impacts because of their short-term and temporary nature. However, given the amount of development that the Future Development Program would accommodate, it is reasonable to conclude that some major construction activity could be occurring at any given time over the life of the program. Impacts could also be complicated by the fact that multiple construction projects could occur simultaneously. Therefore, construction-related impacts associated with Land Use Element and Circulation Element Update buildout are considered potentially significant.

Given that the County violates the state standard for PM_{10}, the amount of dust generated from construction activities is potentially significant and mitigation measures are required. Additionally, grading activities may uncover naturally occurring asbestos. Human contact with asbestos would result in significant adverse health effects. Measures must be taken to assure proper handling if asbestos is present.

Refer also to Future Development Program Impact S-7 in Section 4.9, *Public Safety*, for a discussion of impacts related to valley fever.

Mitigation Measures. Agricultural Residential Cluster Subdivision measures AQ-2(a) (Construction Equipment Controls), AQ-2(b) (Dust Control), AQ-2(c) (Cover Stockpiled Soils), AQ-2(d) (Dust Control Monitor), AQ-2(e) (Active Grading Areas), and AQ-3(f) (Naturally Occurring Asbestos) would apply to all Future Development Program land uses. No additional mitigation measures are required.

Residual Impacts. With implementation of the above mitigation measures, construction air quality impacts would be reduced to a less than significant level.

d. Cumulative Impacts. In San Luis Obispo County, impact thresholds have been established to assess a project's effect on the regional air quality. A project that does not exceed SLOAPCD thresholds and is consistent with the 2001 Clean Air Plan would have a less than significant cumulative impact on the airshed. Conversely, a project that exceeds the SLOAPCD significance thresholds or is found to be inconsistent with the CAP would result in significant cumulative impacts.

The Agricultural Residential Cluster Subdivision independently exceeds the SLOAPCD Tier ~~1~~ 2 operational thresholds of significance and is potentially inconsistent with long-term regional air quality planning efforts. Similarly, buildout of the Future Development Program is inconsistent with the CAP. Cumulative impacts on air quality would be significant and unavoidable, as described above.

4.2.3 Global Climate Change

a. Greenhouse Effect and Greenhouse Gases (GHGs). **The greenhouse effect is a natural process by which some of the radiant heat from the sun is captured in the lower atmosphere of the earth. The gases that help capture the heat are called greenhouse gases (GHGs). While GHGs are not normally considered air pollutants, all have been identified as forcing the earth's atmosphere and oceans to warm above naturally occurring temperatures. Some GHGs occur naturally in the atmosphere, while others result from human activities. Naturally occurring GHGs include water vapor, carbon dioxide, methane, nitrous oxide and ozone. Certain human activities add to the levels of most of these naturally occurring gases.**

Of all the greenhouse gases in the atmosphere, water vapor is the most abundant and variable. The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from ice and snow, and transpiration from plant leaves. The primary human-related source of water vapor comes from fuel combustion in motor vehicles. However, this is believed to contribute a negligible amount (less than 1%) to atmospheric concentrations of water vapor. As a result, the control and reduction of water vapor emissions is not within reach of human actions, and is therefore excluded from regulation under AB 32.

The second most prevalent GHG is carbon dioxide (CO_2). Natural sources of CO_2 include: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. However, in contrast to water vapor, CO_2

is primarily generated by anthropogenic (human caused) sources, including burning coal, oil, natural gas and wood.

In addition to CO_2, the GHGs humans have the greatest control over include methane (CH_4) and nitrous oxide (N_2O). CH_4 is a flammable gas and is the main component of natural gas. Natural sources of CH_4 include anaerobic decay of organic matter and natural gas fields; anthropogenic sources include landfills, fermentation of manure, and cattle. N_2O is produced by microbial processes in soils and water, including those reactions which occur in fertilizer containing nitrogen. Anthropogenic sources of N_2O include agricultural soil management, animal manure management, sewage treatment, and mobile and stationary combustion of fossil fuel. Reducing emissions from CO_2, CH_4 and N_2O is the focus of AB 32.

b. Global Climate Change Impacts. Global climate change (GCC) refers to a change in the average weather of the earth which can be measured by wind patterns, storms, precipitation, and temperature. The impact of anthropogenic activities on GCC is evident in the scientific correlation between rising global temperatures, atmospheric concentrations of CO_2 and other GHGs, and the industrial revolution[1].

The United States is the top producer of GHG in the world. California's GHG emissions rank second in the United States (behind Texas) and rank internationally just below Australia.[2] The primary contributors to anthropogenic GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources; industry; agriculture and forestry; and other sources, which include commercial and residential activities.

According to the 2006 California Climate Action Team Report (CCAT, 2006) the following climate change effects are predicted in California over the course of the next century:

- Diminishing Sierra snow pack by 70 to 90%, threatening the state's water supply.
- Increasing temperatures from 8 to 10.4 degrees Fahrenheit under the higher emission scenarios, leading to a 25 to 35% increase in the number of days ozone pollution levels are exceeded in most urban areas.
- Rising sea level (from 4 to 33 inches), causing coastal erosion along the length of California and sea water intrusion into the Delta. This would also exacerbate flooding in already vulnerable regions.
- Increased vulnerability of forests due to pest infestation and increased temperatures.
- Increased challenges for the State's agriculture industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta.
- Increased electricity demand, particularly in the hot summer months.

c. Regulatory Setting. In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established that GHG emissions should be reduced to 2000 levels by 2010; to 1990 levels by 2020; and to 80 percent below 1990 levels by 2050. In furtherance of the goals

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[1] Intergovernmental Panel on Climate Change (IPCC). *Climate Change 2001: The Scientific Basis.* Cambridge University Press, 2001.

[2] United Nations Framework Convention on Climate Change (UNFCCC). *GHG Emissions Data, National Inventory.* Available on-line at http://unfccc.int/2860.php. Accessed 29 August 2007.

established in Executive Order S-3-05, the Legislature enacted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. The California Air Resources Board (CARB) has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. By January 2008, a statewide cap for 2020 emissions based on 1990 levels must be adopted. The following year (January 2009), CARB must adopt mandatory reporting rules for major sources of GHGs and also a plan indicating how reductions in significant GHG sources will be achieved through regulations, market mechanisms, and other actions.

d. Methodology and Significance Thresholds. No air district in California, including the San Luis Obispo Air Pollution Control District (APCD), has identified a significance threshold for GHG emissions or a methodology for analyzing air quality impacts related to GHGs. Even though the GHG emissions associated with an individual development project could be estimated, there is no emissions threshold that can be used to evaluate the California Environmental Quality Act (CEQA) significance of these emissions. In addition, GCC models are not sensitive enough to be able to predict the effect of individual projects on global temperatures and the resultant effect on climate. Therefore, they cannot be used to evaluate the significance of a project's impact. Thus, insufficient information and predictive tools exist to assess whether an individual project would result in a significant impact on global climate. For these reasons, determining the CEQA significance of the impact of the Agricultural Residential Cluster Subdivision and Future Development Program at a project- or program-level is speculative.

In the absence of quantitative emissions thresholds, consistency with adopted programs and policies is used by many jurisdictions to evaluate the significance of cumulative impacts. A project's consistency with the implementing programs and regulations to achieve the statewide GHG emission reduction goals established under Executive Order S-3-05 and AB 32 cannot yet be evaluated because they are still under development. Nonetheless, the Climate Action Team, established by Executive Order S-3-05, has recommended strategies for implementation at the statewide level to meet the goals of the Executive Order. In the absence of an adopted plan or program, the Climate Action Team's strategies serve as current statewide approaches to reducing the State's GHG emissions. As no other plan or program for GHG emissions that would apply to the Agricultural Residential Cluster Subdivision or Future Development Program has been adopted, consistency with these strategies is assessed to determine if the contribution of the Agricultural Residential Cluster Subdivision and/or Future Development Program to cumulative GHG emissions is considerable.

e. Agricultural Residential Cluster Subdivision and Future Development Program Impacts. The primary source of GHGs in California is fossil fuel combustion. The primary GHG associated with fuel combustion is carbon dioxide (CO_2), with lesser amounts of methane (CH_4) and nitrous oxide (N_2O). The Agricultural Residential Cluster Subdivision and Future Development Program would result in emissions of these GHGs due to fuel combustion in motor vehicles, which would contribute to potential cumulative impacts of GHG emissions on global climate. The URBEMIS 2007 version 9.2 computer modeling program, which was used to quantify emissions from the Agricultural Residential Cluster Subdivision, also estimates CO_2 emissions. In accordance with this model, the proposed

Agricultural Residential Cluster Subdivision would generate and estimated 15,219.14 pounds per day (lbs/day) of CO_2 during construction and 17,645.93 lbs/day of CO_2 during operation (refer to Appendix A for calculations). As noted in Section 4.2.2(a), a program-level analysis does not require a quantitative air emissions analysis in accordance with APCD standards. As a result, no such analysis was conducted for the Future Development Program and no CO_2 emissions estimates are available.

In its report to the Governor and the Legislature, the Climate Action Team recommended strategies that could be implemented by various state boards, departments, commissions, and other agencies to reduce GHG emissions. The proposed Agricultural Residential Cluster Subdivision and Future Development Program contain design features and mitigation measures that would result in lower fuel combustion emissions, water conservation, increased energy efficiency, reduced energy usage and other collateral benefits with respect to GHG emissions. The Climate Action Team strategies that are relevant to the proposed Agricultural Residential Cluster Subdivision and Future Development Program and applicable design features or mitigation measures that would be consistent with these strategies are listed in Table 4.2-7 below.

Table 4.2-7 Agricultural Residential Cluster Subdivision and Future Development Program Consistency with California Climate Action Team Strategies

CCAT Strategy	Implementing Design Features/Mitigation Measures
Vehicle Climate Change Standards	The Agricultural Residential Cluster Subdivision and Future Development Program would be consistent with this strategy to the extent that new passenger vehicle and light trucks purchased by Agricultural Residential Cluster Subdivision residents and Future Development Program residents and patrons starting in the 2009 model year would be required to comply with said standards.
Achieve 50% Statewide Recycling Goal	Agricultural Residential Cluster Subdivision measure PS-5(b) (Recycling Plan) in Section 4.10, *Public Services*, requires that a long term plan for recycling be developed with a goal of 50% waste stream diversion. This measure would also apply to the Future Development Program.
Water Use Efficiency	Agricultural Residential Cluster Subdivision measure W-1(b) (Water Conservation Measures) in Section 4.14, *Water and Wastewater*, would help facilitate compliance with this strategy. This measure would also apply to the Future Development Program. In addition, Future Development Program measure W-1(a) (Reclaimed Water) would further implement this strategy.
Building Energy Efficiency Standards in Place	Agricultural Residential Cluster Subdivision measure AQ-1(a) (Energy Efficiency) in Section 4.2, *Air Quality*, requires that building energy efficiency ratings be increased by at least 10% above what is required by Title 24 requirements. Agricultural Residential Cluster Subdivision measure AQ-1(b) (Shade Trees) would also help reduce energy demands for air conditioning. Similar mitigation would apply to individual Future Development Program land uses once building permit applications are received and project-level CEQA analysis is completed.
Appliance Energy Efficiency Standards in Place	Agricultural Residential Cluster Subdivision measure AQ-1(a) (Energy Efficiency) in Section 4.2, *Air Quality*, includes the use of energy efficient appliances as a possible measure to increase energy efficiency ratings. Similar mitigation would apply to individual Future Development Program land uses once building permit applications are received and project-level CEQA analysis is completed.

Source: California Climate Action Team. Final 2006 Climate Action Team Report to the Governor and Legislature, March 2006.

Based on the analysis in Table 4.2-7, the contributions of the proposed Agricultural Residential Cluster Subdivision and Future Development Program to GHG emissions and GCC would be partially reduced due to consistency with the above strategies. However, the design of both the Agricultural Residential Cluster Subdivision and Future Development Program would result in inconsistencies with the Climate Action Team Strategy "Smart Land Use and Intelligent Transportation," which promotes jobs/housing proximity, transit-oriented development, and high density residential/commercial development along transit corridors. Inconsistencies with this strategy from both the Agricultural Residential Cluster Subdivision and Future Development Program are outlined below.

Agricultural Residential Cluster Subdivision:

- The Agricultural Residential Cluster Subdivision would not be located in close proximity to any commercial or job center (approximately 8 miles to Atascadero and approximately 10 miles to San Luis Obispo). As a result, it would reduce job/housing proximity and increase vehicle trips and travel distances.

- The Agricultural Residential Cluster Subdivision would not be located along an established transit route and would be unlikely to create demand for transit facilities due to the relatively low density of the proposed development.

- The Agricultural Residential Cluster Subdivision would be developed at a relatively low density in a rural area.

Future Development Program:

- The Future Development Program would not be located in close proximity to any commercial or job center. As a result, it would reduce job/housing proximity and increase vehicle trips and travel distances.

- The Future Development Program would be located in a rural area and would provide land uses that may be considered destinations for substantial vehicles, particularly the nine wineries and associated special events (with an estimated 120,000 visitors annually), golf course, and lodge.

- The Future Development Program would also include residential development outside of an urban area.

Despite being consistent with several Climate Action Team strategies, both the Agricultural Residential Cluster Subdivision and Future Development Program would be inconsistent with the "Smart Land Use and Intelligent Transportation" strategy. The Agricultural Residential Cluster Subdivision and Future Development Program would result in an incremental contribution to cumulative quantities of GCC.

f. Mitigation Measures. The San Luis Obispo County APCD has identified mitigation measures which are required to reduce impacts related to GCC. These measures include the following construction equipment controls: maintaining equipment according to manufacturer's specifications; maximizing the use of diesel construction equipment; idling

limitations; and using electric or alternatively fueled construction equipment. These controls are included in Agricultural Residential Cluster Subdivision measure AQ-2(a) (Construction Equipment Controls). In addition, the following mitigation measures are required:

AQ-GCC(a) Construction Phase Mitigation to Reduce Fuel Usage and thus Greenhouse Gases. In addition to construction equipment controls required by Agricultural Residential Cluster Subdivision measure AQ-2(a), the following construction equipment measures shall be implemented to improve fuel efficiency and reduce greenhouse gas (GHG) emissions such as CO_2:

1. Maximize, to the extent feasible, the use of on-road heavy-duty equipment and trucks that meet the CARB's 1998 or newer certification standard for on-road heavy-duty diesel engines.
2. Add a section to the Construction Management Plan identified in Agricultural Residential Cluster Subdivision measureAQ-2(e) (Active Grading Areas) that schedules construction-related trips during non-peak hours to reduce peak hour and congestion-related emissions.

Plan Requirements and Timing. These measures shall be shown on all grading and construction plans prior to issuance of construction permits. Compliance with these measures shall be included as bid specifications submitted to contractors. Monitoring. The applicant shall provide the APCD with proof that the above listed measures have been implemented prior to the start of the Agricultural Residential Cluster Subdivision's construction activity. The grading inspector shall perform periodic site inspections.

AQ-GCC(b) Operational Phase Mitigation to Reduce Fuel Usage and thus Greenhouse Gases. In addition to energy efficiency measures listed in Agricultural Residential Cluster Subdivision measure AQ-1(a) (Energy Efficiency), the following green building techniques shall be implemented where feasible:

1. Engineer and position buildings to eliminate or minimize the development's active heating and cooling needs (e.g., solar orientation).
2. Install solar systems to reduce energy needs (e.g., solar panels).
3. Install solar water heaters.
4. Plant native, drought resistant landscaping.
5. Use locally-produced building materials.
6. Use renewable or reclaimed building materials.
7. Increase building energy efficiency ratings by at least 20% above what is required by Title 24 requirements, rather

than 10% as required by Agricultural Residential Cluster Subdivision measure AQ-1(a) (Energy Efficiency).

Plan Requirements and Timing. The applicant shall incorporate the listed provisions into building and improvement plans or shall submit proof of infeasibility prior to issuance of grading permits. Monitoring. Planning and Building shall site inspect to ensure development is in accordance with approved plans prior to occupancy clearance.

AQ-GCC(c) Alternative Transportation. The Agricultural Residential Cluster Subdivision shall further offset greenhouse gas (GHG) emissions by improving nearby transit amenities to help expand the interest and use of transit, thus reducing vehicle trips, fossil fuel consumption, and related GHG impacts:

1. Provide Regional Transit Authority (RTA) approved transit shelters for the three unsheltered RTA bus stops in the community of Santa Margarita.
2. Provide the funding needed by the RTA to implement real-time Smart Signage for the four RTA bus stops in the community of Santa Margarita.
3. Work with RTA to include bus stops at the two Agricultural Residential Cluster Subdivision entrances for the Santa Margarita Lake Shuttle.

Plan Requirements and Timing. The applicant shall coordinate with APCD and implement above transit-related measures prior to issuance of grading permits Monitoring. Planning and Building shall verify compliance prior to issuance of grading permits.

In addition to the above measures, several Climate Action Team strategies could be implemented by the Agricultural Residential Cluster Subdivision and Future Development Program. Voluntary implementation of these strategies would further reduce the Agricultural Residential Cluster Subdivision and Future Development Program's contributions to GHG emissions and GCC:

- High Recycling. Additional recovery of recyclable materials beyond the 50% goal (refer to Table 4.2-7).
- Green Buildings Initiative. Reducing energy use in public and private buildings by 20% by the year 2015, as compared with 2003 levels.
- California Solar Initiative. Installation of solar roofs on homes and businesses, increased use of solar thermal systems to offset the increasing demand for natural gas, and use of advanced metering in solar applications.

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Appendix D

Air Emissions Calculations

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Summary Report for Summer Emissions (Pounds/Day)

File Name: L:\ESP\SLO Co\05-58171 Santa Margarita Ranch\Report\FEIR\FEIR Sections\Appendices\Revised Appendices\Revised URBEMIS\ARCS apcd-revised.urb9

Project Name: Revised Santa Margarita Ranch

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2007 TOTALS (lbs/day unmitigated)	19.01	116.65	51.53	0.06	186.22	6.03	192.25	36.92	5.55	44.46	10,460.78
2008 TOTALS (lbs/day unmitigated)	172.93	143.19	96.56	0.08	186.34	7.79	194.13	36.96	7.16	46.12	15,219.14

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	7.49	1.45	5.80	0.00	0.01	0.01	1,799.64

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	21.29	29.54	256.58	0.13	27.17	5.25	14,110.20

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	28.78	30.99	262.38	0.13	27.18	5.26	15,909.74

Urbemis 2007 Version 9.2.0

Summary Report for Winter Emissions (Pounds/Day)

File Name: L:\ESP\SLO Co\05-58171 Santa Margarita Ranch\Report\FEIR\FEIR Sections\Appendices\Revised Appendices\Revised URBEMIS\ARCS apcd-revised.urb9

Project Name: Revised Santa Margarita Ranch

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2007 TOTALS (lbs/day unmitigated)	19.01	116.65	51.53	0.06	186.22	6.03	192.25	38.92	5.55	44.46	10,460.78
2008 TOTALS (lbs/day unmitigated)	172.93	143.19	98.56	0.08	186.34	7.79	194.13	38.96	7.16	46.12	15,219.14

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	13.47	3.16	63.40	0.21	10.25	9.87	4,236.12

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	25.38	38.34	291.40	0.13	27.17	5.25	13,397.81

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	38.85	41.52	354.80	0.34	37.42	15.12	17,635.93

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Urbemis 2007 Version 9.2.0

Summary Report for Annual Emissions (Tons/Year)

File Name: L:\ESP\SLO Co\05-58171 Santa Margarita Ranch\Report\FEIR\FEIR Sections\Appendices\Revised Appendices\Revised URBEMIS\ARCS apcd-revised.urb9

Project Name: Revised Santa Margarita Ranch

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2007 TOTALS (tons/year unmitigated)	0.07	0.52	0.27	0.00	2.05	0.03	2.07	0.43	0.03	0.45	41.92
2008 TOTALS (tons/year unmitigated)	2.33	3.18	4.10	0.00	0.85	0.20	1.05	0.18	0.18	0.36	433.91

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.82	0.32	3.54	0.01	0.42	0.40	398.77

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	4.13	5.93	48.94	0.02	4.96	0.96	2,531.78

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	5.75	6.25	52.48	0.03	5.38	1.36	2,931.55

Urbemis 2007 Version 9.2.0

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: L:\ESP\SLO Co\05-58171 Santa Margarita Ranch\Report\FEIR\FEIR Sections\Appendices\Revised Appendices\Revised URBEMIS\ARCS apcd-revised.urbm

Project Name: Revised Santa Margarita Ranch

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 11/30/2007-12/27/2007 Number Active Days: 20	5.01	40.13	22.11	0.00	186.01	2.14	188.15	38.85	1.97	40.82	3,146.13
Fine Grading 11/30/2007-01/11/2008	5.01	40.13	22.11	0.00	186.01	2.14	188.15	38.85	1.97	40.82	3,146.13
Time Slice 12/28/2007-12/31/2007 Number Active Days: 2	19.01	116.65	51.53	0.06	186.22	5.03	192.26	38.92	5.56	44.48	10,460.78
Asphalt 12/28/2007-01/11/2008	14.00	76.52	29.41	0.05	0.21	3.89	4.10	0.07	3.57	3.64	7,314.66
Fine Grading 11/30/2007-01/11/2008	5.01	40.13	22.11	0.00	186.01	2.14	188.15	38.85	1.97	40.82	3,146.13
Time Slice 1/1/2008-1/10/2008 Number Active Days: 8	18.36	109.88	49.16	0.06	186.22	5.66	191.88	38.92	5.21	44.12	10,460.61
Asphalt 12/28/2007-01/11/2008	13.64	71.97	27.97	0.05	0.21	3.63	3.84	0.07	3.34	3.41	7,314.57
Fine Grading 11/30/2007-01/11/2008	4.71	37.91	21.19	0.00	186.01	2.03	188.04	38.85	1.87	40.72	3,146.04
Time Slice 1/11/2008-1/11/2008 Number Active Days: 1	24.48	143.19	96.55	0.08	186.34	7.79	194.13	38.96	7.16	46.12	15,219.14
Asphalt 12/28/2007-01/11/2008	13.64	71.97	27.97	0.05	0.21	3.63	3.84	0.07	3.34	3.41	7,314.57
Building 01/11/2008-08/22/2008	6.13	33.32	47.40	0.02	0.12	2.13	2.25	0.04	1.96	2.00	4,758.53
Fine Grading 11/30/2007-01/11/2008	4.71	37.91	21.19	0.00	186.01	2.03	188.04	38.85	1.87	40.72	3,146.04
Time Slice 1/14/2008-8/7/2008 Number Active Days: 149	6.13	33.32	47.40	0.02	0.12	2.13	2.25	0.04	1.96	2.00	4,758.53
Building 01/11/2008-08/22/2008	6.13	33.32	47.40	0.02	0.12	2.13	2.25	0.04	1.96	2.00	4,758.53
Time Slice 8/8/2008-8/22/2008 Number Active Days: 11	172.93	33.77	53.24	0.03	0.14	2.14	2.29	0.05	1.96	2.02	5,117.69
Building 01/11/2008-08/22/2008	6.13	33.32	47.40	0.02	0.12	2.13	2.25	0.04	1.96	2.00	4,758.53
Coating 08/08/2008-08/05/2008	166.81	0.46	5.84	0.00	0.02	0.01	0.03	0.01	0.01	0.02	359.16
Time Slice 8/25/2008-9/5/2008 Number Active Days: 10	166.81	0.46	5.84	0.00	0.02	0.01	0.03	0.01	0.01	0.02	359.16
Coating 08/08/2008-09/05/2008	166.81	0.46	5.84	0.00	0.02	0.01	0.03	0.01	0.01	0.02	359.16

Phase Assumptions

Phase: Fine Grading 11/30/2007 - 1/11/2008 - Default Fine Site Grading Description
Total Acres Disturbed: 120
Maximum Daily Acreage Disturbed: 8.3
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 12/28/2007 - 1/11/2008 - Default Paving Description
Acres to be Paved: 30
Off-Road Equipment:
1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

Phase: Building Construction 1/11/2005 - 8/22/2005 - Default Building Construction Description
Off-Road Equipment:
1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 8/8/2005 - 9/5/2005 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 150
Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 150
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Detail Report for Summer Area Source Unmitigated Emissions (Pounds/Day)

File Name: L:\ESP\SLO Co\05-58171 Santa Margarita Ranch\Report\FEIR\FEIR Sections\Appendices\Revised Appendices\Revised URBEMIS\ARCS apcd-

Project Name: Revised Santa Margarita Ranch

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

AREA SOURCE EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.11	1.40	0.60	0.00	0.00	0.00	1,791.55
Hearth - No Summer Emissions							
Landscape	0.94	0.05	5.20	0.00	0.01	0.01	7.99
Consumer Products	5.49						
Architectural Coatings	0.96						
TOTALS (lbs/day, unmitigated)	7.49	1.45	5.80	0.00	0.01	0.01	1,799.54

Area Source Changes to Defaults

01208

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Detail Report for Summer Operational Unmitigated Emissions (Pounds/Day)

File Name: L:\ESP\SLO Co\05-56171 Santa Margarita Ranch\Report\FEIR\FEIR Sections\Appendices\Revised Appendices\Revised URBEMIS\ARCS apcd-revised.urb

Project Name: Revised Santa Margarita Ranch

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	21.29	29.54	256.58	0.13	27.17	5.25	14,110.20
TOTALS (lbs/day, unmitigated)	21.29	29.54	256.58	0.13	27.17	5.25	14,110.20

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2008 Temperature (F): 75 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	120.00	10.82	dwelling units	112.00	1,211.84	15,753.92
					1,211.84	15,753.92

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	41.7	3.1	96.2	0.7
Light Truck < 3750 lbs	18.8	3.7	88.3	8.0
Light Truck 3751-5750 lbs	19.8	1.5	98.0	0.5
Med Truck 5751-8500 lbs	6.0	1.2	97.6	1.2
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	66.7	33.3
Lite-Heavy Truck 10,001-14,000 lbs	1.2	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.0	10.0	20.0	70.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.4	0.0	25.0	75.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.1	76.5	23.5	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.7	5.9	82.3	11.8

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	13.0	13.0	13.0	13.0	13.0	13.0
Rural Trip Length (miles)	13.0	13.0	13.0	13.0	13.0	13.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

Home-based shop urban trip length changed from 5 miles to 13 miles

Home-based shop rural trip length changed from 5 miles to 13 miles

Home-based other urban trip length changed from 5 miles to 13 miles

Home-based other rural trip length changed from 5 miles to 13 miles

Commercial-based non-work urban trip length changed from 5 miles to 13 miles

Commercial-based non-work rural trip length changed from 5 miles to 13 miles

Commercial-based customer urban trip length changed from 5 miles to 13 miles

Commercial-based customer rural trip length changed from 5 miles to 13 miles

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Urbemis 2007 Version 9.2.0

Detail Report for Winter Construction Unmitigated Emissions (Pounds/Day)

File Name: L:\ESP\SLO Co\05-56171 Santa Margarita Ranch\Report\FEIR\FEIR Sections\Appendices\Revised Appendices\Revised URBEMIS\ARCS apcd-

Project Name: Revised Santa Margarita Ranch

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Winter Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 11/30/2007-12/27/2007 Number Active Days: 20	5.01	40.13	22.11	0.00	186.01	2.14	188.15	38.85	1.97	40.82	3,146.13
Fine Grading 11/30/2007-01/11/2008	5.01	40.13	22.11	0.00	186.01	2.14	188.15	38.85	1.97	40.82	3,146.13
Time Slice 12/28/2007-12/31/2007 Number Active Days: 2	19.01	116.66	51.53	0.08	186.22	6.03	192.25	38.92	5.55	44.48	10,460.78
Asphalt 12/28/2007-01/11/2008	14.00	76.52	29.41	0.05	0.21	3.89	4.10	0.07	3.57	3.64	7,314.66
Fine Grading 11/30/2007-01/11/2008	5.01	40.13	22.11	0.00	186.01	2.14	188.15	38.85	1.97	40.82	3,146.13
Time Slice 1/1/2008-1/10/2008 Number Active Days: 8	18.35	109.68	49.16	0.06	186.22	5.66	191.88	38.92	5.21	44.12	10,460.61
Asphalt 12/28/2007-01/11/2008	13.54	71.97	27.97	0.05	0.21	3.63	3.84	0.07	3.34	3.41	7,314.57
Fine Grading 11/30/2007-01/11/2008	4.71	37.91	21.19	0.00	186.01	2.03	188.04	38.85	1.87	40.72	3,146.04
Time Slice 1/11/2008-1/11/2008 Number Active Days: 1	24.48	143.19	95.56	0.08	186.34	7.79	194.13	38.96	7.16	46.12	15,219.14
Asphalt 12/28/2007-01/11/2008	13.54	71.97	27.97	0.05	0.21	3.63	3.84	0.07	3.34	3.41	7,314.57
Building 01/11/2008-08/22/2008	6.13	33.32	47.40	0.02	0.12	2.13	2.25	0.04	1.96	2.00	4,758.53
Fine Grading 11/30/2007-01/11/2008	4.71	37.91	21.19	0.00	186.01	2.03	188.04	38.85	1.87	40.72	3,146.04
Time Slice 1/14/2008-8/7/2008 Number Active Days: 149	6.13	33.32	47.40	0.02	0.12	2.13	2.25	0.04	1.96	2.00	4,758.53
Building 01/11/2008-08/22/2008	6.13	33.32	47.40	0.02	0.12	2.13	2.25	0.04	1.96	2.00	4,758.53
Time Slice 8/8/2008-8/22/2008 Number Active Days: 11	172.93	33.77	63.24	0.03	0.14	2.14	2.29	0.05	1.96	2.02	5,117.69
Building 01/11/2008-08/22/2008	6.13	33.32	47.40	0.02	0.12	2.13	2.25	0.04	1.96	2.00	4,758.53
Coating 08/08/2008-09/05/2008	166.81	0.46	5.84	0.00	0.02	0.01	0.03	0.01	0.01	0.02	359.16
Time Slice 8/25/2008-9/5/2008 Number Active Days: 10	166.81	0.46	5.84	0.00	0.02	0.01	0.03	0.01	0.01	0.02	359.16
Coating 08/08/2008-09/05/2008	166.81	0.46	5.84	0.00	0.02	0.01	0.03	0.01	0.01	0.02	359.16

Phase Assumptions

Phase: Fine Grading 11/30/2007 - 1/11/2008 - Default Fine Site Grading Description
Total Acres Disturbed: 120
Maximum Daily Acreage Disturbed: 9.3
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 6 hours per day

Phase: Paving 12/28/2007 - 1/11/2008 - Default Paving Description
Acres to be Paved: 30
Off-Road Equipment:
1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 1/11/2008 - 8/22/2008 - Default Building Construction Description
Off-Road Equipment:
1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Welders (46 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 8/8/2008 - 9/5/2008 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 150
Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 150
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Urbemis 2007 Version 9.2.0

Detail Report for Winter Area Source Unmitigated Emissions (Pounds/Day)

File Name: L:\ESP\SLO Co\05-58171 Santa Margarita Ranch\Report\FEIR\FEIR Sections\Appendices\Revised Appendices\Revised URBEMIS\ARCS apcd-revised.urb9

Project Name: Revised Santa Margarita Ranch

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

AREA SOURCE EMISSION ESTIMATES (Winter Pounds Per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.11	1.40	0.60	0.00	0.00	0.00	1,791.55
Hearth	6.92	1.78	62.80	0.21	10.25	9.87	2,446.57
Landscaping - No Winter							
Consumer Products	5.48						
Architectural Coatings	0.96						
TOTALS (lbs/day, unmitigated)	13.47	3.18	63.40	0.21	10.25	9.87	4,238.12

Area Source Changes to Defaults

01212

Urbemis 2007 Version 9.2.0

Detail Report for Winter Operational Unmitigated Emissions (Pounds/Day)

File Name: L:\ESP\SLO Co\05-58171 Santa Margarita Ranch\Report\FEIR\FEIR Sections\Appendices\Revised Appendices\Revised URBEMIS\ARCS apcd-

Project Name: Revised Santa Margarita Ranch

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Winter Pounds Per Day, Unmitigated)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	25.38	38.34	291.40	0.13	27.17	5.25	13,397.81
TOTALS (lbs/day, unmitigated)	25.38	38.34	291.40	0.13	27.17	5.25	13,397.81

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2008 Temperature (F): 50 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	120.00	10.82	dwelling units	112.00	1,211.84	15,753.92
					1,211.84	15,753.92

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	41.7	3.1	96.2	0.7
Light Truck < 3750 lbs	18.8	3.7	88.3	8.0
Light Truck 3751-5750 lbs	19.8	1.5	98.0	0.5
Med Truck 5751-8500 lbs	8.0	1.2	97.6	1.2
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	66.7	33.3
Lite-Heavy Truck 10,001-14,000 lbs	1.2	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.0	10.0	20.0	70.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.4	0.0	25.0	75.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.1	76.5	23.5	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.7	5.9	82.3	11.8

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	13.0	13.0	13.0	13.0	13.0	13.0
Rural Trip Length (miles)	13.0	13.0	13.0	13.0	13.0	13.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

Home-based shop urban trip length changed from 5 miles to 13 miles

Home-based shop rural trip length changed from 5 miles to 13 miles

Home-based other urban trip length changed from 5 miles to 13 miles

Home-based other rural trip length changed from 5 miles to 13 miles

Commercial-based non-work urban trip length changed from 5 miles to 13 miles

Commercial-based non-work rural trip length changed from 5 miles to 13 miles

Commercial-based customer urban trip length changed from 5 miles to 13 miles

Commercial-based customer rural trip length changed from 5 miles to 13 miles

01213

01214

Santa Margarita Ranch Project

Offsite Air Quality Mitigation Fee Assessment

EIR Addendum

July 2014

County of San Luis Obispo

Santa Margarita Ranch Project Off-Site Air Quality Mitigation Fee Assessment

Environmental Impact Report Addendum

SCH# 2004111112

July 2014

rincon

Environmental Scientists Planners Engineers

ENVIRONMENTAL IMPACT REPORT ADDENDUM

SANTA MARGARITA RANCH PROJECT OFF-SITE AIR QUALITY MITIGATION FEE ASSESSMENT

Prepared by:

County of San Luis Obispo
Department of Planning and Building
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San Luis Obispo, California 93408
Contact: Mr. Robert Fitzroy

Prepared with the assistance of:

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1530 Monterey Street, Suite D
San Luis Obispo, California 93401

July2014

This report prepared on 50% recycled paper with 50% post-consumer content.

Off-Site Air Quality Mitigation Fee Assessment Addendum to the Final EIR for the Santa Margarita Ranch Project

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Appendices

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1.0 INTRODUCTION

This document is an Addendum to the Santa Margarita Ranch Project Final Environmental Impact Report (EIR) (State Clearinghouse #2004111112; June 2008) prepared by the County of San Luis Obispo. The purpose of the EIR Addendum is to analyze and document additional evidence regarding the establishment of off-site mitigation fees for project impacts related to ozone precursor emissions.

According to Section 15164 of the California Environmental Quality Act (CEQA) Guidelines, an addendum to a previously certified EIR or Negative Declaration is the appropriate environmental document in instances when "only minor technical changes or additions are necessary" and when the new information does not involve new significant environmental effects beyond those identified in the previous EIR.

This Addendum has been prepared to evaluate and document additional evidence regarding the establishment of off-site mitigation fees for project impacts related to criteria pollutant emissions in light of the decision and Peremptory Writ of Mandate issued by the San Luis Obispo County Superior Court in *North County Watch, et al. v. County of San Luis Obispo, et al.* (Case No. CV098031). This Addendum evaluates that additional evidence, suggests a revised off-site mitigation fee for criteria pollutant emissions, and concludes that the revision will not result in any new significant impacts beyond those disclosed in the 2008 Final EIR.

2.0 BACKGROUND

2.1 ENVIRONMENTAL SETTING

The 14,000-acre Santa Margarita Ranch property is located immediately east of U.S. Highway 101, surrounding the unincorporated community of Santa Margarita. Of these 14,000 acres, 3,778 acres are included in an Agricultural Residential Cluster Subdivision, located southeast of the community of Santa Margarita and west of Pozo Road.

The entire 14,000-acre Santa Margarita Ranch property is bordered to the north by agriculture, rural lands, residential suburban uses, including those within the Garden Farms community, and commercial retail development. Agriculture, rural lands, single-family residences, agricultural accessory structures, quarries, and portions of the Salinas River border the site to the east. To the south agriculture, recreational, and open space uses exist, as well as trails and the Los Padres National Forest. To the north are agricultural uses, rural lands and residences. The Agricultural Residential Cluster Subdivision area is located near the center of the Ranch, and is bordered by Pozo Road/Highway 58 to the north, Pozo Road to the east, and agricultural uses, vineyards and/or livestock grazing, and dry farming to the south and west.

Local control of air quality management is provided by the California Air Resource Board (ARB) through County-level or regional (multi-county) Air Pollution Control Districts (APCDs). The ARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 14 air basins statewide. The Santa Margarita Ranch

is part of the South Central Coast Air Basin (SCCAB), which includes all of San Luis Obispo, Santa Barbara, and Ventura Counties. The San Luis Obispo County portion of the SCCAB is under the jurisdiction of the San Luis Obispo Air Pollution Control District (APCD). The APCD is required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or "non-attainment." The SCCAB is a non-attainment area for both the federal and state standards for ozone and particulate matter with a diameter of 10 micrometers or less (PM_{10}). The SCCAB is in attainment for the state and federal standards for nitrogen dioxide, and for carbon monoxide.

2.2 SANTA MARGARITA RANCH PROJECT

The Santa Margarita Ranch Agricultural Residential Cluster Subdivision Project involves development of 111 clustered home sites and one ranch headquarters unit on the 3,778 acres included in the Agricultural Residential Cluster Subdivision site. Total development area (lots and roads) would total 144 acres and the remaining 3,634 acres would be placed in agricultural conservation easements.

2.3 SANTA MARGARITA RANCH PROJECT ENVIRONMENTAL IMPACT REPORT – AIR QUALITY IMPACT SUMMARY

The 2008 Santa Margarita Ranch Project Final Environmental Impact Report ("2008 FEIR") concluded that project impacts to air quality would be significant and unavoidable. The analysis in the 2008 FEIR was conducted consistent with the April 2003 APCD *CEQA Air Quality Handbook* (2003 Handbook), which was the most recent guidance from APCD available at the time that the 2008 FEIR was certified.[1]

Regarding air quality, the 2008 FEIR concluded that the Agricultural Residential Cluster Subdivision would result in operational air pollutant emissions, primarily from vehicular traffic, which would exceed the daily San Luis Obispo County Air Pollution Control District (APCD) thresholds. The project would not exceed the annual thresholds. The 2003 Handbook required that all projects generating 25 or more pounds per day of any individual pollutant implement standard site design and energy efficiency measures, as well as all feasible discretionary site design and energy efficiency mitigation measures. In addition, in certain cases further mitigation measures were required for projects generating 25 or more pounds per day, including off-site measures, which were designed to offset emissions from large projects that could not be fully mitigated with on-site measures. Therefore, on-site and off-site mitigation measures were required for the Santa Margarita Ranch Project by the 2008 FEIR in accordance with APCD guidance in place at the time that the 2008 FEIR was certified. Of interest for this addendum is the off-site mitigation measure prescribed by the FEIR, which included the following:

[1] *The APCD updated the Handbook in April 2012, and the current analysis and mitigation fee calculations rely on the most recent APCD guidelines.*

Agricultural Residential Cluster Subdivision AQ-1(f)

Off-Site Mitigation. Prior to issuance of grading permits, the applicant shall work with APCD to define and implement off-site emission reduction measures to reduce emissions to below Tier 2 levels. In accordance with APCD methodology, the excess emissions shall be multiplied by the cost effectiveness of mitigation as defined in the State's current Carl Moyer Incentive Program Guidelines to determine the annual off-site mitigation amount. This amount shall then be extrapolated over the life of the project to determine total off-site mitigation. Off-site emission reduction measures may include, but would not be limited to:

- Developing or improving park-and-ride lots;
- Retrofitting existing homes in the project area with APCD-approved wood combustion devices;
- Retrofitting existing homes in the project area with energy-efficient devices;
- Constructing satellite worksites;
- Funding a program to buy and scrap older, higher emission passenger and heavy-duty vehicles;
- Replacing/re-powering transit buses;
- Replacing/re-powering heavy-duty diesel school vehicles (i.e. bus, passenger or maintenance vehicles);
- Funding an electric lawn and garden equipment exchange program;
- Retrofitting or re-powering heavy-duty construction equipment, or on-road vehicles;
- Re-powering marine vessels;
- Re-powering or contributing to funding clean diesel locomotive main or auxiliary engines;
- Installing bicycle racks on transit buses;
- Purchasing particulate filters or oxidation catalysts for local school buses, transit buses or construction fleets;
- Installing or contributing to funding alternative fueling infrastructure (i.e. fueling stations for CNG, LPG, conductive and inductive electric vehicle charging, etc.);
- Funding expansion of existing transit services;
- Funding public transit bus shelters;
- Subsidizing vanpool programs;
- Subsidizing transportation alternative incentive programs;
- Contributing to funding of new bike lanes;
- Installing bicycle storage facilities; and
- Providing assistance in the implementation of projects that are identified in City or County Bicycle Master Plans.

Plan Requirements and Timing. The applicant shall coordinate with APCD and implement off-site emissions reduction measures prior to issuance of grading permits. **Monitoring.** Planning and Building shall verify compliance prior to issuance of grading permits.

The 2008 FEIR was certified in December 2008 by the San Luis Obispo County Board of Supervisors. In addition, the Board adopted CEQA Findings of Fact for the significant environmental impacts identified for the Project and a Statement of Overriding Considerations for the eleven unavoidable significant environmental impacts identified in the EIR. Pursuant to Section 21081(a)(3) of the Public Resources Code, as described in the Statement of Overriding Considerations, the Board determined that the project's social, economic, and policy benefits make infeasible the alternatives identified in the 2008 FEIR and the identified unavoidably significant impacts were thereby deemed acceptable because of specific overriding considerations. Pursuant to the intent of mitigation measure AQ-1 to provide for off-site mitigation for air quality impacts, the Board of Supervisors adopted a condition of approval stating that the off-site air quality mitigation fee to be paid by the project "shall be similar to and not exceed the South County Air Mitigation Fee". This fee established a $204 per housing unit fee for projects that exceed air quality thresholds. In total, this would have required the applicant to pay $22,848 ($204x112=$22,848) as the applicable off-site air quality mitigation fee.

2.4 SAN LUIS OBISPO SUPERIOR COURT JUDGMENT

Following certification of the 2008 FEIR and approval of the Project, Petitioners North County Watch and the Endangered Habitat League filed suit challenging these actions in the San Luis Obispo Superior Court, *North County Watch, et al. v. County of San Luis Obispo*, Case No. CV 098031. The trial court entered judgment in that action on June 18, 2013, and issued a Peremptory Writ of Mandate commanding the County to undertake certain tasks before tract map recordation, grading permit, or construction permit issuance. The judgment determined that the off-site air quality mitigation measure and associated fee was not appropriate for the project, and did not include substantial evidence as to its applicability for use by this specific project. The Writ of Mandate requires the County, in relevant part, to "Develop a record based upon substantial evidence supporting establishment of off-site air quality impact fee to mitigate the Project's significant air quality impacts in compliance with CEQA," and to "Recirculate the off-site air quality impact fee and the analysis of said fee and hold any hearings as may be required by law". This Addendum is intended to supply substantial evidence supporting the establishment and calculation of the fee and will be circulated for comment from the public and interested parties in compliance with the Court's order.

3.0 DISCUSSION

This section includes information regarding the calculation of an appropriate off-site mitigation fee using the Carl Moyer program, justification for use of the Carl Moyer Program, and an evaluation of off-site mitigation fees required for the project.

3.1 CARL MOYER PROGRAM

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) provides grant funding for reductions in pollutant emissions in order to meet regulatory clean air requirements. Grants are awarded to individuals, private companies, and public agencies that reduce emissions beyond regulatory requirements. The Carl Moyer Program Guidelines (Guidelines) (2011) describe qualifying projects and how to determine emissions tonnage

reduced, project cost, and cost-effectiveness. As described in the Guidelines, a wide variety of emission reduction project categories are eligible for funding including: lawn and garden equipment replacement, accelerated light-duty automobile scrapping, or electrification or clean repowers of agricultural equipment or other off-road equipment (ARB, Carl Moyer Memorial Air Quality Standards Attainment Program, April 2014).

Emissions reduction project grants are administered by local air districts. According to the Guidelines, air districts are afforded considerable flexibility in implementing the Carl Moyer Program. Projects funded through Carl Moyer Program must be "real, surplus, quantifiable, and enforceable," and typically include replacement of in-use engines with cleaner engines, retrofitting existing engines with emissions control systems, fleet modernization, equipment replacement, and paying owners of older, more polluting vehicles to voluntarily retire them earlier than they would have otherwise. Administrative requirements are in place to ensure that emission reductions are enforceable and achievable. In its first 12 years, Carl Moyer Program funded projects collectively reduced approximately 100,000 tons of ozone precursor emissions (Carl Moyer Program Guidelines, 2011).

The Carl Moyer Program uses a "cost-effectiveness" value to reflect the current cost per ton of emissions reduced. Per Statute, the ARB updates the cost-effectiveness rate annually. Therefore, emissions reduction costs reflect current conditions. On April 3, 2014, the State issued their annual revision to the Carl Moyer cost-effectiveness value. The current rate is $17,720 per ton (ARB, "Mail-Out #MSC 14-04: Carl Moyer Program: Review and Update of the Cost-Effectiveness Limit and Capital Recovery Factors for 2014." April 2014). Although this project is a vesting subdivision map and ordinarily subject to the rules in effect at the time the project application was deemed complete in 2004, the Subdivision Map Act allows the reviewing agency to impose new rules required by changes in state or federal law. The ARB's revised "cost effectiveness" value is one such state law.

According to Section 3.8.3 of the APCD's CEQA 2012 Handbook, operational phase emissions from large development projects, such as residential subdivisions or commercial developments located far from the urban core, 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. To mitigate emissions, the project proponent can pay a mitigation fee based on the amount of emissions reductions needed to bring the project impacts below the applicable significance thresholds. Off-site mitigation fees are calculated using the Carl Moyer Program cost-effectiveness value as a reference for the cost of emissions reductions. The APCD then uses these funds to implement a mitigation program to achieve the required reductions.

Because air quality impacts related to criteria pollutants are basin-wide, and not confined to specific project sites or geographic regions within the SCCAB, off-site air quality mitigation can be used to reduce the impacts from criteria pollutant emissions associated with the project. Off-site emission reductions can result from either stationary or mobile sources, but must relate to the impacts from the project to provide a proper nexus for the air quality mitigation under CEQA. For example, NO_X emissions from increased vehicle trips from a large residential development could be reduced by funding the expansion of existing transit services in close proximity to the development project to reduce NO_X emissions. The APCD's 2012 Handbook

provides a list of potential off-site mitigation projects that can be considered to ensure equitable reductions are achieved.

The required off-site emission reductions can only be achieved by securing the funding necessary to pay for equally off-setting emission reduction projects. Cost-effectiveness is a measure of the dollars provided to a project for each ton of covered emissions reduced (currently $17,720 per ton). In order to receive Carl Moyer Program funding, off-site mitigation projects must meet the specified maximum cost-effectiveness limit. Cost-effectiveness represents the cost per ton of emissions reduced by an off-site mitigation project. To calculate Carl Moyer Program cost-effectiveness for off-site mitigation projects, the project grant amount is annualized based upon the project's life and an appropriate discount rate. This annual cost is divided by the project's estimated emission reductions to determine the overall cost-effectiveness. The value is updated annually to reflect current costs and is used to calculate funding for hundreds of clean-up projects across the state (ARB, "Mail-Out #MSC 14-04: Carl Moyer Program: Review and Update of the Cost-Effectiveness Limit and Capital Recovery Factors for 2014," Appendix G, April 2014). Therefore, as described in the paragraphs above, this method is an accurate means for defining equitable off-site mitigation to bring project air pollutant daily impacts to a level of less than significant. The APCD has successfully used this emission cost reference to help compute CEQA based off-site mitigation costs for many years.

3.2 OFF-SITE MITIGATION FEE EVALUATION

The 2003 Handbook established separate significance thresholds that applied to ROG and NO_X individually. The 2003 Tier 1 threshold for either pollutant was 10 pounds per day, the Tier 2 threshold was 25 pounds per day, and the Tier 3 threshold was 25 tons per year. The APCD adopted an updated *CEQA Air Quality Handbook* in April 2012 (2012 Handbook). The 2012 Handbook includes updated operational significance thresholds of 25 pounds per day or 25 tons per year for both ROG and NO_X combined. The 2012 Handbook combined the threshold for ROG and NO_X because both are ozone precursors. It should be noted that this threshold is more restrictive than the thresholds from the 2003 APCD Handbook used in the 2008 FEIR. As noted above, the project would exceed the daily threshold but would not exceed the annual threshold.

The following outlines the APCD's methodology for calculating off-site mitigation fees for a project that exceeds APCD's daily operational thresholds:

1) Calculate the operational phase emissions for the project using the California Emissions Estimator Model (CalEEMod) version 2013.2.2, accounting for mitigation where appropriate;

2) Project emissions above the pounds per day threshold must be converted to tons per year and divided by the daily-to-annual equity ratio value of 5.5 to obtain an equivalent tons per year value. This step is conducted because the APCD benchmark mitigation rate is based on the annual threshold of 25 tons per year and mitigation rate based on 25 pounds per day would be too high without an equitable de-rating factor;

3) The excess tons per year emissions are then multiplied by the project life (50 years for residential projects) and the applicable cost-effectiveness value as approved for the Carl Moyer Program (currently $17,720).

When a project exceeds the daily threshold but does not exceed the annual threshold, SLOAPCD recommends the use of the "5.5 equity ratio". The daily-to-annual equity ratio value of 5.5 has been developed based on the ratio between SLOAPCD's daily and annual emissions thresholds. The daily 25 pound per day threshold, converted to tons per year assuming 365 days of impacts per year, is approximately 4.5 tons per year, which when compared to the established 25 tons per year threshold, is significantly more stringent. As a result, a project that exceeds the daily threshold but does not exceed the annual threshold is unfairly subject to more stringent emissions thresholds. Since the daily threshold is more stringent than the 25 ton per year annual threshold, there is a need to adjust off-site mitigation for a 25 pound per day threshold into an equitable scale relative to off-site mitigation due to an annual threshold exceedance. This is done by defining how much more stringent the daily threshold is relative to the annual threshold: 25 tons per year divided by 4.5 tons per year = 5.5. When determining off-site mitigation, dividing the tons of project emission impacts that are above the daily threshold by 5.5 normalizes the daily mitigation rate to the annual rate.

It should be noted that the previous daily-to-annual conversion methodology recommended by APCD did not include the equity ratio of 5.5 to obtain an equivalent tons per year value. Original fee estimates from 2008 were excessively high, in part, due to the absence of the 5.5 equity ratio. Inclusion of the 5.5 equity ratio in the methodology allows fees to be calculated with more accuracy and "rough proportionality," consistent with constitutional provisions.

Operational emissions were calculated using CalEEMod version 2013.2.2. Projects with wood stoves require specific modeling methods to accurately predict daily project impacts over a given year. CalEEMod includes APCD-defined average wood stove usage rates for San Luis Obispo County. The County has a mild climate, and new homes are increasingly more insulated and efficient. Therefore, this analysis assumes that wood stoves in new construction will be used as supplemental heat and for ambiance. Based on APCD guidance, the average wood stove usage was estimated at 60 days per year with 2/3 of a cord of wood burned per year; therefore, this analysis estimates emissions for the 60-day portion of winter during which wood stoves would be most likely to be used, as well as the portion of winter during which wood stoves would not be likely to be used. This analysis assumes that there would be an average of one non-catalytic wood stove per residence (wood stoves are authorized as part of the project's conditions of approval).

Operational emissions for year 2016 (assumed operational year) associated with the 111 homes approved in the agricultural subdivision and one ranch headquarters unit (for a total of 112 units) on 144 acres are summarized in Table 1. Emissions and exceedances during summer, winter with wood stoves, and winter without woodstoves are presented in pounds per day (lbs/day) and compared to the APCD's 25 lbs/day threshold for ozone precursors to accurately estimate the change in exceedances during each period of the year.

Table 1
Agricultural Residential Cluster Subdivision, 2016 Emissions

Emissions Calculations	**2016 Emissions (lbs/day)**		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	35.64	13.06	12.59
NO_X	25.71	21.95	20.77
Excess Impact Evaluation	**2016 Emissions (lbs/day)**		
ROG + NO_X	61.36	35.01	33.35
CEQA Sig. Threshold	25	25	25
Excess ROG + NO_X	36.36	10.01	8.35
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	2,181.41	1,230.97	1,520.03
Converted to Tons	1.09	0.62	0.76
Tons of Excess ROG + NO_X in 2016			2.47
SLOCAPCD's Daily to Annual Equity Ratio			5.5
Equivalent Annual Excess ROG + NO_X Emissions in 2016			**0.45**
Carl Moyer Program Cost-Effectiveness Value			$17,720
Cost for 2016 Impacts			$7,946

See Appendix A for complete emissions calculations, including operational years 2019, 2021, 2024, 2030, and 2035.

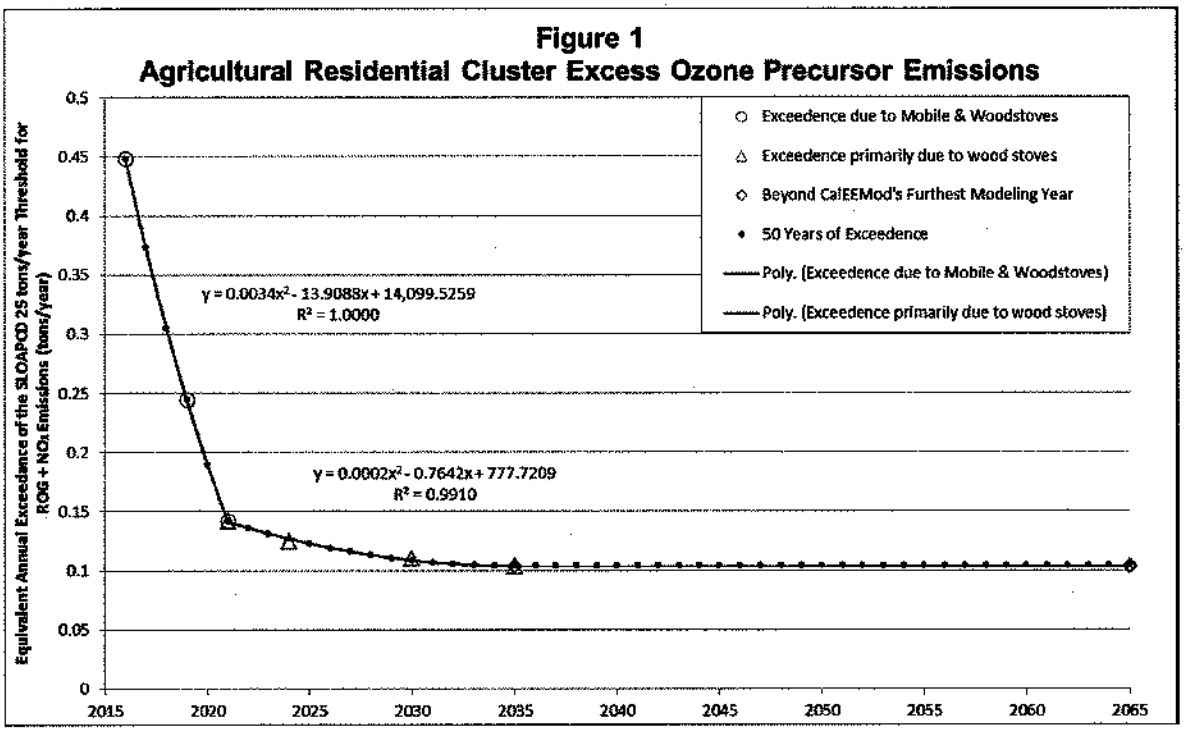
As shown in Table 1, the project's operational phase emissions for year 2016 would exceed APCD's current daily threshold of 25 pounds per day for ozone precursors (ROG + NO_X) for all scenarios (winter with wood stoves, winter without wood stoves, and summer without wood stoves). The exceedance is primarily due to emissions from mobile sources and wood stoves. Operational phase emissions for years 2019, 2021, 2024, 2030, and 2035 are shown in Appendix A. CalEEMod estimates indicate that mobile source emissions will drop off steadily over the course of the project's lifetime, as fleet turnover introduces cleaner new car and fuel technologies. The emissions associated with wood stoves are not anticipated to change over time, and would continue to exceed APCD thresholds throughout the project's lifetime.

To accurately estimate the overall exceedance over the anticipated 50-year lifetime of the project, the annual exceedances of APCD's threshold for ozone precursors was estimated based on CalEEMod runs for calendar years 2016, 2019, 2021, 2024, 2030, and 2035. These years were selected for the analysis, as they provide a reasonable estimate of the overall trend in operational emissions anticipated from the Agricultural Residential Cluster Subdivision through 2035. Operational phase emissions for year 2016 is are shown in Table 1. Operational phase emission for years 2019, 2021, 2024, 2030, and 2035 are shown in Appendix A. CalEEMod does not predict emissions beyond 2035; therefore, emissions from 2035 are used as an estimate for emissions through 2065. As described above, actual emissions beyond 2035 are expected to continue to decrease over time as a result of cleaner new car and fuel technologies; therefore, this assumption provides a conservative and reasonable worst-case estimate of future ozone precursor emissions. To determine the project exceedance for calendar years 2016 (assumed operational year), 2019, 2021, 2024, 2030, and 2035, the simulation for each year was separated

into three periods: 60 days of winter emissions with wood stoves operating, 123 days of winter emissions without wood stoves operating, and 182 days of summer emissions without wood stoves operating. The daily exceedance for each period was multiplied by the number of days in the period. This sum of the exceedances for the three periods was converted to tons of excess ROG + NO_X from the project for the given year. Between 2016 and 2021, the annual exceedances were primarily the result of both mobile and wood stove sources. Between 2022 and 2035 the annual exceedances were primarily the result of emissions from wood stoves.

To determine the project exceedance for each of the interim years during the project lifetime, the exceedances for calendar years 2016, 2019, 2021, 2024, 2030, and 2035 were graphed against the calendar year, and the interim annual exceedances were determined based on a polynomial regression analysis, which fits a trend line to a non-linear relationship between two variables – in this case the annual exceedance and the year. In other words, the interim exceedances were determined by graphing a trend of emissions for the years 2016, 2019, 2021, 2024, 2030, and 2035. The formula that describes the trend line allows interpolation of the exceedance for each year of the project lifetime based on the CalEEMod estimates for 2016, 2019, 2021, 2024, 2030, and 2035, and the reasonable worst-case assumption that 2065 emissions will be identical to 2035 emissions (because emissions from wood stoves would not change). The period from 2014 to 2021, during which the annual exceedances were primarily the result of both mobile and wood stove sources, is represented by one polynomial regression to graph the trend over time. The period from 2021 to 2035, during which the annual exceedances were primarily the result of emissions from wood stoves, is represented by a second polynomial regression. Figure 1 shows the equivalent annual exceedance of ozone precursor emissions in tons per year over the project lifetime, as well as the polynomial regression trend lines used to interpolate the exceedances for interim years not estimated in CalEEMod.

Figure 1
Agricultural Residential Cluster Excess Ozone Precursor Emissions



The annual exceedances for each year above the 25 tons/year threshold from 2016 through 2065 were multiplied by the current Carl Moyer cost-effectiveness value of $17,720 per ton to determine the annual off-site mitigation fee for the Agricultural Residential Cluster Subdivision (refer to Appendix A for calculations). As shown in Table 2, the total calculated off-site mitigation fee for the Agricultural Residential Cluster Subdivision if the project is permitted for operation in 2016 would be $130,901, based on the current Carl Moyer cost effectiveness value. This includes the APCD's 15% administrative fee. If the project is permitted for operation in years later than 2016, the applicable Carl Moyer fee shall be applied at that time, multiplied by the exceedance for that year, and the life of the project to determine the appropriate fee, using the methodologies contained herein, which would maximize the effectiveness of the mitigation fee. The operational year shall be determined based on the year in which the final occupancy clearance is issued. Payment shall be due to the APCD at that time.

Table 2
Off-Site Mitigation Fee Calculation With Operation Occurring by 2016

Project Operational Year	Project Lifetime Off-Site Mitigation Amount	APCD Administrative Fee (15%)	Total Off-Site Mitigation Fee
2016	$113,827	$17,074	$130,901

4.0 CONCLUSION

The 2008 Final EIR for the approved Santa Margarita Ranch Project determined that the project would exceed the APCD's daily operational emissions threshold of 25 pounds per day for ozone precursor emissions (ROG + NO_X) throughout the project's lifetime. Therefore, off-site mitigation is still required to reduce impacts to below a level of significance. The 2008 EIR included Mitigation Measure AQ-1(f), "Off-Site Mitigation," to reduce this impact to the maximum extent feasible. Based on the additional evidence and analysis included in this Addendum, Mitigation Measure AQ-1(f) would still mitigate the project's impacts to a level of insignificance and does not need to change. The required off-site emission reductions are achieved by securing funding to pay for equally off-setting emission reduction projects. Consistent with the APCD methodology for calculating off-site mitigation fees, excess emissions over the life of the project are multiplied by the cost-effectiveness of mitigation as defined by the Carl Moyer Program (currently $17,720 per ton). Cost-effectiveness is a measure of the dollars provided to a project for each ton of covered emissions reduced. The Carl Moyer Program cost- effectiveness value is a proven measure of costs for emission reductions. Based on the current cost-effectiveness value, the off-site mitigation fee for the subdivision project if the project is permitted for operation in 2016 would be $130,901. Payment of $130,901 would effectively mitigate air quality impacts of the Santa Margarita Ranch Project. As shown in Table 2, if project implementation is delayed beyond 2016, the applicable Carl Moyer fee shall be applied at that time, multiplied by the exceedance for that year, and the life of the project to determine the appropriate fee, using the methodologies contained herein, which would maximize the effectiveness of the mitigation fee. The operational year shall be determined based on the year in which the final occupancy clearance is issued. Payment shall be due to the APCD at that time.

5.0 DECISION NOT TO PREPARE SUBSEQUENT EIR

In accordance with Section 15164 of the *CEQA Guidelines* (Addendum to an EIR or Negative Declaration), a lead agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred. The conditions described in Section 15162 include the following:

> *(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*
>
> *(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or*
>
> *(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:*
>
> *(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;*
>
> *(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;*
>
> *(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or*
>
> *(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*

As described in detail in thediscussion above, the evaluation of off-site mitigation for project ozone precursor emissions impacts would not result in new significant impacts or identify new mitigation measures that the project proponents decline to adopt. It is important to note that the project would not undergo any changes from the original approval; therefore, no new analysis is required to disclose potential impacts of any project changes. The purpose of this Addendum has been to disclose the revisions of mitigation measure AQ-1 in accordance with the Superior Court judgment. Accordingly, pursuant to CEQA Guidelines Section 15164, an EIR Addendum is the appropriate level of supplemental CEQA review for the project.

Based on these findings, substantial evidence has been provided to support the decision not to prepare a subsequent EIR pursuant to Section 15162 and, as such, this Addendum is the appropriate environmental documentation under CEQA. This Addendum has been prepared in

accordance with relevant provisions of the CEQA of 1970 (as amended) and the State CEQA Guidelines.

6.0 REFERENCES

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Appendix A

2016, 2019, 2021, 2024, 2030, and 2035
CalEEMod output; and
Off-Site Mitigation Calculations

Agricultural Residential Cluster Subdivision - 2016 Emissions

Emissions Calculations	2016 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	35.6437	13.0589	12.5864
NOX	25.7131	21.9490	20.7654

Excess Impact Evaluation	2016 Emissions (lbs/day)		
ROG + NOX	61.3568	35.0079	33.3518
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	36.3568	10.0079	8.3518
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	2181.4080	1230.9717	1520.0276
Converted to Tons	1.0907	0.6155	0.7600

Tons of Excess ROG + NOX in 2016	2.4662
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2016	**0.4484**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2016 Impacts	$7,946

Agricultural Residential Cluster Subdivision - 2019 Emissions

Emissions Calculations	2019 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	34.0828	11.4980	11.1757
NOX	20.8928	17.1287	16.2410

Excess Impact Evaluation	2019 Emissions (lbs/day)		
ROG + NOX	54.9756	28.6267	27.4167
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	29.9756	3.6267	2.4167
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	1798.5360	446.0841	439.8394
Converted to Tons	0.8993	0.2230	0.2199

Tons of Excess ROG + NOX in 2019	1.3422
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2019	**0.2440**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2019 Impacts	$4,324

Agricultural Residential Cluster Subdivision - 2021 Emissions

Emissions Calculations	2021 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	33.5504	10.9656	10.6868
NOX	17.5020	13.7379	13.0009

Excess Impact Evaluation	2021 Emissions (lbs/day)		
ROG + NOX	51.0524	24.7035	23.6877
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	26.0524	0.0000	0.0000
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	1563.1440	0.0000	0.0000
Converted to Tons	0.7816	0.0000	0.0000

Tons of Excess ROG + NOX in 2019	0.7816
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2021	**0.1421**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2021 Impacts	$2,518

Agricultural Residential Cluster Subdivision - 2024 Emissions

Emissions Calculations	2024 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	32.9859	10.4011	10.1644
NOX	14.8886	11.1245	10.5308

Excess Impact Evaluation	2024 Emissions (lbs/day)		
ROG + NOX	47.8745	21.5256	20.6952
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	22.8745	0.0000	0.0000
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	1372.4700	0.0000	0.0000
Converted to Tons	0.6862	0.0000	0.0000

Tons of Excess ROG + NOX in 2024	0.6862
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2024	**0.1248**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2024 Impacts	$2,211

Agricultural Residential Cluster Subdivision - 2030 Emissions

Emissions Calculations	2030 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	32.3658	9.7810	9.5870
NOX	12.8204	9.0563	8.6048

Excess Impact Evaluation	2030 Emissions (lbs/day)		
ROG + NOX	45.1862	18.8373	18.1918
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	20.1862	0.0000	0.0000
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	1211.1720	0.0000	0.0000
Converted to Tons	0.6056	0.0000	0.0000

Tons of Excess ROG + NOX in 2030	0.6056
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2030	**0.1101**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2030 Impacts	$1,951

Agricultural Residential Cluster Subdivision - 2035 Emissions

Emissions Calculations	2035 Emissions (lbs/day)		
	CalEEMod's Worst Case Daily Winter Emissions w/ Wood Stoves	CalEEMod's Worst Case Daily Winter Emissions w/o Wood Stoves	CalEEMod's Worst Case Daily Summer Emissions w/o Wood Stoves
ROG	32.0521	9.4673	9.2895
NOX	11.8659	8.1017	7.7185

Excess Impact Evaluation	2035 Emissions (lbs/day)		
ROG + NOX	43.9180	17.5690	17.0080
CEQA Sig. Threshold	25	25	25
Excess ROG + NOX	18.9180	0.0000	0.0000
Applicable # of Days/yr	60	123	182
Contribution to Annual Emissions	1135.0800	0.0000	0.0000
Converted to Tons	0.5675	0.0000	0.0000

Tons of Excess ROG + NOX in 2035	0.5675
SLOCAPCD's Daily to Annual Equity Ratio	5.5
Equivalent Annual Excess ROG + NOX Emissions in 2035	**0.1032**
Carl Moyer Program Cost-Effectiveness Value	$17,720
Cost for 2035 Impacts	$1,829

	Equivalent Annual Excess ROG + Nox Emissions (tons)
2016	0.448400664
2019	0.244041773
2021	0.142104
2024	0.12477
2030	0.110106545
2035	0.103189091
2065	0.103189091

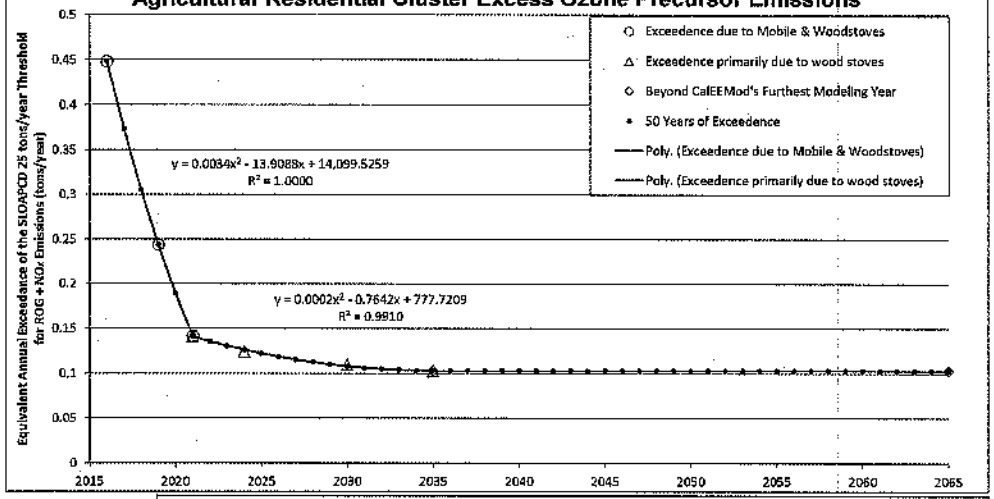
$/Ton Rate = $17,720

	Equivalent Annual Excess ROG + Nox Emissions (tons)	Annual Exceedence Off-site Mitigation Amount ($)
2016	**0.448401156**	**$7,946**
2017	0.373421229	$6,617
2018	0.305301599	$5,410
2019	**0.244042267**	**$4,324**
2020	0.189643232	$3,360
2021	**0.142104495**	**$2,518**
2022	0.135917752	$2,408
2023	0.131187897	$2,325
2024	**0.126833556**	**$2,247**
2025	0.122854729	$2,177
2026	0.119251416	$2,113
2027	0.116023618	$2,056
2028	0.113171333	$2,005
2029	0.110694563	$1,962
2030	**0.108593306**	**$1,924**
2031	0.106867564	$1,894
2032	0.105517336	$1,870
2033	0.104542621	$1,852
2034	0.103943421	$1,842
2035	**0.103719735**	**$1,838**
2036	0.103719735	$1,838
2037	0.103719735	$1,838
2038	0.103719735	$1,838
2039	0.103719735	$1,838
2040	0.103719735	$1,838
2041	0.103719735	$1,838
2042	0.103719735	$1,838
2043	0.103719735	$1,838
2044	0.103719735	$1,838
2045	0.103719735	$1,838
2046	0.103719735	$1,838
2047	0.103719735	$1,838
2048	0.103719735	$1,838
2049	0.103719735	$1,838
2050	0.103719735	$1,838
2051	0.103719735	$1,838
2052	0.103719735	$1,838
2053	0.103719735	$1,838
2054	0.103719735	$1,838
2055	0.103719735	$1,838
2056	0.103719735	$1,838
2057	0.103719735	$1,838
2058	0.103719735	$1,838
2059	0.103719735	$1,838
2060	0.103719735	$1,838
2061	0.103719735	$1,838
2062	0.103719735	$1,838
2063	0.103719735	$1,838
2064	0.103719735	$1,838
2065	0.103719735	$1,838

Project Lifetime Off-site Mitigation Amount (2016) **APCD Admin Fee** **2016 Total Off-Site Mitigation Fee**

$113,827 **$17,074** **$130,901**

Figure 1
Agricultural Residential Cluster Excess Ozone Precursor Emissions



trendline formula: y=ax^2-bx+c

Trendline 1: Exceedence due to Mobile & Woodstoves
a = 0.003430149
b = 13.90876999
c = 14099.52591

Trendline 2: Exceedence primarily due to wood stoves
a = 0.000187757
b = 0.764207035
c = 777.7209358

Operational Year	Project Lifetime Off-Site Mitigation Amount	APCD Admin Fee	Total Off-Site Mitigation Fee
2016	$113,827	$17,074	$130,901

CEQA Air Quality Handbook 2003

CEQA

AIR QUALITY HANDBOOK

A GUIDE FOR ASSESSING THE AIR QUALITY IMPACTS FOR PROJECTS SUBJECT TO CEQA REVIEW

April 2003

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO

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Table of Contents

Tables

List of Acronyms

ACM	Asbestos Containing Material
ADT	Average Daily Trips
APCD	San Luis Obispo County Air Pollution Control District
ARB	California Air Resources Board
ATCM	Air Toxics Control Measure
CAAA	1990 Clean Air Act Amendments
CAP	Clean Air Plan for San Luis Obispo County
CBACT	Best Available Control Technology for Construction Equipment
CDPF	Catalyzed Diesel Particulate Filter
CEQA	California Environmental Quality Act
CNG	Compressed Natural Gas
CO	Carbon Monoxide
DOC	Diesel Oxidation Catalyst
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
H2S	Hydrogen Sulfide
ITE	Institute of Transportation Engineers
LNG	Liquid Natural Gas
LOS	Level of Service
OCS	Outer Continental Shelf
NESHAP	National Emission Standard for Hazardous Air Pollutants
NOP	Notice of Preparation
NOx	Oxides of Nitrogen
PM10	Particulate Matter (less than 10 μm)
ROG	Reactive Organic Gases
SLO	San Luis Obispo
SO2	Sulfur Dioxide
TDM	Transportation Demand Management
VMT	Vehicle Miles Traveled

CEQA
Air Quality Handbook

GUIDE FOR ASSESSING THE AIR QUALITY IMPACTS FOR PROJECTS SUBJECT TO CEQA REVIEW

The purpose of this document is to assist lead agencies, planning consultants, and project proponents in assessing the potential air quality impacts from residential, commercial and industrial development. It was designed to provide uniform procedures for preparing the air quality analysis section of environmental documents for projects subject to the California Environmental Quality Act (CEQA). These guidelines define the criteria used by the San Luis Obispo County Air Pollution Control District (APCD or District) to determine when an air quality analysis is necessary, the type of analysis that should be performed, the significance of the impacts predicted by the analysis, and the mitigation measures needed to reduce the overall air quality impacts. It is hoped that use of this document will simplify the process of evaluating and mitigating the potential air quality impacts from new development in San Luis Obispo County.

For further information on any of the topics covered in this handbook, review the District's website at www.slocleanair.org or contact us directly at (805) 781-5912.

1 PROJECTS REQUIRING AIR QUALITY REVIEW AND ANALYSIS

The APCD has permit authority over many "direct" sources of air contaminants, such as power plants, gasoline stations, dry cleaners and refineries. The District does not, however, exercise permit authority over "indirect" emission sources. Indirect sources are facilities and land uses which do not emit a significant amount of pollution themselves, but attract or generate motor vehicle trips which results in emissions of ozone precursors and fine particulate matter. Emissions from these sources are typically addressed through the land use planning process under the guidelines and statutes of CEQA.

1.1 Role of the District

The District normally acts as a **responsible or commenting agency** under CEQA, reviewing and commenting on projects which have the potential to cause adverse impacts to air quality. Under CEQA statutes and guidelines lead agencies are required to seek comments from each responsible agency and any pubic agency that has jurisdiction by law over resources that may be affected by a proposed project (CEQA 21153 and 15366). For most urban development proposals, this typically involves projects where vehicle trip generation is high enough to cause emission levels capable of hindering the District's efforts to attain and maintain the state health-based air quality standards. It is in this context that local jurisdictions and planning bodies can make critical decisions that affect their future environment, and that of neighboring communities as well.

Offshore activities such as harbor dredging and cable installation will also be subject to CEQA review and possible permitting through the district depending on the nature of the activity.

1.2 Projects Subject to Air Quality Analysis

In general, any proposed project which has the potential to emit **10 lbs/day or more** of reactive organic gases (ROG), oxides of nitrogen (NOx), sulfur dioxide (SO2), or particulate matter (PM10), or **50 lbs/day or more** of carbon monoxide (CO) should be submitted to the District for review. The project will be evaluated to determine the potential for significant air quality impacts, with further analysis or mitigation recommended if appropriate. Types of projects which generally fall into this category include: Tract Maps, Development Plans, Site Plans, Area Plans, Specific Plans, Local Coastal Plans, General Plan Updates and Amendments, large residential developments and large commercial or industrial developments. Environmental documents associated with these types of projects are also reviewed by the District. Initial Studies, Notices of Preparation (NOP), Negative Declarations, and Environmental Impact Reports (EIR) are examples of documents requiring District review.

1.3 Project Information Needed for District Review

Early consultation with the District can ensure that the environmental document adequately addresses air quality issues. In order to facilitate our review of the proposed project, the following information should be provided:

- Complete and accurate project description, including all estimates and assumptions;
- Environmental documents, including Draft EIRs, Initial Studies, Negative Declarations, etc.;
- Any technical documents or appendices that relate to air quality, including traffic analyses, growth impact projections, land use elements, maps, etc.; and,
- Mitigation Monitoring Program, if applicable.

1.4 Screening Criteria for Project Impacts

General screening criteria used by the District to determine the type and scope of projects requiring an air quality assessment, and/or mitigation, are presented in Table 1-1. These criteria are based on project size and are focused primarily on the indirect emissions (i.e., motor vehicles) associated with residential, commercial and industrial development. The list is not comprehensive and should be used for general guidance only. A more refined analysis of air quality impacts specific to a given project, such as the use of the URBEMIS model, is often necessary for projects exceeding the screening thresholds.

Table 1-1 Screening Criteria for Project Air Quality Impacts

LAND USE	UNIT OF MEASURE	TRIP GENERATION RATE [1]		PROJECT SIZE WHICH WOULD GENERATE:	
		Weekday	Weekend	10 lbs/day of Emissions [2]	25 lbs/day of Emissions [2]
RESIDENTIAL:					
Single Family	Dwelling unit	10.0	10.0	35	85
Apartments	Dwelling unit	6.5	6.5	50	125
Condominiums (High Rise)	Dwelling unit	4.2	4.3	60	150
Condominiums (Family)	Dwelling unit	5.7	6.5	50	150
Mobile Home Park	Dwelling unit	4.8	5.0	55	135
RETAIL:					
Shopping Center					
10,000 - 50,000 sq. ft.	1000 sq. ft.	167.6	215.4	ANY RETAIL FACILITY WITH GREATER THAN 3,000 SQ. FT. SHOULD BE SENT TO THE DISTRICT FOR REVIEW	
50,000 - 100,000 sq. ft.	1000 sq. ft.	91.7	118.4		
100,000 - 200,000 sq. ft.	1000 sq. ft.	70.7	91.5		
200,000 - 300,000 sq. ft.	1000 sq. ft.	54.5	70.7		
300,000 - 400,000 sq. ft.	1000 sq. ft.	46.8	60.8		
400,000 - 500,000 sq. ft.	1000 sq. ft.	42.0	54.6		
500,000 - 600,000 sq. ft.	1000 sq. ft.	38.7	50.3		
600,000 - 800,000 sq. ft.	1000 sq. ft.	36.4	47.0		
800,000 - 1,000,000 sq. ft	1000 sq. ft.	33.9	42.2		
1,000,000- 1,200,000 sq.ft.	1000 sq. ft.	32.1	38.8		
Discount Store	1000 sq. ft.	70.1	72.7	7,600 sq. ft.	19,000 sq. ft.
Convenience Market	1000 sq. ft	738.0	863. 1	820 sq. ft.	2,000 sq. ft.
INDUSTRIAL:					
Light Industrial	1000 sq. ft.	7.0	1.3	72,000 sq. ft.	180,000 sq. ft.
Light Industrial	acres	51.8	8.7	9.8 acres	25 acres
Industrial Park	1000 sq. ft.	7.0	2.5	77,000 sq. ft.	190,000 sq. ft.
Industrial Park	acres	62.9	34.2	8.5 acres	21 acres
Manufacturing	1000 sq. ft	3.9	1.5	110,000sq. ft.	280,000 sq. ft.
Manufacturing	acres	38.9	33.4	11 acres	28 acres
Heavy Industrial	1000 sq. ft.	1.5		140,000 sq. ft.	350,000 sq. ft.
Heavy Industrial	acres	65.3		3.3 acres	8.3 acres
OFFICE:					
Medical Office	1000 sq. ft.	34.2	9.0	20,000 sq. ft.	50,000 sq. ft.
Medical Office	Employee	8.8	4.0	77 Employees	190 Employees
Office Park	1000 sq. ft.	11.4	1.6	45,000 sq. ft.	110,000 sq. ft.
Office Park	Employees	3.5	0.6	150 Employee	370 Employees
Office Park	Acres	195.1	29.3	2.6 acre	6.5 acres

Table 1-1 Screening Criteria for Project Air Quality Impacts (Cont'd.)					
LAND USE	UNIT OF MEASURE	TRIP GENERATION RATE (ADT)		PROJECT SIZE WHICH WOULD GENERATE:	
		Weekday	Weekend	10 lbs/day of Emissions[2]	25 lbs/day of Emissions[2]
RESTAURANT USES:					
Quality Restaurant	1000 sq. ft.	96.5	92.6	7,000 sq. ft.	18,000 sq. ft.
Fast Food with Drive-Up	1000 sq. ft.	632.1	686.0	1,000 sq. ft.	2,500 sq. ft.
Fast Food without Drive-Up	1000 sq. ft.	786.2	822.8	840 sq. ft.	2,100 sq. ft.
Sit Down	1000 sq. ft.	205.4	229.3	3,000 sq. ft.	7,500 sq. ft.
EDUCATION: [3]					
Elementary School	1000 sq. ft.	10.7		58,000 sq. ft.	140,000 sq. ft.
Elementary School	No. Employees	13.4		46 Employees	110 Employees
Elementary School	No. Students	1.1		560 Students	1400 Students
High School	1000 sq. ft.	10.9		61,000 sq. ft.	150,000 sq. ft.
High School	No. Employees	16.8		39 Employees	99 Employees
High School	No. Students	1.4	0.8	470 Employees	1200 Employees
Day Care Center	1000 sq. ft.	79.3	6.2	8600 sq. ft.	22,000 sq. ft.
Day Care Center	No. Employees	33.2		21 Employees	52 Employees
FINANCIAL:					
Walk-In Bank	No. Employees	67.4	18.6	10 Employees	25 Employees
Walk-In Bank	1000 sq. ft.	140.6	38.9	4,800 sq. ft.	12,000 sq. ft.
Drive-In Bank	No. Employees	72.8	17.8	9 Employees	23 Employees
Drive -In Bank	1000 sq. ft.	265.2	65.9	2,600 sq. ft.	6,500 sq. ft.
MISCELLANEOUS:					
Hospital	1000 sq. ft.	16.8		36,000 sq. ft.	90,000 sq. ft.
Hospital	No. Employees	5.2		110 Employees	290 Employees
Hotel	No. Rooms	8.7	10.5	66 Rooms	160 Rooms
Hotel	No. Employees	12.3	14.3	48 Employees	120 Employees
Resort Hotel	No. Rooms	10.2	10.2	67 Rooms	160 Rooms
Resort Hotel	No. Employees	13.8	10.3	50 Employees	120 Employees

1. Trip generation rates in this table are from the Institute of Transportation Engineers (ITE) Trip Generation Rate Tables. Weekend rates reflect the reasonable worst-case for either Saturday or Sunday.
2. Emissions are defined as one of either ROG, NOx or PM10.
3. All projects involving the purchase of a school site, or construction of a new elementary or secondary school must be referred to the District for review and comment. (California Public Resources Code Section 21151.8, Subd. (a)(2)).

Data in this table was generated using URBEMIS7G. This table will be updated after EMFAC 2002 emission factors are incorporated into the URBEMIS model.

2 SIGNIFICANCE CRITERIA

The District has established four separate categories of evaluation for determining the significance of project impacts. Full disclosure of the potential air pollutant and/or toxic air emissions from a project is needed for these evaluations, as required by CEQA:

1) Comparison of calculated project emissions to District emission thresholds;

2) Consistency with the most recent Clean Air Plan (CAP) for San Luis Obispo County;

3) Comparison of predicted ambient pollutant concentrations resulting from the project to state and federal health standards, when applicable; and

4) The evaluation of special conditions which apply to certain projects.

2.1 Comparison To APCD Emission Thresholds

The threshold criteria established by the District to determine the significance and appropriate mitigation level for long-term emissions from a project are presented in Table 2-1. Emissions which equal or exceed the designated threshold levels are considered potentially significant and should be mitigated. As shown in the table, the level of analysis and mitigation recommended follows a tiered approach based on the overall amount of emissions generated by the project.

A Program Level environmental review, such as for a General Plan, Specific Plan or Area Plan however, does not require a quantitative air emissions analysis at the project scale. A qualitative analysis of the air quality impacts should be conducted instead, and should be generated for each of the proposed alternatives to be considered. The qualitative analysis of each alternative should be based upon criteria such as prevention of urban sprawl and reduced dependence on automobiles. A finding of significant impacts can be determined qualitatively by comparing consistency of the project with the Transportation and Land Use Planning Strategies outlined in the District's Clean Air Plan. Refer to Section 2.2 for more information.

Section 5 of this document provides guidance on the type of mitigation recommended for varying levels of impact and presents a sample list of appropriate mitigation measures for different types of projects. Most of the mitigation strategies suggested focus on methods to reduce vehicle trips and travel distance, including site design standards which encourage pedestrian and bicycle-friendly, transit-oriented development. In addition, the recommendations include design strategies for residential and commercial buildings that address energy conservation and other concepts to reduce total project emissions. These recommendations are not all inclusive and are provided as examples among many possibilities.

Short-term emissions from project construction or other temporary activities should also be evaluated and mitigated when necessary. Guidelines for analysis, determination of impact significance for construction activities, and mitigation measures are presented in Section 6.

Table 2-1 provides general guidelines for determining the significance of impacts and type of environmental analysis recommended in relation to total emissions expected from project

operations. The discussion following the table gives a more detailed explanation of the thresholds.

Table 2-1 Thresholds of Significance for Operational Emissions Impacts

Pollutant		Tier 1	Tier 2	Tier 3
ROG, NOx, SO_2, PM_{10}	< 10 lbs/day	10 lbs/day	25 lbs/day	25 tons/yr.
CO	< 550 lbs/day		550 lbs/day	
Significance	Insignificant	Potentially Significant Impacts	Significant Impacts	Significant Impacts
Environmental Document	Negative Declaration (ND)	Mitigated ND	Mitigated ND or EIR	EIR

Less than 10 lbs/day of ROG, NOx, SO_2, PM10 or less than 550 lbs/day for CO
There are no significant air quality impacts associated with the project. Thus, mitigation measures are not required; any development strategies found in Sections 5 and 6 that are integrated into the project would be considered a project benefit. A NEGATIVE DECLARATION should be prepared.

Tier 1: 10 - 24 lbs/day of ROG, NOx, SO_2, PM10
Any project which has the potential to exceed the Tier 1 threshold has the potential to cause significant air quality impacts, and should be submitted to the District for review. On-site mitigation measures, following the guidelines in Section 5, are recommended to reduce air quality impacts to a level of insignificance. A MITIGATED NEGATIVE DECLARATION should be prepared.

Tier 2: greater than or equal to 25 lbs/day or more of ROG, NOx, SO_2, PM10 or greater than or equal to 550 lbs/day of CO
If all feasible mitigation measures are incorporated into the project and emissions can be reduced to less than the Tier 2 threshold, then a MITIGATED NEGATIVE DECLARATION may be prepared.

If all feasible mitigation measures are incorporated into the project and emissions are still greater than the Tier 2 threshold, then an ENVIRONMENTAL IMPACT REPORT should be prepared. Additional mitigation measures, including off-site mitigation, may be required depending on the level and scope of air quality impacts identified in the EIR.

For CO, emission levels equal to or exceeding 550 lbs/day should be modeled to determine their significance. Refer to Section 3.2 for additional information.

Tier 3: 25 tons/year or more of Emissions
If emissions from a project will exceed the Tier 3 threshold, then an ENVIRONMENTAL IMPACT REPORT should be prepared. Depending upon the level and scope of air quality impacts identified in the EIR, mitigation measures, including off-site mitigation measures, may be required to reduce the overall air quality impacts of the project to a level of insignificance.

2.1.1 Evaluation of Project Changes

If after final project approval the scope or project description is modified, the project will need to be re-evaluated by the District to determine if additional air impacts will result from the proposed modifications. If additional impacts are expected, the cumulative impacts from the total project must be evaluated.

2.2 Consistency with the District's Clean Air Plan

A consistency analysis with the CAP is required for a Program Level environmental review, and may be necessary for a Project Level environmental review, depending on the project being considered. Program Level environmental reviews include General Plan Updates and Amendments, Specific Plans, and Area Plans. Project Level environmental reviews which may require consistency analysis with the CAP include subdivisions, large residential developments and large commercial/industrial developments. The consistency analysis should evaluate the following questions:

1. Are the population projections used in the plan or project equal to or less than those used in the most recent CAP for the same area?
2. Is the rate of increase in vehicle trips and miles traveled less than or equal to the rate of population growth for the same area?
3. Have all applicable land use and transportation control measures and strategies from the CAP been included in the plan or project to the maximum extent feasible?

If the answer to ALL of the above questions is yes, then the proposed project or plan is considered to be consistent with the CAP. If the answer to ANY one of the questions is no, then the emissions reductions projected in the CAP may not be achieved, which could hinder our ability to achieve or maintain attainment of the state ozone standard. Inability to comply with the state ozone standard could bear potential negative economic implications for the county's residents and business community. This would be considered inconsistent with the CAP. The APCD will generally recommend denial for projects that are deemed to be inconsistent with the CAP.

2.3 Comparison to Standards

State and federal ambient air quality standards have been established to protect public health and welfare from the adverse impacts of air pollution; these standards are listed in Table 2-2. Industrial and large commercial projects are sometimes required to perform air quality dispersion modeling if the District determines that project emissions may have the potential to cause an exceedance of these standards. In such cases, gaussian models such as SCREEN or ISC3 are run to calculate the potential ground-level pollutant concentrations resulting from the project. The predicted pollutant levels are then compared to the applicable state and federal standards. A project is considered to have a significant impact if its emissions are predicted to cause or contribute to a violation of any ambient air quality standard. In situations where the predicted standard violation resulted from the application of a "screening-level" model or calculation, it may be appropriate to perform a more refined modeling analysis to accurately estimate project impacts. If a refined analysis is not available or appropriate, then the impact must be mitigated to a level of insignificance or a finding of overriding considerations must be made by the permitting agency.

Table 2-2 Ambient Air Quality Standards (State and Federal)

Pollutant		Averaging Time	California Standard (1)	Federal Standard (2)
Ozone		1 Hour	0.09 ppm	0.12 ppm
		8 Hour		0.08 ppm
Carbon Monoxide		8 Hour	9.0 ppm	9 ppm
		1 Hour	20 ppm	35 ppm
Nitrogen Dioxide		Annual Arithmetic Mean		0.053 ppm
		1 Hour	0.25 ppm	
Sulfur Dioxide		Annual Arithmetic Mean		0.030 ppm
		24 Hour	0.04 ppm	0.14 ppm
		3 Hour		0.5 ppm (secondary)
		1 Hour	0.25 ppm	
Suspended Particulate Matter	**PM_{10}**	Annual Arithmetic Mean	20 $\mu g/m^3$ (3)	50 $\mu g/m^3$
		24 Hour	50 $\mu g/m^3$	150 $\mu g/m^3$
	$PM_{2.5}$	Annual Arithmetic Mean	12 $\mu g/m^3$ (3)	15 $\mu g/m^3$
		24 Hour		65 $\mu g/m^3$
Hydrogen Sulfide		1 Hour	0.03 ppm	
Visibility		8 Hour	In sufficient amount to reduce the prevailing visibility to less than ten miles when the relative humidity is less than 70%.	

1. State standards for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide (1-hour) and PM-10 are not to be exceeded. All other state standards are not to be equaled or exceeded.
2. Federal Primary Standards unless otherwise indicated. Federal standards are not to be exceeded more than once in any calendar year.
3. Adopted by the Air Resources Board (ARB) on June 20, 2002.

The need to perform air quality dispersion modeling for typical urban development projects is infrequent, and is determined on a case-by-case basis by the District. If such modeling is found necessary, the project consultant should check with the District to determine the appropriate model and input data to use in the analysis.

2.4 Special Conditions

Project impacts may also be considered significant if one or more of the following special conditions apply:

a. If a project has the potential to emit toxic or hazardous air pollutants, or is located in close proximity to sensitive receptors, impacts may be considered significant due to increased cancer risk for the affected population, even at a very low level of emissions. Such projects may be required to prepare a risk assessment to determine the potential level of risk associated with their operations. The District should be consulted on any project with the potential to emit toxic or hazardous air pollutants. Pursuant to the requirements of California Health and Safety Code Section 42301.6 (AB 3205) and Public Resources Code Section 21151.8, subd. (a)(2), any new school, or proposed industrial or commercial project site located within 1000 feet of a school must be referred to the District for review. Further details on requirements for projects in this category are presented in Appendix A.

b. In July of 1999 the California Air Resources Board (ARB) listed diesel particulate matter (diesel PM) emissions from diesel-fueled engines as a toxic air contaminant with no identified threshold level below which there are no significant effects. If a project will result in release of diesel emissions in areas with potential for human exposure, a finding of significance can be made, even if overall emissions are low. Factors that will be considered by APCD staff when determining significance of a project include the expected emissions from diesel equipment, location of the project and distance to sensitive receptors.

c. Remodeling and demolition activities have potential negative air quality impacts, including issues surrounding proper demolition and disposal of asbestos containing material (ACM). Asbestos can also be found in utility pipes/pipelines (transite pipes or insulation on pipes). If utility pipelines are scheduled for removal or relocation; or building(s) are removed or renovated the project may be subject to various regulatory requirements including National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M - asbestos NESHAP). Asbestos is listed as a toxic air contaminant by both ARB and by the U.S. Environmental Protection Agency (EPA). It is discussed in these Guidelines as a separate issue because of its widespread presence in the environment, its human health implications, and its concern among the public. Asbestos is likely to be found in buildings constructed before 1979 and almost certain to be present in those built before 1950. If a project involves demolition and disposal of asbestos containing material then the project is subject to the requirements stipulated in the NESHAP, which includes but is not limited to: 1) notification requirements to the District, 2) asbestos survey conducted by a Certified Asbestos Inspector, and 3) applicable removal and disposal requirements of identified ACM.

d. Naturally occurring asbestos has been identified by the state Air Resources Board as a toxic air contaminant. Serpentine and ultramafic rocks are very common throughout California and may contain naturally occurring asbestos. The District has identified areas throughout the County where naturally occurring asbestos may be present. Under the State ARB's Air Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any grading activities at a project site located in the candidate area, a geologic evaluation will be necessary to determine if naturally occurring asbestos is present. If naturally occurring asbestos is found at the site the applicant must comply with all requirements outlined in the Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations. These requirements may include but are not limited to: 1) an Asbestos Dust Mitigation Plan which must be approved by the District before construction begins, and 2) an Asbestos Health and Safety Program will also be required for some projects.

e. If a project is located near a sensitive receptor, such as a school, hospital or senior center, it may be considered significant even if other criteria do not apply. The health effects of a project's emissions may be more pronounced if they impact a considerable number of children, elderly, or people with compromised respiratory or cardiac conditions. Potential sensitive receptor locations should be identified in the environmental documents for APCD staff evaluation.

f. If a project has the potential to cause an odor or other nuisance problem which could impact a considerable number of people, then it may be considered significant. A project may emit a pollutant in concentrations that would not otherwise be significant except as a nuisance, for example hydrogen sulfide (H2S). Odor impacts on residential areas and other sensitive receptors warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, work sites and commercial areas.

When making a determination of odor significance, determine whether the project would result in an odor source located next to potential receptors within the distances indicated in Table 2.3. The Lead Agency should evaluate facilities not included in Table 2.3 or projects separated by greater distances than indicated in Table 2.3 if warranted by local conditions or special circumstances. The list is provided as a guide and, as such, is not all-inclusive.

If a project is proposed within the screening level distances in Table 2.3, the District's Enforcement Division should be contacted for information regarding potential odor problems. For projects that involve new receptors located near an existing odor source(s), an information request should be submitted to the District to review the inventory of odor complaints for the nearest odor emitting facility(ies) during the previous three years. For projects involving new receptors to be located near an existing odor source where there is currently no nearby development, and for new odor sources locating near existing receptors, the information request and analysis should be based on a review of odor complaints for similar facilities.

Table 2-3 Project Screening Distances for Potential Odor Sources	
Type of Operation	**Project Screening Distance**
Wastewater Treatment Plant	1 mile
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g. auto body shops)	1 mile
Rendering Plant	1 mile
Coffee Roaster	1 mile
Food Processing Facility	1 mile

For a project to be located near an existing odor source, the project should be identified as having a significant odor impact if it will be located closer to an existing odor source than any location where there has been: 1) more than one confirmed complaint per year averaged over a three year period, or 2) three unconfirmed complaints per year averaged over a three year period.

If a proposed project is determined to result in potential odor problems, mitigation measures should be identified. For some projects, add-on controls or process changes, such as carbon absorption, incineration or an engineering modification to stacks/vents, can reduce odorous emissions. In many cases, however, the most effective mitigation strategy is the provision of a sufficient distance, or buffer zone, between the source and the receptor(s).

The APCD should be consulted whenever any of these special conditions apply.

3 METHODS FOR CALCULATING PROJECT EMISSIONS

Air pollutant emissions from urban development can derive from a variety of sources, including motor vehicles, wood burning appliances, natural gas and electric energy use, combustion-powered utility equipment, paints and solvents, equipment or operations used by various commercial and industrial facilities, construction and demolition equipment and operations, and various other sources. The amount and type of emissions produced, and their potential to cause significant impacts, depends on the type and level of development proposed. The following sections describe the recommended methods generally used to calculate emissions from motor vehicles, congested intersections and roadways, non-vehicular sources at residential and commercial facilities, and industrial point and area sources. Calculation and mitigation of construction emissions are described separately in Section 6.

3.1 Motor Vehicle Emissions

Motor vehicles are a primary source of long-term emissions from many residential, commercial, institutional, and industrial land uses. These land uses often do not emit significant amounts of air pollutants directly, but cause or attract motor vehicle trips that do produce emissions. Such land uses are referred to as indirect sources.

Motor vehicle emissions associated with indirect sources should be calculated for projects which exceed the screening criteria listed in Table 1-1. Calculations should be based on the most recent vehicle emission factors (EMFAC series) provided by the California Air Resources Board (ARB), and trip generation factors published by the Institute of Transportation Engineers (ITE). These factors have been incorporated into a simple computer model called URBEMIS, originally developed by the ARB. URBEMIS incorporates the EMFAC emission factors and ITE trip rates. This program is available for download from the APCD website at www.slocleanair.org/programs/download.asp.

URBEMIS is a planning tool for estimating vehicle travel, fuel use and resulting emissions related to land use projects. The model calculates emissions of ROG, CO, NOx and PM10 from vehicle use associated with new or modified development such as shopping centers, housing, commercial services and industrial land uses. URBEMIS allows users to compare motor vehicle emissions as a function of the number of vehicle trips associated with a given land use and the vehicle miles traveled for each particular type of trip taken. The calculated emissions can then be used as a basis for project screening.

User-specified inputs to the model include project type, year, season, trip speed and other parameters. Table 3-1 identifies the District's recommended changes to the default values in the program which should be used when no other project specific information is available. If different values are used, justification and documentation for the inputs should be provided.

Table 3-1 Recommended URBEMIS Default Value Changes	
Air District	San Luis Obispo County
Analysis Year	Most optimistic project completion year
Temperature - summer[1]	75° F
Average Vehicle Speed	35 mph
Trip Length	
Residential[2]	Home-based work: 13 miles
	Home-based shop: 5 miles
	Home-based other: 5 miles
Commercial[2]	Commercial-based: 13 miles
	Commercial-based non-work: 5 miles
	Commercial-based customer: 5 miles
All Other URBEMIS Inputs	Use default values, unless project-specific data is available

1. When calculating emissions for the year, use a weighted average with 2/3 of the total emissions from summer outputs and 1/3 of the total emissions from winter outputs.
2. The trip length inputs are acceptable for projects that are located either urban or rural.

The District recommends using the most recent version of URBEMIS adopted by the ARB and the corresponding version of EMFAC. A link to the most recent version of URBEMIS can be accessed from the APCD's website at www.slocleanair.org.

One deficiency in URBEMIS occurs in calculating PM10 emissions. The model only accounts for tire and brake wear, and exhaust particulate. However, the most significant source of PM10 actually comes from re-entrained road dust as vehicles travel on roadway surfaces. Thus, an additional calculation needs to be performed and the results added to the URBEMIS output. Entrained road dust PM10 emissions should be calculated using the paved and unpaved road emission factors provided in Table 3-2. The appropriate emission factor is selected by matching the anticipated vehicle fleet type and roadway type.

Table 3-2 Entrained Road Dust PM10 Emission Factors			
	Paved Roads [2]		
	ADT [1] < 5000	ADT > 5000	Unpaved Roads [3]
Average Fleet [4]	0.01 lb/VMT [1]	0.004 lb/VMT	1 lb/VMT
Heavy Duty Trucks	0.4 lb/VMT	0.1 lb/VMT	6 lb/VMT

1. ADT = Average Daily Trips; VMT = Vehicle Miles Traveled.
2. Paved road factors based on calculation procedures in AP-42, Section 13.2.1 (1/96). Paved road entrained dust emission factors calculated assuming using the 50th percentile silt content (AP42, page 13.2.1-5).
3. Unpaved road factors based on calculation procedures in AP-42 Section 13.2.2 (1/95). Unpaved road entrained dust emission factors calculated assuming the mean % silt for rural roads (AP42, page 13.2.2-2).
4. The San Luis Obispo County "average fleet" vehicle composition was determined from the activity model in ARB's MVEI7G model for the 1998 fleet year.

3.2 *Roadway and Intersection Emissions*

For projects predicted to generate significant levels of traffic or congestion, a CO hotspot analysis may be necessary. CALINE4 is a fourth generation model developed by Caltrans to determine pollutant concentrations near roadways. It is primarily used to predict concentrations of CO near congested roadway segments or intersections; however, it can also be used to calculate ambient levels of NOx, PM10, and other inert gaseous pollutants. Given source, site, and meteorological characteristics, the model can predict impacts on receptors within 150 meters of the roadway. The user needs accurate information about site characteristics, including road widths, number of lanes, traffic control devices, and peak hour traffic loading.

Use of CALINE4 is generally required whenever a project is expected to cause significant queuing of vehicles at an intersection, or is predicted to cause the Level of Service (LOS) on a roadway segment to degrade to LOS D or lower. Table 3-3 lists the District's recommended meteorological inputs to the model.

Table 3-3 CALINE4 Input Values

Wind Speed	0.5 m/s
Stability Class	F
Mixing Height	1,000 feet
Temperature	
Coastal Plain	40 degrees F.
Inland Areas	30 degrees F.

Note: Specific information about traffic patterns in the area of concern (i.e., average vehicle speed, deceleration time, etc.) should be obtained from a traffic engineer. Major projects often require traffic studies for other planning purposes. Input values needed for CALINE4 can be obtained from those studies. Other information sources include Caltrans and the SLO County Public Works. Origin of data and other information used as inputs to the model should be carefully documented in all cases.

3.3 *Non-vehicular Emissions from Residential and Commercial Facilities*

Non-vehicular emission sources associated with most residential and commercial development include energy use to power lights, appliances, heating and cooling equipment, etc.; evaporative emissions from paints and solvents; fuel combustion by lawnmowers, leaf blowers and other small utility equipment; residential wood burning; household products; and other small sources. Such emissions may appear to be insignificant when viewed individually, but are important from a cumulative standpoint. The URBEMIS model provides air emissions estimations from household products and landscaping based upon various land use types.

3.4 *Industrial Emission Sources*

From an emissions standpoint, industrial facilities and operations are typically categorized as being point or area sources. Point sources are stationary and generally refer to a site that has one or more emission sources at a facility with an identified location (e.g., power plants, refinery

boilers). Area sources can be stationary or mobile and typically include categories of stationary facilities whose emissions are small individually but may be significant as a group (e.g., gas stations); sources whose emissions emanate from a broad area (e.g., fugitive dust from storage piles and dirt roads, landfills, etc.); and mobile equipment used in industrial operations (e.g., drill rigs, loaders, haul-trucks, etc.). Emissions from new, modified or relocated point sources are directly regulated by the APCD through our New Source Review program (Rule 204) and facility permitting program. A general list of the type of sources affected by these requirements is provided in Appendix A. New development that includes these source types should be forwarded to the District for a determination of APCD permitting and control requirements.

Some stationary and mobile area sources are also subject to District regulation and control (e.g., stationary equipment at mining operations, harbor dredges, and others). However, area sources of fugitive dust (e.g., dirt or sand storage piles), and combustion emissions from mobile equipment at a facility (e.g., loaders, haul trucks, compressors, portable generators, etc.) are not generally subject to direct permitting and control by the District. Thus, impact analysis and mitigation must occur through the CEQA review process. The appropriate emission factors and calculation methods for such sources are contained in the federal Environmental Protection Agency publication, Compilation of Air Pollutant Emission Factors, AP-42 (latest edition).

4 PREPARING THE AIR QUALITY ANALYSIS SECTION FOR ENVIRONMENTAL IMPACT REPORTS

As shown in Table 2-1, use of a simple screening analysis in a Negative Declaration, or emissions calculations and appropriate mitigation measures in a Mitigated Negative Declaration may be all that's necessary for many smaller projects. For larger projects requiring the preparation of an EIR, a more comprehensive air quality analysis is often needed. Such an analysis should address both construction phase and operational phase impacts of the project and include the following information:

a. A description of existing air quality and emissions in the impact area, including the attainment status of the District relative to State air quality standards and any existing regulatory restrictions to development. The most recent CAP should be consulted for applicable information.

b. A thorough emissions analysis should be performed on all relevant emission sources, using emission factors from the EPA document AP-42 "Compilation of Air Pollutant Emission Factors", the latest approved version of EMFAC, or other approved sources. The emissions analysis should include calculations for estimated emissions of all criteria pollutants and toxic substances released from the anticipated land use mix on a quarterly and yearly basis. Documentation of emission factors and all assumptions (i.e. anticipated land uses, average daily trip rate from trip generation studies, etc.) should be provided in an appendix to the DEIR.

c. The DEIR should include a range of alternatives to the proposed project that could effectively minimize air quality impacts, if feasible. A thorough emissions analysis should be conducted for each of the proposed alternatives identified. The DEIR author should contact the District if additional information and guidance is required. All calculations and assumptions used should be fully documented in an appendix to the DEIR.

d. A diesel exhaust screening level health risk assessment should be performed in consultation with APCD engineering staff for projects that will result in significant use of heavy-duty diesel equipment in areas with potential for human exposure, especially when exposures to sensitive receptors are likely. Factors that will be considered by APCD staff when determining if a screening risk analysis will be necessary include the expected emissions from diesel equipment, location of the project and distance to sensitive receptors.

e. A cumulative impact analysis should be performed to evaluate the combined air quality impacts of this project and impacts from existing and proposed future development in the area. This should encompass all planned construction activities within 1 mile of the project.

f. The data analyses requested above should address local and regional impacts with respect to maintaining applicable air quality standards at build out. Authors should consult the District to determine if a modeling analysis should be performed and included in the EIR.

g. The EIR should evaluate the project for consistency with the CAP, as described in Section 2.2 of this document.

h. Temporary construction impacts, such as fugitive dust and combustion emissions from construction and grading activities, should be quantified and mitigation measures proposed. In addition, naturally occurring asbestos may exist at the site. A geological survey is required for the site if it is located in the APCD identified candidate naturally occurring asbestos area. If naturally occurring asbestos is found, the EIR should indicate that a plan will be developed to comply with the requirements listed in the Air Resources Board's Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations.

i. Mitigation measures should be recommended, as appropriate, following the guidelines presented in Sections 5 and 6 of this document.

5 MITIGATING EMISSIONS FROM DEVELOPMENT

Emissions from motor vehicles that travel to and from residential, commercial, institutional, and some industrial land uses (i.e., indirect sources) can generally be mitigated by reducing vehicle activity through thoughtful site design; implementing transportation demand management (TDM) measures; and/or using clean fuels and vehicles. In addition, area source operational emissions from energy consumption by residential and commercial buildings and activities can be mitigated by increased energy efficiencies, conservation measures and use of alternative energy sources. The mitigation measures in this section are intended to reduce emissions of ROG, NOx, PM10, and CO.

5.1 Site Design-related Mitigation Measures for All Projects

Site design and project layout can be effective methods of mitigating air quality impacts of development. As early as possible in the scoping phase of a project, the District recommends that developers and planners refer to the document *Creating Transportation Choices Through Development Design and Zoning* (Guide) and Appendix E of the District's Clean Air Plan, *Land Use and Circulation Management Strategies*. Strategies provided in these documents suggest ways to reduce automobile-dependence by:

- Building compact communities to limit urban sprawl;
- Mixing complementary land uses, such as commercial services located within and/or adjacent to medium or higher density housing;
  - Develop core commercial areas within 1/4 to 1/2 miles of residential housing areas;
  - Develop residential housing areas within 1/4 mile of transit centers and transit corridors;
- Providing a balance of job opportunities and housing within communities;
- Increasing residential and commercial densities along transit corridors;
- Orienting buildings toward streets with automobile parking in the rear to promote a pedestrian-friendly environment and to provide convenient pedestrian and transit access;
- Providing a pedestrian-friendly and interconnected streetscape to make walking more convenient, comfortable and safe;
- Providing good access for pedestrians, bicyclists, and transit users; and,
- Prioritizing in-fill projects that provide development within the urban core and urban reserve lines.

The energy efficiency of both commercial and residential buildings can be improved by implementing the following measure during project planning and design:

- Orient buildings to maximize natural heating and cooling.

District staff are available to discuss project layout and design factors, which can influence indirect source emissions. The District should be contacted regarding the quantification of emission reductions associated with beneficial site design features.

5.2 *TDM-related Mitigation Measures for Commercial, Industrial, and Institutional Projects*

Indirect source emissions can be reduced by implementing TDM measures that reduce vehicle travel. Some shorten the length of a trip without eliminating it, resulting in fewer vehicle miles traveled (VMT). However, many TDM-related strategies eliminate an entire vehicle trip and the emissions associated with starting and stopping a car (start-up and hot soak), and are thus more effective in mitigating air quality impacts than those that only reduce running emissions. In addition, TDM strategies are important tools for reducing vehicle congestion and idling, which can reduce localized CO levels.

Demand-management mitigation measures are generally implemented at commercial, industrial, and institutional worksites where the travel patterns of employees on standard work schedules can be modified. While TDM measures can be used to reduce non-work-related travel to indirect sources (e.g., shopping trips to a mall, travel to sporting events), they are more difficult to implement and rarely elicit substantial, quantifiable results. The District should be contacted regarding the quantification of such mitigation measures. The TDM mitigation measures focus on feasible options for reducing commute trips to and from worksites.

5.3 *Mitigation measures to increase energy efficiency for residential projects*

Domestic and commercial energy use for lighting, heating and cooling is a significant source of direct and indirect air pollution nationwide. Reducing site and building energy demand will reduce emissions at the power plant source and natural gas combustion in homes and commercial buildings.

5.4 *Clean vehicle mitigation measures for commercial and industrial projects*

Vehicle emissions are often the largest continuing source of emissions from the operational phase of a development. Using cleaner fueled vehicles or retrofitting equipment with emission control devices can reduce the overall emissions without impacting operations. In today's marketplace, clean fuel and vehicle technologies exist for both passenger and heavy-duty applications.

5.5 *Off-site mitigations*

Occasionally, emissions from large development projects cannot be adequately mitigated with on-site mitigation measures alone. In such cases, it may also be necessary for the developer to implement mitigation strategies outside the project site in order to reduce potential air quality impacts to a level of insignificance. It is important for the developer, lead agency and district to work closely together whenever it is deemed necessary to develop and implement off-site mitigation measures.

5.6 *Guidelines for Applying Mitigation Measures*

As discussed in Section 2 of this document, the District has developed a tiered system of mitigation recommendations based on the level of emissions generated by project operations. In general, projects not exceeding our Tier 1 threshold of 10 lbs per day ROG, NOx, PM10 or SO2 or 50 lbs per day of CO emissions do not require mitigation. For projects requiring air quality

mitigation, the District has developed a list of both standard and discretionary mitigation strategies tailored to the type of project being proposed (residential, commercial or industrial). The standard mitigation measures should be applied to all projects which exceed our Tier 1 threshold. In addition, varying levels of discretionary mitigation measures may also be necessary, depending on the amount of emissions generated by the project. Discretionary mitigation measures identified in this Handbook or other suitable alternative measures can be suggested to replace standard measures that are not feasible for the project. Project mitigation recommendations should follow the guidelines listed below and summarized in Table 5-1:

a. Projects with the potential to generate 10 lbs/day or more of any individual pollutant emissions should implement all standard mitigation measures listed in Section 5.6.

b. Projects with the potential to generate 10 - 14 lbs/day of any individual pollutant emissions should select and implement at least 3 additional mitigation measures from the discretionary list, as well as the standard measures.

c. Projects generating 15 - 19 lbs./day of any individual pollutant emissions should select and implement at least 6 additional mitigation measures from the discretionary list, as well as the standard measures.

d. Projects generating 20 - 24 lbs./day of any individual pollutant emission should implement at least 10 additional measures from the discretionary list, as well as the standard measures.

e. Projects generating 25 lbs/day or more of any individual pollutant emissions should select and implement all feasible measures from the discretionary list, in addition to the standard measures. Further mitigation measures may also be necessary, including off-site measures, depending on the nature and size of the project.

f. Projects generating 25 tons per year or more of any individual pollutant emissions will need to implement off-site mitigation measures.

Table 5-1 Mitigation Threshold Guide

Emissions	Mitigation Measures Recommended		
	Standard	Discretionary	Off-Site
< 10 lbs/day	None	None	None
10 - 14 lbs/day	All	3	None
15 - 19 lbs/day	All	6	None
20 - 24 lbs/day	All	10	None
≥ 25 lbs/day	All	All Feasible	Maybe
≥ 25 tons/yr	All	All Feasible	Yes

5.7 Standard Mitigation Measures

The recommended standard air quality mitigation measures have been separated according to land use and mitigation type. Any project generating 10 lbs/day or more of emissions should implement all standard measures under the appropriate land use type, while also incorporating the general site-design strategies listed in section 5.1.

5.7.1 Residential Projects

Standard mitigation recommendations for residential projects include the following site design and energy efficiency standards:

Standard Site Design Measures

- Link cul-de-sacs and dead-end streets to encourage pedestrian and bicycle travel;
- Traffic calming modifications to project roads, such as narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds, thus encouraging pedestrian and bicycle travel;
- Easements or land dedications for bikeways and pedestrian walkways; and,
- Provide continuous sidewalks separated from the roadway by landscaping and on-street parking. Adequate lighting for sidewalks must be provided, along with crosswalks at intersections.

Standard Energy Efficiency Measures

- Increase the building energy efficiency rating by 10% above what is required by Title 24 requirements. This can be accomplished in a number of ways (increasing attic, wall or floor insulation, etc.).

5.7.2 Commercial and Industrial Projects

Standard mitigation recommendations for commercial and industrial projects include the following site design and energy efficiency standards:

Standard Site Design Measures

- Provide on-site bicycle parking. One bicycle parking space for every 10 car parking spaces is considered appropriate;
- Provide on-site eating, refrigeration and food vending facilities to reduce lunchtime trips.
- Provide preferential carpool and vanpool parking; and,
- Provide shower and locker facilities to encourage employees to bike and/or walk to work, typically one shower and three lockers for every 25 employees.

Standard Energy Efficiency Measures

- Increase building energy efficiency rating by 10% above what is required by Title 24 requirements. This can be accomplished in a number of ways (increasing attic, wall or floor insulation, etc.).

5.8 Discretionary Mitigation Measures

The discretionary mitigation measures listed in this section have been separated according to land use and mitigation type. The measures are presented as a menu of available strategies that can be selected, as appropriate, according to the guidelines shown in Table 5-1. It is important to note that the strategies identified here do not represent a comprehensive list of all mitigation measures possible. Project proponents are encouraged to propose other alternatives that are capable of providing the same level of mitigation.

5.8.1 Residential Projects

Discretionary Site Design Measures

- If the project is located on an established transit route, improve public transit accessibility by providing transit turnouts with direct pedestrian access to project;
- Increased street tree planting.
- Outdoor electrical outlets to encourage the use of electric appliances and tools.
- Secure on-site bicycle parking for multi-family residential developments.
- Increase number of bicycle routes/lanes.
- Build new homes with internal wiring/cabling that allows telecommuting, teleconferencing, and telelearning to occur simultaneously in at least 3 locations in each home.
- Provide pedestrian signalization and signage to improve pedestrian safety

Discretionary Energy Efficiency Measures

- Shade tree planting along southern exposures of buildings to reduce summer cooling needs.
- Use roof material with a solar reflectance value meeting the EPA/DOE Energy Star® rating to reduce summer cooling needs.
- Use high efficiency, gas or solar water heaters.
- Use built-in energy efficient appliances.
- Use double-paned windows.
- Use low energy street lights (i.e. sodium).
- Use energy efficient interior lighting.
- Use low energy traffic signals (i.e. light emitting diode).
- Install door sweeps and weather stripping if more efficient doors and windows are not available.
- Install high efficiency or gas space heating.

5.8.2 Commercial and Industrial Projects

Discretionary Site Design Measures

- Increased street tree planting.
- Shade tree planting in parking lots to reduce evaporative emissions from parked vehicles.
- Install an electrical vehicle charging station with both conductive and inductive charging capabilities.
- Provide on-site banking (ATM) and postal services.
- Provide an on-site child care facility.
- Increase number of bicycle routes/lanes.
- Provide on-site housing for employees.

- If the project is located on an established transit route, improve public transit accessibility by providing transit turnouts with direct pedestrian access to project or improve transit stop amenities
- Implement on-site circulation design elements in parking lots to reduce vehicle queing and improve the pedestrian environment
- Provide pedestrian signalization and signage to improve pedestrian safety

Discretionary Transportation Demand Management Measures

- Employ or appoint an Employee Transportation Coordinator.
- Implement a Transportation Choices Program. The applicant should work with the Transportation Choices Coalition partners for free consulting services on how to start and maintain a program. Contact SLO Regional Rideshare at 541-2277.
- Provide for shuttle/mini bus service.
- Provide incentives to employees to carpool/vanpool, take public transportation, telecommute, walk, bike, etc.
- Implement compressed work schedules.
- Implement telecommuting program.
- Implement a lunchtime shuttle to reduce single occupant vehicle trips.
- Participate in an employee "flash-pass" program, which provides free travel on transit buses.
- Include teleconferencing capabilities, such as web cams or satellite linkage, which will allow employees to attend meetings remotely without requiring them to travel out of the area.
- If the development is a grocery store or large retail facility, provide home delivery service for customers.

Discretionary Energy Efficiency Measures

- Shade tree planting along southern exposures of buildings to reduce summer cooling needs.
- Use roof material with a solar reflectance value meeting the EPA/DOE Energy Star® rating to reduce summer cooling needs.
- Use built-in energy efficient appliances, where applicable.
- Use double-paned windows.
- Use low energy parking lot and street lights (i.e. sodium).
- Use energy efficient interior lighting.
- Use low energy traffic signals (i.e. light emitting diode).
- Install door sweeps and weather stripping if more efficient doors and windows are not available
- Install high efficiency or gas space heating

Discretionary Clean Vehicle Measures

- Replace diesel fleet vehicles with cleaner fueled low emission vehicles (i.e school buses, transit buses, on- and off- road heavy duty vehicles, lighter duty trucks and passenger vehicles)
- Retrofit existing equipment to reduce emissions using methods such as particulate filters, oxidation catalysts, or other approved technologies.

5.9 Off-site Mitigation Measures

Off-site mitigation measures are designed to offset emissions from large projects that cannot be fully mitigated with on-site measures. Off-site emission reductions can result from either stationary or mobile sources, but should relate to the on-site impacts from the project in order to provide proper "nexus" for the air quality mitigation. For example, NOx emissions from increased vehicle trips from a large residential development could be reduced by funding the expansion of existing transit services. The off-site strategies identified below provide a range of options available to mitigate significant emissions impacts from large projects.

- Develop or improve park-and-ride lots.
- Retrofit existing homes in the project area with APCD-approved wood combustion devices.
- Retrofit existing homes in the project area with energy-efficient devices.
- Retrofit existing 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.
- Repower marine vessels.
- Repower or contribute to funding clean diesel locomotive main or auxiliary engines.
- Install bicycle racks on transit buses.
- Purchase particulate filters or oxidation catalysts 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.
- Provide assistance in the implementation of projects that are identified in city or county Bicycle Master Plans.

6 EMISSION CALCULATIONS AND MITIGATION FOR CONSTRUCTION IMPACTS

Use of heavy equipment and earth moving operations during project construction can generate fugitive dust and combustion emissions that may have substantial temporary impacts on local air quality. Fugitive dust emissions results from land clearing, demolition, ground excavation, cut and fill operations, and equipment traffic over temporary roads at the construction site. Combustion emissions, such as NOx and diesel particulate matter (diesel PM), are most significant when using large, diesel-fueled scrapers, loaders, dozers, haul trucks, compressors, generators and other heavy equipment. Emissions can vary substantially from day-to-day depending on the level of activity, the specific type of operation and the prevailing weather conditions. Depending on the construction site location and proximity to sensitive receptors, a project that generates high levels of construction emissions, including diesel PM, may require special attention and mitigation, and may need to perform a health risk assessment to evaluate short-term exposures to high pollutant concentrations.

Heavy-duty construction equipment is usually diesel powered. In July 1999, the ARB listed the particulate fraction of diesel exhaust as a toxic air contaminant, identifying both chronic and carcinogenic public health risks. As mentioned earlier in this document, no threshold has been established for diesel PM emissions below which there are no significant effects. Therefore, mitigation requirements and the need for development of a health risk assessment will be determined on a case-by-case basis, based upon emission levels and the potential risk for human exposure and effects. Diesel PM emissions may therefore be a factor in whether Best Available Control Technology for construction equipment (CBACT) will be needed, even when emissions of criteria pollutants are below the APCD significance thresholds.

The following information will assist the user in evaluating the fugitive dust and combustion emissions from a project and in proposing appropriate mitigation measures to reduce these impacts to a level of insignificance.

6.1 Emission Calculations

In calculating emissions for construction operations (NOx, ROG, SO2, CO, diesel PM and fugitive PM), specific information about each activity and phase of the construction project is needed, including the list that follows. All assumptions, estimates, and calculation methods must be provided for District review.

6.1.1 Combustion Emissions from Construction Equipment

- Type and number of each kind of equipment.
- Estimated fuel use and type for each piece of equipment.
- Emission factors for each piece of equipment.
- Total volume of material to be moved.
- Hours of operation per day for each piece of equipment.
- Total number of days of operation for each piece of equipment.
- Estimated number of pieces of equipment to be used simultaneously on the project.
- Duration of each activity (grading, excavation, etc.) for each phase of the project.
- Estimated distance to the nearest off-site occupied building.

6.1.2 Fugitive Dust Emissions

Grading and Excavation

- Determine if naturally occurring asbestos is present (see Section 2.4.d of this Handbook).
- Amount of soil to be disturbed.
- Emission factors for disturbed soil (0.75 tons PM10/acre-month).
- Number of days of grading in a 7-day period.
- Duration of grading activity.

Heavy-Duty Equipment Travel on Unpaved Roads

- Length of road.
- Type of soil.
- Type and number of pieces of equipment.
- Average weight and number of wheels on trucks and other mobile equipment.
- Number of trips and vehicle miles traveled per day for each piece of equipment.
- Duration of activity.

6.1.3 Calculation Methods

Calculation of emissions from construction activities should include peak hour, daily and total construction phase emissions of NOx, ROG, SO2, diesel PM, and fugitive PM. It is important to use the most accurate equipment scenarios possible, including estimates of the number and type of equipment that may be operating simultaneously. The appropriate emission factors for off-highway mobile construction equipment (such as bulldozers, scrapers, etc.) and non-vehicular equipment (such as generators) are contained in the federal Environmental Protection Agency publication, Compilation of Air Pollutant Emission Factors, AP-42 (latest edition). Tables II-7.1 and II-7.2 in volume II of that document list the AP-42 emission factors for construction vehicles. Table 6-1, below, provides a summary of this information.

Table 6-1 Emission Factors for Heavy-Duty Construction Equipment (Lbs/Hour)					
EQUIPMENT TYPE	**ROG**	**NOx**	**CO**	**SO_2**	**PM10**
Diesel-Powered Equipment					
Track-type Tractor	0.121	1.260	0.346	0.137	0.112
Wheeled Tractor	0.188	1.269	3.590	0.090	0.136
Scraper	0.282	3.840	1.257	0.463	0.406
Motor Grader	0.040	0.713	0.151	0.086	0.061
Wheeled Loader	0.250	1.890	0.572	0.182	0.172
Track-type Loader	0.098	0.827	0.201	0.076	0.058
Off-Highway Truck	0.192	4.166	1.794	0.454	0.256
Roller	0.067	0.862	0.304	0.067	0.050
Miscellaneous	0.152	1.691	0.675	0.143	0.139
Gasoline-Powered Equipment					
Wheeled Tractor	0.362	0.430	9.520	0.016	0.024
Motor Grader	0.410	0.320	12.10	0.017	0.021
Wheeled Loader	0.531	0.518	15.60	0.023	0.030
Roller	0.611	0.362	13.40	0.018	0.026
Miscellaneous	0.560	0.412	17.00	0.023	0.026

Note: Emission factors take into account load factor and equipment rating.

If specific equipment information is not available, it is still possible to calculate an estimate of overall construction emissions. Although each project will vary, an average of 0.27 gallons of diesel fuel is burned for each cubic yard of earth moved. Based on that estimate, the emission rates presented in Table 6-2 below can be used as a screening tool if more refined information is not available.

Table 6-2 Screening Emission Rates for Construction Operations		
Pollutant	**grams/Yds^3 of Material Moved**	**Lbs/ Yds^3 of Material Moved**
Diesel PM	2.2	0.0049
Carbon Monoxide (CO)	138	0.304
Reactive Organic Gases (ROG)	9.2	0.0203
Oxides of Nitrogen (NOx)	42.4	0.0935
Sulfur Oxides (SOx)	4.6	0.010
Fugitive Dust (PM10)	0.75 tons/acre-month of construction activity (assuming 22 days of operation per month)	

Sources: Bay Area AQMD: Guidelines for Assessing Impacts of Projects and Plans - April 1996, and EPA-AP 42.

6.2 Construction Mitigation Thresholds

Mitigation of construction activities is required when the following emission thresholds are equaled or exceeded by both fugitive and combustion emissions:

6.2.1 ROG or NOx Emissions

- Greater than 185 lbs/day requires Best Available Control Technology for construction equipment (CBACT).
- 2.5 - 6.0 tons/quarter requires CBACT.
- Over 6.0 tons/quarter requires CBACT plus further mitigation, including emission offsets.

6.2.2 PM10 Emissions

- 2.5 tons/quarter requires CBACT

Using emission estimates from Table 6-2 and the mitigation thresholds identified in Table 6-3 shows the approximate level of construction activity that would require mitigation for each pollutant of concern. This District does however have discretion to require mitigation for projects that will not exceed the mitigation thresholds if those projects will result in special circumstances, such as the release of diesel PM emissions near sensitive receptors.

Table 6-3 Level of Construction Activity Requiring Mitigation

Pollutant of Concern	Thresholds [1]		Amount of Material Moved	
	Tons/Qtr	Lbs/Day	Cu. Yds/Qtr	Cu. Yds/Day
ROG	2.5	185	247,000	9,100
	6.0	185	593,000	9,100
NO_x	2.5	185	53,500	2,000
	6.0	185	129,000	2,000
PM10	2.5		Any project with a grading area greater than 4.0 acres of continuously worked area will exceed the 2.5 ton PM10 quarterly threshold. Combustion emissions should also be calculated based upon the amount of cut and fill expected.	

1. Thresholds were approximated using the screening level emission rates from Table 6-2. Daily emission thresholds are based upon the level of daily emissions that may result in a short-term exceedance of the ozone standard.

6.3 ROG, NOx and Diesel PM Combustion Mitigation Measures

The measures described below are designed to mitigate combustion emissions from heavy-duty construction equipment. They should be applied as necessary to reduce construction impacts below the significance thresholds listed in Table 6-3. Best Available Control Technology for construction equipment (CBACT) is required when the construction emission thresholds are

equaled or exceeded. For large construction projects, off-site emission mitigation may also be required.

6.3.1 Construction Equipment Mitigation Measures

A number of construction equipment mitigation measures including, but not limited to, those listed below have been shown to significantly reduce emissions while maintaining overall performance of the modified equipment similar to pre-retrofit levels. It should be noted that the following examples are not considered exclusive. District staff recognize the changing nature of engine and combustion technology and thus do not endorse any single technology for use in all situations. Implementation of a given technology or combination of technologies should always be preceded by an evaluation to determine the most appropriate control strategy. Other control strategies with similar or better emission reduction potential to the following may also be considered if appropriate documentation is provided.

Standard Mitigation Measures for Construction Equipment

- Maintain all construction equipment in proper tune according to manufacturer's specifications.
- Fuel all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road).
- Maximize to the extent feasible, the use of diesel construction equipment meeting the ARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.

CBACT

- Install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District approved emission reduction retrofit devices.

The ARB has recently verified DOC and CDPF systems for HD diesel vehicles. DOCs have control efficiencies on the order of 25% while CDPFs can achieve diesel PM reductions of 85% or better. In general, DOCs are effective at reducing the fine particle component while CDPFs are effective at reducing both the fine particle and larger black soot components. Manufacturer data indicates that both types of devices can reduce about 90% of CO emissions and about 50 to 70% of ROG emissions, some of which being a portion of the diesel PM component. Some devices/systems are being developed that have the added benefit of being able to reduce NOx emissions.

Determination of the appropriate CBACT control device(s) for the project must be performed in consultation with APCD staff.

Discretionary Mitigation Measures for Construction Equipment

- Electrify equipment where feasible.
- Substitute gasoline-powered for 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.
- Use equipment that has Caterpillar pre-chamber diesel engines.

- Implement activity management techniques as described in Section 6.4.

6.4 Activity Management Techniques

a. Develop of a comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period.

b. Schedule of construction truck trips during non-peak hours to reduce peak hour emissions.

c. Limit the length of the construction work-day period, if necessary.

d. Phase construction activities, if appropriate.

6.5 Fugitive PM10 Mitigation Measures

The following mitigation measures are required for all projects which exceed the mitigation thresholds identified above. Proper implementation of these measures will achieve a significant reduction in fugitive dust emissions.

a. Reduce the amount of the disturbed area where possible.

b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (nonpotable) water should be used whenever possible.

c. All dirt stock-pile areas should be sprayed daily as needed.

d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities.

e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established.

f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD.

g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.

i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.

j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site.

k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.

All PM10 mitigation measures required must be included on grading and building plans. In addition, the contractor or builder should designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off site. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to land use clearance for map recordation and land use clearance for finish grading of the structure.

7 MITIGATION MONITORING AND REPORTING

7.1 Mitigation Monitoring and Reporting associated with Environmental Impact Reports

In order to ensure that the mitigation measures and project revisions identified in the EIR or mitigated negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the required project revisions and the measures imposed to mitigate or avoid significant environmental effects.

The District requests that copies of mitigation monitoring and reporting programs be forwarded to the APCD following completion of the project review process.

SLO APCD 2008 Fee Calculation

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO

DATE: December 18, 2008

TO: SLO County Board of Supervisors

FROM: Aeron Arlin Genet, Air Quality Planning Manager

SUBJECT: Santa Margarita Ranch Agricultural Residential Cluster Mitigation Measures

APCD staff have reviewed the applicant's December 15, 2008 submittal to the County proposing modifications to the Findings and Conditions for this project and have significant concerns with the applicant's proposed changes to mitigation measure AQ-1f (i.e., Off-site Mitigation). We believe it important to provide clarification to your Board on how that measure should be implemented to provide the greatest level of mitigation for the predicted air quality impacts from the Santa Margarita Ranch project.

To place that mitigation in the appropriate context it is important to note that, in addition to its significant air quality and greenhouse gas (GHG) impacts, the scope and nature of the rural development proposed for this project is inconsistent with the land use strategies of the Clean Air Plan. It is also inconsistent with the goals of SB 375, which requires each region in the state to develop a sustainable communities strategy focused on compact and infill development designed to meet regional GHG targets to be established by the California Air Resources Board.

The first phase of the project would situate over 100 residential units in a location far removed from commercial services, thus furthering our dependence on private vehicle transportation, the main source of air pollution and greenhouse gas emissions in SLO County. The second phase of this project would quadruple the number of rural residential units of the initial phase while adding commercial and destination uses. This would substantially increase these impacts, making it more difficult for our region to reach the air quality and climate protection goals of the District's Clean Air Plan and the State's Climate Solutions Act of 2006 (AB 32). Unfortunately, significant air quality and greenhouse gas impacts that cannot be mitigated on-site are inherent in the sprawling design and rural nature of a project of this magnitude.

In order to fully mitigate this project's Class 1 air pollutant emissions, the project proponent would need to agree to payment of substantial mitigation fees to fund appropriate off-site emission reduction projects over the lifetime of this development. This would apply to both ozone precursor and greenhouse gas emissions. The need for off-site mitigation is detailed in the Final EIR (AQ-1f) with a list of possible measures that might be implemented (see Attachment 1).

To provide a better understanding of the amount of mitigation funds needed to reduce the Phase 1 project emissions (reactive organic gases + nitrogen oxides) to the APCD's Tier 2 CEQA significance threshold of 24 lbs/day, staff calculated the project's excess annual emissions at approximately 10.29 tons per year. This figure is then multiplied by the statewide

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cost-effectiveness value established by the ARB in the Carl Moyer Grant Program guidelines (i.e., $16,000/ton) to calculate the amount of funding required to fully mitigate project emissions for one year (10.29 tons/year x $16,000/ton = $164,640/year). To fully mitigate the emissions impacts over the life of the project, the annual cost is multiplied by the expected life of the development (50 years). Thus, staff estimates the total funding required to mitigate ozone impacts to be $164,640 x 50 years = $8,230,020. If the APCD administers the grant program to secure the needed emission reduction mitigation projects, an additional 15% would be necessary to cover program administration costs, for a total of $8,230,020 x 1.15 = $9,464,523. Anything less than this amount will not fully mitigate the ozone precursor impacts from this project.

The amount of mitigation funds identified above only addresses the project's ozone precursor emissions; it does not include mitigation of the project's significant greenhouse gas emissions impact. That calculation is more complex and would require more staff time than was available within the time constraints of the decision-making process for this project. Thus, we are unable at this time to provide an estimate of the additional mitigation fees required to fully mitigate the GHG emissions; however, we believe it would likely be somewhat less than the ozone precursor mitigation fee because some offsite mitigation projects will likely include energy efficiency measures that provide GHG reduction co-benefits.

Given the magnitude of the estimated mitigation fees needed to reduce air quality and GHG impacts to a level of insignificance, the project proponents may argue such costs are infeasible and represent an unacceptable mitigation strategy for this project. Unfortunately, staff is unable to identify any other strategies capable of fully mitigating the ozone precursor emissions impacts of the project. If the off-site mitigation is required and agreed to by the project proponents, the funds would be used to secure emission reduction projects in the northern portion of SLO County, in close proximity to this project. Administration of the off-site mitigation funding program could either be managed by the Air District or project proponent. If the project proponents elect to manage the program, selection and implementation of mitigation projects must be approved by the APCD prior to their moving forward to ensure appropriate emissions reduction projects are secured and properly tracked over the life of the project.

Thank you for the opportunity to clarify the mitigation requirements for this important project. I have forwarded this memo to Ellen Carroll as it relates to air quality mitigations identified for implementation in the EIR. I also intend to attend the continued project hearing this Friday to further discuss APCD's concerns with the applicants proposed modifications to the Findings and Conditions. If you have any questions or need additional information before then, please contact me at 781-5998.

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CEQA Air Quality Handbook 2012

CEQA
Air Quality Handbook

A GUIDE FOR ASSESSING THE AIR QUALITY IMPACTS FOR PROJECTS SUBJECT TO CEQA REVIEW

April 2012

SLO COUNTY apcd | Air Pollution Control District
San Luis Obispo County

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Tables

Figures

LIST OF ACRONYMS

ACM	Asbestos Containing Material
ADT	Average Daily Trips
APCD	San Luis Obispo County Air Pollution Control District
APS	Auxiliary Power System
ARB	California Air Resources Board
ATCM	Air Toxics Control Measure
BACT	Best Available Control Technology for Construction Equipment
CAAA	1990 Clean Air Act Amendments
CAMP	Construction Activity Management Plan
CAP	Clean Air Plan for San Luis Obispo County
CAPCOA	California Air Pollution Control Officers Association
CEQA	California Environmental Quality Act
CNG	Compressed Natural Gas
CO	Carbon Monoxide
CO2	Carbon Dioxide
DEIR	Draft Environmental Impact Report
DOC	Diesel Oxidation Catalyst
DPM	Diesel Particulate Matter
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
GHG	Greenhouse Gases
HRA	Health Risk Assessment
ITE	Institute of Transportation Engineers
LNG	Liquid Natural Gas
NESHAP	National Emission Standard for Hazardous Air Pollutants
NOA	Naturally Occurring Asbestos
NOP	Notice of Preparation
NO_x	Oxides of Nitrogen
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter (less than 2.5 μm)
PM_{10}	Particulate Matter (less than 10 μm)
ROG	Reactive Organic Gases
SLO	San Luis Obispo
TAC	Toxic Air Contaminant
VDECS	Verified Diesel Emission Control Systems
VMT	Vehicle Miles Traveled

GLOSSARY

Climate Change: Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gases (GHGs), particularly those generated from the human production and use of fossil fuels.

Diverted Trips: Diverted linked trips, as defined by Institute of Transportation Engineers (ITE), are attracted from the traffic volume on a roadway within the vicinity of the generator but require a diversion from that roadway to another roadway to gain access to the site.

Fugitive Dust: Small particles which are entrained and suspended into the air by the wind or external disturbances. Fugitive dust typically originates over an area and not a specific point. Typical sources include unpaved or paved roads, construction sites, mining operations, disturbed soil and tilled agricultural areas.

Greenhouse Gas: The emissions that contribute to the climate change effect are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFC), chlorofluorocarbons (CFC) and sulfur hexafluoride (F6S).

Ozone Precursors: Gaseous compounds needed to form ozone by the process of photochemistry. Photochemical air pollution (primarily ozone) is produced by the atmospheric reaction of organic substances, such as reactive organic gases (ROG) and nitrogen dioxide (NO_2) under the influence of sunlight.

$$NO_2 + ROG + Sunlight \Rightarrow O_3$$

During the summer, in areas with high emissions and high ozone concentrations, ozone concentrations are very dependent on the amount of solar radiation. Ozone levels typically peak in the late afternoon, at the end of the longest period of daily solar radiation. After the sun goes down, the chemical reaction between nitrous oxide and ozone begins to dominate and ozone usually decreases.

$$O_3 + NO \Rightarrow NO_2 + O_2$$

In some remote rural locations away from emission sources, ozone concentrations can remain high overnight because there are no NO sources to react with the existing ozone.
Ozone precursors are typically considered to be the combination of ROG + NO_x.

Particulate Matter: Small particles that become airborne and have the potential to cause adverse health impacts. There are three general size components: 1) PM or Total Suspended Particulate (TSP) which includes all airborne particles regardless of size or source; 2) PM_{10} which includes airborne particles 10μm in size and smaller; and 3) $PM_{2.5}$ or fine airborne particles 2.5μm and smaller.

Primary Trips: Trips made for the specific purpose of visiting the proposed facility.

Passby Trip: Trips made as an intermediate stop on the way from an origin to a destination without a route diversion.

Sensitive Receptors: Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s). The location of sensitive receptors is needed to assess toxic impacts on public health.

Smart Growth: Smart or strategic growth is an urban planning and transportation theory that concentrates growth in the center of a city to avoid urban sprawl; and advocates compact, transit-oriented, walkable, bicycle-friendly land use, including neighborhood schools, complete streets, and mixed-use development with a range of housing choices.

Verified Diesel Emission Control Strategy: Diesel vehicle or equipment exhaust retrofits that have been verified by the California Air Resources Board (ARB) that provide specified diesel particulate emission reductions when implemented in compliance with the ARB executive order for the device (www.arb.ca.gov/diesel/verdev/verdev.htm).

CEQA
Air Quality Handbook

GUIDE FOR ASSESSING THE AIR QUALITY IMPACTS FOR PROJECTS SUBJECT TO CEQA REVIEW

The purpose of this document is to assist lead agencies, planning consultants, and project proponents in assessing the potential air quality impacts from residential, commercial and industrial development. It is designed to provide uniform procedures for preparing the air quality analysis section of environmental documents for projects subject to the California Environmental Quality Act (CEQA). These guidelines define the criteria used by the San Luis Obispo County Air Pollution Control District (APCD or Air District) to determine when an air quality analysis is necessary, the type of analysis that should be performed, the significance of the impacts predicted by the analysis, and the mitigation measures needed to reduce the overall air quality impacts. The use of this document will simplify the process of evaluating and mitigating the potential air quality impacts from new development in San Luis Obispo County.

For further information on any of the topics covered in this handbook, review the APCD's website at www.slocleanair.org or contact us directly at (805) 781-5912.

1 PROJECTS REQUIRING AIR QUALITY REVIEW AND ANALYSIS

The Air District has permit authority over many "direct" sources of air contaminants, such as power plants, gasoline stations, dry cleaners and refineries. Indirect sources are contributors to air pollution and include facilities and land uses which may not emit a significant amount of pollution themselves, but are responsible for indirect emissions, such as:

- Motor vehicle trips attracted to or generated by the land use;
- On-site combustion of natural gas, propane and wood for heating;
- Architectural coatings and consumer products; and,
- Landscape maintenance.

Emission impacts from both direct and indirect sources are typically identified and, if needed mitigated through the land use planning process under the guidelines and statutes of CEQA.

1.1 ROLE OF THE SLO COUNTY APCD

Under CEQA, the SLO County APCD may act as a **lead, responsible or commenting agency**, reviewing and commenting on projects which have the potential to cause adverse impacts to air quality. The CEQA statutes and guidelines require lead agencies to seek comments from each responsible agency and any public agency that have jurisdiction by law over resources that may be affected by a proposed project (CEQA 21153 and 15366). For many development proposals, this typically involves projects where vehicle trip generation is high enough to cause or contribute to local emission levels capable of hindering the APCD's efforts to attain and maintain health-based air quality standards. It is in this context that local jurisdictions and planning bodies can make critical decisions that affect their future environment and that of neighboring communities as well.

Offshore activities within State waters, such as oil drilling and production, harbor dredging and cable installation are also subject to CEQA review and possible APCD permits depending on the nature of the activity.

1.2 PROJECTS SUBJECT TO AIR QUALITY ANALYSIS

In general, any proposed project with **short-term construction** emissions or **long-term operational** emissions that may exceed an APCD threshold of significance, as identified in this Handbook, should be submitted to the SLO County APCD for review. If needed, the APCD will assist in refining impact evaluations and or appropriate mitigation measures. The project will be evaluated to determine the potential for significant air quality impacts, with further analysis or mitigation recommended if appropriate. Types of projects which generally fall into this category include:

- Discretionary Permits;
- Tract Maps;
- Development Plans;
- Site Plans;
- Area Plans;
- Specific Plans;
- Local Coastal Plans;
- General Plan Updates and Amendments;
- Large residential developments;
- Large commercial or industrial developments; and
- Remediation projects.

The environmental documents associated with these types of projects and reviewed by the APCD include Initial Studies, Notices of Preparation (NOP), Negative Declarations, and Environmental Impact Reports (EIR), and other environmental documents prepared pursuant to CEQA and NEPA.

1.3 PROJECT INFORMATION NEEDED FOR SLO COUNTY APCD REVIEW

Early consultation with the APCD can ensure the environmental document adequately addresses air quality issues. In order to facilitate our review of the proposed project, the following information should be provided:

- Complete and accurate project description;
- Emission calculations for both construction and operational phase emissions;
- Relevant environmental documents, including draft EIRs, Initial Studies, Negative Declarations, etc;
- Other technical analyses that relate to air quality, including but not limited to traffic analyses, growth impact projections, land use elements, maps, health risk assessments, sensitive receptor locations etc; and,
- Mitigation Monitoring Program, if applicable.

1.4 OPERATIONAL SCREENING CRITERIA FOR PROJECT IMPACTS

General screening criteria used by the SLO County APCD to determine the type and scope of projects requiring an air quality assessment, and/or mitigation, is presented in Table 1-1. These criteria are based on project size in an urban setting and are designed to identify those projects with the potential to exceed the APCD's significance thresholds. Operational impacts are focused primarily on the indirect emissions (i.e., motor vehicles) associated with residential, commercial and industrial development.

Table 1-1 is based on ozone precursor and greenhouse gas (GHG) emissions and is not comprehensive. It should be used for general guidance only. This table is not applicable for projects that involve heavy-duty diesel activity and/or fugitive dust emissions. A more refined analysis of air quality impacts specific to a given project is necessary for projects that exceed the screening criteria below or are within ten percent (10%) of exceeding the screening criteria.

Table 1-1: Operational Screening Criteria for Project Air Quality Analysis[1, 2]

Land Use	Unit of Measure	Size of Urban/Rural Project Expected to Exceed the APCD Annual GHG Bright Line Threshold of 1150 MT CO2e/year from Operational & Amortized Construction Impacts	Size of Urban/Rural Project Expected to Exceed the APCD Daily Ozone Precursor Significance Threshold of 25 lbs ROG+NOx/Day from Operational Impacts
COMMERCIAL			
Bank (with Drive-Through)	1,000 SF	25	17
General Office Building		70	91
Government (Civic Center)		37	38
Government Office Building		26	21
Hospital		31	50
Medical Office Building		33	36
Office Park		64	85
Pharmacy/Drugstore w/o Drive Thru		26	24
Pharmacy/Drugstore with Drive Thru		26	25
Research & Development		93	114

EDUCATIONAL [5]			
Day-Care Center	1,000 SF	39	26
Elementary School		69	62
High School		62	61
Junior High School		72	65
Library		24	23
Place of Worship		77	44
Junior College (2yr)	Students	1070	1032
University/College (4yr)		464	487
INDUSTRIAL [6]			
General Heavy Industry	1,000 SF	53	311
General Light Industry		23	103
Industrial Park		36	113
Manufacturing		44	168
Refrigerated Warehouse-No Rail		47	237
Refrigerated Warehouse-Rail		50	324
Unrefrigerated Warehouse-No Rail		51	237
Unrefrigerated Warehouse-Rail		51	324
RECREATIONAL			
Fast Food Restaurant w/o Drive Thru	1,000 SF	2.9	2.6
Fast Food Restaurant with Drive Thru		5.7	3.5
Health Club		42	46
High Turnover (Sit Down Restaurant)		13.7	13.2
Movie Theater (No Matinee)		20	21
Quality Restaurant		18	21
Racquet Club		44	48
Recreational Swimming Pool		42	41
Arena	Acres	178	159
City Park		103	786
Golf Course		138	241
Hotel	Rooms	85	126
Motel		79	142
RESIDENTIAL [7]			
Apartment High Rise	Dwelling Units	113	94
Apartment Low Rise		109 / (74)	94 / (71)
Apartment Mid Rise		112	94
Condo/Townhouse General		103 / (72)	93 / (69)
Condo/Townhouse High Rise		104	93
Congregate Care (Assisted Living)		196	157
Mobile Home Park		124	112
Retirement Community		169	- [7]
Single Family Housing		70 / (49)	68 / (50)
RETAIL			
Auto Care Center	1,000 SF	33	32
Convenience Market (24 hour)		5.5	3.3
Convenience Market w/ Gas Pumps		5.7	2.3
Discount Club		37	34
Electronic Superstore		50	48
Free Standing Discount Store		29	25

Free Standing Discount Superstore		30	27
Hardware/Paint Store		28	22
Home Improvement Superstore		46	36
Regional Shopping Center		36	31
Strip Mall		40	38
Supermarket		17.2	12.5
Gasoline/Service Station	Pumps	32	10

1. The screening levels in this table were created using CalEEMod version 2011.1.1 with default San Luis Obispo County urban settings; some rural setting results are also included and are denoted in parentheses. If the project is not represented well by an urban settings, (e.g. urban fringe development where urban trip lengths are not representative), then the project impacts need to be specifically evaluated in CalEEMod using project specific information; modeling results, substantiated assumptions, and CalEEMod files need to be presented to the APCD for review and approval.
2. This screening table is based on annual GHG emissions and daily ozone precursor emissions, and is not comprehensive. It should be used for general guidance only. This table is not applicable for projects that involve substantial heavy-duty diesel activity and/or fugitive dust emissions. A more refined analysis of air quality impacts specific to a given project is recommended for projects exceeding the screening criteria values or that are within 10% of the screening criteria values in this table.
3. Use of this table does not preclude lead agencies from complying with Section 15064.4 of the California Environmental Quality Act ("CEQA") Guidelines which requires that "a lead agency should make a good-faith effort… to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the screening levels in this table, a refined emissions quantification and analysis should be conducted.
4. For ozone precursor evaluations the APCD considers CalEEMod winter scenario simulations worst case because winter emissions are typically higher than its summer emissions.
5. All projects involving the purchase of a school site, or construction of a new elementary or secondary school, must be referred to the APCD for review and comment. (Pub. Resources Code Section 21151.8, Subd. (a)(2)).
6. The size of projects expected to exceed the GHG Threshold of significance for Industrial Land Uses is much smaller than a project that would exceed the Ozone Precursor Threshold as a result of a CalEEMod.2011.1.1 model error in the calculations for industrial projects. This error is scheduled to be corrected in the next CalEEMod model update.
7. Currently there is a CalEEMod model error for the retirement community category. If you are evaluating a project in this category, use the comparable Mobile Home Park category for screening.

1.5 PREPARING THE AIR QUALITY ANALYSIS SECTION FOR CEQA DOCUMENTS

As shown in Table 1-1, use of a simple screening analysis in a Negative Declaration, or emissions calculations and appropriate mitigation measures in a Mitigated Negative Declaration may be all that is necessary for many smaller urban projects. For larger projects requiring the preparation of an EIR, a more comprehensive air quality analysis is often needed. Such an analysis should address both construction phase and operational phase impacts of the project and include the following information:

a. A description of existing air quality and emissions in the impact area, including the attainment status of SLO County relative to State and Federal air quality standards and any existing regulatory restrictions to development. The most recent Clean Air Plan should be consulted for applicable information.

b. A thorough emissions analysis should be performed on all relevant emission sources, using emission factors from the EPA document AP-42 "Compilation of Air Pollutant Emission Factors", the latest approved version of California Emission Estimator Model (CalEEMod), EMFAC, OFF-ROAD or other approved emission calculator tools. The emissions analysis should include calculations for estimated emissions of all criteria air pollutants and toxic air contaminants released from the anticipated land use mix on a quarterly and yearly basis. Documentation of emission factors and all assumptions (i.e. anticipated land uses, average daily trip rate from trip generation studies, etc.) should be provided in an appendix to the EIR.

c. The EIR should include a range of alternatives to the proposed project that could effectively minimize air quality impacts, if feasible. A thorough emissions analysis should be conducted for each of the proposed alternatives identified. The EIR author should contact the SLO County APCD if additional information and guidance is required. All calculations and assumptions used should be fully documented in an appendix to the EIR.

d. Assembly Bill 32, the California Global Warming Solution Act of 2006 and California Governor Schwarzenegger Executive Order S-3-05 (June 1, 2005), both require reductions of greenhouse gases in the State of California. Senate Bill 97 required the Office of Planning and Research to develop and the Natural Resources Agency to adopt Amendments to the CEQA Guidelines for greenhouse gas emissions. Based on these guidelines, greenhouse gas emissions should be evaluated in the EIR along with appropriate mitigation.

e. If a project has the potential to emit toxic or hazardous air pollutants including diesel exhaust, and is located in close proximity to sensitive receptors, impacts may be considered significant due to increased cancer risk for the affected population, even at very low levels of emissions. Such projects may be required to prepare a risk assessment to determine the potential level of risk associated with their operations. The SLO County APCD should be consulted on any project with the potential to emit toxic or hazardous air pollutants.

Pursuant to the requirements of California Health and Safety Code Section 42301.6 (AB 3205) and Public Resources Code Section 21151.8, subd. (a)(2), any new school or proposed industrial or commercial project site located within 1000 feet of a school must be referred to the SLO County APCD for review. Further details on requirements for projects in this category are presented in Appendix A.

f. The ARB has determined that emissions from sources such as roadways and distribution centers and to a lesser extent gas stations, certain dry cleaners, marine ports and airports as well as refineries can lead to unacceptably high health risk from diesel particulate matter and other toxic air contaminants. The APCD has established a CEQA health risk threshold of **89 in-a-million** for sources which are not otherwise directly regulated; this value represents the health risk caused by ambient concentration of toxics in San Luis Obispo County. A list of potential sources and recommended buffer distances can be found in Section 4.2 of the Handbook. If the proposed project is located in close proximity to any of the listed sources a health risk screening and/or assessment should be performed to assess risk to potential residence of the development.

g. A consistency analysis with the Clean Air Plan is required for a Program Level environmental review, and may be necessary for a Project Level environmental review, depending on the project being considered. Details on conducting a consistency analysis with the Clean Air Plan can be found in Section 3.2.

h. A cumulative impact analysis should be performed to evaluate the combined air quality impacts of this project and impacts from existing and proposed future development in the area. This should encompass all planned construction activities within one mile of the project.

i. The data analyses requested above should address local and regional impacts with respect to maintaining applicable air quality standards at build out. Authors should consult the SLO County APCD to determine if a modeling analysis should be performed and included in the EIR.

j. Temporary construction impacts, such as fugitive dust and combustion emissions from construction and grading activities, should be quantified and mitigation measures proposed. In addition, naturally occurring asbestos may exist at the site. A geological survey is required for the site if it is located in the APCD identified candidate naturally occurring asbestos area. If naturally occurring asbestos is found, the EIR should indicate that a plan will be developed to comply with the requirements listed in the Air Resources Board's Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations. If naturally occurring asbestos is not present at the site an exemption request will need to be filed with the APCD.

k. Mitigation measures should be recommended, as appropriate, following the guidelines presented in Sections 2.3, 2.4 and 3.7 of this document.

2 ASSESSING AND MITIGATING CONSTRUCTION IMPACTS

Use of heavy equipment and earth moving operations during project construction can generate fugitive dust and engine combustion emissions that may have substantial temporary impacts on local air quality and climate change. Fugitive dust of concern is particulate matter that is less than ten microns in size (PM_{10}) and is not emitted from definable point sources such as industrial smokestacks. Sources include open fields, roadways, storage piles, earthwork, etc. Fugitive dust emissions results from land clearing, demolition, ground excavation, cut and fill operations and equipment traffic over temporary roads at the construction site.

Heavy-duty construction equipment is usually diesel powered. In July 1999, the ARB listed the particulate fraction of diesel exhaust as a toxic air contaminant, identifying both chronic and carcinogenic public health risks. Combustion emissions, such as nitrogen oxides (NO_x), reactive organic gases (ROG), greenhouse gases (GHG) and diesel particulate matter (diesel PM), are most significant when using large, diesel-fueled scrapers, loaders, bulldozers, haul trucks, compressors, generators and other heavy equipment. Emissions from both fugitive dust and combustion sources can vary substantially from day-to-day depending on the level of activity, the specific type of operation, moisture content of soil, use of dust suppressants and the prevailing weather conditions.

Depending on the construction site location and proximity to sensitive receptors, a project that generates high levels of construction emissions, including diesel PM, may be required to perform a health risk assessment to evaluate short-term exposures to high pollutant concentrations and, if necessary, to implement mitigations measures. Mitigation requirements and the need for further analysis will be determined on a case-by-case basis, based upon emission levels and the potential risk for human exposure and effects. Diesel PM emissions may therefore be a factor in whether Best Available Control Technology (BACT) for construction equipment will be needed, even when emissions of criteria pollutants are below the Air District's significance thresholds.

The following information will assist the user in evaluating the fugitive dust and combustion emissions from a project and in proposing appropriate mitigation measures to reduce these impacts to a level of insignificance.

2.1 CONSTRUCTION SIGNIFICANCE CRITERIA

Construction emissions must be calculated for all development projects likely to exceed the construction emissions threshold, or if the project is subject to the special conditions defined in Section 2.1.1. Details on how to conduct emission calculations are discussed in Section 2.2 below. Once the emissions have been calculated, they should then be compared to the APCD construction phase significance thresholds.

Comparison to APCD Construction Significance Thresholds
The threshold criteria established by the SLO County APCD to determine the significance and appropriate mitigation level for a project's **short-term construction** emissions are presented in Table 2-1.

Most of the **short-term construction mitigation strategies** in Sections 2.3 and 2.4 focus on reducing fugitive dust emissions from work sites and haul vehicles, reducing combustion emissions from construction equipment, reducing asbestos (e.g., NOA) and scheduling construction activities to protect public health.

Table 2-1 provides general thresholds for determining the significance of impacts for total emissions expected from a project's construction activities. The discussion following the table provides a more detailed explanation of the thresholds. The Air District has discretion to require mitigation for projects that will not exceed the mitigation thresholds if those projects will result in special impacts, such as the release of diesel PM emissions or asbestos near sensitive receptors.

Table 2-1: Thresholds of Significance for Construction Operations

Pollutant	Threshold[1]		
	Daily	Quarterly Tier 1	Quarterly Tier 2
ROG + NO_x (combined)	137 lbs	2.5 tons	6.3 tons
Diesel Particulate Matter (DPM)	7 lbs	0.13 tons	0.32 tons
Fugitive Particulate Matter (PM_{10}), Dust[2]		2.5 tons	
Greenhouse Gases (CO_2, CH_4, N20, HFC, CFC, F6S)	Amortized and Combined with Operational Emissions (See Below)		

1. Daily and quarterly emission thresholds are based on the California Health & Safety Code and the CARB Carl Moyer Guidelines.
2. Any project with a grading area greater than 4.0 acres of worked area can exceed the 2.5 ton PM_{10} quarterly threshold.

Mitigation of construction activities is required when the emission thresholds are equaled or exceeded by fugitive and/or combustion emissions:

ROG and NOx Emissions

- **Daily:** For construction projects expected to be completed in less than one quarter (90 days), exceedance of the 137 lb/day threshold requires Standard Mitigation Measures;
- **Quarterly – Tier 1:** For construction projects lasting more than one quarter, exceedance of the 2.5 ton/qtr threshold requires Standard Mitigation Measures and Best Available Control Technology (BACT) for construction equipment. If implementation of the Standard Mitigation and BACT measures cannot bring the project below the threshold, off-site mitigation may be necessary; and,
- **Quarterly – Tier 2:** For construction projects lasting more than one quarter, exceedance of the 6.3 ton/qtr threshold requires Standard Mitigation Measures, BACT, implementation of a Construction Activity Management Plan (CAMP), and off-site mitigation.

Diesel Particulate Matter (DPM) Emissions

- **Daily:** For construction projects expected to be completed in less than one quarter, exceedance of the 7 lb/day threshold requires Standard Mitigation Measures;
- **Quarterly - Tier 1:** For construction projects lasting more than one quarter, exceedance of the 0.13 tons/quarter threshold requires Standard Mitigation Measures, BACT for construction equipment; and,
- **Quarterly - Tier 2:** For construction projects lasting more than one quarter, exceedance of the 0.32 ton/qtr threshold requires Standard Mitigation Measures, BACT, implementation of a CAMP, and off-site mitigation.

Fugitive Particulate Matter (PM10), Dust Emissions

- **Quarterly:** Exceedance of the 2.5 ton/qtr threshold requires Fugitive PM_{10} Mitigation Measures and may require the implementation of a CAMP.

Greenhouse Gas Emissions

- GHGs from construction projects must be quantified and amortized over the life of the project. The amortized construction emissions must be added to the annual average operational emissions and then compared to the operational thresholds in Section 3.5.1—Significance Thresholds for Project-Level Operational Emissions. To amortize the emissions over the life of the project, calculate the total greenhouse gas emissions for the construction activities, divide it by the project life (i.e., 50 years for residential projects and 25 years for commercial projects) then add that number to the annual operational phase GHG emissions.

2.1.1 Special Conditions for Construction Activity

In addition to the construction air quality thresholds defined above, there are a number of special conditions, local regulations or state / federal rules that apply to construction activities. These conditions must be addressed in proposed construction activity.

Sensitive Receptors

The proximity of sensitive individuals (receptors) to a construction site constitutes a special condition and may require a more comprehensive evaluation of toxic diesel PM impacts and if deemed necessary by the SLO County APCD, more aggressive implementation of mitigation measures than described below in the diesel idling section. Areas were sensitive receptors are most likely to spend time include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s). Sensitive receptor locations for a project need to be identified during the CEQA review process and mitigation to minimize toxic diesel PM impacts need to be defined. The types of construction projects that typically require a more comprehensive evaluation include large-scale, long-term projects that occur within 1,000 feet of a sensitive receptor location(s).

Diesel Idling Restrictions for Construction Phases

The APCD recognizes the public health risk reductions that can be realized by idle limitations for both on and off-road equipment. The following idle restricting measures are required for the construction phase of projects:

a. Idling Restrictions Near Sensitive Receptors for Both On and off-Road Equipment
   1. Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
   2. Diesel idling within 1,000 feet of sensitive receptors is not permitted;
   3. Use of alternative fueled equipment is recommended whenever possible; and,
   4. Signs that specify the no idling requirements must be posted and enforced at the construction site.

b. Idling Restrictions for On-road Vehicles

   Section 2485 of Title 13, the California Code of Regulations limits diesel-fueled commercial motor vehicles that operate in the State of California with gross vehicular weight ratings of greater than 10,000 pounds and licensed for operation on highways. It applies to California and non-California based vehicles. In general, the regulation specifies that drivers of said vehicles:
   1. 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,
   2. Shall not operate a diesel-fueled auxiliary power system (APS) 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 100 feet of a restricted area, except as noted in Subsection (d) of the regulation.

   Signs must be posted in the designated queuing areas and job sites to remind drivers of the 5 minute idling limit. The specific requirements and exceptions in the regulation can be reviewed at the following web site: www.arb.ca.gov/msprog/truck-idling/2485.pdf.

c. Idling Restrictions for off-Road Equipment

   Off-road diesel equipment shall comply with the 5 minute idling restriction identified in Section 2449(d)(3) of the California Air Resources Board's In-Use off-Road Diesel regulation: www.arb.ca.gov/regact/2007/ordiesl07/frooal.pdf.

   Signs shall be posted in the designated queuing areas and job sites to remind off-road equipment operators of the 5 minute idling limit.

Naturally Occurring Asbestos

Naturally Occurring Asbestos (NOA) has been identified as a toxic air contaminant by the California Air Resources Board (ARB). Under the ARB Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any grading activities a geologic evaluation should be 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, the applicant 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. Technical Appendix 4.4 of this Handbook includes a map of zones throughout SLO County where NOA has been found and geological evaluation is required prior to any grading. More information on NOA can be found at http://www.slocleanair.org/business/asbestos.asp.

Asbestos Material in Demolition

Demolition activities can have potential negative air quality impacts, including issues surrounding proper handling, demolition, and disposal of asbestos containing material (ACM). Asbestos containing materials could be encountered during demolition or remodeling of existing buildings. Asbestos can also be found in utility pipes/pipelines (transite pipes or insulation on pipes). If utility pipelines are scheduled for removal or relocation or a building(s) is proposed to be removed or renovated, various regulatory requirements may apply, including the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M - asbestos NESHAP). These requirements include but are not limited to: 1) notification to the APCD, 2) an asbestos survey conducted by a Certified Asbestos Inspector, and, 3) applicable removal and disposal requirements of identified ACM. More information on Asbestos can be found at http://www.slocleanair.org/business/asbestos.php.

Developmental Burning

APCD regulations prohibit developmental burning of vegetative material within SLO County.

Permits

Portable equipment and engines 50 horsepower (hp) or greater, used during construction activities will require California statewide portable equipment registration (issued by the ARB) or an Air District permit. The following list is provided as a guide to equipment and operations that may have permitting requirements, but should not be viewed as exclusive:

- Power screens, conveyors, diesel engines, and/or crushers;
- Portable generators and equipment with engines that are 50 hp or greater;
- Internal combustion engines;
- Unconfined abrasive blasting operations;
- Concrete batch plants;
- Rock and pavement crushing;
- Tub grinders; and,
- Trommel screens.

2.2 METHODS FOR CALCULATING CONSTRUCTION EMISSIONS

In calculating emissions for construction operations (NO_x, ROG, DPM, GHG and fugitive PM), specific information about each activity and phase of the construction project is needed. Several methods are described below, each of which requires increasingly detailed information to produce more accurate results.

All assumptions, estimates, and calculation methods must be provided for SLO County APCD review. Calculation of combustion and fugitive dust emissions from construction activities should include peak daily, quarterly, annual, and total construction phase emissions of NO_x, ROG, diesel PM, GHG and fugitive PM. Both the duration of the construction activities and schedule of phases are required in the evaluation. When using CalEEMod or a spreadsheet to model construction emissions, the **electronic**

project file (not a pdf) needs to be submitted to the SLO County APCD for review along with a summary table showing all emissions. The electronic file(s) need to be submitted to the APCD for review and shall include specific and summary emission reports, a detailed explanation of any deviations from CalEEMod defaults, and a detailed description of assumptions used for the emission calculations.

It may be necessary to calculate the project's construction impacts without knowing the exact fleet of construction equipment involved in the project. Table 2-2 contains screening construction emission rates based on the volume of soil moved and the area disturbed. This table should only be used when no other project information is available.

Table 2-2: Screening Emission Rates for Construction Operations

Pollutant	Grams/Cubic Yard of Material Moved	Lbs/Cubic Yard of Material Moved
Diesel PM	2.2	0.0049
Reactive Organic Gases (ROG)	9.2	0.0203
Oxides of Nitrogen (NO_x)	42.4	0.0935
Fugitive Dust (PM_{10})	0.75 tons/acre/month of construction activity (assuming 22 days of operation per month)	

ROG, NO_x, DPM Source: Bay Area Air Quality Management District CEQA Guidelines, December 1999, Table 7
PM_{10} Source: EPA-AP-42 (January 1995) and Index of Methodologies by Major Category Section 7.7 Building Construction Dust, California Air Resources Board, August 1997

The next level of specificity in defining project construction emissions involves the use of CalEEMod computer model. This model contains emission factors for a variety of construction equipment. It will automatically generate default values for the parameters listed below.

- Construction fleet;
- Construction phase duration (user must specify the start and end dates for each phase);
- Daily disturbed acreage;
- Fugitive dust emission rate;
- Asphalt paving (if applicable);
- Construction workers' trips;
- Equipment fleet mix for various phases of construction:
- Construction vendors' trips; and,
- Architectural coating emissions.

CalEEMod will not automatically calculate off-site hauling trips and associated emissions. If soil or demolition materials will need to be hauled off-site or materials will be imported, cubic yards of material and the number of truck trips will need to be entered into the model. The trip length associated with hauling also needs to be entered into the model along with a detailed explanation of the trip length. Specific truck emission factors for the hauling fleet should to be included in the simulation. If the specific fleet is unknown at time of modeling, then a defensible worst case set of hauling fleet emission factors shall be used. This hauling component is an important step and is often overlooked resulting in under estimation of emissions.

If more detailed information regarding the construction phase of the project is known, the construction phases and default values can be modified in this step to more accurately reflect the anticipated emissions from the project.

A component of CalEEMod, the construction calculator, allows project specific equipment data to be used to calculate emissions. The use of the construction calculator is recommended for those projects that are in the final phase of planning when the actual fleet mix and construction schedule is defined to validate

previous emission estimates and finalize mitigation measures. The following variables can be defined for each piece of construction equipment:

- Equipment type;
- Quality of equipment used;
- Horsepower rating;
- Load factor;
- Usage (hours/day);
- Engine model year;
- Engine deterioration (years and hours since last rebuild); and,
- Exhaust after-treatment devices such as VDEC (verified diesel emission control devices).

More detailed information about CalEEMod can be found at www.caleemod.com

2.3 ROG, NO_X, PM AND GHG COMBUSTION MITIGATION MEASURES

Construction mitigation measures are designed to reduce emissions (ROG, NO_x, DPM, PM_{10} and GHG) from heavy-duty construction equipment and may include emulsified fuels, catalyst and filtration technologies, engine replacement, new alternative fueled trucks, and implementation of Construction Activity Management Plans (CAMP). The mitigation measures for construction activity fall into three separate sections:

- Standard Mitigation Measures
- Best Available Control Technologies (BACT) and Construction Activity Management Plans
  - Construction Activity Management Plans (CAMP)
  - Retrofit Devices and Alternative Fuels
  - Repowers
- Fugitive Dust Mitigation Measures

Measure Applicability

Measures should be applied as necessary to reduce construction impacts below the significance thresholds listed in Table 2-1. Construction equipment mitigation measures and construction activity management practices have been shown to significantly reduce emissions while maintaining overall equipment performance and project scheduling needs. Project proponents shall determine daily and quarterly construction phase impacts and define mitigation that will be implemented if impacts are expected to exceed the SLO County APCD's construction phase thresholds of significance.

The following list of standard and specific mitigation measures shall be incorporated into project conditions depending on the level of impacts. Ozone precursors (ROG + NO_x) are to be combined and compared to the SLO County APCD's construction phase significance thresholds. Applying the BACT for construction equipment or implementing a Construction Activity Management Plan is required when the Quarterly Tier 2 construction significance thresholds of 6.3 tons per quarter ROG + NO_x or 0.32 tons per quarter diesel PM are exceeded.

2.3.1 Standard Mitigation Measures for Construction Equipment

The standard mitigation measures for reducing nitrogen oxides (NO_x), reactive organic gases (ROG), and diesel particulate matter (DPM) emissions from construction equipment are listed below:

- 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 that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NO_x 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; and,
- Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

2.3.2 Best Available Control Technology (BACT) for Construction Equipment

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 BACT measures can include:

- Further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines;
- Repowering equipment with the cleanest engines available; and
- Installing California Verified Diesel Emission Control Strategies. These strategies are listed at: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

2.3.3 Construction Activity Management Plan (CAMP) and Off-Site Mitigation

If the estimated construction emissions from the actual fleet are expected to exceed either of the APCD Quarterly Tier 2 thresholds of significance after the standard and BACT measures are factored into the estimation, then an APCD approved CAMP (see Technical Appendix 4.5 for CAMP Guidelines) and off-site mitigation need to be implemented in order to reduce potential air quality impacts to a level of insignificance.

CAMP

The CAMP should be submitted to the APCD for review and approval prior to the start of construction and should include, but not be limited to, the following elements:

- A Dust Control Management Plan that encompasses all, but is not limited to, dust control measures that were listed above in the "dust control measures" section;
- Tabulation of on and off-road construction equipment (age, horse-power and miles and/or hours of operation);
- Schedule construction truck trips during non-peak hours to reduce peak hour emissions;
- Limit the length of the construction work-day period, if necessary; and,
- Phase construction activities, if appropriate.

Off-Site Mitigation

It is important for the developer, lead agency, and SLO County APCD to work closely together whenever off-site mitigation is triggered. Off-site emission reductions can result from either stationary or mobile sources, but should relate to the on-site impacts from the project in order to provide proper "nexus" for the air quality mitigation. For example, NO_x emissions from a large grading project could be reduced by re-powering heavy-duty diesel construction equipment, thereby reducing the amount of NO_x generated from that equipment. An off-site mitigation strategy should be developed and agreed upon by all parties at least three months prior to the issuance of grading permits.

The current off-site mitigation rate is $16,000 per ton[1] of ozone precursor emission (NO_x + ROG) over the APCD threshold calculated over the length of the expected exceedance. The applicant may use these funds to implement APCD approved emission reduction projects near the project site or may pay that funding level plus an administration fee (2012 rate is 15%) to the APCD to administer emission reduction projects in close proximity to the project. The applicant shall provide this funding at least two (2) months prior to the start of construction to help facilitate emission offsets that are as real-time as possible.

Examples off-site mitigation strategies include, but are not limited to, the following:

- Fund a program to buy and scrap older heavy-duty diesel vehicles or equipment;
- Replace/repower transit buses;
- Replace/repower heavy-duty diesel school vehicles (i.e. bus, passenger or maintenance vehicles);
- Retrofit or repower heavy-duty construction equipment, or on-road vehicles;
- Repower or contribute to funding clean diesel locomotive main or auxiliary engines;
- Purchase 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; and,
- Replace/repower marine diesel engines.

2.4 FUGITIVE DUST MITIGATION MEASURES

Fugitive dust is particulate matter that is less than ten micros in size (PM_{10}) and is not emitted from defined point sources such as industrial smokestacks. Sources include open fields, graded or excavated areas, roadways, storage piles, etc.

All fugitive dust sources shall be managed to ensure that dust emissions are adequately controlled to below the 20% opacity limit identified in the APCD Rule 401 *Visible Emissions* and to ensure that dust is not emitted offsite. Projects shall implement one of the following fugitive dust mitigation sets to both minimize fugitive dust emissions and associated complaints that could result in a violation of the APCD Rule 402 *Nuisance*. The correct fugitive dust mitigation set for a given project depends on the project scale or proximity to sensitive receptors. The project proponent may propose other measures of equal or better effectiveness as replacements by contacting the APCD Panning Division.

Fugitive Dust Mitigation Measures: Short List

Projects with grading areas that are less than 4-acres and that are not within 1,000 feet of any sensitive receptor shall implement the following mitigation measures to minimize nuisance impacts and to significantly reduce fugitive dust emissions:

a. Reduce the amount of the disturbed area where possible;

b. Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible;

c. All dirt stock-pile areas should be sprayed daily as needed;

d. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible, and building pads should be laid as soon as possible after grading unless seeding or soil binders are used;

e. All of these fugitive dust mitigation measures shall be shown on grading and building plans; and

1 The value used to calculate off-site mitigation is based on the ARB approved Carl Moyer Grant Program and is updated on a periodic basis. The Carl Moyer cost effectiveness value as of 2009 is $16,000 per ton.

f. The contractor or builder shall designate a person or persons to monitor the fugitive 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.

Fugitive Dust Mitigation Measures: Expanded List

Projects with grading areas that are greater than 4-acres or are within 1,000 feet of any sensitive receptor shall implement the following mitigation measures to minimize nuisance impacts and to significantly reduce fugitive dust emissions:

a. Reduce the amount of the disturbed area where possible;

b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible;

c. All dirt stock pile areas should be sprayed daily as needed;

d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities;

e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;

f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD;

g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;

h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;

i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114;

j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;

k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible;

l. All of these fugitive dust mitigation measures shall be shown on grading and building plans; and

m. The contractor or builder shall designate a person or persons to monitor the fugitive 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. The name and telephone number of such persons shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork or demolition.

2.5 MITIGATION MONITORING

The APCD may conduct site visits to ensure that the construction phase air quality mitigation measures identified in the project's CEQA documents/conditions of approval were fully implemented. The lead agency may also review project mitigation for consistency with project conditions. Beyond verifying mitigation implementation, this monitoring can result in compliance requirements if mitigation measures are not sufficiently being implemented.

3 ASSESSING AND MITIGATING OPERATIONAL IMPACTS

Air pollutant emissions from urban development can result from a variety of sources, including motor vehicles, wood burning appliances, natural gas and electric energy use, combustion-powered utility equipment, paints and solvents, equipment or operations used by various commercial and industrial facilities, heavy-duty equipment and vehicles and various other sources. The air quality impacts that result from operational activities of a development project should be fully evaluated and quantified as part of the CEQA review process. The methods for evaluating and mitigating operational impacts from residential, commercial and industrial sources are discussed below.

3.1 OPERATIONAL SIGNIFICANCE CRITERIA

The APCD has established five separate categories of evaluation for determining the significance of project impacts. Full disclosure of the potential air pollutant and/or toxic air emissions from a project is needed for these evaluations, as required by CEQA:

a. Consistency with the most recent Clean Air Plan for San Luis Obispo County;

b. Consistency with a plan for the reduction of greenhouse gas emissions that has been adopted by the jurisdiction in which the project is located and that, at a minimum, complies with State CEQA Guidelines Section 15183.5.

c. Comparison of predicted ambient criteria pollutant concentrations resulting from the project to state and federal health standards, when applicable;

d. Comparison of calculated project emissions to SLO County APCD emission thresholds; and,

e. The evaluation of special conditions which apply to certain projects.

3.2 CONSISTENCY WITH THE SLO COUNTY APCD'S CLEAN AIR PLAN AND SMART GROWTH PRINCIPLES

A consistency analysis with the Clean Air Plan is required for a Program Level environmental review, and may be necessary for a Project Level environmental review, depending on the project being considered. Program-Level environmental reviews include but are not limited to General Plan Updates and Amendments, Specific Plans, Regional Transportation Plans and Area Plans. Project-Level environmental reviews which may require consistency analysis with the Clean Air Plan and Smart/Strategic Growth Principles adopted by lead agencies include: subdivisions, large residential developments and large commercial/industrial developments. The project proponent should evaluate if the proposed project is consistent with the land use and transportation control measures and strategies outlined in the Clean Air Plan. If the project is consistent with these measures, the project is considered consistent with the Clean Air Plan.

3.3 CONSISTENCY WITH A PLAN FOR THE REDUCTION OF GREENHOUSE GAS EMISSIONS

The APCD encourages local governments to adopt a qualified GHG reduction plan that is consistent with AB 32 goals. If a project is consistent with an adopted qualified GHG reduction plan it can be presumed that the project will not have significant GHG emission impacts. This approach is consistent with the State CEQA Guidelines, Section 15183.5 (see text in box below).

§15183.5. Tiering and Streamlining the Analysis of Greenhouse Gas Emissions.

(a) Lead agencies may analyze and mitigate the significant effects of greenhouse gas emissions at a programmatic level, such as in a general plan, a long range development plan, or a separate plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an EIR containing a programmatic analysis of greenhouse gas emissions as provided in section 15152 (tiering), 15167 (staged EIRs) 15168 (program EIRs), 15175-15179.5 (Master EIRs), 15182 (EIRs Prepared for Specific Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning).

(b) Plans for the Reduction of Greenhouse Gas Emissions. Public agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.

(1) Plan Elements. A plan for the reduction of greenhouse gas emissions should:

(A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;

(B) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;

(C) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;

(D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;

(E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;

(F) Be adopted in a public process following environmental review

(2) Use with Later Activities. A plan for the reduction of greenhouse gas emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable notwithstanding the project's compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project.

Detailed information on preparing qualified GHG reduction plans is provided in the Technical Appendices 4.6 GHG Plan Level Guidance.

3.4 COMPARISON TO STANDARDS

State and federal ambient air quality standards are established to protect public health and welfare from the adverse impacts of air pollution; these standards are listed in Table 3-1. Industrial and large commercial projects are sometimes required to perform air quality dispersion modeling if the SLO County APCD determines that project emissions may have the potential to cause an exceedance of these standards. In such cases, models are used to calculate the potential ground-level pollutant concentrations resulting from the project. The predicted pollutant levels are then compared to the applicable state and federal standards. A project is considered to have a significant impact if its emissions are predicted to cause or contribute to a violation of any ambient air quality standard. In situations where the predicted standard violation resulted from the application of a "screening-level" model or calculation, it may be appropriate to perform a more refined modeling analysis to accurately estimate project impacts. If a refined analysis is not available or appropriate, then the impact must be mitigated to a level of insignificance or a finding of overriding considerations must be made by the permitting agency.

Table 3-1: Ambient Air Quality Standards (State and Federal)

Pollutant		Averaging Time	California Standard [1]	Federal Standard [2]
Ozone		1 Hour	0.09 ppm	
		8 Hour	0.070 ppm	0.075 ppm
Carbon Monoxide		8 Hour	9.0 ppm	9 ppm
		1 Hour	20 ppm	35 ppm
Nitrogen Dioxide		Annual Arithmetic Mean	0.030 ppm	0.053 ppm
		1 Hour	0.18 ppm	
Sulfur Dioxide		Annual Arithmetic Mean		0.030 ppm
		24 Hour	0.04 ppm	0.14 ppm
		3 Hour		0.5 ppm (secondary)
		1 Hour	0.25 ppm	
Respirable Particulate Matter	PM_{10}	Annual Arithmetic Mean	20 $\mu g/m^3$	
		24 Hour	50 $\mu g/m^3$	150 $\mu g/m^3$
Fine Particulate Matter	$PM_{2.5}$	Annual Arithmetic Mean	12 $\mu g/m^3$	15.0 $\mu g/m^3$
		24 Hour		35 $\mu g/m^3$
Hydrogen Sulfide		1 Hour	0.03 ppm	
Vinyl Chloride		24 Hour	0.01 ppm	
Sulfates		24 Hour	25 $\mu g/m^3$	
Lead			30 day average: 25 $\mu g/m^3$	Rolling 3-month average:0.15 $\mu g/m^3$ Calendar quarter: 1.5 $\mu g/m^3$
Visibility Reducing Particles		8 Hour	Extinction coefficient of 0.23 per kilometer – visibility of ten miles or more due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.	

1. California standards for ozone, carbon monoxide (except Lake Tahoe), nitrogen dioxide, sulfur dioxide (1-hour and 24-hour), $PM_{2.5}$, PM_{10} and visibility reducing particles are values that are not to be exceeded. All other state standards are not to be equaled or exceeded.

2. Federal standards are not to be exceeded more than once in any calendar year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when the 98 percent of the daily concentration, average over three years, are equal to or less than the standard.

3.5 COMPARISON TO SLO COUNTY APCD OPERATIONAL EMISSION THRESHOLDS

Emissions which exceed the designated threshold levels are considered potentially significant and should be mitigated.

A Program Level environmental review, such as for a General Plan, Specific Plan or Area Plan however, does not require a quantitative air emissions analysis at the project scale. A qualitative analysis of the air quality impacts should be conducted instead, and should be generated for each of the proposed alternatives to be considered. The qualitative analysis of each alternative should be based upon criteria such as prevention of urban sprawl and reduced dependence on automobiles. A finding of significant impacts can be determined qualitatively by comparing consistency of the project with the Transportation and Land Use Planning Strategies outlined in the APCD's Clean Air Plan. Refer to Section 3.2 for more information.

Section 3.7 of this document provides guidance on the type of mitigation recommended for varying levels of impact and presents a sample list of appropriate mitigation measures for different types of projects.

3.5.1 Significance Thresholds for Project-Level Operational Emissions

The threshold criteria established by the SLO County APCD to determine the significance and appropriate mitigation level for **long-term operational** emissions from a project are presented in Table 3-2.

Table 3-2: Thresholds of Significance for Operational Emissions Impacts

Pollutant	Threshold[1]	
	Daily	Annual
Ozone Precursors (ROG + NO_x)[2]	25 lbs/day	25 tons/year
Diesel Particulate Matter (DPM)[2]	1.25 lbs/day	
Fugitive Particulate Matter (PM_{10}), Dust	25 lbs/day	25 tons/year
CO	550 lbs/day	
Greenhouse Gases (CO_2, CH_4, N20, HFC, CFC, F6S)	Consistency with a Qualified Greenhouse Gas Reduction Plan OR 1,150 MT CO_2e/year OR 4.9 CO_2e/SP/year (residents + employees)	

1. Daily and annual emission thresholds are based on the California Health & Safety Code Division 26, Part 3, Chapter 10, Section 40918 and the CARB Carl Moyer Guidelines for DPM.
2. CalEEmod – use winter operational emission data to compare to operational thresholds.

Most of the **long-term operational mitigation strategies** suggested in Section 3.7 focus on methods to reduce vehicle trips and travel distance, including site design standards which encourage pedestrian and bicycle-friendly, transit-oriented development. In addition, the recommendations include design strategies for residential and commercial buildings that address energy conservation and other concepts to reduce total project emissions. These recommendations are not all inclusive and are provided as examples among many possibilities.

3.5.2 Ozone Precursor (ROG + NO_x) Emissions

- If the project's ozone precursor emissions are below the APCD's **25 lbs/day** (combined ROG + NO_x emissions) no ozone mitigation measures are necessary. The Lead Agency will prepare the appropriate, required environmental document(s).

- Projects which emit **25 lb/day** or more of ozone precursors (ROG + NO_x combined) have the potential to cause significant air quality impacts, and should be submitted to the SLO County APCD for review. On-site mitigation measures, following the guidelines in Section 3.7 (*Operational Emission Mitigation*), are recommended to reduce air quality impacts to a level of insignificance.

  If all feasible mitigation measures are incorporated into the project and emissions can be reduced to less than 25 lbs/day, then the Lead Agency will prepare the appropriate, required environmental document(s).

  If all feasible mitigation measures are incorporated into the project and emissions are still greater than 25 lbs/day, then an ENVIRONMENTAL IMPACT REPORT should be prepared. Additional mitigation measures, including off-site mitigation, may be required depending on the level and scope of air quality impacts identified in the EIR.

- Projects which emit **25 tons/year** or more of ozone precursor (ROG + NO_x combined), require the preparation of an ENVIRONMENTAL IMPACT REPORT. Depending upon the level and scope of air quality impacts identified in the EIR, mitigation measures, including off-site mitigation, may be required to reduce the overall air quality impacts of the project to a level of insignificance.

3.5.3 Diesel Particulate Matter (DPM) Emissions

Diesel particulate matter (DPM) is seldom emitted from individual projects in quantities which lead to local or regional air quality attainment violations. DPM is, however, a toxic air contaminant and carcinogen, and exposure DPM may lead to increased cancer risk and respiratory problems. Certain industrial and commercial projects may emit substantial quantities of DPM through the use of stationary and mobile on-site diesel-powered equipment as well diesel trucks and other vehicles that serve the project.

Projects that emit more than **1.25 lbs/day** of DPM need to implement on-site Best Available Control Technology measures. If sensitive receptors are within 1,000 feet of the project site, a Health Risk Assessment (HRA) may also be required. Sections 3.5.1 and 3.6.4 of this Handbook provide more background on HRAs in conjunction with CEQA review. Guidance on the preparation of a HRA may be found in the CAPCOA report *HEALTH RISK ASSESSMENT FOR PROPOSED LAND USE PROJECTS* which can be downloaded from the CAPCOA website at www.capcoa.org.

3.5.4 Fugitive Particulate Matter (Dust) Emissions

Projects which emit more than **25 lbs/day** or **25 tons/year** of fugitive particulate matter need to implement permanent dust control measures to mitigate the emissions below these thresholds or provide suitable off-site mitigation approved by the APCD. Operational fugitive dust emissions from a proposed project are calculated using the CALEEMOD model discussed in Section 3.6.1. Typical sources of operational emissions included the following:

- Paved roadways: Vehicular traffic on paved roads that are used to accesses large residential, commercial, or industrial projects can generate significant dust emissions.

- Off and/or on-site unpaved roads or surfaces: Even at low traffic volume, vehicular traffic on unpaved roads or surfaces that are used to accesses residential, commercial, or industrial operations or that accesses special events, etc. can generate significant dust emissions
- Industrial and/or commercial operations: Certain industrial operations can generate significant dust emissions associated with vehicular access, commercial or industrial activities.

Any of the above referenced land uses or activities can result in dust emissions that exceed the APCD significance thresholds, cause violations of an air quality standard, or create a nuisance impact in violation of APCD Rule 402 *Nuisance*. In all cases where such impacts are predicted, appropriate fugitive dust mitigation measures shall be implemented.

3.5.5 Carbon Monoxide (CO) Emissions

Carbon monoxide is a colorless, odorless, tasteless gas emitted during combustion of carbon-based fuels. While few land use projects result in high emissions of CO, 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 (CO) and occur in a confined or semi-confined space (e.g., parking garage or enclosed indoor stadium) must be modeled to determine their significance. In confined or semi-confined spaces where vehicle activity occurs, CO modeling is required. If modeling shows the potential to violate the State CO air quality standard, mitigation or project redesign is required to reduce CO concentrations to a level below the health-based standard.

3.5.6 Greenhouse Gas Emissions

GHGs (CO_2, CH_4, N20, HFC, CFC, F6S) from all projects subject to CEQA must be quantified and mitigated to the extent feasible. The thresholds of significance for a project's amortized construction plus operational-related GHG emissions are:

- For land use development projects, the threshold is compliance with a qualified GHG Reduction Strategy (see Section 3.3); OR annual emissions less than 1,150 metric tons per year (MT/yr) of CO_2e; ORr 4.9 MT CO_2e/service population (SP)/yr (residents + employees2). Land use development projects include residential, commercial and public land uses and facilities. Lead agencies may use any of the three options above to determine the significance of a project's GHG emission impact to a level of certainty.

- For stationary-source projects, the threshold is 10,000 metric tons per year (MT/yr) of CO_2e. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require an APCD permit to operate.

The APCD's GHG threshold is defined in terms of carbon dioxide equivalent (CO_2e), a metric that accounts for the emissions from various greenhouse gases based on their global warming potential. If annual emissions of GHGs exceed these threshold levels, the proposed project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change. More detailed information on the greenhouse gas thresholds can be found in the APCD's *Greenhouse Gas Thresholds and Supporting Evidence* document (March 28, 2012) that is available at www.slocleanair.org.

3.6 SPECIAL CONDITIONS

Projects may require additional assessments as described in the following section.

2 For projects where the employment is unknown, please refer to Appendix 4.7 "Employees per 1000sf" to estimate the number of employees associated with any project.

3.6.1 Toxic Air Contaminants

Health Risk Assessments

If a project has the potential to emit toxic or hazardous air pollutants, or is located in close proximity to sensitive receptors, impacts may be considered significant due to increased cancer risk for the affected population, even at a very low level of emissions. Such projects may be required to prepare a risk assessment to determine the potential level of risk associated with their operations. The SLO County APCD should be consulted on any project with the potential to emit toxic or hazardous air pollutants. Pursuant to the requirements of California Health and Safety Code Section 42301.6 (AB 3205) and Public Resources Code Section 21151.8, subd. (a)(2), any new school, or proposed industrial or commercial project site located within 1000 feet of a school must be referred to the SLO County APCD for review. Further details on requirements for projects in this category are presented in Section 4.1.

In April of 2005, the California ARB issued the *AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE* (Land Use Handbook). The ARB has determined that emissions from sources such as roadways and distribution centers and, to a lesser extent gas stations, certain dry cleaners, marine ports and airports as well as refineries can lead to unacceptably high health risk from diesel particulate matter and other toxic air contaminants (TACs). Groups such as children and the elderly, as well as long-term residential occupants, are particularly at risk from toxic exposure.

In July 2009, the California Air Pollution Control officers Associations (CAPCOA) adopted a guidance document *HEALTH RISK ASSESSMENTS FOR PROPOSED LAND USE PROJECTS* to provide uniform direction on how to assess the health risk impacts from and to proposed land use projects. The CAPCOA guidance document focuses on how to identify and quantify the potential acute, chronic, and cancer impacts of sources under CEQA review. It also outlines the recommended procedures to identify when a project should undergo further risk evaluation, how to conduct the health risk assessment (HRA), how to engage the public, what to do with the results from the HRA, and what mitigation measures may be appropriate for various land use projects.

As defined in the CAPCOA guidance document there are basically two types of land use projects that have the potential to cause long-term public health risk impacts:

- Type A Projects: new proposed land use projects that generate toxic air contaminants (such as gasoline stations, distribution facilities or asphalt batch plants) that impact sensitive receptors. Air districts across California are uniform in their recommendation to use the significance thresholds that have been established under each district's "Hot Spots" and permitting programs. The APCD has defined the excess cancer risk significance threshold at **10 in a million** for Type A projects in SLO County; and,

- Type B Projects: new land use projects that will place sensitive receptors (e.g., residential units) in close proximity to existing toxics sources (e.g., freeway). The APCD has established a CEQA health risk threshold of **89 in-a-million** for the analysis of projects proposed in close proximity to toxic sources. This value represents the population weighted average health risk caused by ambient background concentrations of toxic air contaminants in San Luis Obispo County. The APCD recommends Health Risk screening and, if necessary, Health Risk Assessment (HRA) for any residential or sensitive receptor development proposed in proximity to toxic sources.

If a project is located near a sensitive receptor (e.g., school, hospital, dwelling unit(s), etc.), it may be considered significant even if other criteria do not apply. The health effects of a project's emissions may be more pronounced if they impact a considerable number of children, elderly, or people with compromised respiratory or cardiac conditions.

Diesel PM

In October of 2000, the ARB issued and adopted the Diesel Risk Reduction Plan to reduce particulate matter emissions from diesel-fueled engines and vehicles. This plan identified that 70% of the airborne toxic risk in California is from diesel particulate matter.

The plan called for a 90% reduction in this Toxic Air Contaminant by 2020 through:

a. Adoption of new regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles;

b. Requiring feasible and cost-effective diesel PM reducing retrofit requirements for the existing fleets and stationary engines; and,

c. Reducing the sulfur content in diesel-fuel sold in California to 15 parts per million.

At a minimum, fleets must meet the diesel emission reduction requirements that have been adopted in the State's Diesel Risk Reduction Plan. These fleets may also be required to provide additional mitigation depending on the project's emissions and location.

Asbestos / Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) has been identified by the state Air Resources Board as a toxic air contaminant. Serpentine and ultramafic rocks are very common throughout California and may contain naturally occurring asbestos. The SLO County APCD has identified areas throughout the County where NOA may be present (see Technical Appendix 4.4). Under the ARB's Air Toxic Control Measure (ATCM) related to quarrying, and surface mining operations, a geologic evaluation is required to determine if NOA is present prior to any grading activities at a project site located in the candidate area.

If NOA is found at the site the applicant must comply with all requirements outlined in the Asbestos ATCM for Quarrying, and Surface Mining Operations. These requirements may include but are not limited to:

a. Development of an Asbestos Dust Mitigation Plan which must be approved by the APCD before operations begin, and,

b. Development and approval of an Asbestos Health and Safety Program (required for some projects).

If NOA is not present, an exemption request must be filed with the Air District. More information on NOA can be found at http://www.slocleanair.org/business/asbestos.asp.

3.6.2 Agricultural Operations

Wineries, Tasting Rooms and Special Events

Reactive organic gas emissions (ethanol) generated during wine fermentation and storage, as well as emissions from equipment used in wine production, can cause significant air quality impacts. Thus, the emissions for new or modified winery operations and activities should be evaluated and appropriate mitigation specified when necessary. New or expanding wineries with storage capacity of 26,000 gallons per year or more may also require a Permit to Operate from the APCD.

Wine production facilities can also generate nuisance odors during various steps of the process. Proven methods for handling wastewater discharge and grape skin waste need to be incorporated into the winery practices to minimize the occurrence of anaerobic processes that mix with ambient air which can result in offsite nuisance odor transport. Odor complaints could result in a violation of the SLO County APCD Rule 402 *Nuisance*.

Agricultural Burns
Agricultural operations must obtain an APCD Agricultural Burn Permit to burn dry agricultural vegetation on Permissive Burn Days. The ARB provides educational handbooks on agricultural burning (English and Spanish) to growers which are available at the following websites:

-www.arb.ca.gov/cap/handbooks/agburningsmall.pdf
-www.arb.ca.gov/cap/handbooks/agburningspanishsmall.pdf.

3.6.3 Fugitive Dust

Fugitive dust can come from many sources, such as unpaved roads, equestrian facilities and confined animal feeding operations. Dust emissions from the operational phase of a project should be managed to ensure they do not impact offsite areas and do not exceed the 20% opacity limit identified in SLO County APCD Rule 401 *Visible Emissions*. A list of approved dust control suppressants is available in Technical Appendix 4.3. The approved suppressants must be reapplied at a frequency that ensures dust emissions will not exceed the limits stated above. Any chemical or organic material used for stabilizing solids shall not violate the California State Water Quality Control Board standards for use as a soil stabilizer. Any dust suppressant must not be prohibited for use by the US Environmental Protection Agency, the California Air Resources Board, or other applicable law, rule, or regulation.

Equestrian Facilities
Another potential source of fugitive dust can come from equestrian facilities, which may be a nuisance to local residents. To minimize nuisance impacts and to reduce fugitive dust emissions from equestrian facilities the following mitigation measures should be incorporated into the project:

- 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. Increased watering frequency whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water shall be used whenever possible;
- Permanent dust control measures shall be implemented as soon as possible following completion of any soil disturbing activities;
- 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 Air District;
- All access roads and parking areas associated with the facility shall be paved to reduce fugitive dust; and,
- A person or persons shall be designated to monitor for dust and implement additional control measures as necessary to prevent transport of dust offsite. The monitor's duties shall include holidays and weekend. The name and telephone number of such persons shall be provided to the Air District prior to operation of the arena.

Dirt Roads and Unpaved Areas
When a project is accessed by unpaved roads and or has unpaved driveways or parking areas, a PM_{10} emission estimate needs to be conducted using the CALEEMOD model. When the model's emission estimate demonstrates an exceedance of the 25 lbs of PM_{10}/day or 25 tons of PM_{10}/year APCD thresholds, the following mitigation is required:

For the unpaved road leading to the project location, implement one of the following:

a. For the life of the project, pave and maintain the driveway; or,

b. For the life of the project, maintain the private unpaved driveway with a dust suppressant (See Technical Appendix 4.3 for a list of APCD-approved suppressants) such that fugitive dust emissions do not impact off-site areas and do not exceed the APCD 20% opacity limit.

To improve the dust suppressant's long-term efficacy, the applicant shall also implement and maintain design standards to ensure vehicles that use the on-site unpaved road are physically limited (e.g., speed bumps) to a posted speed limit of 15 mph or less.

If the project involves a city or county owned and maintained road, the applicant shall work with the Public Works Department to ensure road standards are followed. The applicant may propose other measures of equal effectiveness as replacements by contacting the APCD Planning Division.

Special Event Mitigation

When a special event is accessed by unpaved roads and or has unpaved driveways or parking areas, a PM_{10} emission estimate must to be conducted using the CALEEMOD model. If the model shows an exceedance of the 25 lbs/day of PM_{10} significance threshold, the following mitigation is required on the day(s) of the special event:

a. Designated parking locations shall be:
   1. Paved when possible;
   2. Sited in grass or low cut dense vegetative areas; or,
   3. Treated with a dust suppressant such that fugitive dust emissions do not impact offsite areas and do not exceed the APCD 20% opacity limit (see Technical Appendix 4.3).

b. Any unpaved roads/driveways that will be used for the special event shall be maintained with an APCD-approved dust suppressant such that fugitive dust emissions do not impact offsite areas and do not exceed the APCD 20% opacity limit.

The applicant may propose alternative measures of equal effectiveness by contacting the APCD Planning Division.

3.6.4 Air Quality Nuisance Impacts

If a project has the potential to cause an odor or other nuisance problem which could impact a considerable number of people, then it may be considered significant. A project may emit a pollutant in concentrations that would not otherwise be significant except as a nuisance. Odor impacts on residential areas and other sensitive receptors warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, work sites and commercial areas.

When making a determination of odor significance, determine whether the project would result in an odor source located next to potential receptors within the distances indicated in Table 3-3. The Lead Agency should evaluate facilities not included in Table 3-3 or projects separated by greater distances than indicated in Table 3-3 if warranted by local conditions or special circumstances. The list is provided as a guide and, as such, is not all-inclusive.

If a project is proposed within the screening level distances in Table 3-3, the APCD Enforcement Division should be contacted for information regarding potential odor problems. For projects that involve new receptors located near an existing odor source(s), an information request should be submitted to the SLO County APCD to review the inventory of odor complaints for the nearest odor emitting facility(ies) during the previous three years. For projects involving new receptors to be located near an existing odor source where there is currently no nearby development, and for new odor sources locating near existing receptors, the information request and analysis should be based on a review of odor complaints for similar facilities.

Table 3-3: Project Screening Distances for Nuisance Sources

PROJECT SCREENING DISTANCES	
Type of Operation	**Project Screening Distance**
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Coffee Roaster	1 mile
Composting Facility	1 mile
Fiberglass Manufacturing	1 mile
Food Processing Facility	1 mile
Oil Field	1 mile
Painting/Coating Operations (e.g. auto body shops)	1 mile
Petroleum Refinery	2 miles
Rendering Plant	1 mile
Sanitary Landfill	1 mile
Transfer Station	1 mile
Wastewater Treatment Plant	1 mile

Note: This list is provided as a guide and is not all-inclusive.

For a project that will be located near an existing odor source the project should be identified as having a significant odor impact, if it will be as close or closer to the any location that has experienced: 1) more than one confirmed complaint per year averaged over a three year period, or 2) three unconfirmed complaints per year averaged over a three year period.

If a proposed project is determined to result in potential odor problems, mitigation measures should be identified. For some projects, add-on controls or process changes, such as carbon absorption, incineration or an engineering modification to stacks/vents, can reduce odorous emissions. In many cases, however, the most effective mitigation strategy is the provision of a sufficient distance, or buffer zone, between the source and the receptor(s).

The SLO County APCD should be consulted whenever any of these additional special conditions may be applicable for a proposed project.

3.7 METHODS FOR CALCULATING PROJECT OPERATIONAL EMISSIONS

Operational phase air pollutant emissions from urban development can result from a variety of sources, including motor vehicles, wood burning appliances, natural gas and electric energy use, combustion-powered utility equipment, paints and solvents, equipment or operations used by various commercial and industrial facilities, construction and demolition equipment and operations, and various other sources. The amount and type of emissions produced, and their potential to cause significant impacts, depends on the type and level of development proposed. The following sections describe the recommended methods generally used to calculate emissions from motor vehicles, congested intersections and roadways, non-vehicular sources at residential and commercial facilities, and industrial point and area sources. Calculation and mitigation of construction emissions are described separately in Chapter 2.

Submittals describing project assessments must include spreadsheets with project calculations and a description of calculations so that the APCD can verify project quantification. **Calculations must be based on San Luis Obispo County default conditions unless the default settings are not representative of the project** (see below). The project report must detail assumptions made and provide sample calculations. Prior to finalizing the calculations, contact the APCD Planning and Outreach Division to review assumptions that do not have solid evidential support.

3.7.1 Determining Motor Vehicle Emissions

Motor vehicles are a primary source of long-term emissions from many residential, commercial, institutional, and industrial land uses. These land uses often do not emit significant amounts of air

pollutants directly, but cause or attract motor vehicle trips that do produce emissions. Such land uses are referred to as indirect sources.

Motor vehicle emissions associated with indirect sources should be calculated for projects which exceed or are within 10 % of the screening criteria listed in Table 1-1. Calculations should be performed using the latest version of CALEEMOD; this software incorporates the most recent vehicle emission factors from the EMFAC model (i.e., EMission FACtors) provided by the California Air Resources Board (ARB), and average trip generation factors published by the Institute of Transportation Engineers (ITE). The latest version of this program should always be used and can be downloaded free of charge at www.caleemod.com.

CalEEMod is a planning tool for estimating vehicle miles travel, fuel use and resulting emissions related to land use projects throughout California. The model calculates emissions of ROG, NO_x, CO, and CO_2 and other GHGs as well as dust and exhaust PM_{10} from vehicle use associated with new or modified development such as shopping centers, housing, commercial services, industrial land uses, etc. CALEEMOD includes many default values for parameters such as

- Seasonal Average Temperature;
- Humidity;
- Wood and gas stoves in a residential development and their usage;
- Fleet mix;
- Average vehicle speed and age;
- Average urban, rural, commute, shopping, and other trip type distances; and,
- Average trip rates for each land use.

When modeling project emissions, the user must specify that the project is located in SLO County so that the appropriate default values are used for the modeling. Motor vehicle-related defaults should not be changed without justification for doing so; solid documentation of rationale for any changes made need to be provided to APCD as part of the air quality report. Defaults that need to be evaluated and modified based on the project location and specifications include:

- **Trip Length:** For projects that are located in rural areas of the county where commercial services are not readily available, the trip length default values in the Operational – Mobile Vehicle Trips CalEEMod tab need be set at 13 miles for all trip distances; this happens automatically if the "Rural" Land Use Setting.

- **Fleet Mix:** Projects that attract a mix of vehicles which clearly differs from the default vehicle fleet in SLO County should make the appropriate changes to the FleetMix fraction section on the Annual, Summer, and Winter subtabs under the CalEEMod Operational – Mobile Vehicle Emissions Tab. Some examples include large commercial retail with heavy on-road truck use and heavy industry.

- **Dirt and Roads:** Projects which include on- and off-site dirt access roads should modify the default Road Dust component to accurately assess the project's PM_{10} emissions. For general traffic, SLO County APCD recommends using the ARB's unpaved road emission factor of 2 pounds of particulate matter emissions per one mile of unpaved vehicle mile traveled (www.arb.ca.gov/ei/areasrc/fullpdf/FULL7-10.pdf). This value is not appropriate for heavy duty diesel truck travel on unpaved roads.

  The following are the APCD recommended values to use in CalEEMod's Operational – Mobile Road Dust tab to yield PM10 emissions using variable values that emulate the ARB's above identified unpaved road emission factor:

  - Under the "Paved Road Dust" section:

- Change the "% Pave" value to define your project's paved road component by entering the results of the following calculation:
  - In general, the total distance of paved road driving (miles) is determined with:
    - [1 – (A/B)] x 100%
    - Where A = The unpaved road distance to access the project
    - Where B is typically = to the county average one way trip distance of 13 miles)
- Under the "Unpaved Road Dust" section:
  - Use a value of 9.3 for "Material Silt Content (%)"
  - Use a value of 0.1 for "Material Moisture Content (%)"
  - Use a value of 32.4 for "Mean Vehicle Speed (mph)"

If the project has a total distance of unpaved road greater than 13 miles, the actual distance of the unpaved road should be compared to the total one-way trip length to determine the percentages of paved and unpaved road distances. In addition, the Trip Length in the Operational – Mobile Vehicle Trips tab needs to be updated by entering the total length of a one way trip for the project.

CalEEMod reports submitted as part of a CEQA evaluation need to include the following:

a. A winter, summer, and annual report;

b. The model files associated with the reports;

c. The SLO County APCD CEQA operational criteria pollutant thresholds should be compared to the Overall Operational winter total emissions (Note: ROG and NOx emission values are combined and compared to the 25 lb/day threshold);

d. The SLO County APCD CEQA operational GHG numerical threshold should be compared to the Overall Operational annual total CO2e emissions;

e. When summarizing modeling results in a CEQA document summary table always list the pollutants in the order they are listed in the model for ease of review; and,

f. Changes to any SLO County defaults need to be identified and a solid defensible explanation for those changes need to be provided to the APCD.

3.7.2 Non-Vehicular Emissions from Residential and Commercial Facilities

Non-vehicular emission sources associated with most residential and commercial development include energy use to power lights, appliances, heating and cooling equipment, evaporative emissions from paints and solvents, fuel combustion by lawnmowers, leaf blowers and other small utility equipment, residential wood burning, household products, and other small sources. Collectively, these are referred to as "area sources" and are important from a cumulative standpoint even though they may appear insignificant when viewed individually. The CALEEMOD model provides emissions estimations from area sources based on land use types; however it underestimates all emissions associated with electricity use and water consumption.

One CALEEMOD default area source value which has a significant impact on project emissions and may need to be changed is hearth fuel combustion – it is enabled by default and should be disabled or modified if the project excludes wood-burning devices.

3.7.3 Industrial Emission Sources

From an emissions standpoint, industrial facilities and operations are typically categorized as being "point" or "area" sources. Point sources are stationary and generally refer to a site that has one or more emission sources at a facility with an identified location (e.g., power plant, refinery, etc.). Area sources can be:

- Stationary or mobile and typically include categories of stationary facilities whose emissions are small individually, but may be significant as a group (e.g., gas stations, dry cleaners, etc.);
- Sources whose emissions emanate from a broad area (e.g., fugitive dust from storage piles and dirt roads, landfills, etc.); and,
- Mobile equipment used in industrial operations (e.g., drill rigs, loaders, haul-trucks, etc.).

Emissions from new, modified or relocated point sources are directly regulated through the APCD Rule 204 *New Source Review* requirements and facility permitting program. A general list of the type of sources affected by these requirements is provided in Section 4.1. New development that includes these source types should be forwarded to the SLO County APCD for a determination of APCD permitting and control requirements. Through the CEQA analysis, all air quality impacts are evaluated including the stationary point, area and mobile sources. While a specific piece of equipment or process may be covered by an APCD permit it is not excluded from the CEQA evaluation process.

3.7.4 Health Risk Assessment

Health risk is a common metric used by air quality and health scientists to describe the potential for an individual or group of people (population) in a given area to suffer serious health effects from long-term or short-term exposure to one or more toxic air contaminants (TACs). In July 2009, the California Air Pollution Control officers Association (CAPCOA) released a guidance document titled *HEALTH RISK ASSESSMENT FOR LAND USE PROJECTS*, which is available for download at www.capcoa.org. Attachment 1 of the CAPCOA document provides specific guidance on how to model emissions of toxic substances from various source types to determine the potential cancer risk as well as acute and chronic non-cancer health risks for nearby receptors.

A screening-level and/or refined health risk assessment (HRA) may be required for projects which may result in the exposure of sensitive receptors (e.g., school, hospital, dwelling unit(s), etc.) to TACs. Projects which involve the siting of **either** the TAC source itself **or** sensitive receptors in close proximity to a TAC should be evaluated for risk exposure. Various tools are available to perform a screening analysis from stationary sources impacting receptors (Type A projects).

For projects being impacted by existing sources (Type B projects), a distance table screening tool is available in the ARB Land Use Handbook which provides recommended buffer distances associated with types of most common toxic air contaminant sources (see Technical Appendix 4.2).

If a screening risk assessment shows that the potential risk exceeds the APCD's thresholds, then a more refined analysis may be required. The assessment should include the evaluation of both mobile and stationary sources. Risk assessments are normally prepared in a tiered manner, where progressively more input data is collected to refine the results. The refined analysis for the project should provide more accurate information for decision makers.

3.7.5 Greenhouse Gas Emissions

To quantify GHG emissions from a proposed development, the APCD recommends using CalEEMod for mobile sources and a partial characterization of area source impacts. In certain cases (e.g., drive-through restaurants), the use of alternative methodologies to quantify GHG impacts will be required. Please consult APCD Planning Division staff for current calculation methods.

3.8 OPERATIONAL EMISSION MITIGATION

Emissions from motor vehicles that travel to and from residential, commercial, and industrial land uses can generally be mitigated by reducing vehicle activity through site design (e.g., transit oriented design, infill, mixed use, etc.), implementing transportation demand management measures, using clean fuels and vehicles, and/or off-site mitigation. In addition, area source operational emissions from energy consumption from land uses can be mitigated by improving energy efficiencies, conservation measures and use of alternative energy sources. The mitigation measures in this section are intended to reduce emissions of ROG, NO_x, Diesel PM (DPM), Dust PM, and GHGs. The following three categories best capture the types of mitigation measures that can reduce air quality impacts from project operations:

- **Site Design Mitigation Measures:** Site design and project layout can be effective methods of mitigating air quality impacts of development. Land use development that incorporates urban infill, higher density, mixed use and walkable, bikeable, and transit oriented designs can significantly reduce vehicle activity and associated air quality impacts. As early as possible in the scoping phase of a project, the SLO County APCD recommends that developers and planners refer to the document *CREATING TRANSPORTATION CHOICES THROUGH DEVELOPMENT DESIGN AND ZONING* and Appendix E of the APCD Clean Air Plan *LAND USE AND CIRCULATION MANAGEMENT STRATEGIES.* APCD Planning Division staff is available to discuss project layout and design factors which can influence indirect source emissions and reduce mobile source emissions.

- **Energy Efficiency Mitigation Measures:** Residential and commercial energy use for lighting, heating and cooling is a significant source of direct and indirect air pollution nationwide. Reducing site and building energy demand will reduce emissions at the power plant source and natural gas combustion in homes and commercial buildings. The energy efficiency of both commercial and residential buildings can be improved by orienting buildings to maximize natural heating and cooling.

- **Transportation Mitigation Measures:** Vehicle emissions are often the largest continuing source of emissions from the operational phase of a development. Reducing the demand for single-occupancy vehicle trips is a simple, cost-effective means of reducing vehicle emissions. In addition, using cleaner fueled vehicles or retrofitting equipment with emission control devices can reduce the overall emissions without impacting operations. In today's marketplace, clean fuel and vehicle technologies exist for both passenger and heavy-duty applications.

3.8.1 Guidelines for Applying ROG, NO_x and PM_{10} Mitigation Measures

In general, projects which do not exceed the 25 lb/day ROG+NO_x threshold do not require mitigation. For projects which exceed this threshold, the SLO County APCD has developed a list of mitigation strategies for residential, commercial and industrial projects. Alternate mitigation measures may be suggested by the project proponent if the APCD-suggested measures are not feasible. Project mitigation recommendations should follow the guidelines listed below and summarized in Table 3-4:

a. Projects with the potential to generate 25 - 29 lbs/day of combined ROG + NO_x or PM_{10} emissions should select and implement at least **8** mitigation measures from the list;

b. Projects generating 30 - 34 lbs./day of combined ROG + NO_x or PM_{10} emissions should select and implement at least **14** mitigation measures list;

c. Projects generating 35 - 50 lbs./day of combined ROG + NO_x or PM_{10} emissions should implement at least **18** measures from the list;

d. Projects generating 50 lbs/day or more of combined ROG + NO_x or PM_{10} emissions should select and implement **all feasible** measures from the list. Further mitigation measures may also be necessary, including off-site measures, depending on the nature and size of the project and the effectiveness of the mitigation measures proposed; and,

e. Projects generating 25 tons per year or more of combined ROG + NO_x or PM_{10} emissions will need to implement **all feasible** measures from the list as well as **off-site** mitigation measures, depending on the nature and size of the project and the effectiveness of the onsite mitigation measures proposed.

Table 3-4: Mitigation Threshold Guide

Combined ROG+NO_x or PM_{10} Emissions (lbs/day)	Mitigation Measures Recommended	
	Residential, Commercial or Industrial	Off-Site Mitigation
< 25	None	None
25 – 29	8	*
30 – 34	14	*
35 – 50	18	*
≥ 50	All Feasible	*
≥ 25 ton/yr	All Feasible	Yes

* Will be dependent on the effectiveness of the mitigation measures, location of project and high vehicle dependent development. Examples of projects potentially subject to off-site mitigation include: rural subdivisions, drive-through applications, commercial development located far from urban core.

3.8.2 Standard Mitigation Measures

The recommended standard air quality mitigation measures have been separated according to land use (i.e., residential, commercial and industrial), measure type (i.e., site design, energy efficiency and transportation) and pollutant reduced (i.e., ozone, particulate, diesel PM, and GHGs). Any project generating 25 lbs/day or more of ROG + NO_x or PM_{10} should select the applicable number of mitigation measure as outlined above from Table 3-5 to reduce the air quality impacts from the project below the significance thresholds. This table also provides recommended mitigations for diesel PM and GHG emissions. For projects that exceed the DPM threshold (i.e., 1.25 lbs/day) due to significant diesel vehicle activity (e.g., mining operations, distribution facilities, etc.), project emissions must be recalculated to demonstrate that the project emissions are below the APCD DPM threshold of significance when mitigation measures are included.

Table 3-5: Mitigation Measures

LAND USE Residential (R) Commercial (C) Industrial (I)	Measure Type	MITIGATION MEASURE	POLLUTANT REDUCED Ozone (O) Particulate (P) Diesel Particulate Matter (DPM) Greenhouse Gas (GHG)
R, C, I	Site design, Transportation	Improve job / housing balance opportunities within communities.	O, P, GHG
R, C, I	Site design	Orient buildings toward streets with automobile parking in the rear to promote a pedestrian-friendly environment.	O, P, GHG
R, C, I	Site design	Provide a pedestrian-friendly and interconnected streetscape to make walking more convenient, comfortable and safe (including appropriate signalization and signage).	O, P, GHG
R, C, I	Site design	Provide good access to/from the development for pedestrians, bicyclists, and transit users.	O, P, GHG
R, C, I	Site design	Incorporate outdoor electrical outlets to encourage the use of electric appliances and tools.	O, P, GHG
R, C, I	Site design	Provide shade tree planting in parking lots to reduce evaporative emissions from parked vehicles. Design should provide 50% tree coverage within 10 years of construction using low ROG emitting, low maintenance native drought resistant trees.[3]	O P GHG
R, C, I	Site design	Pave and maintain the roads and parking areas	P
R, C, I	Site design	Driveway design standards (e.g., speed bumps, curved driveway) for self-enforcing of reduced speed limits for unpaved driveways.	P
R, C, I	Site design	Use of an APCD-approved suppressant on private unpaved roads leading to the site, unpaved driveways and parking areas; applied at a rate and frequency that ensures compliance with APCD Rule 401, visible emissions and ensures offsite nuisance impacts do not occur.	P
R, C	Site design	Development is within 1/4 mile of transit centers and transit corridors.	O, P, GHG
R, C	Site design	Design and build compact communities in the urban core to prevent sprawl.	O, P, GHG
R, C	Site design	Increase density within the urban core and urban reserve lines.	O, P, GHG
R, C	Site design	For projects adjacent to high-volume roadways or railroad idling zones, design project to include provide effective buffer zone between the source and the receptor.	DPM
R, C	Site design	For projects adjacent to high-volume roadways, plant vegetation[4] between receptor and roadway.	DPM, P
R	Site design	No residential wood burning appliances.	O, P, GHG
R, C, I	Site design, Transportation	Incorporate traffic calming modifications to project roads, such as narrower streets, speed platforms, bulb-outs and intersection designs that reduce vehicles speeds and encourage pedestrian and bicycle travel.	O, P, GHG
R, C, I	Site design, Transportation	Increase number of connected bicycle routes/lanes in the vicinity of the project.	O, P, GHG
R, C, I	Site design, Transportation	Provide easements or land dedications and construct bikeways and pedestrian walkways.	O, P, GHG
R, C, I	Site design, Transportation	Link cul-de-sacs and dead-end streets to encourage pedestrian and bicycle travel to adjacent land uses.	O, P, GHG
R, C, I	Site design, Transportation	Project is located within one-half mile of a 'Park and Ride' lot or project installs a 'Park and Ride' lot with bike lockers in a location of need defined by SLOCOG.	O, P, GHG
C, I	Site design, Transportation	Provide onsite housing for employees.	O, P, GHG

3 Trees must be maintained for life of project
4 Certain types of vegetation provide maximum effectiveness. Vegetation must be maintained over the life of the project.

LAND USE Residential (R) Commercial (C) Industrial (I)	Measure Type	MITIGATION MEASURE	POLLUTANT REDUCED Ozone (O) Particulate (P) Diesel Particulate Matter (DPM) Greenhouse Gas (GHG)
C, I	Site design, Transportation	Implement on-site circulation design elements in parking lots to reduce vehicle queuing and improve the pedestrian environment.	O, P, GHG
C, I	Site design, Transportation	Provide employee lockers and showers. One shower and 5 lockers for every 25 employees are recommended.	O, P, GHG
C, I	Site design, Transportation	Parking space reduction to promote bicycle, walking and transit use.	O, P, GHG
R	Site design	Tract maps resulting in parcels of one-half acre or les shall orient at least 75% of all lot lines to create easy due south orientation of future structures.	GHG
R	Site design	Trusses for south-facing portions of roofs shall be designed to handle dead weight loads of standard solar-heated water and photovoltaic panels. Roof design shall include sufficient south-facing roof surface, based on structures size and use, to accommodate adequate solar panels. For south facing roof pitches, the closest standard roof pitch to the ideal average solar exposure shall be used.	O, GHG
R, C, I	Energy efficiency	Increase the building energy rating by 20% above Title 24 requirements. Measures used to reach the 20% rating cannot be double counted.	O, GHG
R, C, I	Energy efficiency	Plant drought tolerant, native shade trees along southern exposures of buildings to reduce energy used to cool buildings in summer.[5]	O, GHG
R, C, I	Energy efficiency	Utilize green building materials (materials which are resource efficient, recycled, and sustainable) available locally if possible.	O, DPM, GHG
R, C, I	Energy efficiency	Install high efficiency heating and cooling systems.	O GHG
R, C, I	Energy efficiency	Orient 75 percent or more of homes and/or buildings to be aligned north / south to reduce energy used to cool buildings in summer.	O GHG
R, C, I	Energy efficiency	Design building to include roof overhangs that are sufficient to block the high summer sun, but not the lower winter sun, from penetrating south facing windows (passive solar design).	O, GHG
R, C, I	Energy efficiency	Utilize high efficiency gas or solar water heaters.	O, P, GHG
R, C, I	Energy efficiency	Utilize built-in energy efficient appliances (i.e. Energy Star®).	O P GHG
R, C, I	Energy efficiency	Utilize double-paned windows.	O, P, GHG
R, C, I	Energy efficiency	Utilize low energy street lights (i.e. sodium).	O, P, GHG
R, C, I	Energy efficiency	Utilize energy efficient interior lighting.	O, P, GHG
R, C, I	Energy efficiency	Utilize low energy traffic signals (i.e. light emitting diode).	O, P, GHG
R, C, I	Energy efficiency	Install door sweeps and weather stripping (if more efficient doors and windows are not available).	O, P, GHG
R, C, I	Energy efficiency	Install energy-reducing programmable thermostats.	O, P, GHG
R, C, I	Energy efficiency	Participate in and implement available energy-efficient rebate programs including air conditioning, gas heating, refrigeration, and lighting programs.	O, P, GHG

5 Trees must be maintained for the life of the project

LAND USE Residential (R) Commercial (C) Industrial (I)	Measure Type	MITIGATION MEASURE	POLLUTANT REDUCED Ozone (O) Particulate (P) Diesel Particulate Matter (DPM) Greenhouse Gas (GHG)
R, C, I	Energy efficiency	Use roofing material with a solar reflectance values meeting the EPA/DOE Energy Star® rating to reduce summer cooling needs.	O, P, GHG
R, C, I	Energy efficiency	Utilize onsite renewable energy systems (e.g., solar, wind, geothermal, low-impact hydro, biomass and bio-gas).	O, P, GHG
R, C, I	Energy efficiency	Eliminate high water consumption landscape (e.g., plants and lawns) in residential design. Use native plants that do not require watering and are low ROG emitting.	O, GHG
R, C, I	Energy efficiency	Provide and require the use of battery powered or electric landscape maintenance equipment for new development.	O, GHG
C, I	Energy efficiency	Use clean engine technologies (e.g., alternative fuel, electrification) engines that are not subject to regulations.	O, DPM, GHG
R, C, I	Transportation	Provide and maintain a kiosk displaying transportation information in a prominent area accessible to employees and patrons.	O, P, GHG
R, C, I	Transportation	Develop recreational facility (e.g., parks, gym, pool, etc.) within one-quarter of a mile from site.	O, P, GHG
R, C, I	Transportation	If the project is located on an established transit route, provide improved public transit amenities (i.e., covered transit turnouts, direct pedestrian access, covered bench, smart signage, route information displays, lighting etc.).	O, P, GHG
R, C, I	Transportation	Project provides a display case or kiosk displaying transportation information in a prominent area accessible to employees or residents.	O, P, GHG
R, C, I	Transportation	Provide electrical charging station for electric vehicles.	O, P, GHG
R, C, I	Transportation	Provide neighborhood electric vehicles / car share program for the development.	O, P, GHG
R, C, I	Transportation	Provide bicycle-share program for development.	O, P, GHG
R, C, I	Transportation	Provide preferential parking / no parking fee for alternative fueled vehicles or vanpools.	O, P, GHG
R, C, I	Transportation	Provide bicycle lockers for existing 'Park and Ride' lots where absent or insufficient.	O, P, GHG
R C I	Transportation	Provide vanpool, shuttle, mini bus service (alternative fueled preferred).	O, P, DPM, GHG
C, I	Transportation	Provide secure on-site bicycle indoor storage, lockers, or racks.	O, P, GHG
C, I	Transportation	For large developments, provide day care facility on site.	O, P, GHG
C, I	Transportation	Provide on-site bicycle parking both short term (racks) and long term (lockers, or a locked room with standard racks and access limited to bicyclist only) to meet peak season maximum demand. One bike rack space per 10 vehicle/employee space is recommended.	O, P, GHG
C, I	Transportation	On-site eating, refrigeration and food vending facilities	O, P, GHG
C, I	Transportation	Implement a Transportation Choice Program to reduce employee commute trips. The applicant shall work with Rideshare for free consulting services on how to start and maintain a program.	O, P, GHG
C, I	Transportation	Provide incentives (e.g., bus pass, "Lucky Bucks", etc.) to employees to carpool/vanpool, take public transportation, telecommute, walk bike, etc.	O, P, GHG
C, I	Transportation	Implement compressed work schedules (i.e., 9–80s or 4–10s).	O, P, GHG
C, I	Transportation	Implement a telecommuting program.	O, P, GHG
C, I	Transportation	Implement a lunchtime shuttle to reduce single occupant vehicle trips.	O, P, GHG

LAND USE Residential (R) Commercial (C) Industrial (I)	Measure Type	MITIGATION MEASURE	POLLUTANT REDUCED Ozone (O) Particulate (P) Diesel Particulate Matter (DPM) Greenhouse Gas (GHG)
C, I	Transportation	Include teleconferencing capabilities, such as web cams or satellite linkage, which will allow employees to attend meetings remotely without requiring them to travel out of the area.	O, P, DPM, GHG
C, I	Transportation	If the development is or contains a grocery store or large retail facility, provide customers home delivery service in clean fueled vehicles	O, P, DPM, GHG
C, I	Transportation	At community event centers (i.e., amphitheaters, theaters, and stadiums) provide valet bicycle parking.	O, P, GHG
C, I	Transportation	Implement a "No Idling" program for heavy-duty diesel vehicles, which includes signage, citations, etc.	DPM, GHG
C, I	Transportation	Develop satellite work sites.	O, GHG
C, I	Transportation	Require the installation of electrical hookups at loading docks and the connection of trucks equipped with electrical hookups to eliminate the need to operate diesel-powered TRUs at the loading docks.	DPM, GHG
C, I	Transportation	If not required by other regulations (ARB's on-road or off-road diesel), restrict operation to trucks with 2007 model year engines or newer trucks.	O, DPM, GHG
C, I	Transportation	If not required by other regulations (ARB's on-road or off-road diesel), require or provide incentives to use diesel particulate filters for truck engines.	DPM
R	Transportation	Provide storage space in garage for bicycle and bicycle trailers, or covered racks / lockers to service the residential units.	O, P, GHG
R	Transportation	Provide free-access telework terminals and/or wi-fi access in multi-family projects.	O, P, GHG
C	Transportation	Develop core commercial areas within 1/4 to 1/2 miles of residential housing or industrial areas.	O, P, GHG

3.8.3 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 if emissions cannot be adequately mitigated with on-site mitigation measures alone. Whenever off-site mitigation measures are deemed necessary, it is important that the developer, lead agency and APCD work together to develop and implement the measures to ensure successful outcome. This work should begin at least six months prior to issuance of occupancy permits for the project.

The first step in determining whether off-site mitigation is required is to compare the estimated operational phase emissions to the APCD significance thresholds. If the sum of ROG + NO_x emissions exceeds 25 tons/year, off-site mitigation will be required. Off-site mitigation may also be required for development projects were emissions exceed the 25 lb/day threshold. Examples of projects potentially subject to off-site mitigation include rural subdivisions, drive-through facilities and commercial development located far from the urban core.

If off-site mitigation is required, potential off-site mitigation measures may be proposed and implemented by the project proponent following APCD approval of the appropriateness and effectiveness of the proposed measure(s). Alternatively, the project proponent can pay a mitigation fee based on the amount

of emission reductions needed to bring the project impacts below the applicable significance threshold. The APCD shall use these funds to implement a mitigation program to achieve the required reductions. The following outlines how to calculate the amount of off-site mitigation fees required for a given project:

a. Calculate the operational phase emissions for the project using CALEEMOD, or an equivalent calculation tool approved by the APCD; include the emission reduction benefits of any onsite mitigation measures included in the project. Any project emissions calculated to be above the APCD significance thresholds are defined as excess emissions and must be reduced below the emission thresholds by off-site mitigation.

b. Project emissions above the lbs/day threshold must be converted to tons/year and divided by the daily-to-annual equity ratio value of 5.5 to obtain an equivalent tons/year value.

c. The excess tons/year emissions are then multiplied by the project life (i.e., 50 years for residential projects and 25 years for commercial projects) and the most current cost-effectiveness[6] value as approved for the Carl Moyer grant program.

Off-site emission reductions can result from either stationary or mobile sources, but should relate to the on-site impacts from the project in order to provide proper "nexus" for the air quality mitigation. For example, NO_x emissions from increased vehicle trips from a large residential development could be reduced by funding the expansion of existing transit services in close proximity to the development project to reduce NO_x emissions. An off-site mitigation strategy should be developed and agreed upon by all parties prior to the 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 in the project area with energy-efficient devices;
- Retrofit existing 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,

6 Cost-effectiveness is a measure of the dollars needed to reduce a ton of emissions. The cost-effectiveness used to calculate off-site mitigation is based on the Carl Moyer Grant Program and is updated on a periodic basis. The Carl Moyer cost effectiveness value as of 2009 is $16,000 per ton. There will be a 10% administration fee charged for grant administration.

- Provide assistance in the implementation of projects that are identified in city or county Bicycle Master Plans.

3.9 EVALUATION OF PROJECT CHANGES

If the scope or project description is modified after final project approval, the project will need to be re-evaluated by the APCD to determine if additional air quality impacts will result from the proposed modifications. If additional impacts are expected, the cumulative impacts from the total project must be evaluated.

3.10 MITIGATION MONITORING

In order to ensure the operational phase air quality mitigation measures and project revisions identified in the EIR or mitigated negative declarations are implemented, the APCD may conduct site visits to ensure that the mitigation measures are fully implemented. The lead agency may also review project mitigation for consistency with project conditions. Beyond verifying mitigation implementation, this monitoring can result in compliance requirements if mitigation measures are not sufficiently being implemented.

4 TECHNICAL APPENDICES

4.1 BUILDING PERMIT REQUIREMENTS FOR FACILITIES POTENTIALLY SUBJECT TO AIR DISTRICT PERMITS

WHAT IS THE SAN LUIS OBISPO COUNTY AIR POLLUTION CONTROL DISTRICT?

The San Luis Obispo County Air Pollution Control District (APCD) regulates stationary sources of air pollution such as factories, industrial sites, and gasoline stations. APCD regulations apply to many manufacturing and industrial procedures as well as such things as evaporative compounds, gasoline, paint, odors, incineration, smoke and open burning.

Government Code section 65850.2 identifies certain air pollution information that cities and counties are required to collect for new building and development projects. Sections 42301.6 to 42301.9 (AB 3205) of the California Health & Safety Code address the release of hazardous air contaminants near schools, and discuss requirements for air district permits for new or modified facilities.

The following overview describes how the law may affect you.

NEW BUILDING PERMIT REQUIREMENTS

Under the law, final certificates of occupancy may not be issued unless certain requirements are met. One of the requirements is that all applicants must comply with APCD permit regulations, or make a showing to the APCD that the permit regulations do not apply to their particular project.

A questionnaire will accompany all building permit application packets distributed by City and County Planning and Building Departments. This questionnaire pertains to facility location and equipment, processes, and materials which may require an APCD permit This questionnaire should be completed and returned to the Planning and Building Department for initial screening and processing. If an APCD permit is required, and if air emissions occur within 1000 ft. of a school, focused notification of nearby residents and student's parents may be required.

All planning and building departments have a description of typical facility types, processes, and equipment that require an APCD Permit to Operate. The table at the back of the attached questionnaire provides a list of these facilities. Operations which usually require an APCD Permit include:

- Solvent cleaners (degreasers)
- Coating of metal parts and products
- Printing and coating operations
- Auto body shops
- Paint spray booths
- Storage of organic liquids
- Wood furniture and cabinet coating
- Air pollution control equipment
- Gasoline stations or any gasoline dispensing facility
- Sandblasting
- Equipment which handles asbestos, beryllium, benzene, hexavalent chromium, mercury, or vinyl chloride.
- Other solvent uses

It should be noted that all residential construction is exempt from these requirements.

If you are unsure whether or not your project is subject to permit requirements, the necessary information can be obtained by contacting the APCD and describing the proposed project. APCD staff can then determine if an application must be filed.

REQUIREMENTS FOR EXISTING OR PROPOSED PROJECTS NEAR SCHOOLS

Under the California Health and Safety Code, there are specific requirements which must be met by both the APCD and existing or proposed commercial or industrial facilities near a school.

Upon receipt of the facility operations questionnaire, the APCD will evaluate it for equipment or processes requiring a permit and for proximity to sensitive receptors. This initial screening will occur within fourteen (14) days of

receipt of the questionnaire. The APCD will notify the applicant and the planning agency if further action is necessary under the law and/or the APCD permit process. If no further action is required, then the APCD will sign off on the questionnaire and return it to the Planning Agency. If hazardous materials may be used at the facility, APCD will also forward it to the Environmental Health Department or, for projects located within the City of San Luis Obispo, the San Luis Obispo Fire Department. If additional action is required under the law or the APCD permitting process, a description of required actions will be included in the letter sent to the planning department and the applicant.

CONSTRUCTION OF NEW SCHOOLS

For construction of new schools, **any person or agency preparing an Environmental Impact Report for a proposed school site must consult with the city, county, and the APCD to identify facilities within one-quarter mile of the proposed school site which may emit hazardous air emissions, or have the potential to explode or catch fire.** The city, county, and APCD have 30 days to provide this information to the person or agency seeking it. This requirement is spelled out in the Public Resources Code Sec. 21151.8, Subd.(a) (4).

FORESEEABLE THREAT OF RELEASE OF HAZARDOUS AIR CONTAMINANT

Under certain conditions, the law requires the APCD to take action when there is a reasonable threat of release of a hazardous air contaminant. APCD action is required if:

1. The release is predicted from a facility located within 1000 feet of a school; and

2. The release has the potential to impact persons at the school to the extent that a public health threat or nuisance could result.

When the release of a hazardous air contaminant is forecast, the APCD must notify the agency responsible for administering the hazardous materials policy. In addition, the APCD may respond to this reasonable threat of release by:

1. Issuing an immediate order to prevent the release; or,

2. Mitigating the foreseeable threat of a release, pending a hearing; or,

3. Applying to the APCD Hearing Board for issuance of an Order of Abatement.

Furthermore, if the principal of a school contacts the APCD to request an investigation of odors or possible air pollution sources as the cause of illness among school children, within 24 hours the APCD must respond and notify the city or county official responsible for administering hazardous materials policy and the fire department having jurisdiction over the school.

FOR HELP

This handout provides answers to commonly asked questions about new building permit and occupancy requirements. If you need additional information regarding these requirements, please call (805) 781- 5912.

Air Pollution Control District
San Luis Obispo County

FACILITY OPERATIONS QUESTIONNAIRE

For the Incorporated and Unincorporated Areas of San Luis Obispo County

State law (AB 3205) requires an applicant for a commercial/industrial development project, building permit or occupancy permit to provide information to the Air Pollution Control District (APCD) indicating whether hazardous materials or certain equipment or processes will be used in or at the facility. Such uses may require a permit from the APCD and/or a Hazardous Materials Business Plan. **This law prohibits a City or County from issuing a final certificate of occupancy until the applicant or future building occupant has complied with the provisions of the law.** The law may also impose certain public noticing requirements for a facility that handles hazardous materials and is located within 1,000 feet of the outer boundary of a school (kindergarten through 12th grade). Additional information explaining the requirements of this law is attached to this form.

TO DETERMINE WHETHER YOUR BUSINESS IS SUBJECT TO THESE REQUIREMENTS, PLEASE COMPLETE THIS QUESTIONNAIRE:

Business Name (Doing Business As):	Contact Person:	Phone ( )
Mailing Address: City	State	Zip
Nearest Cross Streets:		

		YES	NO
1.	WILL THE INTENDED OCCUPANT(S) INSTALL OR USE ANY PIECE OF EQUIPMENT LISTED ON THE ATTACHED LIST? *(If YES forward to Air Pollution Control District.)*	☐	☐
2.	WILL THE INTENDED OCCUPANT(S) STORE, HANDLE OR USE ANY HAZARDOUS MATERIALS LISTED ON THE ATTACHED LIST? *(If YES forward to Air Pollution Control District.)*	☐	☐

Briefly Describe Nature of the Intended Business Activity:

Name of Owner or Authorized Agent: Title:

I declare under penalty of perjury that, to the best of my knowledge and belief, the responses made herein are true and correct:	Agency Project ID Number:
Signature of Owner or Authorized Agent: Signed: _____ Date: _____	Multiple or Unknown Occupants ☐ Check if Applicable

FOR PLANNING DEPARTMENT USE ONLY

Forwarded to APCD for processing: YES ☐ NO ☐ Planning Dept. Official: _____ Date: _____

FOR APCD USE ONLY

	YES	NO
APCD permit required	☐	☐
Potential hazardous materials	☐	☐
Within 1000' of a school	☐	☐
Public notice required	☐	☐

FORWARDED TO:	YES	NO
ENV. HEALTH	☐	☐
S.L.O. CITY FIRE	☐	☐

PROCESSED AND RETURNED TO PLANNING DEPARTMENT BY:

Air Pollution Control District Official: _____ Date: _____

FINAL CHECK OFF:

Planning Department Official: _____ Date: _____

PERMIT CATEGORIES

Businesses with the following equipment, operations or materials will require clearance from the Air Pollution Control District before obtaining a Certificate of Occupancy. Businesses which store, handle, or use hazardous materials will require clearance from the San Luis Obispo City Fire Department or San Luis Obispo County Environmental Health before obtaining a Certificate of Occupancy.

CHEMICALS
Ethylene Oxide Sterilizers
Acid Chemical Milling
Evaporators, Dryers, and Stills
Processing Organic Materials
Dry Chemical Mixing and storage

COATINGS AND SURFACE PREPARATION
Abrasive Blasting Equipment
Coating and Painting (not house-painting)
Paint, Stain, and Ink Manufacturing
Printers

COMBUSTION
Piston Internal Combustion Engines (50 hp or larger)
Incinerators and Crematories
Boilers and Heaters (2 million BTU/hr or larger)

ELECTRONICS
Solder Levelers
Wave Solder Machines
Vapor Degreasers
Fume Hood Scrubbers
Electrolytic Plating
Silicone Chip Manufacturing

FOOD
Smokehouses
Feed and Grain Mills
Coffee Roasters
Bulk Flour and Grain Storage

METALS
Metal Melting Devices
Hot Dip Galvanizing
Cadmium or Chrome Plating
Chromic Acid Anodizing

PETROLEUM FUELS MARKETING
Gasoline and Alcohol Bulk Plants and Terminals
Gasoline and Alcohol Fuel Dispensing

ROCK AND MINERAL
Hot Asphalt Batch Plants
Sand, Rock, and Aggregate Plants
Concrete Batch, Concrete Mixers, and Silos
Brick Manufacturing

SOLVENT USE
Vapor and Cold Degreasing
Solvent and Extract Dryers
Dry Cleaning

OTHER
Asphalt Roofing Tanks
Aqueous Waste Neutralization
Landfill Gas Flare or Recovery Systems
Waste Disposal and Reclamation Units
Grinding Booths and Rooms
Oil Field Exploration or Production
Plastic/Fiberglass Manufacturing
Soil Aeration/Reclamation
Storage of Organic Liquids
Powder Coating
Fiberglass Chopper Guns
Waste Water Treatment Works

EXAMPLES OF HAZARDOUS MATERIALS

Ammonia
Acids and Bases
Chlorine
Compressed Gases
Corrosives
Cryogenic Fluids
Explosives
Fertilizers
Flammable Liquids and Solids
Gasoline
Hazardous Material Mixtures
Herbicides
Industrial Cleaners
Infectious/Biological Materials
Oxidizing Materials
Paint Thinners
Paints
Pesticides
Petroleum Products
Poisons
Pyrophoric/Hypergolic Materials
Radioactives
Solvents
Waste Oils
Water Reactives
Welding Gases

NOTE: Other equipment not listed here that is capable of emitting air contaminants may require a San Luis Obispo County Air Pollution Control District Permit. If there are any questions, contact the APCD at (805) 781-5912. For information on Hazardous Materials located within the City of San Luis Obispo contact the San Luis Obispo Fire Department at (805) 781-7380. All other areas contact County Environmental Health at (805) 781-5544.

IF YOU INSTALL AND/OR OPERATE EQUIPMENT WITHOUT A REQUIRED PERMIT, YOU MAY BE SUBJECT TO LEGAL ACTION AND PENALTIES OF UP TO $50,000 PER DAY FOR EACH DAY OF VIOLATION

TIMELINE AND IMPLEMENTATION PROCESS

I. Outside Agency (Planning Department) Responsibilities

A. Planning Department distributes Development Plan (DP) Application Packet to applicant. This packet includes AB3205 information.

B. Applicant completes the DP packet, and returns it to the Planning Department.

C. Planning Department conducts **initial screening** of Hazardous Materials Questionnaire (hereafter referred to as the Questionnaire). This screening consists of reviewing the Questionnaire for answers to the following questions:

1. Will the intended occupant(s) install or use any of the equipment listed on attached list ("San Luis Obispo County APCD Permit Categories").

2. Will the intended occupant store, handle, or use hazardous materials in any quantity?

D. The Planning Department performs one of the following actions, based on the response to the questions listed in Section I.C. above:

1. If the answers to Questions #1 and #2 are **NO**, then this project is exempt from AB3205 requirements, and from APCD permitting action. The Planning Department can sign off on the Questionnaire, indicating that the project is exempt from further action under AB3205. This questionnaire is then retained as part of the project file maintained by the Planning Department.

2. If the answer to either Question #1 or Question #2 is **YES**, the questionnaire is forwarded to the APCD for further review.

II. APCD Responsibilities

APCD reviews the Questionnaires received from the Planning Department. Within 14 days, one of the following determinations will be made:

A. If the answer to question 1 on the Facility Operations Questionnaire is **NO** and the APCD agrees, complete the appropriate boxes on the rest of the form and return to the Planning Department.

B. If the answer to question 1 on the Facility Operations Questionnaire is **NO** but the APCD disagrees, continue to sections C and D below.

C. APCD Permit Required/Exempt from AB3205 Requirements.

If the answer to Question #1 is **YES**, and the facility is not located within 1000 feet of a school, then the project is exempt from further processing under AB3205, but **IS** subject to APCD permitting requirements. As a result, the APCD will take the following actions:

Within 7 days of receipt of the questionnaire from the Planning Department, the APCD will:

- Review the Questionnaire to determine if the source stores, handles or uses hazardous materials (Question #2 on the form). If the answer to that question is **YES**, then APCD completes the appropriate sections of the questionnaire and forwards it to either the City of San Luis Obispo Fire Department (if project is within the City limits), or Environmental Health (all other areas). A memo to County Planning will be sent summarizing action taken.

- If Hazardous Materials storage, usage or handling is not proposed on-site, APCD Planning Staff will indicate that on the questionnaire. The "APCD Permit Required" box will be checked "YES", and the form returned to the Planning Department.

The APCD Engineering Staff sends a letter to the project applicant indicating that this project **IS** subject to APCD permit. Accompanying this letter will be an ATC (Authority to Construct) application, and other explanatory information.

Upon receipt of an ATC application, the APCD has 30 days to determine if the application is complete. A letter of completeness (or incompleteness) is sent to the applicant prior to the end of the 30-day period. If the application is incomplete, the APCD will request additional information in the aforementioned letter. If the application is complete, then the APCD will issue a completeness letter indicating that they have 180 days to issue an ATC.

After project construction is complete, the applicant must indicate in writing to the APCD that construction is complete. A field inspection will then be conducted by APCD staff to determine compliance with applicable APCD Rules and Regulations. Upon verification of compliance, a Permit-to-Operate (PTO) for the subject facility is issued by the APCD.

D. APCD Permit Required/Subject to AB3205 Requirements

If the answer to Questions #1 is **YES,** and the facility is within 1000 feet of a school, the proposed project will be subject to the APCD permitting process and AB3205 Public Noticing Requirements. The APCD will perform the following actions:

Within 7 days of receipt of the questionnaire from the Planning Department, the APCD will:

- Review the Questionnaire to determine if the source stores, handles or uses hazardous materials (Question #2 on the form). If the answer to that question is **YES**, then APCD completes the appropriate sections of the questionnaire and forwards it to either the City of San Luis Obispo Fire Department (if project is within the City limits), or Environmental Health (all other areas). A memo to County Planning will be sent summarizing action taken.

- If Hazardous Materials storage, usage, or handling is not proposed on-site, APCD Planning Staff will indicate as such on the questionnaire.

The APCD Engineering Staff sends a letter to the project applicant indicating that this project **IS** subject to APCD permit and AB3205 Public Noticing requirements. Accompanying this letter will be an ATC application, a description of public noticing requirements and other explanatory information.

Upon receipt of an ATC application, the APCD has 30 days to determine if the application is complete. A letter of completeness (or incompleteness) is sent to the applicant prior to the end of the 30-day period. If the application is incomplete, the APCD will request additional information in the aforementioned letter.

When the APCD has deemed the ATC application complete, the applicant will then be required to comply with the public noticing requirements of the California Health and Safety Code, Section 42301.6. Compliance with the public noticing requirements must be demonstrated prior to APCD action on the ATC application. These requirements are as follows:

- The Air Pollution Control Officer (APCO) shall, **at the expense of the permit applicant**, distribute (or mail) a public notice to the parents or guardians of children enrolled in ANY school that is located within 1/4 mile of the proposed project site, and to each address within a 1000 ft. radius of the proposed source. An assessor's parcel map will be used to determine the area encompassing addresses within the 1000 ft. radius of the proposed project.

- The public noticing period extends for 30 days, and MUST begin at least 30 days prior to the APCD taking final action on the ATC application for the proposed project. This notice may be combined with any other notice on the project or permit, which is required by law. The APCO shall review and consider all public comments received during the 30 days after the notice is distributed, and shall include written responses to the comments in the permit application file prior to taking final action on the application.

State law requires the APCD to approve or deny the ATC within 180 days of the date on which the A/C application was deemed complete. The public noticing period and the APCD response to public comments MUST occur within this time period. The APCD cannot issue the ATC until public noticing requirements for AB3205 have been satisfied.

After project construction is completed, the applicant must indicate **in writing** to the APCD that construction is complete. A field inspection will then be conducted by APCD staff to determine compliance with applicable APCD Rules and Regulations. Upon verification of compliance, a PTO or the subject facility is issued by the APCD.

4.2 ARB'S RECOMMENDATIONS ON SITING NEW SENSITIVE LAND USES [7]

Table 4-1: Siting New Sensitive Land Use

Source Category	Advisory Recommendations
Freeways and high-traffic roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles per day.
Distribution centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Railyards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult the Air District or the ARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry cleaners using perchloroethylene	• Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perchloroethylene • dry cleaning operations.
Gasoline dispensing facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

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- These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.
- Recommendations are based primarily on data showing that the air pollution exposures addressed here (i.e., localized) can be reduced as much as 80% with the recommended separation.
- The relative risk for these categories varies greatly. To determine the actual risk near a particular facility, a site-specific analysis would be required. Risk from diesel PM will decrease over time as cleaner technology phases in.
- These recommendations are designed to fill a gap where information about existing facilities may not be readily available and are not designed to substitute for more specific information if it exists. The recommended distances take into account other factors in addition to available health risk data (see individual category descriptions).
- Site-specific project design improvements may help reduce air pollution exposures and should also be considered when siting new sensitive land uses.
- This table does not imply that mixed residential and commercial development in general is incompatible. Rather it focuses on known problems like dry cleaners using Perchloroethylene that can be addressed with reasonable preventative actions.
- A summary of the basis for the distance recommendations can be found in the ARB Handbook.

4.3 APCD-APPROVED DUST SUPPRESSANTS

The following list of dust control suppressants are approved by the SLO County APCD. The approved suppressants must be reapplied at a frequency that ensures that fugitive dust emissions are adequately controlled to below the 20% opacity limit identified in the APCD Rule 401 *Visible Emissions* and to ensure that dust is not emitted offsite. If fugitive dust is not adequately controlled, emissions could result in complaints and a violation of APCD Rule 402 *Nuisance*. The APCD will consider products that are not listed on a case-by-case bases; provide product specifics to APCD by contacting the APCD Planning Division at (805) 781-5912.

Suppressants are often used in combination with other APCD recommended control methods to minimize fugitive dust emissions. Other methods include:

1) Paving and then maintaining to applicable standards thus replacing need for suppressants and other control methods;
2) Implementing and maintaining design standards to ensure vehicles speeds on unpaved areas are physically limited to a posted speed limit of 15 mph or less; and
3) For special events, site parking areas in grass or low cut dense vegetative areas that are adequately irrigated to minimize fugitive dust emissions.

SLO County APCD used a 2002 San Joaquin Valley APCD [1] list of dust suppressants as the starting point for the list presented below. Products that could not be readily found were removed from the list. This SLO County APCD list also streamlines the SJVAPCD list by removing hygroscopic products and all but one of the petroleum based products from the SJVAPCD list. A petroleum based method (chipseal) and three polymer products (Dust Binder, Gorilla-Snot, and Soiltac) were added to the list.

Any chemical or organic material used for stabilizing solids shall not violate the California State Water Quality Control Board standards for use as a soil stabilizer. Any dust suppressant must not be prohibited for use by the US Environmental Protection Agency, the California Air Resources Board, or other applicable law, rule, or regulation.

Table 4-2: Approved Dust Suppressants

Suppressant Category	Suppressant Sub-Category	Product Common Name	Company	Product Web Link
Adhesives	Lignosulfonate	• CalBinder	California-Fresno Oil Co. (209) 486-0220	www.calfresno.com
		• DC-22	Dallas Roadway Products, Inc. SALS Roadway Products (972) 758-7454	www.dallasroadway.com www.salsroadproducts.com
		• Dustac, Dustac-100	Georgia Pacific (866) 447-2436, (800) 283-5547	www.gp.com/chemical
		• Lignin LS-50™	Prince Minerals, Inc. (646) 747-4200	www.princeminerals.com/products/dust_control.php
		• Lignosulfonate	EnviroTech Services (800) 369-3878	www.envirotechservices.com
		• Polybinder	Jim Good Marketing (805) 746-3783	-
	Calcium Lignosulfonate	• Calcium Lignin LS-50™	Prince Minerals, Inc. (646) 747-4200	www.princeminerals.com/products/dust_control.php
		• Dustac® Road Binder	Quatsino Navigation Co. Ltd (916) 442-9089	http://www.bellmarine.com/Dustac.htm
Petroleum Emulsions	-	• PennzSuppress-D [2]	PennzSuppress® Dust Suppressant American Refining Group, Inc. (814) 368-1200	www.arb.ca.gov/eqpr/pennzoil/pennzoil.htm
Polymer	-	• DC-1000	Desert Mountain (505) 598-5730	www.desertmtncorp.com
		• Dust Binder	Monterey AgResources (559) 499-2100	www.montereyagresources.com

Suppressant Category	Suppressant Sub-Category	Product Common Name	Company	Product Web Link
		• Earthbound, Earthbound L	Earth Chem, Inc. (800) 764-5726	www.earthchem.com
		• Liquid Dust Control	Enviroseal Corporation (800) 775-9474	www.enviroseal.com/ldc.htm
		• Marloc	Reclamare Co. (206) 824-2385	-
		• PolyPavement	PolyPavement Company (323) 954-2240	www.polypavement.com
		• Soil Master WR	Environmental Soil Systems, Inc. (800) 368-4115	-
		• Soil Seal	Trans Western Chemicals, Inc. (562) 942-1833	www.soilseal.com
		• Soil Sement [2]	Midwest Industrial Supply, Inc. (800) 321-0699	www.arb.ca.gov/eqpr/midwest.htm
		• Soiloc-D	Hercules Soiloc (800) 815-7668	-
		• Soiltac or Gorilla-Snot	Soilworks, LLC (800) 545-5420	www.Soilworks.com
		• TerraBond PolySeal	Fluid Sciences, LLC (888) 356-7847	www.fluidsciences.com
		• Top Shield	Base Seal International, Inc. (800) 729-6985	www.baseseal.com
Oil-Rock Binding Agent	-	• Chipseal [3]	-	-

[1] Re: www.valleyair.org/busind/comply/PM10/Products%20Available%20for%20Controlling%20PM10%20Emissions.htm

[2] "Pre-certified" by the California Air Resources Board; www.arb.ca.gov/eqpr/eqpr.htm

[3] Though chipseal is typically used as a sealant for paved roads, it can also be an effective dust suppressant on unpaved private roads. Project proponents accept liability of potential vehicle or property damage associated with this dust control method.

4.4 SLO COUNTY NATURALLY OCCURRING ASBESTOS MAP

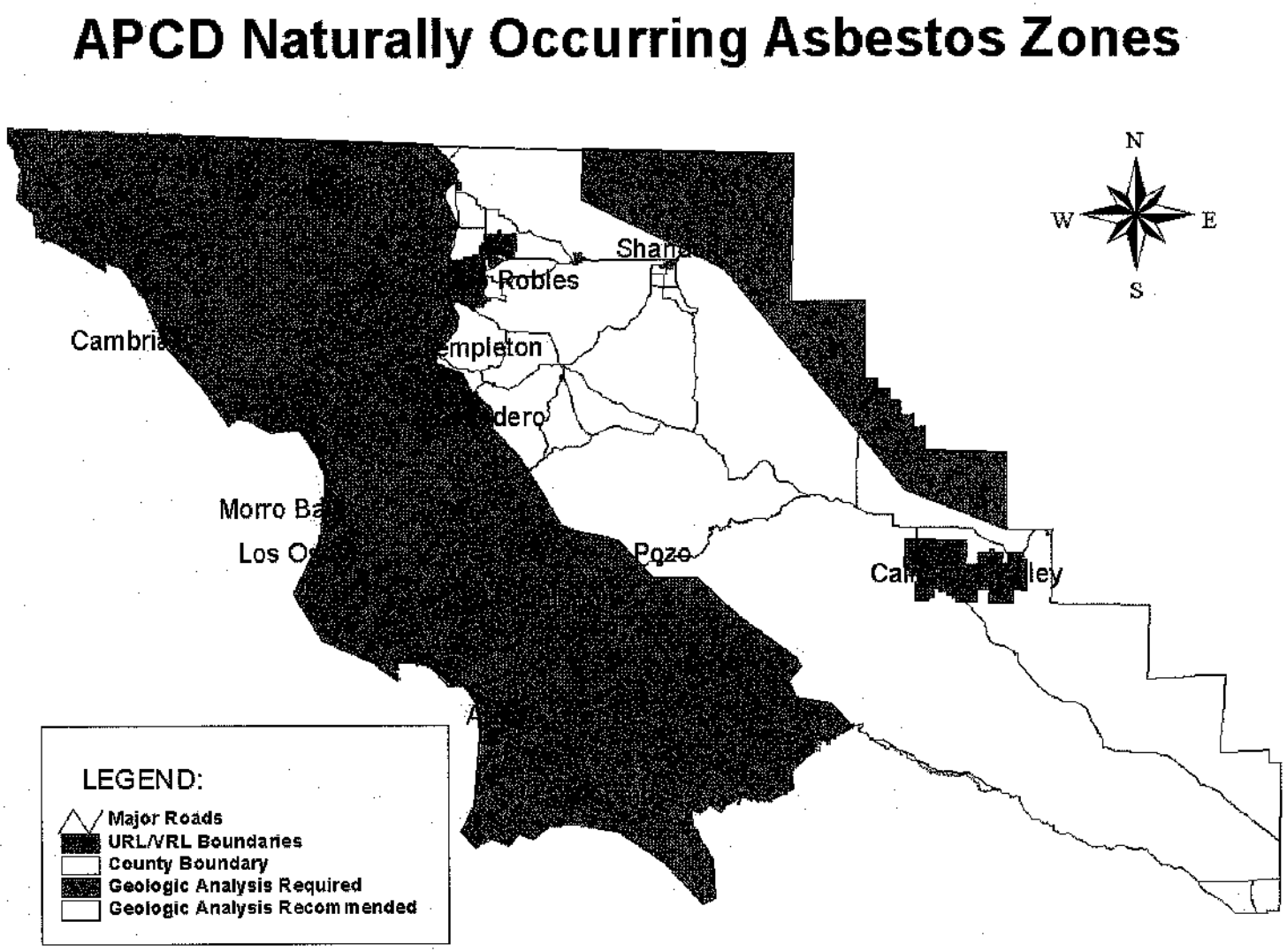

Figure 4-1: Naturally Occurring Asbestos Zones

4.5 CONSTRUCTION ACTIVITY MANAGEMENT PLAN GUIDELINES

A Construction Activity Management Plan (CAMP) may be required by the Air Pollution Control District (APCD) for construction projects that will result in significant particulate matter (PM) and/or nitrogen oxide (NO_x) emission impacts, such as potentially high emissions of fugitive dust or NO_x, or emissions in areas where potential nuisance concerns are present. The purpose of the CAMP is to specifically define the mitigation measures that will be employed as the project moves forward, in order to ensure all requirements are accounted for in the project budget, included in the contractor bid specifications, and are fully implemented throughout project construction.

The following information is provided as a guide for development of the CAMP. Specific implementation of mitigation measures will vary from project to project. **The CAMP is a comprehensive mitigation plan and will need to specifically identify all of the mitigation measures to be implemented for the project.** The following is a list of potential mitigation measures to include in the CAMP. The CAMP must be submitted to the APCD for approval prior to the start of the project.

Prior to commencement of any construction activities (e.g., site preparation, grading or construction activities) the applicant will notify the appropriate planning agency and the APCD, by letter, of the status of the air quality measures outlined in the CAMP. The letter will state the following: 1) the controls that will be implemented; 2) the reasons why any unimplemented measures are considered infeasible and the measures incorporated to substitute for these measures; 3) when scheduled construction activities will be initiated to allow for APCD inspection of the mitigation measures.

- **SENSITIVE RECEPTORS (NOx and PM)**
  The proximity of the project to the nearest residence and to the nearest sensitive receptor (e.g. school, daycare, hospital or senior center) needs to be documented and the mitigation measures outlined in the CAMP need to be tailored accordingly to provide adequate protection to any nearby sensitive receptors. (e.g. of mitigation measures: Locate construction staging areas away from sensitive receptors such that exhaust and other construction emissions do not enter the fresh air intakes to buildings, air conditioners, and windows).

- **MITIGATION MONITORING (NOx and PM)**
  A person or persons must be designated to monitor the CAMP implementation. This person will be responsible for compliance with the CAMP. Their duties shall include holidays and weekend periods when work may not be in progress. Depending on the site location, a certified visible emissions monitor may be required. The name and telephone number of such persons shall be provided to the APCD prior to the start of any construction activities.

- **DUST CONTROL (PM)**
  Construction activities can generate fugitive dust, which could be a nuisance to local residents and businesses in close proximity to the proposed construction site. Dust complaints could result in a violation of the APCD's 402 "Nuisance" Rule. The following is a list of measures that may be required throughout the duration of the construction activities:
  a. Reduce the amount of the disturbed area where possible.
  b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. An adequate water supply source must be identified. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible.
  c. All dirt stockpile areas should be sprayed daily as needed, covered, or an APCD approved alternative method will be used.
  d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities.

e. Exposed ground areas that will be reworked at dates greater than one month after initial grading should be sown with a fast-germinating non-invasive grass seed and watered until vegetation is established.
f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD.
g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.
j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site.
k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.

All PM_{10} mitigation measures required should be shown on grading and building plans. In addition, the contractor or builder should designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. **The name and telephone number of such persons shall be provided to the APCD prior to land use clearance for map recordation and finished grading of the area.**

- **CONSTRUCTION PHASE GREENHOUSE GAS (GHG) EMISSION REDUCTIONS**
  The Attorney General requires GHG impact evaluation and the implementation of feasible mitigation at the project level. As such, the project's Mitigated Negative Declaration should evaluate the project's carbon dioxide (CO_2) emissions as well as other GHG sources converted to carbon dioxide equivalents and should identify feasible mitigation that the project shall implement. The project's overall GHG impact evaluation should include:
  a. The short term GHG impacts from the construction phase amortized over the life of the project (50 years for residential or residential support facilities and 25 years for commercial or industrial facilities) to provide a mechanism for the project to mitigate these impacts by adding these amortized impacts to the operational phase impacts; and
  b. The project's operational phase GHG impacts.

  For the construction phase (operational phase as well) feasible GHG mitigation measures to be implemented should be identified from the California Air Pollution Control Officer Association's (CAPCOA) January 2008 published document entitled "CEQA and Climate Change" or from other proven energy efficiency measures. The document is available online at: www.capcoa.org/CEQA/CAPCOA%20White%20Paper.pdf
  In some cases where the available measures are marginally effective, off-site GHG mitigation fees are appropriate.

- **CONSTRUCTION EQUIPMENT EMISSION REDUCTIONS (NOx and PM)**
  To mitigate air quality impacts from the emissions of construction equipment engines, the APCD has project proponents apply various emission reduction methods depending on the magnitude of the project. Below are the methods used:

  Standard Control Measures for Construction Equipment
  The standard mitigation measures for reducing nitrogen oxide (NO_x), reactive organic gases (ROG), and diesel particulate matter (Diesel PM) emissions from construction equipment are listed below:
  (a) Maintain all construction equipment in proper tune according to manufacturer's specifications;
  (b) Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);

(c) 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;
(d) 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;
(e) Construction or trucking companies with fleets that that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NO_x exempt area fleets) may be eligible by proving alternative compliance;
(f) 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;
(g) Diesel idling within 1,000 feet of sensitive receptors is not permitted;
(h) Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
(i) Electrify equipment when feasible;
(j) Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
(k) Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

Best Available Control Technology (BACT) for Construction Equipment

If the estimated construction phase ozone precursor emissions from the actual fleet for a given Phase are expected to exceed the APCD's threshold of significances after the standard mitigation measures are factored into the estimation, then BACT needs to be implemented to further reduce these impacts. The BACT measures can include:

- Further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines;
- Repowering equipment with the cleanest engines available; and
- Installing California Verified Diesel Emission Control Strategies. These strategies are listed at: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm
- Implementing a design measure to minimize emissions from on and off-road equipment associated with the construction phase. This measure should include but not be limited to the following elements:
  - Tabulation of on and off-road construction equipment (type, age, horse-power, engine model year and miles and/or hours of operation);
  - Calculate daily worst case emissions and the quarterly emissions that include the overlapping segments of construction phases
  - Equipment Scheduling (NOx and PM)
    - Schedule activities to minimize the amount of large construction equipment operating simultaneously during any given time period;
    - Locate staging areas at least 1000 feet away from sensitive receptors;
    - Where feasible:
      - Limit the amount of cut and fill to 2,000 cubic yards per day;
      - Limit the length of the construction work-day period; and,
      - Phase construction activities.

On-Road Truck Management (NOx and PM)

- Schedule construction truck trips during non-peak hours to reduce peak hour emissions;
- Locate staging areas at least 1000 feet away from sensitive receptors;
- Proposed truck routes should be evaluated to define routing patterns with the least impact to residential communities and sensitive receptors and identify these receptors in the truck route map;
- To the extent feasible, construction truck trips should be scheduled during non-peak hours to reduce peak hour emissions; and
- Trucks and vehicles should be kept with the engine off when not in use, to reduce vehicle emissions. Signs shall be placed in queuing areas to remind drivers to limit idling to no longer than 5 minutes.

Offsite Mitigation for Construction Equipment

If the estimated construction phase ozone precursor emissions from the actual fleet for a given Phase are expected to exceed the APCD's 6 tons/quarter threshold of significance after the standard and BACT measures are factored into the estimation, then off-site mitigation is appropriate. The current mitigation rate is $16,000 per ton of ozone precursor emission (NO_x + ROG) over the APCD threshold evaluated over the length of the expected exceedance. The applicant may use these funds to implement APCD approved emission reduction projects near the project site or may pay that funding level plus a 15% administration fee to the APCD for the APCD to implement emission reduction projects in close proximity to the project. The applicant shall provide this funding at least two (2) months prior to the start of the project to help facilitate emission offsets that are real-time as possible.

- **CONSTRUCTION WORKER TRIPS (NOx)**

Implement an APCD approved Trip Reduction Program to reduce construction worker commute trips, which includes carpool matching, vanpooling, transit use, etc. Monitor worker use of alternative transportation throughout the project to ensure compliance.

- **COMPLAINT RESPONSE (NOx and PM)**

The CAMP should include a section that addresses complaints and complaint handling. At a minimum this section shall include the following:

- The person(s) responsible for addressing and resolving all complaints regarding the construction activity and their contact information is:
  - Name(s)
  - Company and Title(s)
  - Phone numbers and physical address.
- A hotline telephone number shall be established and publicized to help facilitate rapid complaint identification and resolution. In addition, Prop 65 notification with regard to toxic diesel emissions shall to be made.
- An action plan section shall be outlined that includes additional measures or modifications to existing mitigation measures in the event of complaints.
- All complaints shall be reported immediately to the APCD.

- **PERMITTING REQUIREMENTS**

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 page A-5 in the APCD's CEQA Handbook.

- Power screens, conveyors, diesel engines, and/or crushers.
- Portable generators 50 hp or greater
- Chemical product processing and or manufacturing
- Electrical generation plants or the use of standby generator
- Food and beverage preparation (primarily coffee roasters)
- Furniture and fixture products
- Metal industries, fabrication
- Small scale manufacturing
- Auto and vehicle repair and painting facilities
- Fuel dealers
- Dry cleaning
- Pipelines
- Public utility facilities
- Boilers
- IC Engines
- Sterilization units(s) using ethylene oxide and incinerator(s)
- Cogeneration facilities

- Unconfined abrasive blasting operations
- Concrete batch plants
- Rock and pavement crushing
- Tub grinders trommel screens

To minimize potential delays, prior to the start of the project, please contact the APCD Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.

- **SPECIAL CONDITIONS**

Naturally Occurring Asbestos

If the project site is located in a candidate area for Naturally Occurring Asbestos (NOA), which has been identified as a toxic air contaminant by the California Air Resources Board (ARB) the following requirements apply. Under the ARB Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any construction activities at the site, the project proponent 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 APCD. If NOA is found at the site the applicant 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. Please refer to the APCD web page at *http://www.slocleanair.org/business/asbestos.asp* for more information or contact the APCD Enforcement Division at (805) 781-5912.

Demolition of Asbestos Containing Materials

Demolition activities can have potential negative air quality impacts, including issues surrounding proper handling, demolition, and disposal of asbestos containing material (ACM). Asbestos containing materials could be encountered during demolition or remodeling of existing buildings. Asbestos can also be found in utility pipes/pipelines (transite pipes or insulation on pipes). If utility pipelines are scheduled for removal or relocation; or building(s) are removed or renovated this project may be subject to various regulatory jurisdictions, including the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M - asbestos NESHAP). These requirements include but are not limited to: 1) notification requirements to the APCD, 2) asbestos survey conducted by a Certified Asbestos Inspector, and, 3) applicable removal and disposal requirements of identified ACM. Please contact the APCD Enforcement Division at (805) 781-5912 for further information.

Lead During Demolition

Demolition of structures coated with lead based paint is a concern for the APCD. Improper demolition can result in the release of lead containing particles from the site. Sandblasting or removal of paint by heating with a heat gun can result in significant emissions of lead. Therefore, proper abatement of lead before demolition of these structures must be performed in order to prevent the release of lead from the site. Depending on removal method, an APCD permit may be required. Contact the APCD Engineering Division at (805) 781-5912 for more information. Approval of a lead work plan by the APCD is required and must be submitted ten days prior to the start of the demolition. Contact the APCD Enforcement Division at (805) 781-5912 for more information. For additional information regarding lead removal, please contact Cal-OSHA at (805) 654-4581.

4.6 Qualified GHG Plan Level Guidance

This guidance is intended to assist local governments in developing community scale Climate Action Plans. In drafting this guidance, the San Luis Obispo County Air Pollution Control District (APCD) has drawn from established methodologies and practices, rather than creating new protocols or quantification methods. This guidance should be interpreted as recommended approaches rather than a formal protocol. This guidance will be continually updated as new tools, methodologies and protocols are developed and refined.

Any Climate Action Plan (CAP) that aims to support tiering of future development projects for purposes of CEQA review of GHG impacts must include these standard elements.

a. A community-wide GHG emissions inventory and "business-as-usual" forecast of year 2020 community-wide GHG emissions;
b. GHG reduction targets consistent with AB 32;
c. An analysis of local and state policies and actions that may impact GHG emissions within the jurisdiction;
d. Quantification of GHG reduction measures demonstrating that, if fully implemented, the GHG reduction targets will be met;
e. An implementation and monitoring strategy and timeline;
f. An adequate environmental review of the proposed CAP.

Early consultation with APCD staff is essential; the importance of communicating with District staff early in the climate planning process cannot be overemphasized. District staff is available to meet with local government planners, review methodologies, discuss approaches and any other issues throughout the process of preparing the CAP.

An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project; if those requirements are not otherwise binding and enforceable, they must be incorporated as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable, notwithstanding its compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project.

Qualitative Requirements for Qualified GHG Reduction Strategies

1) The GHG emissions inventory should be complete and comprehensive

Any GHG emissions source addressed in this guidance should be included in the GHG inventory and forecast for the local CAP. If an emissions source is not included (for example, direct access electricity use or wastewater treatment), it should be clearly explained why that source was omitted. District staff will review this explanation as part of the evaluation of the CAP.

2) Calculations and assumptions should be transparent

It is important to emphasize that all methodologies and assumptions should be documented and explained within the CAP document.

3) GHG reduction strategies should rely primarily on mandatory measures

To date, most CAPs have emphasized voluntary GHG reduction measures over mandatory measures, indicated with language like "should promote," and "will encourage," etc. However, because implementation of voluntary measures cannot be guaranteed, their contribution to meeting the GHG reduction target is more speculative than that of mandatory measures. Problems that may result from over-reliance on voluntary measures include the following:

- It could be very difficult for local jurisdictions to demonstrate that GHG reduction targets are being met through voluntary measures.
- This, in turn, will make it difficult for a local government to determine if a project is complying with the adopted CAP in order to appropriately tier off of the CAP CEQA document.
- If the local government cannot document that its CAP is on track to achieve the GHG reduction

target, then the CAP may cease to comply with the "qualified" criteria. In this case subsequent projects would not be eligible to benefit from the tiering provisions of CEQA.

If voluntary measures are included in the CAP, distinctions should be drawn between those that are more or less likely to result in full implementation. For example, incentive-based programs (like AB 811 programs) are usually more likely to achieve results than outreach-based programs. Some CAPs have taken a cautious approach and have not quantified GHG reductions from the latter type of measure, due to their highly speculative nature. The APCD recommends only mandatory measures and strong voluntary measures (such as incentive-based programs) be quantified as contributing toward the GHG reduction target.

4) ***Build in a margin of safety***

Once the CAP enters the implementation phase it is possible that unforeseen issues or obstacles may arise that prevent full implementation of all CAP measures, or the emission reductions achieved for some measures may be less than anticipated. These risks may be heightened by unforeseen economic or political developments that adversely affect implementation of the measures. Therefore, APCD recommends the CAP build in a margin of safety to ensure it can continue to serve as a defensible "Qualified GHG Reduction Strategy." This can be accomplished by:

- Including more GHG mitigation measures than needed to meet the GHG reduction target, thus creating a "buffer" against lower than anticipated results;
- Emphasizing mandatory over voluntary measures;
- Including contingency measures (with quantified emission reduction estimates) that can be activated to fill any gap needed to maintain the expected rate of progress toward achieving the emissions reduction target.

5) ***Measures should address existing as well as new development***

The AB 32 target of reducing GHG emissions to 1990 levels by 2020 represents an initial step toward achieving the longer term goal of Executive Order S-3-05, which calls for reducing GHG emissions to 80% below 1990 levels by 2050; this equates to less than 2 metric tons of GHGs per capita. Reducing GHG emissions from new development alone cannot provide sufficient GHG reductions to achieve this long-term target. Therefore, climate action plans should address energy use and emissions from existing development as well. In its review of climate action plans, the APCD recommends aggressive and innovative strategies to achieve emission reductions from existing as well as new development.

6) ***Implementation and monitoring should be clearly defined***

The parameters for determining if the CAP is being fully implemented, and if development projects are consistent with the CAP, must be clearly laid out. If a local government plans to tier future projects off the environmental review performed on a CAP, the monitoring program should include the following elements:

- *Annual tracking/reporting on implementation of all CAP measures, including measures that address existing development.* The phasing-in of mitigation measures should be addressed (i.e. — have all the measures that were to have been adopted or expanded in the past year actually been adopted/expanded?).
- *Annual reporting of how new development projects have been implementing CAP measures.* Tracking individual project attributes and implementation of mitigation measures should be done on a project-by-project basis. This can be facilitated through the use of a compliance checklist for new development projects to demonstrate consistency with the plan (listing all mandatory and voluntary measures that apply to new development) and whether the project is implementing the measures; the District will request a copy of this checklist (or similar documentation) when reviewing projects for CEQA.
- *Annual review of the State's implementation of measures included in the CAP.* Are state-level policies achieving the reductions anticipated?
- *Periodic update of the GHG inventory.* The APCD recommends updating the community-wide GHG inventory at least once every 5 years. However, updating the inventory on a more

frequent basis may improve the ability to monitor progress toward achieving the GHG reduction target in the CAP.

- *Analysis of whether the CAP is still a "qualified" plan for CEQA purposes.* The analysis should be based on level of implementation and effectiveness of measures.

4.7 Employees per 1000 sf, Based on Land Use

Table 4-3: Employees Based on Land Use

LAND USE	Employees per 1000sf
Automobile Care Center	2.47
Bank (w/drive-through)	1.59
City Park	0.23
Convenience Market w/gas pumps	2.50
Day-Care Center	1.01
Elementary School	0.55
Fast Food Restaurant w/drive-thru	6.22
Fast Food Restaurant w/o drive-thru	1.74
Gasoline/Service Station	2.22
General Light Industry	1.54
General Office Building	2.52
Golf Course	2.96
Government Office Building	3.63
Hardware/Paint Store	1.56
Health Club	2.47
High Turnover (Sit Down Restaurant)	1.97
Hospital	1.07
Hotel	0.64
Library	0.39
Medical Office Building	3.33
Motel	0.95
Place of Worship	0.80
Quality Restaurant	1.19
Refrigerated Warehouse-No Rail	0.66
Regional Shopping Center	1.39
Strip Mall	2.39
Unrefrigerated Warehouse-No Rail	0.84

Employees Per 1000sf developed from the historical trend analysis based on historical permit data from SLOCOG for the years 2001 to 2010

Final Regulation Order

FINAL REGULATION ORDER

Note: Unofficial Electronic Version

The unofficial electronic version of the Low Carbon Fuel Standard regulation, as recently amended, following this disclaimer was produced by California Air Resources Board (ARB) staff for the reader's convenience. ARB staff has removed the strikeout-underline formatting; however, the following version is not an official legal edition of title 17, California Code of Regulations (CCR), sections 95480-95490. While reasonable steps have been taken to make this unofficial version accurate, the officially published CCR takes precedence if there are any discrepancies.

Amend sections 95480.1, 95481, 95482, 95484, 95485, 95486, 95488, and 95490, title 17, California Code of Regulations (CCR), to read as follows:

Adopt new sections 95480.2, 95480.3, 95480.4, and 95480.5, title 17, CCR, to read as follows:

Subchapter 10. Climate Change
Article 4. Regulations to Achieve Greenhouse Gas Emission Reductions

Subarticle 7. Low Carbon Fuel Standard

§ 95480. Purpose

The purpose of this regulation is to implement a low carbon fuel standard, which will reduce greenhouse gas emissions by reducing the full fuel-cycle, carbon intensity of the transportation fuel pool used in California, pursuant to the California Global Warming Solutions Act of 2006 (Health & Safety Code (H&S), section 38500 et.seq.).

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95480.1. Applicability.

(a) *Applicability of the Low Carbon Fuel Standard.*

Except as provided in this section, the California Low Carbon Fuel Standard regulation, title 17, California Code of Regulations (CCR), sections 95480 through 95490 (collectively referred to as the "LCFS") applies to any transportation fuel, as defined in section 95481, that is sold, supplied, or offered

for sale in California, and to any person who, as a regulated party defined in section 95481 and specified in section 95484(a), is responsible for a transportation fuel in a calendar year. The types of transportation fuels to which the LCFS applies include:

(1) California reformulated gasoline ("gasoline" or "CaRFG");
(2) California diesel fuel ("diesel fuel" or "ULSD");
(3) Fossil compressed natural gas ("Fossil CNG") or fossil liquefied natural gas ("Fossil LNG");
(4) Biogas CNG or biogas LNG;
(5) Electricity;
(6) Compressed or liquefied hydrogen ("hydrogen");
(7) A fuel blend containing hydrogen ("hydrogen blend");
(8) A fuel blend containing greater than 10 percent ethanol by volume;
(9) A fuel blend containing biomass-based diesel;
(10) Denatured fuel ethanol ("E100");
(11) Neat biomass-based diesel ("B100"); and
(12) Any other liquid or non-liquid fuel.

The provisions and requirements in section 95484(b), (c) and (d) apply starting January 1, 2010. All other provisions and requirements of the LCFS regulation apply starting January 1, 2011.

(b) *Credit Generation Opt-In Provision for Specific Alternative Fuels.* Each of the following alternative fuels ("opt-in fuels") is presumed to have a full fuel-cycle, carbon intensity that meets the compliance schedules set forth in section 95482(b) and (c) through December 31, 2020. A fuel provider for an alternative fuel listed below may generate LCFS credits for that fuel only by electing to opt into the LCFS as a regulated party pursuant to section 95480.3 and meeting the requirements of this regulation:

(1) Electricity;
(2) Hydrogen;
(3) A hydrogen blend;
(4) Fossil CNG derived from North American sources;
(5) Biogas CNG; and
(6) Biogas LNG.

(c) *Exemption for Specific Alternative Fuels.* The LCFS regulation does not apply to an alternative fuel that meets the criteria in either (c)(1) or (2) below:

(1) An alternative fuel that:

(A) is not a biomass-based fuel; and

(B) is supplied in California by all providers of that particular fuel for transportation use at an aggregated volume of less than 420 million MJ (3.6 million gasoline gallon equivalent) per year;

A regulated party that believes it is subject to this exemption has the sole burden of proving to the Executive Officer's satisfaction that the exemption applies to the regulated party.

(2) Liquefied petroleum gas (LPG or "propane").

(d) *Exemption for Specific Applications*. The LCFS regulation does not apply to any transportation fuel used in the following applications:
(1) Aircraft;
(2) Racing vehicles, as defined in H&S section 39048;
(3) Military tactical vehicles and tactical support equipment, as defined in title 13, CCR, section 1905(a) and title 17, CCR, section 93116.2(a)(36), respectively;
(4) Locomotives not subject to the requirements specified in title 17, CCR, section 93117; and
(5) Ocean-going vessels, as defined in title 17, CCR, section 93118.5(d). This exemption does not apply to recreational and commercial harbor craft, as defined in title 17, CCR, section 93118.5(d).

(e) Nothing in this LCFS regulation (title 17, CCR, § 95480 et seq.) may be construed to amend, repeal, modify, or change in any way the California reformulated gasoline regulations (CaRFG, title 13, CCR, § 2260 et seq.), the California diesel fuel regulations (title 13, CCR, §§ 2281-2285 and title 17, CCR, § 93114), or any other applicable State or federal requirements. A person, including but not limited to the regulated party as that term is defined in the LCFS regulation, who is subject to the LCFS regulation or other State and federal regulations shall be solely responsible for ensuring compliance with all applicable LCFS requirements and other State and federal requirements, including but not limited to the CaRFG requirements and obtaining any necessary approvals, exemptions, or orders from either the State or federal government.

(f) *Severability*. Each part of this subarticle shall be deemed severable, and in the event that any part of this subarticle is held to be invalid, the remainder of this subarticle shall continue in full force and effect.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95480.2. Persons Eligible for Opting Into the LCFS Program.

Only a person who meets one or more of the following criteria can elect to opt into the LCFS program, thereby becoming the regulated party in the LCFS program for a specified volume of fuel ("opt in" and "opt into" include the past, present, and future tenses):

(a) A person who provides a fuel specified in section 95480.1(b) and meets the requirements of section 95484(a)(5), (a)(6), or (a)(7), whichever applies to that fuel;

(b) An out-of-state producer of oxygenate for blending with CARBOB or gasoline, or biomass-based diesel for blending with CARB diesel, who is not otherwise already subject to the LCFS regulation as an importer. An opt-in regulated party under this subsection may retain the compliance obligation, for a specific volume of fuel or blendstock, only if that person sells the fuel to another regulated party.

(c) A person who is in the distribution/marketing chain of imported fuel and is positioned on that chain between the producer under (b) and the importer ("intermediate entity"). The intermediate entity is subject to the following requirements:

(1) The intermediate entity must provide written documentation demonstrating all the following requirements to the Executive Officer's written satisfaction before opting into the LCFS:

(A) The person received ownership of the fuel for which the person is claiming to generate LCFS credits;

(B) Either:

1. The person received the LCFS compliance obligation from a producer that opted in under section 95480.2(b); or
2. The producer did not opt in under section 95480.2(b).

(C) The person actually delivered the fuel or caused the fuel to be delivered to California;

(D) The fuel delivered under (C) is shown to have been sold for use in California or was otherwise actually used in California; and

(E) The person is not otherwise already subject to the LCFS regulation as a regulated party.

(2) The demonstrations in (1)(A) through (E) above must be made for the specific volume of fuel upon which the person first elects to opt into the

LCFS. For subsequent volumes of fuel for which the person is claiming to be the regulated party pursuant to this subsection (c), the person must retain documentation to support the demonstrations required in (1)(A) through (E) and must submit such documentation to the Executive Officer within 30 calendar days upon request.

(d) The gas company, utility, or energy service provider that supplies natural gas ("natural gas supplier") to a person that falls within the provisions of section 95484(a)(5)(A)1.a or (5)(A)2. The natural gas supplier must provide written documentation to the Executive Officer demonstrating all the following before opting in to the LCFS:

(1) The person who falls within the provisions of section 95484(a)(5)(A)1.a. or (5)(A)2. understands that it has the ability to opt into the LCFS program as a regulated party under section 95480.2(a);

(2) The person in (1) has affirmatively elected not to become a regulated party in the LCFS program;

(3) The person in (1) understands and agrees that the election in (2) is irrevocable unless otherwise specified in a written contract between that person and the natural gas supplier; and

(4) As a consequence of the election in (2), the person in (1) understands and agrees that all LCFS credits generated from the sale of CNG dispensed through that person's natural gas vehicle fueling equipment shall belong to the natural gas supplier, unless otherwise specified in a written contract between the person and the natural gas supplier.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95480.3. Procedure for Opting Into and Opting Out of the LCFS Program.

Opting into and opting out of the LCFS program is available only to a person that is eligible under section 95480.2. The procedure for opting into and opting out of the LCFS for such a person is set forth as follows.

(a) *Opting In.*

(1) Opting into the LCFS program becomes effective when the fuel provider registers with ARB, pursuant to this section, as a regulated party in the LCFS Reporting Tool (LRT), by providing the organization name,

organization address, organization federal employer identification number, primary contact name, telephone number and email address.

(2) Registration under subsection (a)(1) above as a regulated party means that the fuel provider understands the requirements of the LCFS regulation and has agreed to be subject to all the requirements and provisions of the LCFS regulation as a regulated party, pursuant to section 95480.5, in exchange for gaining the ability to generate and trade LCFS credits.

(b) *Selection of Carbon Intensity Value.*

As part of its registration, the opt-in regulated party must elect for each of its opt-in fuels a carbon intensity (CI) value using one of the following methods:

(1) Method 1, pursuant to section 95486(a) and (b), if an applicable fuel pathway and CI value exist in the Lookup Table in section 95486(b) at the time of selection;

(2) Method 2A or 2B, pursuant to section 95486(c)-(f); or

(3) In lieu of (1) or (2) above, the regulated party for an opt-in fuel subject to section 95480.1(b) may choose whichever 2020 CI value specified in section 95482(b) and (c), for gasoline and diesel substitutes, respectively, applies to that opt-in fuel. A regulated party choosing a CI value pursuant to this paragraph (3) must use an energy economy ratio (EER) in its quarterly and annual reports that is set to a value of 1.0. Selection of a CI value pursuant to this paragraph does not preclude an opted-in regulated party from pursuing approval of a Method 2A or 2B application at the same or later time, nor does it preclude the regulated party from using Method 1 when an applicable fuel pathway and CI value are incorporated into the Lookup Table.

(c) *Opting Out.*

A fuel provider, who elected to become a regulated party by opting into the LCFS pursuant to subsection (a) above, may decide later to return to exempt status under section 95480.1(b)(1) ("opt out"). For an election to opt out of the LCFS regulation to be effective, the regulated party must complete all actions specified below, with the completed actions documented in writing and submitted to ARB as specified below:

(1) *90 Days before Opt-Out Date.*

(A) Provide ARB with a 90-day written notice of intent to opt out and the anticipated opt-out effective date;

(B) Provide ARB with any outstanding quarterly progress report (for the quarter in which the opt-out will occur) and annual compliance report (covering January 1st of the year to the date of the opt-out notice); and

(C) Identify in the 90-day notice any actions to be taken to eliminate any remaining deficits by the opt-out date.

(2) *Effective Opt-Out Date.*

Eliminate all remaining deficits and provide verification by email or regular mail that opt out occurred and all deficits have been eliminated. The Executive Officer shall confirm receipt of the notification within 3 business days. Any credits that remain in the regulated party's account at the time of the opt out shall be forfeited.

(3) *30 Days after Opt-Out Date.*

(A) Identify in writing the amount and transferee (if applicable) of any LCFS credits generated between the 30-day notice and the date of opt-out;

(B) Verify in writing that the former regulated party's deficit balance is zero as of the date of opt out. The verification must be signed by an authorized company representative, who must attest that the company will not sell, trade, or otherwise transact any LCFS credits after the opt-out date;

(C) Update the quarterly and annual compliance reports submitted with the 30-day notice, as needed, to reflect any changes that occurred during the period between the notice and the actual opt-out date.

(4) *December 31st of the Year of Opt Out and the Following Year.*

Confirm in writing that the former regulated party remains opted out of the LCFS program and has not sold, traded, or otherwise transacted any LCFS credits since opt-out date.

(5) *Written Submittals.*

All notifications, identifications, and other documentation specified in this section 95480.3 must be submitted to:

Chief, Alternative Fuels Branch
Stationary Source Division
California Air Resources Board

1001 I Street, P.O. Box 2815
Sacramento, CA 95812-2815; or
The LRT Administrator: lrtadmin@arb.ca.gov

(d) *Recordkeeping Requirements.*

The provisions and requirements in section 95484(c)(1) shall apply to any regulated party that has opted into the LCFS program, including a regulated party that has opted out of the LCFS regulation.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95480.4. Multiple Parties Claiming to Be the Regulated Party for the Same Volume of Fuel.

There can only be one regulated party for a specific volume of fuel at any given time. In the event that more than one person has registered with ARB as the regulated party for the same volume of fuel, the following provisions shall apply:

(a) All LCFS credits generated from the volume of fuel at issue shall be made inaccessible to the regulated parties and placed by the Executive Officer into a holding account, including any such credits that have already been transferred to another person prior to being notified by the Executive Officer that the holding action has taken place;

(b) The regulated parties for a credit placed in a holding account pursuant to (a) shall not sell, offer for sale, trade, or otherwise transfer such a credit to another person until the holding action has been lifted by the Executive Officer;

(c) The Executive Officer shall lift the hold on a LCFS credit within 30 working days after initially placing the hold, and shall release the credit to a regulated party based on the following procedure in descending order of priority:

(1) The producer that has opted in under section 95480.2(b) and retained the compliance obligation; if this provision does not apply, then

(2) The intermediate entity (downstream of the producer) that has opted in under section 95480.2(c) and retained the compliance obligation; if this provision does not apply, then

(3) The importer, if neither (1) nor (2) applies, which has retained the compliance obligation pursuant to section 95484; if this provision does not apply, then

(4) The regulated party that received compliance obligation from the importer in (3) or a California producer pursuant to section 95484.

Paragraphs (c)(1), (2), (3), and (4) above notwithstanding, the parties above may, by the time ownership to the fuel or blendstock is transferred, specify by enforceable written contract pursuant to section 95484 the person to which the credits ultimately have been transferred and obligated.

(d) This section does not apply to regulated parties for electricity, which are subject to the provisions of section 95484(a)(6).

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95480.5. Jurisdiction.

(a) Any of the following actions shall conclusively establish a person's consent to be subject to the jurisdiction of the State of California, including the administrative authority of ARB and the jurisdiction of the Superior Courts of the State of California:

(1) Registration with ARB as a regulated party pursuant to the opt-in provisions in section 95480.3(a);

(2) Receipt of compensation of any kind, including sales proceeds and commissions, from any transfers of a LCFS credit made pursuant to section 95488; or

(3) Submittal of information to the Executive Officer pursuant to the crude oil innovative method provisions set forth in section 95486(b)(2)(A)4.

(b) Any person who, pursuant to section 95484(a)(1) through (4), inclusive, is the initial regulated party or a person to whom the compliance obligation has been transferred directly or indirectly from the initial regulated party, is subject to the jurisdiction of the State of California, including the administrative authority of ARB and the jurisdiction of the Superior Courts of the State of California, irrespective of whether the person has registered as a regulated party in the LRT.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95481. Definitions and Acronyms.

(a) *Definitions.* For the purposes of sections 95480 through 95490, the definitions in Health and Safety Code sections 39010 through 39060 shall apply, except as otherwise specified in this section, sections 95480.1 through 95480.5, or sections 95482 through 95489:

(1) "Aggregation Indicator" means an identifier for reported transactions that are a result of an aggregation or summing of more than one transaction. An entry of 'True' indicates that multiple transactions have been aggregated and are reported with a single Transaction Number. An entry of 'False' means that the transaction record results from one physical transaction reported as a single Transaction Number.

(2) "Alternative fuel" means any transportation fuel that is not CaRFG or a diesel fuel, including but not limited to, those fuels specified in section 95480.1(a)(3) through (a)(12).

(3) "Application" means the type of vehicle where the fuel is consumed in terms of LDV/MDV for light duty vehicle / medium duty vehicle or HDV for heavy-duty vehicle.

(4) "B100" means biodiesel meeting ASTM D6751-08 (October 1, 2008) (*Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels*), which is incorporated herein by reference.

(5) "Battery electric vehicle (BEV)" means any vehicle that operates solely by use of a battery or battery pack, or that is powered primarily through the use of an electric battery or battery pack but uses a flywheel or capacitor that stores energy produced by the electric motor or through regenerative braking to assist in vehicle operation.

(6) "Biodiesel" means a diesel fuel substitute produced from nonpetroleum renewable resources that meet the registration requirements for fuels and fuel additives established by the Environmental Protection Agency under section 211 of the Clean Air Act. It includes biodiesel meeting all the following:

(A) Registered as a motor vehicle fuel or fuel additive under 40 CFR part 79;
(B) A mono-alkyl ester;
(C) Meets ASTM D 6751-08 (October 1, 2008), *Standard Specification for Biodiesel Fuel Blendstock (B100) for Middle Distillate Fuels,* which is incorporated herein by reference;
(D) Intended for use in engines that are designed to run on conventional diesel fuel; and
(E) Derived from nonpetroleum renewable resources.

(7) "Biodiesel Blend" means a blend of biodiesel and diesel fuel containing 6% (B6) to 20% (B20) biodiesel and meeting ASTM D7467-08 (October 1, 2008), *Specification for Diesel Fuel Oil, Biodiesel Blend (B6 to 20)*, which is incorporated herein by reference.

(8) "Biofuel Production Facility" means an identifier that refers to the production facility in which the biofuel was produced.

(9) "Biogas (also called biomethane) means natural gas that is produced from the breakdown of organic material in the absence of oxygen. Biogas is produced in processes including, but not limited to, anaerobic digestion, anaerobic decomposition, and thermo-chemical decomposition. These processes are applied to biodegradable biomass materials, such as manure, sewage, municipal solid waste, green waste, and waste from energy crops, to produce landfill gas, digester gas, and other forms of biogas.

(10) "Biogas CNG" means CNG consisting solely of compressed biogas.

(11) "Biogas LNG" means LNG consisting solely of liquefied biogas.

(12) "Biomass" has the same meaning as defined in "Renewable Energy Program: Overall Program Guidebook," 2nd Ed., California Energy Commission, Report No. CEC-300-2007-003-ED2-CMF, January 2008, which is incorporated herein by reference.

(13) "Biomass-based diesel" means a biodiesel (mono-alkyl ester) or a renewable diesel that complies with ASTM D975-08ae1, (edited December 2008), *Specification for Diesel Fuel Oils*, which is incorporated herein by reference. This includes a renewable fuel derived from co-processing biomass with a petroleum feedstock.

(14) "Blendstock" means a component that is either used alone or is blended with another component(s) to produce a finished fuel used in a motor vehicle. Each blendstock corresponds to a fuel pathway in the

California-modified GREET. A blendstock that is used directly as a transportation fuel in a vehicle is considered a finished fuel.

(15) "Business Partner" refers to the counter party in a specific transaction involving the regulated party. This can either be the buyer or seller of fuel, whichever applies to the specific transaction.

(16) "Carbon intensity" means the amount of lifecycle greenhouse gas emissions, per unit of energy of fuel delivered, expressed in grams of carbon dioxide equivalent per megajoule (gCO2E/MJ).

(17) "Compressed Natural Gas (CNG)" means natural gas that has been compressed to a pressure greater than ambient pressure.

(18) "Credits" and "deficits" means the measures used for determining a regulated party's compliance with the average carbon intensity requirements in sections 95482 and 95483. Credits and deficits are denominated in units of metric tons of carbon dioxide equivalent (CO2E), and are calculated pursuant to section 95485(a).

(19) "Day" means a calendar day unless otherwise specified as a business day.

(20) "Diesel Fuel" (also called conventional diesel fuel) has the same meaning as specified in title 13, CCR, section 2281(b).

(21) "Diesel Fuel Blend" means a blend of diesel fuel and biodiesel containing no more than 5% (B5) biodiesel by weight and meeting ASTM D975-08ae1, (edited December 2008), *Specification for Diesel Fuel Oils*, which is incorporated herein by reference.

(22) "E100," also known as "Denatured Fuel Ethanol," means nominally anhydrous ethyl alcohol meeting ASTM D4806-08 (July 1, 2008), *Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel*, which is incorporated herein by reference.

(23) "Electrical Distribution Utility" means an entity that owns or operates an electrical distribution system, including:

(A) a public utility as defined in the Public Utilities Code section 216 (referred to as an Investor Owned Utility or IOU); or
(B) a local publicly owned electric utility (POU) as defined in Public Utilities Code section 224.3; or
(C) an Electrical Cooperative (COOP) as defined in Public Utilities Code section 2776.

(24) "Electric Vehicle (EV)," for purposes of this regulation, refers to Battery Electric Vehicles (BEVs) and Plug-In Hybrid Electric Vehicles (PHEVs).

(25) "Executive Officer" means the Executive Officer of the Air Resources Board, or his or her designee.

(26) "Final Distribution Facility" means the stationary finished fuel transfer point from which the finished fuel is transferred into the cargo tank truck, pipeline, or other delivery vessel for delivery to the facility at which the finished fuel will be dispensed into motor vehicles.

(27) "Finished fuel" means a fuel that is used directly in a vehicle for transportation purposes without requiring additional chemical or physical processing.

(28) "Fossil CNG" means CNG that is derived solely from petroleum or fossil sources, such as oil fields and coal beds.

(29) "Fuel Pathway Code" means the identifier in the LRT that applies to a specific fuel pathway in the Lookup Table, as determined pursuant to section 95486(a)(2).

(30) "GTAP" or "GTAP Model" means the Global Trade Analysis Project Model (January 2010), which is hereby incorporated by reference, and is a software package comprised of:

(A) RunGTAP (February 2009), a visual interface for use with the GTAP databases (posted at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm in February 2009 and available for download at https://www.gtap.agecon.purdue.edu/products/rungtap/default.asp), which is hereby incorporated by reference;

(B) GTAP-BIO (February 2009), the GTAP model customized for corn ethanol (posted at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm in February 2009 and available with its components as a .zip file for download at http://www.arb.ca.gov/fuels/lcfs/gtapbio.zip); which is hereby incorporated by reference;

(C) GTP-SGR (February 2009), the GTAP model customized for sugarcane ethanol (posted at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm in February 2009 and available with its components as a .zip file for download at http://www.arb.ca.gov/fuels/lcfs/gtpsgr.zip), which is hereby incorporated by reference; and

(D) GTAP-SOY (January 2010), the compressed file containing the GTAP model customized for Midwest soybeans (posted at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm in January 2010 and available with its components as a .zip file for download at http://www.arb.ca.gov/fuels/lcfs/gtap-soy.zip), which is hereby incorporated by reference.

(31) "HDV" means a heavy-duty vehicle that is rated at 14,001 or more pounds gross vehicle weight rating (GVWR).

(32) "Home fueling" means the dispensing of fuel by use of a fueling appliance that is located on or within a residential property with access limited to a single household.

(33) "Hybrid electric vehicle (HEV)" means any vehicle that can draw propulsion energy from both of the following on-vehicle sources of stored energy: 1) a consumable fuel and 2) an energy storage device such as a battery, capacitor, or flywheel.

(34) "Import" means to bring a product from outside California into California.

(35) "Importer" means the person who owns the liquid transportation fuel or blendstock, in the transportation equipment that held or carried the product, at the point the equipment entered California. For purposes of this definition, "transportation equipment" includes, but is not limited to, rail cars, cargo tanker trucks, and pipelines.

(36) "Intermediate calculated value" means a value that is used in the calculation of a reported value but does not by itself meet the reporting requirement under section 95484(b).

(37) "LDV & MDV" means a vehicle category that includes both light-duty (LDV) and medium-duty vehicles (MDV).

(A) "LDV" means a vehicle that is rated at 8500 pounds or less GVWR.
(B) "MDV" means a vehicle that is rated between 8501 and 14,000 pounds GVWR.

(38) "Lifecycle greenhouse gas emissions" means the aggregate quantity of greenhouse gas emissions (including direct emissions and significant indirect emissions such as significant emissions from land use changes), as determined by the Executive Officer, related to the full fuel lifecycle, including all stages of fuel and feedstock production and distribution, from feedstock generation or extraction through the distribution and delivery and use of the finished fuel to the ultimate consumer, where the mass

values for all greenhouse gases are adjusted to account for their relative global warming potential.

(39) "Liquefied Natural Gas (LNG)" means natural gas that has been liquefied.

(40) "Liquefied petroleum gas (LPG or propane)" has the same meaning as defined in Vehicle Code section 380.

(41) "LRT Reporting Deadlines" means the quarterly and annual reporting dates specified in section 95484(b)(1).

(42) "Motor vehicle" has the same meaning as defined in section 415 of the Vehicle Code.

(43) "Multi-fuel vehicle" means a vehicle that uses two or more distinct fuels for its operation. A multi-fuel vehicle (also called a vehicle operating in blended-mode) includes a bi-fuel vehicle and can have two or more fueling ports onboard the vehicle. A fueling port can be an electrical plug or a receptacle for liquid or gaseous fuel. As an example, a plug-in hybrid hydrogen internal combustion engine vehicle (ICEV) uses both electricity and hydrogen as the fuel source and can be "refueled" using two separately distinct fueling ports.

(44) "Multimedia evaluation" has the same meaning as specified in H&S section 43830.8(b) and (c).

(45) "Natural gas" means a mixture of gaseous hydrocarbons and other compounds, with at least 80 percent methane (by volume), and typically sold or distributed by utilities, such as any utility company regulated by the California Public Utilities Commission.

(46) "On-road" means a vehicle that is designed to be driven on public highways and roadways and that is registered or is capable of being registered by the California Department of Motor Vehicles (DMV) under Vehicle Code section 4000 et seq. – or DMV's equivalent in another state, province, or country; or the International Registration Plan. A vehicle covered under ARB's In-Use Off-Road Regulation, title 13, CCR, section 2449, is not covered under this definition.

(47) "Petroleum Intermediate" means a petroleum product that can be further processed to produce CARBOB, diesel, or other petroleum blendstocks.

(48) "Physical Pathway Code (PPC)" means the code that describes the applicable physical pathway, as defined in section 95484(c)(2).

(49) "Plug-In Hybrid Electric Vehicle (PHEV)" means a hybrid electric vehicle with the capability to charge a battery from an off-vehicle electric energy source that cannot be connected or coupled to the vehicle in any manner while the vehicle is being driven.

(50) "Private access fueling facility" means a fueling facility with access restricted to privately-distributed electronic cards ("cardlock") or is located in a secure area not accessible to the public.

(51) "Producer" means, with respect to any liquid fuel, the person who owns the liquid fuel when it is supplied from the production facility. "Producer" includes an "out-of-state producer," which is a producer of a fuel that has its production facility for that fuel located outside California and has opted into the LCFS pursuant to section 95480.3.

(52) "Production facility" means, with respect to any liquid fuel (other than LNG), a facility at which the fuel is produced. "Production facility" means, with respect to natural gas (CNG, LNG or biogas), a facility at which fuel is converted, compressed, liquefied, refined, treated, or otherwise processed into CNG, LNG, biogas, or biogas-natural gas blend that is ready for transportation use in a vehicle without further physical or chemical processing.

(53) "Public access fueling facility" means a fueling facility that is not a private access fueling dispenser.

(54) "Regulated party" means a person who, pursuant to section 95484(a), must meet the average carbon intensity requirements in section 95482 or 95483.

(55) "Renewable diesel" means a motor vehicle fuel or fuel additive that is all the following:

(A) Registered as a motor vehicle fuel or fuel additive under 40 CFR part 79;
(B) Not a mono-alkyl ester;
(C) Intended for use in engines that are designed to run on conventional diesel fuel; and
(D) Derived from nonpetroleum renewable resources.

(56) "Single fuel vehicle" means a vehicle that uses a single external source of fuel for its operation. The fuel can be a pure fuel, such as gasoline, or a blended fuel such as E85 or a diesel fuel containing biomass-based diesel.

(57) "Transaction Date" means the title transfer date as shown on the Product Transfer Document.

(58) "Transaction Quantity" means the amount of fuel reported in a transaction. A Transaction Quantity may be reported in gallons, KWh, scf, or other appropriate units.

(59) "Transaction Type" means the nature of a fuel-based transaction, as defined below:

(A) "Production" means the transportation fuel was produced inside California;
(B) "Import" means the transportation fuel was produced outside California and imported into California;
(C) "Purchased with Obligation" means the transportation fuel was purchased with the compliance obligation from a regulated party;
(D) "Purchased without Obligation" means the transportation fuel was purchased without the compliance obligation from a regulated party;
(E) "Sold with Obligation" means the transportation fuel was sold with the compliance obligation by a regulated party;
(F) "Sold without Obligation" means the transportation fuel was sold without the compliance obligation by a regulated party;
(G) "Export" means the transportation fuel was exported outside of California after temporarily being in California;
(H) "Loss of Inventory" means the fuel entered the California fuel pool but was not used in a motor vehicle due to spillage; and
(I) "Not Used for Transportation" means the fuel did not meet the definition for "transportation fuel."

(60) "Transportation fuel" means any fuel used or intended for use as a motor vehicle fuel or for transportation purposes in a nonvehicular source.

(b) *Acronyms.* For the purposes of sections 95480 through 95489, the following acronyms apply.

(1) "ASTM" means ASTM International (formerly American Society for Testing and Materials).
(2) "BEV" means battery electric vehicles.
(3) "CARBOB" means California reformulated gasoline blendstock for oxygenate blending.
(4) "CaRFG" means California reformulated gasoline.
(5) "CEC" means California Energy Commission.
(6) "CFR" means code of federal regulations Code of Federal Regulations.
(7) "CI" means carbon intensity.
(8) "CNG" means compressed natural gas.
(9) "EER" means energy economy ratio.

(10) "EV" means electric vehicle.
(11) "FCV" means fuel cell vehicles.
(12) "FFV" means flex fuel vehicles.
(13) "gCO2E/MJ" means grams of carbon dioxide equivalent per mega joule.
(14) "GREET" means the Greenhouse gases, Regulated Emissions, and Energy use in Transportation model.
(15) "GVWR" means gross vehicle weight rating.
(16) "HDV" means heavy-duty vehicles.
(17) "HEV" means hybrid electric vehicle.
(18) "ICEV" means internal combustion engine vehicle.
(19) "LCFS" means Low Carbon Fuel Standard.
(20) "LDV" means light-duty vehicles.
(21) "LNG" means liquefied natural gas.
(22) "LPG" means liquefied petroleum gas.
(23) "LRT" means LCFS reporting tool.
(24) "MCON" means marketable crude oil name.
(25) "MDV" means medium-duty vehicles.
(26) "MT" means metric tons of carbon dioxide equivalent.
(27) "PHEV" means plug-in hybrid vehicles.
(28) "TEOR" means thermally enhanced oil recovery.
(29) "ULSD" means California ultra low sulfur diesel.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95482. Average Carbon Intensity Requirements for Gasoline and Diesel.

(a) Starting January 1, 2011 and for each year thereafter, a regulated party must meet the average carbon intensity requirements set forth in Table 1 and Table 2 of this section for its transportation gasoline and diesel fuel, respectively, in each calendar year. For 2010 only, a regulated party does not need to meet a carbon intensity requirement, but it must meet the reporting requirements set forth in section 95484(b).

(b) *Requirements for gasoline and fuels used as a substitute for gasoline.*

Table 1. LCFS Compliance Schedule for 2011 to 2020 for Gasoline and Fuels Used as a Substitute for Gasoline.*

Year	Average Carbon Intensity (gCO2E/MJ)
2010	Reporting Only
2011	95.61
2012	95.37
2013	97.96
2014	97.47
2015	96.48
2016	95.49
2017	94.00
2018	92.52
2019	91.03
2020 and subsequent years	89.06

* The average carbon intensity requirements for years 2011 and 2012 reflect reductions from base year (2010) CI values for CaRFG calculated using the CI for crude oil supplied to California refineries in 2006. The average carbon intensity requirements for years 2013 to 2020 reflect reductions from revised base year (2010) CI values for CaRFG calculated using the CI for crude oil supplied to California refineries in 2010.

(c) *Requirements for diesel fuel and fuels used as a substitute for diesel fuel.*

Table 2. LCFS Compliance Schedule for 2011 to 2020 for Diesel Fuel and Fuels Used as a Substitute for Diesel Fuel.**

Year	Average Carbon Intensity (gCO2E/MJ)
2010	Reporting Only
2011	94.47
2012	94.24
2013	97.05

2014	96.56
2015	95.58
2016	94.60
2017	93.13
2018	91.66
2019	90.19
2020 and subsequent years	88.23

** The average carbon intensity requirements for years 2011 and 2012 reflect reductions from base year (2010) CI values for ULSD calculated using the CI for crude oil supplied to California refineries in 2006. The average carbon intensity requirements for years 2013 to 2020 reflect reductions from revised base year (2010) CI values for ULSD calculated using the CI for crude oil supplied to California refineries in 2010.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95483. Average Carbon Intensity Requirements for Alternative Fuels

(a) The requirements of this section apply to a regulated party that provides an alternative fuel as a transportation fuel in California.

(b) *Carbon Intensity Requirements for an Alternative Fuel Other Than a Biomass-Based Diesel Fuel -Intended for Use in a Single Fuel Vehicle.*

(1) A regulated party must use the average carbon intensity value for gasoline set forth in section 95482(b) for its alternative fuel, other than biomass-based diesel fuel, if the alternative fuel is used or intended to be used in any single-fuel:

(A) light-duty vehicle, or

(B) medium-duty vehicle.

(2) A regulated party must use the average carbon intensity value for diesel fuel set forth in section 95482(c) for its alternative fuel, other than biomass-based diesel fuel, that is used or intended to be used in any single-fuel application not identified in section 95483(b)(1).

(c) *Carbon Intensity Requirements for Biomass-Based Diesel Fuel Provided for Use in a Single Fuel Vehicle.* A regulated party must use the average carbon intensity value for diesel fuel set forth in section 95482(c) if its biomass-based diesel fuel is used or intended to be used in any single-fuel:

(1) light-duty vehicle;

(2) medium-duty vehicle;

(3) heavy-duty vehicle;

(4) off-road transportation application;

(5) off-road equipment application;

(6) locomotive or commercial harbor craft application; or

(7) non-stationary source application not otherwise specified in 1-6 above.

(d) *Carbon Intensity Requirements for Transportation Fuels Intended for Use in Multi-Fuel Vehicles.*

(1) For an alternative fuel provided for use in a multi-fueled vehicle, a regulated party must use:

(A) the average carbon intensity value for gasoline set forth in section 95482(b) if one of the fuels used in the multi-fuel vehicle is gasoline; or

(B) the average carbon intensity value for diesel fuel set forth in section 95482(c) if one of the fuels used in the multi-fuel vehicle is diesel fuel.

(2) For an alternative fuel provided for use in a multi-fueled vehicle (including a bi-fuel vehicle) that does not use gasoline or diesel fuel, a regulated party must use:

(A) the average carbon intensity value for gasoline set forth in section 95482(b) if that alternative fuel is used or intended to be used in:

1. light-duty vehicle, or

2. medium-duty vehicle.

(B) the average carbon intensity value for diesel set forth in section 95482(c) if that alternative fuel is used or intended to be used in an application not identified in section 95483(d)(2)(A).

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95484. Requirements for Regulated Parties.

(a) *Identification of Regulated Parties.* The purpose of this part is to establish the criteria by which a regulated party is determined. The regulated party is initially established for each type of transportation fuel, but this part provides for the transfer of regulated party status and the associated compliance obligations by agreement, notification, or other means, as specified below.

(1) *Regulated Parties for Gasoline.*

(A) *Designation of Producers and Importers as Regulated Parties.*

1. *Where Oxygenate Is Added to Downstream CARBOB.*

For gasoline consisting of CARBOB and an oxygenate added downstream from the California facility at which the CARBOB was produced or imported, the regulated party is initially the following:

a. With respect to the CARBOB, the regulated party is the producer or importer of the CARBOB; and

b. With respect to the oxygenate, the regulated party is the producer or importer of the oxygenate.

2. *Where No Separate CARBOB.* For gasoline that does not include CARBOB that had previously been supplied from the facility at which was produced or imported, the regulated party for the gasoline is the producer or importer of the gasoline.

(B) *Effect of Transfer of CARBOB by Regulated Party.*

1. *Threshold Determination Whether Recipient of CARBOB is a Producer or Importer.* Whenever a person who is the

regulated party for CARBOB transfers ownership of the CARBOB, the recipient must notify the transferor whether the recipient is a producer or importer for purposes of this section 95484(a)(1)(B).

2. *Producer or Importer Acquiring CARBOB Becomes the Regulated Party Unless Specified Conditions Are Met.* Except as provided for in section 95484(a)(1)(B)3., when a person who is the regulated party transfers ownership of the CARBOB to a producer or importer, the recipient of ownership of the CARBOB (i.e., the transferee) becomes the regulated party for it. The transferor must provide the recipient a product transfer document that prominently states the information specified in paragraphs a. and b. below, and the transferor and recipient must meet the requirements specified in paragraph c., as set forth below:

   a. the volume and average carbon intensity of the transferred CARBOB. The transferor of CARBOB may report as the "average carbon intensity" on the product transfer document the total carbon intensity value for CARBOB as shown in the Carbon Intensity Lookup Table; and

   b. the recipient is now the regulated party for the acquired CARBOB and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the CARBOB.

   c. For purposes of section 95485(a), except as provided in paragraph c.iii. of this provision:

      i. the transferor under a. above must include the $Deficits^{XD}_{Incremental20XX}$, as defined and set forth in section 95486(b)(2)(A)1., in the transferor's annual credits and deficits balance calculation set forth in section 95485(a)(2); and

      ii. the recipient under b. above must include $Deficits^{XD}_{Base}$, as defined and set forth in section 95486(b)(2)(A)1., in the recipient's annual credits and deficits balance calculation set forth in section 95485(a)(2).

      iii. Paragraphs c.i and c.ii. above notwithstanding, the transferor and recipient of CARBOB may,

by the time the ownership is transferred, specify by written contract which party is responsible for accounting for the base deficit and incremental deficit In the annual credits and deficits balance calculation set forth in section 95485(a)(2).

3. *Transfer of CARBOB or Gasoline to a Producer or Importer and Retaining Compliance Obligation.* Section 95484(a)(1)(B)2. notwithstanding, a regulated party transferring ownership of CARBOB to a producer or importer may elect to remain the regulated party and retain the LCFS compliance obligation for the transferred CARBOB by providing the recipient at the time of transfer with a product transfer document that prominently states that the transferor has elected to remain the regulated party with respect to the CARBOB.

4. *If Recipient Is Not a Producer or Importer, Regulated Party Transferring CARBOB Remains Regulated Party Unless Specified Conditions Are Met.* When a person who is the regulated party for CARBOB transfers ownership of the CARBOB to a person who is not a producer or importer, the transferor remains the regulated party unless the conditions of section 95484(a)(1)(B)5. are met.

5. *Conditions Under Which a Non-Producer and Non-Importer Acquiring Ownership of CARBOB Becomes the Regulated Party.* A person, who is neither a producer nor an importer and who acquires ownership of CARBOB from the regulated party, becomes the regulated party for the CARBOB if, by the time ownership is transferred, the two parties agree by written contract that the person acquiring ownership accepts the LCFS compliance obligation as the regulated party. For the transfer of regulated party obligations to be effective, the transferor must also provide the recipient a product transfer document that prominently states the information specified in paragraphs a. and b. below, and the transferor and recipient must meet the requirements specified in paragraph c., as set forth below:

   a. the volume and average carbon intensity of the transferred CARBOB. The transferor of CARBOB may report as the "average carbon intensity" on the product transfer document the total carbon intensity

value for CARBOB as shown in the Carbon Intensity Lookup Table; and

b. the recipient is now the regulated party for the acquired CARBOB and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the CARBOB.

c. For purposes of section 95485(a), except as provided in paragraph c.iii. of this provision:

i. the transferor under a. above must include the $Deficits^{XD}_{Incremental20XX}$, as defined and set forth in section 95486(b)(2)(A)1, in the transferor's annual credits and deficits balance calculation set forth in section 95485(a)(2); and

ii. the recipient under b. above must include $Deficits^{XD}_{Base}$, as defined and set forth in section 95486(b)(2)(A)1., in the recipient's annual credits and deficits balance calculation set forth in section 95485(a)(2).

iii. Paragraphs c.i and c.ii. above notwithstanding, the transferor and recipient of CARBOB may, by the time the ownership is transferred, specify by written contract which party is responsible for accounting for the base deficit and incremental deficit In the annual credits and deficits balance calculation set forth in section 95485(a)(2).

(C) *Effect of Transfer By Regulated Party of Oxygenate to Be Blended With CARBOB.*

1. *Person Acquiring the Oxygenate Becomes the Regulated Party Unless Specified Conditions Are Met.* Except as provided in section 95484(a)(1)(C)2., when a person who is the regulated party for oxygenate to be blended with CARBOB transfers ownership of the oxygenate before it has been blended with CARBOB, the recipient of ownership of the oxygenate (i.e., the transferee) becomes the regulated party for it. The transferor must provide the recipient a product transfer document that prominently states:

a. the volume and carbon intensity of the transferred oxygenate; and

b. the recipient is now the regulated party for the acquired oxygenate and accordingly is responsible for meeting the requirements of the LCFS with respect to the oxygenate.

2. *Transfer of Oxygenate and Retaining Compliance Obligation.* Section 95484(a)(1)(C)1. notwithstanding, a regulated party transferring ownership of oxygenate may elect to remain the regulated party and retain the LCFS compliance obligation for the transferred oxygenate by providing the recipient at the time of transfer with a product transfer document that prominently states that the transferor has elected to remain the regulated party with respect to the oxygenate.

(D) *Effect of Transfer by a Regulated Party of Gasoline to be Blended With Additional Oxygenate.* A person who is the sole regulated party for a batch of gasoline and is transferring ownership of the gasoline to another party that will be combining it with additional oxygenate may transfer his or her obligations as a regulated party if all of the conditions set forth below are met.

1. Blending the additional oxygenate into the gasoline is not prohibited by title 13, CCR, section 2262.5(d).

2. By the time ownership is transferred the two parties agree by written contract that the person acquiring ownership accepts the LCFS compliance obligations as a regulated party with respect to the gasoline.

3. The transferor provides the recipient a product transfer document that prominently states the information specified in paragraphs a. and b. below, and the transferor and recipient must meet the requirements specified in paragraph c., as set forth below:

a. the volume and average carbon intensity of the transferred gasoline. The transferor of CARBOB may use the total carbon intensity value for CARBOB along with the carbon intensity for the oxygenate, as shown in the Carbon Intensity Lookup Table, for calculating the "average carbon intensity" on the product transfer document; and

b. the recipient is now the regulated party for the acquired gasoline and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the gasoline.

c. For purposes of section 95485(a), except as provided in paragraph c.iii. of this provision:

i. the transferor under a. above must include the $Deficits^{XD}_{Incremental20XX}$, as defined and set forth in section 95486(b)(2)(A)1., in the transferor's annual credits and deficits balance calculation set forth in section 95485(a)(2); and

ii. the recipient under b. above must include $Deficits^{XD}_{Base}$, as defined and set forth in section 95486(b)(2)(A)1., in the recipient's annual credits and deficits balance calculation set forth in section 95485(a)(2).

iii. Paragraphs c.i and c.ii. above notwithstanding, the transferor and recipient of CARBOB may, by the time the ownership is transferred, specify by written contract which party is responsible for accounting for the base deficit and incremental deficit in the annual credits and deficits balance calculation set forth in section 95485(a)(2).

4. The written contract between the parties includes an agreement that the recipient of the gasoline will be blending additional oxygenate into the gasoline.

(E) *Effect of Transfer by a Regulated Party of Oxygenate to be Blended With Gasoline.* Where oxygenate is added to gasoline, the regulated party with respect to the oxygenate is initially the producer or importer of the oxygenate. Transfers of the oxygenate are subject to section 95484(a)(1)(C).

(2) *Regulated Party for Diesel Fuel and Diesel Fuel Blends.*

(A) *Designation of Producers and Importers as Regulated Parties.*

1. *Where Biomass-Based Diesel Is Added to Downstream Diesel Fuel.* For a diesel fuel blend consisting of diesel fuel

and biomass-based diesel added downstream from the California facility at which the diesel fuel was produced or imported, the regulated party is initially the following:

a. With respect to the diesel fuel, the regulated party is the producer or importer of the diesel fuel; and

b. With respect to the biomass-based diesel, the regulated party is the producer or importer of the biomass-based diesel.

2. *All Other Diesel Fuels.* For any other diesel fuel that does not fall within section 95484(a)(2)(A)1., the regulated party is the producer or importer of the diesel fuel.

(B) *Effect of Transfer of Diesel Fuel and Diesel Fuel Blends by Regulated Party.*

1. *Threshold Determination Whether Recipient of Diesel Fuel or Diesel Fuel Blend is a Producer or Importer.* Whenever a person who is the regulated party for diesel fuel or a diesel fuel blend transfers ownership before it has been transferred from its final distribution facility, the recipient must notify the transferor whether the recipient is a producer or importer for purposes of this section 95484(a)(2)(B).

2. *Producer or Importer Acquiring Diesel Fuel or Diesel Fuel Blend Becomes the Regulated Party Unless Specified Conditions Are Met.* Except as provided for in section 95484(a)(2)(B)3., when a person who is the regulated party for diesel fuel or a diesel fuel blend transfers ownership to a producer or importer before it has been transferred from its final distribution facility, the recipient of ownership of the diesel fuel or diesel fuel blend (i.e., the transferee) becomes the regulated party for it. The transferor must provide the recipient a product transfer document that prominently states the information specified in paragraphs a. and b. below, and the transferor and recipient must meet the requirements specified in paragraph c., as set forth below:

a. the volume and average carbon intensity of the transferred diesel fuel or diesel fuel blend. The transferor of diesel fuel or diesel fuel blend may report as the "average carbon intensity" on the product transfer document the total carbon intensity value for

"diesel" (ULSD) as shown in the Carbon Intensity Lookup Table; and

b. the recipient is now the regulated party for the acquired diesel fuel or diesel fuel blend and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to it.

c. For purposes of section 95485(a), except as provided in paragraph c.iii. of this provision:

i. the transferor under a. above must include the $Deficits^{XD}_{Incremental20XX}$, as defined and set forth in section 95486(b)(2)(A)1., in the transferor's annual credits and deficits balance calculation set forth in section 95485(a)(2); and

ii. the recipient under b. above must include $Deficits^{XD}_{Base}$, as defined and set forth in section 95486(b)(2)(A)1., in the recipient's annual credits and deficits balance calculation set forth in section 95485(a)(2).

iii. Paragraphs c.i and c.ii. above notwithstanding, the transferor and recipient of diesel fuel or diesel fuel blend may, by the time the ownership is transferred, specify by written contract which party is responsible for accounting for the base deficit and incremental deficit In the annual credits and deficits balance calculation set forth in section 95485(a)(2).

3. *Transfer of Diesel Fuel or Diesel Fuel Blend to a Producer or Importer and Retaining Compliance Obligation.* Section 95484(a)(2)(B)2. notwithstanding, a regulated party transferring ownership of diesel fuel or diesel fuel blend to a producer or importer may elect to remain the regulated party and retain the LCFS compliance obligation for the transferred diesel fuel or diesel fuel blend by providing the recipient at the time of transfer with a product transfer document that prominently states that the transferor has elected to remain the regulated party with respect to the diesel fuel or diesel fuel blend.

4. *If Recipient Is Not a Producer or Importer, Regulated Party Transferring Diesel Fuel or Diesel Fuel Blend Remains Regulated Party Unless Specified Conditions Are Met.* When a person who is the regulated party for diesel fuel or a diesel fuel blend transfers ownership of the diesel fuel or diesel fuel blend to a person who is not a producer or importer, the transferor remains the regulated party unless the conditions of section 95484(a)(2)(B)5. are met.

5. *Conditions Under Which a Non-Producer and Non-Importer Acquiring Ownership of Diesel Fuel or Diesel Fuel Blend Becomes the Regulated Party.* A person, who is neither a producer nor an importer and who acquires ownership of diesel fuel or a diesel fuel blend from the regulated party, becomes the regulated party for the diesel fuel or diesel fuel blend if, by the time ownership is transferred, the two parties agree by written contract that the person acquiring ownership accepts the LCFS compliance obligation as the regulated party. For the transfer of regulated party obligations to be effective, the transferor must also provide the recipient a product transfer document that prominently states the information specified in paragraphs a. and b. below, and the transferor and recipient must meet the requirements specified in paragraph c., as set forth below:

   a. the volume and average carbon intensity of the transferred diesel fuel or diesel fuel blend. The transferor of diesel fuel or diesel fuel blend may report as the "average carbon intensity" on the product transfer document the total carbon intensity value for "diesel" (ULSD) as shown in the Carbon Intensity Lookup Table; and

   b. the recipient is now the regulated party for the acquired diesel fuel or diesel fuel blend and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the diesel fuel or diesel fuel blend.

   c. For purposes of section 95485(a), except as provided in paragraph c.iii. of this provision:

      i. the transferor under a. above must include the $Deficits^{XD}_{Incremental20XX}$, as defined and set forth in section 95486(b)(2)(A)1., in the transferor's

annual credits and deficits balance calculation set forth in section 95485(a)(2); and

iii. the recipient under b. above must include $Deficits_{Base}^{XD}$, as defined and set forth in section 95486(b)(2)(A)1., in the recipient's annual credits and deficits balance calculation set forth in section 95485(a)(2).

iii. Paragraphs c.i and c.ii. above notwithstanding, the transferor and recipient of diesel fuel or diesel fuel blend may, by the time the ownership is transferred, specify by written contract which party is responsible for accounting for the base deficit and incremental deficit In the annual credits and deficits balance calculation set forth in section 95485(a)(2).

(C) *Effect of Transfer By Regulated Party of Biomass-Based Diesel to Be Blended With Diesel Fuel.*

1. *Person Acquiring the Biomass-Based Diesel Becomes the Regulated Party Unless Specified Conditions Are Met.*

Except as provided in section 95484(a)(2)(C)2., when a person who is the regulated party for biomass-based diesel to be blended with diesel fuel transfers ownership of the biomass-based diesel before it has been blended with diesel fuel, the recipient of ownership of the biomass-based diesel (i.e., the transferee) becomes the regulated party for it. The transferor must provide the recipient a product transfer document that prominently states:

a. the volume and carbon intensity of the transferred biomass-based diesel; and

b. the recipient is now the regulated party for the acquired biomass-based diesel and accordingly is responsible for meeting the requirements of the LCFS with respect to the biomass-based diesel.

2. *Transfer of Biomass-Based Diesel and Retaining Compliance Obligation.*

Section 95484(a)(2)(C)1. notwithstanding, the transferor may elect to remain the regulated party and retain the LCFS compliance obligation for the transferred biomass-based diesel by providing the recipient at the time of transfer with a product transfer document that prominently states that the transferor has elected to remain the regulated party with respect to the biomass-based diesel.

(3) *Regulated Party For Liquid Alternative Fuels Not Blended With Gasoline Or Diesel Fuel.* For a liquid alternative fuel, including but not limited to neat denatured ethanol and neat biomass-based diesel, that is not blended with gasoline or diesel fuel, or with any other petroleum-derived fuel, the regulated party is the producer or importer of the liquid alternative fuel.

(4) *Regulated Party For Blends Of Liquid Alternative Fuels And Gasoline Or Diesel Fuel.*

(A) *Designation of producers and Importers as regulated parties.* For a transportation fuel that is a blend of liquid alternative fuel and gasoline or diesel fuel – but that does not itself constitute gasoline or diesel fuel – the regulated party is the following:

(1) With respect to the alternative fuel component, the regulated party is the person who produced the liquid alternative fuel in California or imported it into California; and

(2) With respect to the gasoline or diesel fuel component, the regulated party is the person who produced the gasoline or diesel fuel in California or imported it into California.

(B) *Transfer Of A Blend Of Liquid Alternative Fuel And Gasoline Or Diesel Fuel And Compliance Obligation.* Except as provided for in section 95484(a)(4)(C), on each occasion that a person transfers ownership of fuel that falls within section 95484(a)(4) ("alternative liquid fuel blend") before it has been transferred from its final distribution facility, the recipient of ownership of such an alternative liquid fuel blend (i.e., the transferee) becomes the regulated party for that alternative liquid fuel blend. The transferor shall provide the recipient a product transfer document that prominently states:

1. the volume and average carbon intensity of the transferred alternative liquid fuel blend; and

2. the recipient is now the regulated party for the acquired alternative liquid fuel blend and accordingly is responsible for

meeting the requirements of the LCFS regulation with respect to the alternative liquid fuel blend.

(C) *Transfer Of A Blend Of Liquid Alternative Fuel And Gasoline Or Diesel Fuel And Retaining Compliance Obligation.* Section 95484(a)(4)(B) notwithstanding, the transferor may elect to remain the regulated party and retain the LCFS compliance obligation for the transferred alternative liquid fuel blend by written contract with the recipient. The transferor shall provide the recipient with a product transfer document that identifies the volume and average carbon intensity of the transferred alternative liquid fuel blend.

(5) *Regulated Parties for Natural Gas (Including CNG, LNG, and Biogas).*

(A) *Designation of Regulated Parties for Fossil CNG and Biogas CNG.*

1. *Where Biogas CNG is Added to Fossil CNG.*

For fuel consisting of a fossil CNG and biogas CNG blend, the regulated party is initially the following:

a. With respect to the fossil CNG, the regulated party is the person that owns the natural gas fueling equipment at the facility at which the fossil CNG and biogas CNG blend is dispensed to motor vehicles for their transportation use; and

b. With respect to the biogas CNG, the regulated party is the producer or importer of the biogas CNG.

2. *Where No Biogas CNG is Added to Fossil CNG.* For fuel consisting solely of fossil CNG, the regulated party is the person that owns the natural gas fueling equipment at the facility at which the fossil CNG is dispensed to motor vehicles for their transportation use.

(B) *Designation of Regulated Parties for Fossil LNG and Biogas LNG.*

1. *Where Biogas LNG is Added to Fossil LNG.*

For a fuel consisting of a fossil LNG and biogas LNG blend, the regulated party is initially the following:

a. With respect to the fossil LNG, the regulated party is the person that owns the fossil LNG when it is

transferred to the facility at which the liquefied blend is dispensed to motor vehicles for their transportation use; and

b. With respect to the biogas, the regulated party is the producer or importer of the biogas LNG.

2. *Where No Biogas LNG is Added to Fossil LNG.* For fuel consisting solely of fossil LNG, the regulated party is initially the person that owns the fossil LNG when it is transferred to the facility at which the fossil LNG is dispensed to motor vehicles for their transportation use.

(C) *Designation of Regulated Party for Biogas CNG or Biogas LNG Supplied Directly to Vehicles for Transportation Use.* For fuel consisting solely of biogas CNG or biogas LNG that is produced in California and supplied directly to vehicles in California for their transportation use without first being blended into fossil CNG or fossil LNG, the regulated party is initially the producer of the biogas CNG or biogas LNG.

(D) *Effect of Transfer of Fuel by Regulated Party.*

1. *Transferor Remains Regulated Party Unless Conditions Are Met.* When a person who is the regulated party for a fuel specified in section 95484(a)(5)(A), (B), or (C) transfers ownership of the fuel, the transferor remains the regulated party unless the conditions of section 95484(a)(5)(D)2. are met.

2. *Conditions Under Which a Person Acquiring Ownership of a Fuel Becomes the Regulated Party.* Section 95484(a)(5)(D)1. notwithstanding, a person acquiring ownership of a fuel specified in section 95484(a)(5)(A), (B), or (C) from the regulated party becomes the regulated party for that fuel if, by the time ownership is transferred, the two parties agree by written contract that the person acquiring ownership accepts the LCFS compliance obligation as the regulated party. For the transfer of regulated party obligations to be effective, the transferor must also provide the recipient a product transfer document that prominently states:

a. the volume and average carbon intensity of the transferred fuel; and

b. the recipient is now the regulated party for the acquired fuel and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the acquired fuel.

(6) *Regulated Parties for Electricity.* For electricity used as a transportation fuel, the party who is eligible to opt-in as a regulated party is determined as specified below:

(A) For transportation fuel supplied through electric vehicle (EV) charging equipment in a single or multi-family residence, the Electrical Distribution Utility is eligible to opt-in as the regulated party in their service territory. To receive credit for electricity supplied as a transportation fuel, the Electrical Distribution Utility must:

1. Use all credit proceeds as direct benefits for current EV customers.

2. Educate the public on the benefits of EV transportation (including environmental benefits and costs of EV charging as compared to gasoline). These efforts may include, but are not limited to:

a. public meetings
b. EV dealership flyers
c. utility customer bill inserts
d. radio and/or television advertisements
e. webpage content

3. Provide rate options that encourage off-peak charging and minimize adverse impacts to the electrical grid.

4. Include in annual compliance reporting an itemized summary of efforts to meet requirements 1 through 3 above; costs associated with meeting the requirements; an accounting of credits generated, sold, and banked; and an accounting of the number of EVs known to be operating in the service territory. ARB will post the annual compliance reports for public review by May 31st of each year.

(B) For transportation fuel supplied through public access EV charging equipment, the third-party non-utility Electric Vehicle Service Provider (EVSP) or Electrical Distribution Utility that has installed the equipment, or had an agent install the equipment, and who has a contract with the property owner or lessee where the equipment

is located to maintain or otherwise service the charging equipment, is eligible to opt-in as the regulated party.

If the EVSP is not the regulated party for a specific volume of fuel, or has not fully complied with the requirements of this subarticle, the Electrical Distribution Utility is eligible to opt-in as the regulated party with Executive Officer approval. To receive credit for transportation fuel supplied through public access EV charging equipment, the regulated party must:

1. Use all credit proceeds as direct benefits for current EV customers.

2. Educate the public on the benefits of EV transportation (including environmental benefits and costs of EV charging as compared to gasoline). These efforts may include, but are not limited to:

    a. public meetings
    b. EV dealership flyers
    c. utility customer bill inserts
    d. radio and/or television advertisements
    e. webpage content

3. Provide rate options that encourage off-peak charging and minimize adverse impacts to the electrical grid.

4. Include in annual compliance reporting an itemized summary of efforts to meet requirements 1 through 3 above; costs associated with meeting the requirements; an accounting of credits generated, sold, and banked; and an accounting of the number of operating EV charging stations and the number of charging incidents. ARB will post the annual compliance reports for public review by May 31st of each year.

(C.1) For transportation fuel supplied to a fleet of three or more EVs, a person operating a fleet (fleet operator) is eligible to be a regulated party. If the fleet operator is not the regulated party for a specific volume of fuel, or has not otherwise fully complied with the requirements of this subarticle, the Electrical Distribution Utility is eligible to opt-in as the regulated party with Executive Officer approval. For transportation fuel supplied to a fleet of less than three EVs, the Electrical Distribution Utility is eligible to be the regulated party. To receive credit for transportation fuel supplied to

an EV fleet, the regulated party must include in annual compliance reporting an accounting of the number of EVs in the fleet.

(C.2) For transportation fuel supplied to a fleet through the use of a battery switch station, the station owner is eligible to be a regulated party. If the station owner is not the regulated party for a specific amount of fuel, or has not otherwise fully complied with the requirements of this subarticle, the Electrical Distribution Utility is eligible to opt in as the regulated party with Executive Officer approval.

(D) For transportation fuel supplied through private access EV charging equipment at a business or workplace, the business owner is eligible to be a regulated party. If the business owner is not the regulated party for a specific volume of fuel, or has not fully complied with the requirements of this subarticle, the Electrical Distribution Utility is eligible to opt-in as the regulated party with Executive Officer approval. To receive credit for transportation fuel supplied through private access EV charging equipment at a business or workplace, the regulated party must:

1. Educate employees on the benefits of EV transportation (including environmental benefits and costs of EV charging as compared to gasoline) through outreach efforts that may include, but are not limited to:

    a. employee meetings
    b. public meetings
    c. EV dealership flyers
    d. employee flyers
    e. webpage content
    f. preferred parking

2. Include in annual compliance reporting a summary of efforts to meet requirement 1, as well as an accounting of the number of EVs known to be charging at the business.

(E) In the event that there is measured on-road electricity as a transportation fuel that is not covered in paragraphs (B) through (D) above, the Electrical Distribution Utility is eligible to opt in as the regulated party with Executive Officer approval. To receive credit for this transportation fuel, the Electrical Distribution Utility must meet all requirements set forth in section 95484(a)(6)(A).

(7) *Regulated Parties for Hydrogen Or A Hydrogen Blend.*

(A) *Designation of Regulated Party at Time Finished Fuel is Created.* For a volume of finished fuel consisting of hydrogen or a blend of hydrogen and another fuel ("finished hydrogen fuel"), the regulated party is initially the person who owns the finished hydrogen fuel at the time the blendstocks are blended to make the finished hydrogen fuel.

(B) *Transfer of Ownership and Retaining Compliance Obligation.* Except as provided for in section 95484(a)(7)(C), when a person who is the regulated party transfers ownership of a finished hydrogen fuel to another person, the transferor remains the regulated party.

(C) *Conditions Under Which a Person Acquiring Ownership of Finished Hydrogen Fuel Becomes the Regulated Party.* Section 95484(a)(7)(B) notwithstanding, a person who acquires ownership of finished hydrogen fuel becomes the regulated party for the fuel if, by the time ownership is transferred, the two parties (transferor and recipient) agree by written contract that the person acquiring ownership accepts the LCFS compliance obligation as the regulated party. For the transfer of regulated party obligations to be effective, the transferor must also provide the recipient a product transfer document that prominently states:

1. the volume and average carbon intensity of the transferred finished hydrogen fuel; and

2. the recipient is now the regulated party for the acquired finished hydrogen fuel and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the acquired finished hydrogen fuel.

(b) *Reporting Requirements.*

(1) *Reporting Frequency*. A regulated party must submit to the Executive Officer quarterly progress reports and annual compliance reports, as specified in sections 95484(b)(3) and 95484(b)(4). The reporting frequencies for these reports are set forth below:

(A) *Quarterly Progress Reports For All Regulated Parties.* Beginning 2010 and each year thereafter, a regulated party must submit quarterly progress reports to the Executive Officer by:

1. May 31st – for the first calendar quarter covering January through March;

2. August 31st – for the second calendar quarter covering April through June;

3. November 30th – for the third calendar quarter covering July through September; and

4. February 28th (29th in a leap year) – for the fourth calendar quarter covering October through December.

(B) *Annual Compliance Reports.* By April 30th of 2011, a regulated party must submit an annual report for calendar year 2010. By April 30th of 2012 and each year thereafter, a regulated party must provide an annual compliance report for the prior calendar year.

(2) *How to Report.* A regulated party must submit an annual compliance and quarterly progress report using the online LCFS Reporting Tool (LRT), an interactive, secured internet web-based system. The LRT is available at: www.arb.ca.gov/lcfsrt.

The regulated party is solely responsible for ensuring that the Executive Officer receives its progress and compliance reports by the dates specified in section 95484(b)(1). The Executive Officer shall not be responsible for failure of electronically submitted reports to be transmitted to the Executive Officer. The report must contain a statement attesting to the report's accuracy and validity. The Executive Officer shall not deem an electronically submitted report to be valid unless the report is accompanied by a digital signature that meets the requirements of title 2, CCR, section 22000 et seq.

(3) *General and Specific Reporting Requirements for Quarterly Progress Reports.* For each of its transportation fuels, a regulated party must submit a quarterly progress report that contains the information specified in Table 3 and meets the additional specific requirements set forth below:

(A) *Specific Quarterly Reporting Requirements (Except As Otherwise Noted) for Gasoline and Diesel Fuel.*

1. For each transfer of gasoline or diesel fuel that results in a transfer of the compliance obligation or retention of the compliance obligation by written contract, the regulated party must provide to the Executive Officer, within 10 business days of a request, the product transfer document containing the information identified in section 95484(a)(1)(B), (a)(1)(C), (a)(1)(D), (a)(2)(B), (a)(2)(C), (a)(4)(B), or (a)(4)(C), whichever applies.

2. The carbon intensity value of each blendstock determined pursuant to section 95486.

3. The volume of each blendstock (in gal) per compliance period. For purposes of this provision only, except as provided in section 95484(b)(4)(B), the regulated party may report the total volume of each blendstock aggregated for each distinct carbon intensity value (e.g., X gallons of blendstock with A gCO2e/MJ, Y gallons of blendstock with B gCO2e/MJ, etc.).

   The marketable crude oil name (MCON) or other crude oil name designation, volume (in gal), and Country (or State) of origin for each crude supplied to the refinery during the quarter.

(B) *Specific Quarterly Reporting Requirements for Natural Gas (including CNG, LNG, and Biogas).* For each private access, public access, or home fueling facility to which the regulated party supplies CNG, LNG or biogas as a transportation fuel:

1. For CNG, the regulated party must report the amount of fuel dispensed (in scf) per compliance period for all light/medium-duty vehicles (LDV & MDV) and heavy-duty vehicles (HDV). For LNG, the regulated party must report the amount of fuel dispensed (in gal) per compliance period for all LDV & MDV and HDV;

2. Except as provided for in section 95484(b)(3)(B)3., the regulated party must report the amount of fuel dispensed based on the use of separate fuel dispenser meters at each fuel dispenser;

3. In lieu of using separate meters at each fuel dispenser, the regulated party may report the amount of fuel dispensed at each facility using any other method that the regulated party demonstrates to the Executive Officer's satisfaction as being equivalent to or better than the use of separate fuel meters at each fuel dispenser in each fueling facility;

4. The carbon intensity value of the CNG, LNG, or biogas determined pursuant to section 95486.

(C) *Specific Quarterly Reporting Requirements for Electricity.* For electricity used as a transportation fuel, a regulated party must also submit the following:

1. For residential charging stations, the total electricity dispensed (in kWh) to all vehicles at each residence based on direct metering, which distinguishes electricity delivered for transportation use. Before January 1, 2015, "based on direct metering" means either:

   a. the use of direct metering (either submetering or separate metering) to measure the electricity directly dispensed to all vehicles at each residential charging station; or

   b. for households and residences only where direct metering has not been installed, the regulated party may report the total electricity dispensed at each residential charging station using another method that the regulated party demonstrates to the Executive Officer's satisfaction is substantially similar to the use of direct metering under section 95484(b)(3)(C)1.a.

   Effective January 1, 2015, "based on direct metering" means only the use of direct metering as specified in section 95484(b)(3)(C)1.a. above;

2. For each public access charging facility, the amount of electricity dispensed (in kW-hr);

3. For each fleet charging facility, the amount of electricity dispensed (in kW-hr).

4. For each workplace private access charging facility, the amount of electricity dispensed (in kW-hr).

5. The carbon intensity value of the electricity determined pursuant to section 95486.

(D) *Specific Quarterly Reporting Requirements for Hydrogen or a Hydrogen Blend.* For hydrogen or a hydrogen blend used as a transportation fuel, a regulated party must also submit the following:

1. For each private access fueling facility, the amount of fuel dispensed (in kg) by vehicle weight category: LDV & MDV and HDV.

2. For each public access filling station, the amount of fuel dispensed (in kg) by vehicle weight category: LDV & MDV

and HDV.

3. The carbon intensity value of the hydrogen or the blendstocks used to produce the hydrogen blend determined pursuant to section 95486.

(4) *General and Specific Reporting Requirements for Annual Compliance Reports.* A regulated party must submit an annual compliance report that meets, at minimum, the general and specific requirements specified in section 95484(b)(3) above and the additional requirements set forth below:

(A) A regulated party must report the following:

1. The total credits and deficits generated by the regulated party in the current compliance period, calculated as per equations in section 95485(a);

2. Any credits carried over from the previous compliance period;

3. Any deficits carried over from the previous compliance period;

4. The total credits acquired from another party and identify the party from whom the credits were acquired;

5. The total credits sold or otherwise transferred and identify each party to whom those credits were transferred;

6. The total credits retired within the LCFS; and

7. The total credits exported to programs outside the LCFS.

(B) A producer of CARBOB, gasoline, or diesel fuel must report, for each of its refineries, the MCON or other crude oil name designation, volume (in gal), and Country (or State) of origin for each crude supplied to the refinery during the annual compliance period.

(5) *Significant Figures.* The regulated party must report the following quantities as specified below:

(A) carbon intensity, expressed to the same number of significant figures as shown in the carbon intensity lookup table (Method 1);

(B) credits, expressed to the nearest whole metric ton CO2 equivalent;

(C) fuel volume in units specified in section 95484(b)(3) and (b)(4), expressed to the nearest whole unit applicable for that quantity;

(D) any other quantity not specified in section 95484(b)(5)(A) to 95484(b)(5)(C) must be expressed to the nearest whole unit applicable for that quantity.

Table 3. Summary Checklist of Quarterly and Annual Reporting Requirements.

Parameters to Report	*Gasoline & Diesel fuel*	*CNG & LNG*	*Electricity*	*Hydrogen or Hydrogen Blends*	*Neat Ethanol or Biomass-Based Diesel Fuels*
Company or organization name	x	x	x	x	x
Reporting period	x	x	x	x	x
Fuel pathway code	x	x	x	x	x
Transaction type	x	x	x	x	x
Transaction date	x	x	x	x	x
Business Partner	x	x	x	x	x
Biofuel Production Facility	x	x	n/a	x	x
Physical pathway code	x	x	x	x	x
Aggregation	x	x	x	x	x
Application / EER	x	x	x	x	x
Volume of each blendstock (Gal)	x	n/a	n/a	n/a	n/a
MCON or other crude oil name designation, volume (in gal), and country (or state) of origin for each crude supplied to the refinery	x	n/a	n/a	n/a	n/a
Amount of each fuel used as gasoline replacement (MJ)	x	x	x	x	x
Amount of each fuel used as diesel fuel replacement (MJ)	x	x	x	x	x
**Credits/deficits generated per quarter (MT)	x	x	x	x	x
For Annual Reporting (in addition to the items above)					
**Credits and Deficits generated per year (MT)	x	x	x	x	x
**Credits/deficits carried over from the previous year (MT), if any	x	x	x	x	x
**Credits acquired from another party (MT), if any	x	x	x	x	x
**Credits sold to another party (MT), if any	x	x	x	x	x

**Credits exported to another program (MT), if any	x	x	x	x	x
**Credits retired within LCFS (MT), if any	x	x	x	x	x

***Value will be calculated or stored in the compliance tool.*

(c) *Recordkeeping and Auditing.*

(1) A regulated party must retain all of the following records for at least 3 years and must provide such records within 20 days of a written request received from the Executive Officer or his/her designee before expiration of the period during which the records are required to be retained:

(A) product transfer documents;

(B) copies of all data and reports submitted to the Executive Officer;

(C) records related to each fuel transaction; and

(D) records used for compliance or credit calculations.

(2) *Evidence of Physical Pathway.* A regulated party may not generate credits pursuant to section 95485 unless it has demonstrated or provided a demonstration to the Executive Officer that a physical pathway exists, for each of the transportation fuels and blendstocks for which it is responsible under the LCFS regulation, and that each physical pathway has been approved by the Executive Officer pursuant to this section 95484(c)(2). For purposes of this provision, "demonstrated" and "demonstration" includes any combination of either (i) a showing by the regulated party using its own documentation; or (ii) a showing by the regulated party that incorporates by reference documentation voluntarily submitted by another regulated party or a non-regulated party fuel producer, provided the documentation applies to and accurately represents the regulated party's transportation fuel or blendstock;

"Physical pathway" means the applicable combination of actual fuel delivery methods, such as truck routes, rail lines, gas/liquid pipelines, electricity transmission lines, and any other fuel distribution methods, through which the regulated party reasonably expects the fuel to be transported under contract from the entity that generated or produced the fuel, to any intermediate entities, and ending at the fuel blender, producer, importer, or provider in California.

The Executive Officer shall not approve a physical pathway demonstration unless the demonstration meets the following requirements:

(A) *Initial Demonstration of Delivery Methods.* The regulated party must provide an initial demonstration of the delivery methods comprising the physical pathway for each of the regulated party's fuels. The initial demonstration must include documentation in sufficient detail for the Executive Officer to verify the existence of the physical pathway's delivery methods.

The documentation must include a map(s) that shows the truck/rail lines or routes, pipelines, transmission lines, and other delivery methods (segments) that, together, comprise the physical pathway. If more than one company is involved in the delivery, each segment on the map must be linked to a specific company that is expected to transport the fuel through each segment of the physical pathway. The regulated party must provide the contact information for each such company, including the contact name, mailing address, phone number, and company name.

(B) *Initial Demonstration of Fuel Introduced Into the Physical Pathway.* For each blendstock or alternative fuel for which LCFS credit is being claimed, the regulated party must provide evidence showing that a specific volume of that blendstock or fuel was introduced by its provider into the physical pathway identified in section 95484(c)(2)(A). The evidence may include, but is not limited to, a written purchase contract or transfer document for the volume of blendstock or alternative fuel that was introduced or otherwise delivered into the physical pathway.

(C) *Initial Demonstration of Fuel Removed From the Physical Pathway.* For each specific volume of blendstock or alternative fuel identified in section 95484(c)(2)(B), the regulated party must provide evidence showing that the same volume of blendstock or fuel was removed from the physical pathway in California by the regulated party and provided for transportation use in California. The evidence may include, but is not limited to, a written sales contract or transfer document for the volume of blendstock or alternative fuel that was removed from or otherwise extracted out of the physical pathway in California.

(D) *Subsequent Demonstration of Physical Pathway.* Once the Executive Officer has approved the initial demonstrations specified in section 95484(c)(2)(A) through (C), the regulated party does not need to resubmit the demonstrations for Executive Officer approval in any subsequent year, unless there is a material change to any of the information submitted under section 95484(c)(2)(A) through (C).

"Material change" means any change to the initially submitted information involving a change in the basic mode of transport for the fuel. For example, if an approved pathway using rail transport is changed to add to or replace the rail with truck or ship transport, that change would be deemed a material change.

If there is a material change to an approved physical pathway, the regulated party must notify the Executive Officer in writing within 30 business days after the material change has occurred, and the approved physical pathway shall become invalid 30 business days after the material change has occurred. A regulated party that wishes to generate credits after an approved physical pathway has become invalid must submit for Executive Officer approval a new initial demonstrations, pursuant to section 95484(c)(2)(A) through (C), which includes the material change(s) to the physical pathway.

(E) *Submittal and Review of and Final Action on Submitted Demonstrations*

1. The regulated party may not receive credit for any fuel or blendstock until the Executive Officer has approved the regulated party's submitted physical-pathway demonstration pursuant to section 95484(c)(2)(A) through (C). Upon receiving Executive Officer approval of a physical pathway, the regulated party may claim LCFS credits based on that pathway that are calculated retroactive to the date when the regulated party's use of the pathway began but no earlier than January 1, 2011.

2. Within 15 business days of receipt of a physical pathway demonstration, the Executive Officer shall determine if the physical pathway demonstration is complete and notify the regulated party accordingly. If incomplete, the Executive Officer shall notify the regulated party and identify the information needed to complete the demonstrations identified in section 95484(c)(2)(A) through (C). Once the Executive Officer deems the demonstrations to be complete, the Executive Officer shall, within 15 business days, take final action to either approve or disapprove a physical pathway demonstration and notify the regulated party of the final action.

(3) *Data Verification.* All data and calculations submitted by a regulated party for demonstrating compliance or claiming credit are subject to verification by the Executive Officer or a third party approved by the Executive Officer.

(4) *Access To Facility And Data.* Pursuant to H&S section 41510, if necessary under the circumstances, after obtaining a warrant, the Executive Officer has the right of entry to any premises owned, operated, used, leased, or rented by an owner or operator of a facility in order to inspect and copy records relevant to the determination of compliance.

(5) The Executive Officer shall post on the ARB's website at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm the names and contact information for each regulated party and non-regulated party fuel producer that has obtained Executive Officer approval of its physical pathway demonstration; the transportation fuels and blendstocks covered by such Executive Officer approval; and details of the approved physical pathways disclosed in accordance with title 17, CCR, §§ 91000 – 91022 and the California Public Records Act (Government Code section 6250 et seq.).

(d) *Violations and Penalties.*

(1) Pursuant to H&S section 38580 (part of the California Global Warming Solutions Act of 2006), any violation of the provisions of the LCFS regulation (title 17, CCR, § 95480 et seq.) may be enjoined pursuant to H&S section 41513, and the violation is subject to those penalties set forth in Article 3 (commencing with § 42400) of Chapter 4 of Part 4 of, and Chapter 1.5 (commencing with § 43025) of Part 5 of, Division 26.

(2) Pursuant to H&S section 38580, any violation of the provisions of the LCFS regulation shall be deemed to result in an emission of an air contaminant for the purposes of the penalty provisions of Article 3 (commencing with § 42400) of Chapter 4 of Part 4 of, and Chapter 1.5 (commencing with § 43025) of Part 5 of, Division 26.

(3) Any violation of the provisions of the LCFS regulation shall be subject to all other penalties and remedies permitted under State law.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95485. LCFS Credits and Deficits.

(a) *Calculation of Credits and Deficits Generated.* A regulated party must calculate the amount of credits and deficits generated in a compliance period for an LCFS fuel using the methods specified below in section 95485(a)(1) through (3). The total credits and deficits generated are used in determining the overall credit

balance for a compliance period, pursuant to section 95488(a). All credits and deficits are denominated in units of metric tons (MT) of carbon dioxide equivalent.

(1) All LCFS fuel quantities used for credit calculation must be in energy units of megajoules (MJ).

Fuel quantities denominated in other units, such as those shown in Table 4, must be converted to MJ by multiplying by the corresponding energy density[1]:

Table 4. Energy Densities of LCFS Fuels and Blendstocks.

Fuel (units)	*Energy Density*
CARBOB (gal)	119.53 (MJ/gal)
CaRFG (gal)	115.63 (MJ/gal)
Diesel fuel (gal)	134.47 (MJ/gal)
CNG (scf)	0.98 (MJ/scf)
LNG (gal)	78.83 (MJ/gal)
Electricity (KWh)	3.60 (MJ/KWh)
Hydrogen (kg)	120.00 (MJ/kg)
Denatured Ethanol (gal)	81.51 (MJ/gal)
Neat Biomass-based diesel (gal)	126.13 (MJ/gal)

(2) The total credits and deficits generated by a regulated party in a compliance period must be calculated as follows:

$$Credits^{Gen}(MT) = \sum_{i}^{n} Credits_i^{gasoline} + \sum_{i}^{n} Credits_i^{diesel}$$

$$Deficits^{Gen}(MT) = \sum_{i}^{n} Deficits_i^{gasoline} + \sum_{i}^{n} Deficits_i^{diesel}$$

where:

$Credits^{Gen}$ represents the total credits (a zero or positive value), in units of metric tons ("MT"), for all fuels and blendstocks determined from the

[1] Energy density factors are based on the lower heating values of fuels in CA-GREET using BTU to MJ conversion of 1055 J/Btu.

credits generated under either or both of the gasoline and diesel fuel average carbon intensity requirements;

$Deficits^{Gen}$ represents the total deficits (a negative value), in units of metric tons ("MT"), for all fuels and blendstocks determined from the deficits generated under either or both of the gasoline and diesel fuel average carbon intensity requirements;

i is the finished fuel or blendstock index; and

n is the total number of finished fuels and blendstocks provided by a regulated party in a compliance period.

(3) LCFS credits or deficits for each fuel or blendstock supplied by a regulated party must be calculated according to the following equations:

(A) $$Credits_i^{XD} / Deficits_i^{XD}(MT) = \left(CI_{standard}^{XD} - CI_{reported}^{XD}\right) \times E_{displaced}^{XD} \times C$$

where:

$Credits_i^{XD} / Deficits_i^{XD}$ *(MT)* is either the amount of LCFS credits generated (a zero or positive value), or deficits incurred (a negative value), in metric tons, by a fuel or blendstock under the average carbon intensity requirement for gasoline (*XD* = "gasoline") or diesel (*XD* = "diesel");

$CI_{standard}^{XD}$ is the average carbon intensity requirement of either gasoline (*XD* = "gasoline") or diesel fuel (*XD* = "diesel") for a given year as provided in section 95482 (b) and (c), respectively;

$CI_{reported}^{XD}$ is the adjusted carbon intensity value of a fuel or blendstock, in gCO2E/MJ, calculated pursuant to section 95485(a)(3)(B);

$E_{displaced}^{XD}$ is the total amount of gasoline (*XD* = "gasoline") or diesel (*XD* = "diesel") fuel energy displaced, in MJ, by the use of an alternative fuel, calculated pursuant to section 95485(a)(3)(C); and

C is a factor used to convert credits to units of metric tons from gCO2E and has the value of:

$$C = 1.0x10^{-6} \frac{(MT)}{(gCO_2E)}$$

(B) $$CI^{XD}_{reported} = \frac{CI_i}{EER^{XD}}$$

where:

CI_i is the carbon intensity of the fuel or blendstock, measured in gCO2E/MJ, determined by a California-modified GREET pathway or a custom pathway and incorporates a land use modifier (if applicable); and

EER^{XD} is the dimensionless Energy Economy Ratio (EER) relative to gasoline (*XD* = "gasoline") or diesel fuel (*XD* = "diesel") as listed in Table 5. For a vehicle-fuel combination not listed in Table 5, EER^{XD} = 1 must be used.

(C) $$E^{XD}_{displaced} = E_i \times EER^{XD}$$

where:

E_i is the energy of the fuel or blendstock, in MJ, determined from the energy density conversion factors in Table 4.

Table 5. EER Values for Fuels Used in Light- and Medium-Duty, and Heavy-Duty Applications.

Light/Medium-Duty Applications (Fuels used as gasoline replacement)		*Heavy-Duty/Off-Road Applications (Fuels used as diesel replacement)*	
Fuel/Vehicle Combination	***EER Values Relative to Gasoline***	***Fuel/Vehicle Combination***	***EER Values Relative to Diesel***
Gasoline (incl. E6 and E10) or E85 (and other ethanol blends)	1.0	Diesel fuel or Biomass-based diesel blends	1.0
CNG / ICEV	1.0	CNG or LNG (Spark-Ignition Engines)	0.9
		CNG or LNG (Compression-Ignition Engines)	1.0
Electricity / BEV, or PHEV	3.4	Electricity / BEV* or PHEV*	2.7
H2 / FCV	2.5	H2 / FCV	1.9

*BEV = battery electric vehicle, PHEV= plug-in hybrid electric vehicle, FCV = fuel cell vehicle, ICEV = internal combustion engine vehicle.

(b) *Credit Generation Frequency.* Beginning 2011 and every year afterwards, a regulated party may generate credits quarterly.

(c) *Credit Acquisition, Banking, Borrowing, and Trading.*

(1) A regulated party may:

(A) retain LCFS credits without expiration for use within the LCFS market;

(B) acquire or transfer LCFS credits. A third-party entity, which is not a regulated party or acting on behalf of a regulated party, may not purchase, sell, or trade LCFS credits, except as otherwise specified in (C) below; and

(C) export credits for compliance with other greenhouse gas reduction initiatives including, but not limited to, programs established pursuant to AB 32 (Nunez, Stats. 2006, ch. 488), subject to the authorities and requirements of those programs.

(2) A regulated party may not:

(A) use credits in the LCFS program that are generated outside the LCFS program, including, but not limited to, credits generated in other AB 32 programs.

(B) borrow or use credits from anticipated future carbon intensity reductions.

(C) generate LCFS credits from fuels exempted from the LCFS under section 95480.1(d) or are otherwise not one of the transportation fuels specified in section 95480.1(a).

(d) *Nature of Credits.* LCFS credits shall not constitute instruments, securities, or any other form of property.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95486. Determination of Carbon Intensity Values.

(a) *Selection of Method.*

(1) A regulated party for CARBOB, gasoline, or diesel fuel must use Method 1, as set forth in section 95486(b)(2)(A), to determine the carbon intensity of each fuel or blendstock for which it is responsible ("regulated party's fuel").

(2) A regulated party for any other fuel or blendstock must use Method 1, as set forth in section 95486(b)(2)(B), to determine the carbon intensity of each of the regulated party's fuels, unless the regulated party is approved for using either Method 2A or Method 2B, as provided in section 95486(c) or (d). A regulated party may use Method 1 to determine the carbon intensity of each fuel he or she sells in California if the Carbon Intensity Lookup Table contains fuel pathways that closely correspond to the regulated party's fuel pathways. A regulated party's pathway corresponds closely with a Lookup Table pathway when it is consistent with Lookup Table pathway in all the following areas:

(A) Feedstocks used to produce the fuel.

(B) Fuel and feedstock production technology.

(C) Geographic regions in which feedstocks and finished fuel are produced.

(D) The modes used to transport feedstocks and finished fuel and the transport distances involved.

(E) The types and amounts of thermal and electrical energy consumed in both feedstock and finished fuel production. This applies both to the energy consumed in the production process, but also to the upstream energy consumed (e.g., fuels used to generate electricity; energy consumed to produce natural gas, etc.).

(F) The CI of the regulated party's product must be lower than or equal to the Lookup Table pathway CI. If the Executive Officer determines that the regulated party's product has an actual CI that is likely to be higher than the Lookup Table pathway CI, the regulated party shall prepare a Method 2B application for a pathway-specific CI.

(3) A regulated party's choice of carbon intensity value under Method 1 in either (a)(1) or (a)(2) above is subject in all cases to Executive Officer approval, as specified in this provision.

(A) If the Executive Officer has reason to believe that the regulated party's choice is not the value that most closely corresponds to its fuel or blendstock, the Executive Officer shall choose a carbon intensity value, in the Carbon Intensity Lookup Tables for the fuel or blendstock, which the Executive Officer determines is the one that most closely corresponds to the pathway for that fuel or blendstock.

(B) If the Executive Officer has reason to believe that the Carbon Intensity Lookup Table does not contain a fuel pathway that closely corresponds with the regulated party's fuel pathway, as specified in 95486(a)(2), the regulated party will not be allowed to use Method 1, and the Executive Officer may permit the regulated party to use a carbon intensity value pursuant to subsection (5) below for determining the regulated party's fuel carbon intensity.

(C) The Executive Officer shall provide the rationale for his/her determination to the regulated party in writing within 10 business days of the determination. The regulated party shall be responsible for reconciling any deficits, in accordance with section 95485, that were incurred as a result of its initial choice of carbon intensity values. In determining whether a carbon intensity value that is different than the one chosen by the regulated party is more appropriate, the Executive Officer may consider any information submitted by the regulated party in support of its choice of carbon intensity value.

(4) A regulated party who has purchased ethanol or biomass-based diesel but is unable to determine the carbon intensity of that fuel may petition the Executive Officer to use a default carbon intensity value. The Executive Officer may grant a regulated party permission to use a default value only if the regulated party demonstrates that the use of Methods 1 and 2 are not available for the volume of fuel and that the fuel cannot be sold outside of California. The term "unable to be determined" is defined, for purposes of this provision, as follows:

(A) The production facility cannot be identified, or

(B) The production facility is known, but no carbon intensity value for the production facility is posted pursuant to section 95486(f)(2)(B), and the production facility has not received a pathway carbon intensity through the Method 2A or 2B process.

(5) Pursuant to Paragraph (4) above, the Executive Officer may grant regulated parties permission to use the following carbon intensities for ethanol and biomass-based diesel, respectively:

(A) For ethanol, the Midwest Average ethanol carbon intensity of 99.40 gCO_2e/MJ from Table 6 in section 95486(b), and

(B) For biomass-based diesel, the ULSD carbon intensity value from Table 7 in section 95486(b).

(b) *Method 1 – ARB Lookup Table.*

(1) To generate carbon intensity values, the Executive Officer uses the California-modified GREET (CA-GREET) model version 1.8b (February 2009, updated December 2009), which is incorporated herein by reference, and a land-use change (LUC) modifier (when applicable). The CA-GREET model is available for downloading on ARB's website at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm. CA-GREET, or other model determined by the Executive Officer to be at least equivalent to the CA-GREET, version 1.8b., shall be used by the Executive Officer to generate carbon intensity values.

To generate carbon intensity values for crude oil production and transport to California refineries, the Executive Officer uses the Oil Production Greenhouse Gas Emissions Estimator (OPGEE) model version 1.0 (September 2012), which is incorporated herein by reference. The OPGEE model is available for downloading on ARB's website at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm. OPGEE, or other model determined by the Executive Officer to be at least equivalent to the OPGEE, version 1.0., shall be used by the Executive Officer to generate carbon intensity values for crude oil production and transport to California refineries.

The Carbon-Intensity Lookup Tables, shown below, specify the carbon intensity values for the enumerated fuel pathways that are described in the following supporting documents, all of which are incorporated herein by reference:

(A) Stationary Source Division, Air Resources Board (February 27, 2009, v.2.1), "Detailed California-Modified GREET Pathway for California Reformulated Gasoline Blendstock for Oxygenate Blending (CARBOB) from Average Crude Refined in California," Pathway CBOB001;

(A.1) Supplement Version 2.0 (September 12, 2012) to Stationary Source Division, Air Resources Board (February 27, 2009, v.2.1), "Detailed CaliforniaModified GREET Pathway for California Reformulated Gasoline Blendstock for Oxygenate Blending (CARBOB) from Average Crude Refined in California;"

(B) Stationary Source Division, Air Resources Board (February 27, 2009, v.2.1), "Detailed California-Modified GREET Pathway for California Reformulated Gasoline (CaRFG)";

(B.1) Supplement Version 2.0 (September 12, 2012) to Stationary Source Division, Air Resources Board (February 27, 2009, v.2.1), "Detailed California Modified GREET Pathway for California Reformulated Gasoline (CaRFG);"

(C) Stationary Source Division, Air Resources Board (February 28, 2009, v.2.1), "Detailed California-Modified GREET Pathway for Ultra Low Sulfur Diesel (ULSD) from Average Crude Refined in California," Pathway ULSD001;

(C.1) Supplement Version 2.0 (September 12, 2012) to Stationary Source Division, Air Resources Board (February 28, 2009, v.2.1), "Detailed California-Modified GREET Pathway for Ultra Low Sulfur Diesel (ULSD) from Average Crude Refined in California;"

(D) Stationary Source Division, Air Resources Board (February 27, 2009, v.2.1), "Detailed California-Modified GREET Pathway for Corn Ethanol," Pathways ETHC001, ETHC002, ETHC003, ETHC004, ETHC005, ETHC006, ETHC007, ETHC008, ETHC009, ETHC0010, ETHC0011, ETHC0012, ETHC013;

(E) [reserved for future use];

(F) Stationary Source Division, Air Resources Board (February 28, 2009, v.2.1), "Detailed California-Modified GREET Pathway for Compressed Natural Gas (CNG) from North American Natural Gas," Pathways CNG001, CNG002;

(G) Stationary Source Division, Air Resources Board (February 28, 2009, v.2.1), "Detailed California-Modified GREET Pathway for Compressed Natural Gas (CNG) from Landfill Gas," Pathway CNG003;

(H) Stationary Source Division, Air Resources Board (February 27, 2009, v.2.1), "Detailed California-Modified GREET Pathway for California Average and Marginal Electricity," Pathways ELC001, ELC002;

(I) Stationary Source Division, Air Resources Board (February 27, 2009, v.2.1), "Detailed California-Modified GREET Pathway for Compressed Gaseous Hydrogen from North American Natural Gas," Pathways HYG001, HYG002, HYG003, HYG004, HYG005;

(J) Stationary Source Division, Air Resources Board (September 23, 2009, v.2.0), "Detailed California-Modified GREET Pathways for Liquefied Natural Gas (LNG) from North American and Remote Natural Gas Sources," Pathways LNG001, LNG002, LNG003, LNG 004, LNG005;

(K) Stationary Source Division, Air Resources Board (September 23, 2009, v.2.0), "Detailed California-Modified GREET

Pathway for Liquefied Natural Gas (LNG) from Landfill Gas (LFG)," Pathways LNG006, LNG007;

(L) Stationary Source Division, Air Resources Board (July 20, 2009, v.1.0), "Detailed California-Modified GREET Pathway for Compressed Natural Gas (CNG) from Dairy Digester Biogas," Pathway CNG004;

(M) Stationary Source Division, Air Resources Board (September 23, 2009, v.2.0), "Detailed California-Modified GREET Pathway for Liquefied Natural Gas (LNG) from Dairy Digester Biogas," Pathways LNG008, LNG009;

(N) Stationary Source Division, Air Resources Board (September 23, 2009, v.2.0), "Detailed California-Modified GREET Pathway for Biodiesel from Used Cooking Oil," Pathways BIOD002, BIOD003;

(O) Stationary Source Division, Air Resources Board (September 23, 2009, v.2.0), "Detailed California-Modified GREET Pathway for CoProcessed Renewable Diesel from Tallow (U.S. Sourced)," Pathways RNWD002, RNWD003;

(P) Stationary Source Division, Air Resources Board (September 23, 2009, v.2.3), "Detailed California-Modified GREET Pathways for Brazilian Sugarcane Ethanol: Average Brazilian Ethanol, With Mechanized Harvesting and Electricity Co-product Credit, With Electricity Co-product Credit," Pathways ETHS001, ETHS002, ETHS003;

(Q) Stationary Source Division, Air Resources Board (December 14, 2009, v.3.0), "Detailed California-Modified GREET Pathway for Biodiesel from Midwest Soybeans," Pathway BIOD001;

(R) Stationary Source Division, Air Resources Board (December 14, 2009, v.3.0), "Detailed California-Modified GREET Pathway for Renewable Diesel from Midwest Soybeans," Pathway RNWD001;

(S) Archer Daniels Midland Company Method B Application Package (May 18, 2011), http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/adm-15day-070811.pdf, Pathways ETHC014, ETHC015, ETHC016, ETHC017, ETHC018, ETHC019, ETHC020, ETHC021;

(T) POET Method 2A Application Package (February 20, 2011) http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/poet-15day-070811.pdf, Pathways ETCH025, ETCH026, ETCH027, ETCH028, ETCH029, ETCH030, ETCH031, ETCH032, ETCH033, ETCH034, ETCH035;

(U) Trinidad Bulk Traders LTD Method 2B Application Package (November 23, 2010), http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/tbtl-rpt-ncbi-121410.pdf, Pathways ETHS004, ETHS005, ETHS006;

(V) Green Plains Holdings II LLC—Lakota Plant Division Method 2A Application Package, (November 3, 2010),

http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/gp-lak-sum-ncbi-121410.pdf, Pathway ETHC024;

(W) Green Plains Central City LLC, Method 2A Application Package (October 20, 2010), http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/gp-cct-rpt-ncbi-121410.pdf, Pathway ETHC023;

(X) Louis Dreyfus Commodities, Elkhorn Valley Ethanol LLC Method 2A Application Package (December 1, 2010), http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/ld-nor-rpt-ncbi-121410.pdf, Pathway ETHC022;

(Y) Stationary Source Division, Air Resources Board (June 30, 2011, v. 2.0), http://www.arb.ca.gov/fuels/lcfs/2a2b/internal/mw-uco-bd-070811.pdf, "Detailed California-Modified GREET Pathway for Biodiesel Produced in the Midwest from Used Cooking Oil and Used in California," Pathways BIOD004, BIOD005; and

(Z) Stationary Source Division, Air Resources Board (November 3, 2011, Version 2.0) "California-Modified GREET Pathway for the Production of Biodiesel from Corn Oil at Dry Mill Ethanol Plants," Pathway BIOD007;

Table 6. Carbon Intensity Lookup Table for Gasoline and Fuels that Substitute for Gasoline

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO2e/MJ)		
			Direct Emissions	Land Use or Other Indirect Effects	Total
CARBOB	CBOB001	CARBOB - based on the average crude oil supplied to California refineries and average California refinery efficiencies	99.18	0	99.18
Ethanol from Corn	ETHC001	Midwest average; 80% Dry Mill; 20% Wet Mill; Dry DGS; NG	69.40	30	99.40
	ETHC002	California average; 80% Midwest Average; 20% California; Dry Mill; Wet DGS; NG	65.66	30	95.66
	ETHC003	California; Dry Mill; Wet DGS; NG	50.70	30	80.70
	ETHC004	Midwest; Dry Mill; Dry DGS, NG	68.40	30	98.40

Fuel Type	Pathway Identifier	Pathway Description	Carbon Intensity Values (g CO2e/MJ)		
			Direct Emissions	Land Use or Other Indirect Effects	Totals
	ETHC005	Midwest; Wet Mill, 60% NG, 40% coal	75.10	30	105.10
	ETHC006	Midwest; Wet Mill, 100% NG	64.52	30	94.52
	ETHC007	Midwest; Wet Mill, 100% coal	90.99	30	120.99
	ETHC008	Midwest; Dry Mill; Wet, DGS; NG	60.10	30	90.10
	ETHC009	California; Dry Mill; Dry DGS, NG	58.90	30	88.90
	ETHC010	Midwest; Dry Mill; Dry DGS; 80% NG; 20% Biomass	63.60	30	93.60
	ETHC011	Midwest; Dry Mill; Wet DGS; 80% NG; 20% Biomass	56.80	30	86.80
	ETHC012	California; Dry Mill; Dry DGS; 80% NG; 20% Biomass	54.20	30	84.20
	ETHC013	California; Dry Mill; Wet DGS; 80% NG; 20% Biomass	47.44	30	77.44
	ETHC014	2B Application*: Midwest; Dry Mill; Plant energy use not to exceed a value the applicant classifies as confidential; No grid electricity use; Coal use not to exceed 71% of fuel use (by energy); Coal carbon content not to exceed 48%	60.99	30	90.99
	ETHC015	2B Application*: Midwest; Dry Mill; Plant energy use not to exceed a value the applicant classifies as confidential; No grid electricity use; Biomass must be at least 5% of the fuel use (by energy); Coal use not to exceed 66% of fuel use (by energy); Coal carbon content not to exceed 48%	59.08	30	89.08

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO2e/MJ)		
			Direct Emissions	Land Use and Other Indirect Effects	Total
	ETHC016	2B Application*: Midwest; Dry Mill; Plant energy use not to exceed a value the applicant classifies as confidential; No grid electricity use; Biomass must be at least 10% of the fuel use (by energy); Coal use not to exceed 60% of fuel use (by energy); Coal carbon content not to exceed 48%	57.16	30	87.16
	ETHC017	2B Application*: Midwest; Dry Mill; Plant energy use not to exceed a value the applicant classifies as confidential; No grid electricity use; Biomass must be at least 15% of the fuel use (by energy); Coal use not to exceed 54% of fuel use (by energy); Coal carbon content not to exceed 48%	55.24	30	85.24
	ETHC018	2B Application*: Midwest; Dry Mill; Plant energy use not to exceed a value the applicant classifies as confidential; No grid electricity use; Coal use not to exceed 71% of fuel use (by energy); Coal carbon content not to exceed 48%	59.80	30	89.80
	ETHC019	2B Application*: Midwest; Dry Mill; Plant energy use not to exceed a value the applicant classifies as confidential; No grid electricity use; Biomass must be at least 5% of the fuel use (by energy); Coal use not to exceed 65% of fuel use (by energy); Coal carbon content not to exceed 48%	57.86	30	87.86
	ETHC020	2B Application*: Midwest; Dry Mill; Plant energy use not to exceed a value the applicant classifies as confidential; No grid electricity use; Biomass must be at least 10% of the fuel use (by energy); Coal use not to exceed 59% of fuel use (by energy); Coal carbon content not to exceed 48%.	55.91	30	85.91
	ETHC021	2B Application*: Midwest; Dry Mill; Plant energy use not to exceed a value the applicant classifies as confidential; No grid electricity use; Biomass must be at least 15% of the fuel use (by energy); Coal use not to exceed 53% of fuel use (by energy); Coal carbon content not to exceed 48%	53.96	30	83.96

Fuel	Pathway Number	Pathway Description	Greenhouse Gas Values (gCO2e/MJ)		
			Direct Emissions	Land Use and Other Indirect Effects	Total
	ETHC022	2A Application*: Midwest; Dry Mill; 15% Dry DGS, 85% Partially Dry DGS; NG; Plant energy use not to exceed a value the applicant classifies as confidential	57.16	30	87.16
	ETHC023	2A Application*: Midwest; Dry Mill; Partially Dry DGS; NG; Plant energy use not to exceed a value the applicant classifies as confidential	54.29	30	84.29
	ETHC024	2A Application*: Midwest; Dry Mill; 75% Dry DGS, 25% Wet DGS; NG; Plant energy use not to exceed a value the applicant classifies as confidential	61.60	30	91.60
	ETHC025	2A Application*: Dry Mill; Dry DGS; Raw starch hydrolysis; Amount and type of fuel use, and amount of grid electricity use not to exceed a value the applicant classifies as confidential	62.44	30	92.44
	ETHC026	2A Application*: Dry Mill; Dry DGS; Raw starch hydrolysis/ combined heat and power; Amount and type of fuel use, and amount of grid electricity use not to exceed a value the applicant classifies as confidential	58.49	30	88.49
	ETHC027	2A Application*: Dry Mill; Dry DGS; Raw starch hydrolysis/biomass & landfill gas fuels; Amount and type of fuel use, and amount of grid electricity use not to exceed a value the applicant classifies as confidential	58.50	30	88.50
	ETHC028	2A Application*: Dry Mill; Dry DGS; Raw starch hydrolysis/corn fractionation; Amount and type of fuel use, and amount of grid electricity use not to exceed a value the applicant classifies as confidential	61.66	30	91.66
	ETHC029	2A Application*: Dry Mill; Dry DGS; Conventional cook/combined heat and power; Amount and type of fuel use, and amount of grid electricity use not to exceed a value the applicant classifies as confidential	60.52	30	90.52

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Ranges (gCO2e/MJ)		
			Direct Emissions	Land Use and Other Indirect Effect	Total
	ETHC030	2A Application*: Dry Mill; Dry DGS; Raw starch hydrolysis/biogas process fuel; Amount and type of fuel use, and amount of grid electricity use not to exceed a value the applicant classifies as confidential	44.70	30	74.70
	ETHC031	2A Application*: Dry Mill; Wet DGS; Raw starch hydrolysis; Amount and type of fuel use, and amount of grid electricity use not to exceed a value the applicant classifies as confidential	53.69	30	83.69
	ETHC032	2A Application*: Dry Mill; Wet DGS; Raw starch hydrolysis/ combined heat and power; Amount and type of fuel use, and amount of grid electricity use not to exceed a value the applicant classifies as confidential	50.01	30	80.01
	ETHC033	2A Application*: Dry Mill; Wet DGS; Raw starch hydrolysis/corn fractionation; Amount and type of fuel use, and amount of grid electricity use not to exceed a value the applicant classifies as confidential	50.26	30	80.26
	ETHC034	2A Application*: Dry Mill; Wet DGS; Conventional cook/combined heat and power; Amount and type of fuel use, and amount of grid electricity use not to exceed a value the applicant classifies as confidential	50.47	30	80.47
	ETHC035	2A Application*: Dry Mill; Wet DGS; Raw starch hydrolysis/biogas process fuel; Amount and type of fuel use, and amount of grid electricity use not to exceed a value the applicant classifies as confidential	43.21	30	73.21
Ethanol from Sugarcane	ETHS001	Brazilian sugarcane using average production processes	27.40	46	73.40
	ETHS002	Brazilian sugarcane with average production process, mechanized harvesting and electricity co-product credit	12.40	46	58.40

Fuel	Pathway number	Pathway description	Carbon intensity values (grams CO2e/MJ)		
			Direct emissions	Land use and other indirect effects	Total
	ETHS003	Brazilian sugarcane with average production process and electricity co-product credit	20.40	46	66.40
	ETHS004	2B Application*: Brazilian sugarcane processed in the CBI with average production process; Thermal process power supplied with NG	32.94	46	78.94
	ETHS005	2B Application*: Brazilian sugarcane processed in the CBI with average production process, mechanized harvesting and electricity co-product credit; Thermal process power supplied with NG	17.94	46	63.94
	ETHS006	2B Application*: Brazilian sugarcane processed in the CBI with average production process and electricity co-product credit; Thermal process power supplied with NG	25.94	46	71.94
Compressed Natural Gas	CNG001	California NG via pipeline; compressed in CA	67.70	0	67.70
	CNG002	North American NG delivered via pipeline; compressed in CA	68.00	0	68.00
	CNG003	Landfill gas (bio-methane) cleaned up to pipeline quality NG; compressed in CA	11.26	0	11.26
	CNG004	Dairy Digester Biogas to CNG	13.45	0	13.45
Liquefied Natural Gas	LNG001	North American NG delivered via pipeline; liquefied in CA using liquefaction with 80% efficiency	83.13	0	83.13
	LNG002	North American NG delivered via pipeline; liquefied in CA using liquefaction with 90% efficiency	72.38	0	72.38
	LNG003	Overseas-sourced LNG delivered as LNG to Baja; re-gasified then re-liquefied in CA using liquefaction with 80% efficiency	93.37	0	93.37
	LNG004	Overseas-sourced LNG delivered as LNG to CA; re-gasified then re-liquefied in CA using liquefaction with 90% efficiency	82.62	0	82.62

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO2e/MJ)		
			Direct Emissions	Land Use or Other Indirect Effect	Total
	LNG005	Overseas-sourced LNG delivered as LNG to CA; no re-gasification or re-liquefaction in CA	77.50	0	77.50
	LNG006	Landfill Gas (bio-methane) to LNG liquefied in CA using liquefaction with 80% efficiency	26.31	0	26.31
	LNG007	Landfill Gas (bio-methane) to LNG liquefied in CA using liquefaction with 90% efficiency	15.56	0	15.56
	LNG008	Dairy Digester Biogas to LNG liquefied in CA using liquefaction with 80% efficiency	28.53	0	28.53
	LNG009	Dairy Digester Biogas to LNG liquefied in CA using liquefaction with 90% efficiency	17.78	0	17.78
Electricity	ELC001	California average electricity mix	124.10	0	124.10
	ELC002	California marginal electricity mix of natural gas and renewable energy sources	104.71	0	104.71
Hydrogen	HYGN001	Compressed H2 from central reforming of NG (includes liquefaction and re-gasification steps)	142.20	0	142.20
	HYGN002	Liquid H2 from central reforming of NG	133.00	0	133.00
	HYGN003	Compressed H2 from central reforming of NG (no liquefaction and re-gasification steps)	98.80	0	98.80
	HYGN004	Compressed H2 from on-site reforming of NG	98.30	0	98.30
	HYGN005	Compressed H2 from on-site reforming with renewable feedstocks	76.10	0	76.10

* Specific conditions apply.

Table 7. Carbon Intensity Lookup Table for Diesel and Fuels that Substitute for Diesel

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO2e/MJ)		
			Direct Emissions	Land Use or other Indirect Effects	Total
Diesel	ULSD001	ULSD - based on the average crude oil supplied to California refineries and average California refinery efficiencies	98.03	0	98.03
Biodiesel	BIOD002	Conversion of waste oils (Used Cooking Oil) to biodiesel (fatty acid methyl esters - FAME) where "cooking" is required	15.84	0	15.84
	BIOD003	Conversion of waste oils (Used Cooking Oil) to biodiesel (fatty acid methyl esters - FAME) where "cooking" is not required	11.76	0	11.76
	BIOD001	Conversion of Midwest soybeans to biodiesel (fatty acid methyl esters -FAME)	21.25	62	83.25
	BIOD004	Conversion of waste oils (Used Cooking Oil) to biodiesel (fatty acid methyl esters - FAME) where "cooking" is required. Fuel produced in the Midwest	18.72	0	18.72
	BIOD005	Conversion of waste oils (Used Cooking Oil) to biodiesel (fatty acid methyl esters - FAME) where "cooking" is not required. Fuel produced in the Midwest	13.83	0	13.83
	BIOD007	Conversion of corn oil, extracted from distillers grains prior to the drying process, to biodiesel	4.00	0	4.00
Renewable Diesel	RNWD002	Conversion of tallow to renewable diesel using higher energy use for rendering	39.33	0	39.33
	RNWD003	Conversion of tallow to renewable diesel using lower energy use for rendering	19.65	0	19.65
	RNWD001	Conversion of Midwest soybeans to renewable diesel	20.16	62	82.16
Compressed Natural Gas	CNG001	California NG via pipeline; compressed in CA	67.70	0	67.70
	CNG002	North American NG delivered via pipeline; compressed in CA	68.00	0	68.00
	CNG003	Landfill gas (bio-methane) cleaned up to pipeline quality NG; compressed in CA	11.26	0	11.26

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO2e/MJ)		
			Direct Emissions	Land Use or Other Indirect Effect	Total
	CNG004	Dairy Digester Biogas to CNG	13.45	0	13.45
Liquefied Natural Gas	LNG001	North American NG delivered via pipeline; liquefied in CA using liquefaction with 80% efficiency	83.13	0	83.13
	LNG002	North American NG delivered via pipeline; liquefied in CA using liquefaction with 90% efficiency	72.38	0	72.38
	LNG003	Overseas-sourced LNG delivered as LNG to Baja; re-gasified then re-liquefied in CA using liquefaction with 80% efficiency	93.37	0	93.37
	LNG004	Overseas-sourced LNG delivered as LNG to CA; re-gasified then re-liquefied in CA using liquefaction with 90% efficiency	82.62	0	82.62
	LNG005	Overseas-sourced LNG delivered as LNG to CA; no re-gasification or re-liquefaction in CA	77.50	0	77.50
	LNG006	Landfill Gas (bio-methane) to LNG liquefied in CA using liquefaction with 80% efficiency	26.31	0	26.31
	LNG007	Landfill Gas (bio-methane) to LNG liquefied in CA using liquefaction with 90% efficiency	15.56	0	15.56
	LNG008	Dairy Digester Biogas to LNG liquefied in CA using liquefaction with 80% efficiency	28.53	0	28.53
	LNG009	Dairy Digester Biogas to LNG liquefied in CA using liquefaction with 90% efficiency	17.78	0	17.78
Electricity	ELC001	California average electricity mix	124.10	0	124.10
	ELC002	California marginal electricity mix of natural gas and renewable energy sources	104.71	0	104. 71
Hydrogen	HYGN001	Compressed H2 from central reforming of NG (includes liquefaction and re-gasification steps)	142.20	0	142.20
	HYGN002	Liquid H2 from central reforming of NG	133.00	0	133.00

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO2e/MJ)		
			Direct Emissions	Land Use or Other Indirect Effects	Total
	HYGN003	Compressed H2 from central reforming of NG (no liquefaction and re-gasification steps)	98.80	0	98.80
	HYGN004	Compressed H2 from on-site reforming of NG	98.30	0	98.30
	HYGN005	Compressed H2 from on-site reforming with renewable feedstocks	76.10	0	76.10

Table 8. Carbon Intensity Lookup Table for Crude Oil Production and Transport

	Baseline Crude Average*	11.39
	Annual Crude Average**	See 95486(b)(2)(A)1.
Angola	Dalia	7.86
	Girassol	10.43
	Greater Plutonio	8.82
Argentina	Canadon Seco	7.54
	Escalante	7.51
	Hydra	8.03
Australia	Pyrenees	5.96
Brazil	Albacora Leste	7.35
	Frade	6.62
	Marlim	6.75
	Marlim Sul	9.69
	Ostra	5.71

	Polvo	5.62
Cameroon	Lokele	24.02
Canada	Albian Heavy Synthetic	21.02
	Cold Lake	18.74
	Federated	7.77
	Koch Alberta	7.61
	Mixed Sweet Blend	7.75
	Suncor Synthetic A	24.49
	Suncor Synthetic C	24.49
	Syncrude Sweet Premium	21.87
Colombia	Castilla Blend	6.45
	Vasconia	6.63
Ecuador	Napo	7.45
	Oriente	9.34
Iraq	Basra Light	12.08
Kuwait/Saudi Arabia Partitioned Zone	Eocene	5.59
	Ratawi	5.77
Nigeria	Bonny Light	17.88
Oman	Oman	12.30
Peru	Loreto	5.82
	Mayna	7.14
Russia	ESPO	12.09
Saudi Arabia	Arab Extra Light	6.86
	Arab Light	6.75

Trinidad and Tobago	Calypso	6.95
United States	Alaska North Slope	12.81
	California Average Production	12.90
Venezuela	Boscan	12.53
	Petrozuata	23.58
	Zuata Sweet	23.50

* Based on production and transport of the crude oil supplied to California refineries during the baseline calendar year, 2010
** Based on production and transport of the crude oil supplied to California refineries during a specified calendar year or years. The Annual Crude Average CI value will be first calculated for calendar year 2012 and subsequently updated annually using data for crude oil supplied to California refineries during the specified calendar year or years.

(2) *Lookup-Table Carbon-Intensity Values.*

(A) *For CARBOB and Diesel Fuel.*

Deficit calculations to be used for a regulated party's CARBOB or diesel fuel are specified in section 95486(b)(2)(A)1. Requirements for adding incremental emission increases associated with an increase in the carbon intensity of crude oil to a regulated party's compliance obligation are specified in section 95486(b)(2)(A)2. The credit calculation for CARBOB or diesel derived from petroleum feedstock which is produced using innovative methods such as carbon capture and sequestration (CCS) is specified in section 95486(b)(2)(A)4.

1. *Deficit Calculation for CARBOB or Diesel Fuel.*

A regulated party for CARBOB or diesel fuel must calculate separately the base deficit and incremental deficit for each fuel or blendstock derived from petroleum feedstock as specified in this provision.

Base Deficit Calculation

$$Deficits^{XD}_{Base}\ (MT) = (CI^{XD}_{Standard} - CI^{XD}_{BaselineAvg}) \times E^{XD} \times C$$

Incremental Deficit Calculation to Mitigate Increases in the Carbon-Intensity of Crude Oil

$$If\ CI^{XD}_{20XXCrudeAvg} > CI^{XD}_{BaselineCrudeAvg}\ then:$$

$$Deficits^{XD}_{Incremental\ 20XX} =$$

$$(CI^{XD}_{BaselineCrudeAvg} - CI^{XD}_{20XXCrudeAvg}) \times E^{XD} \times C$$

$$If\ CI^{XD}_{20XXCrudeAvg} \leq CI^{XD}_{BaselineCrudeAvg}\ then:$$

$$Deficits^{XD}_{Incremental\ 20XX} = 0$$

where,

$Deficits^{XD}_{Base}\ (MT)$ and $Deficits^{XD}_{Incremental20XX}$ mean the amount of LCFS deficits incurred (a negative value), in metric tons, by the volume of CARBOB and diesel that is derived from petroleum feedstock and is either produced in or imported into California during a specific calendar year;

$CI^{XD}_{Standard}$ has the same meaning as specified in section 95485(a)(3)(A);

$CI^{XD}_{BaselineAvg}$ is the average carbon-intensity value of CARBOB or diesel, in gCO2E/MJ, that is derived from petroleum feedstock and is either produced in or imported into California during the baseline calendar year, 2010. For purposes of this provision, $CI^{XD}_{BaselineAvg}$ for CARBOB (XD = "CARBOB") and diesel fuel (XD = "diesel") are the Baseline Average carbon intensity values for CARBOB and diesel (ULSD) set forth in the Carbon Intensity Lookup Table. The Baseline Average carbon intensity values for CARBOB and diesel (ULSD) are calculated using data for crude oil supplied to California refineries during the baseline calendar year, 2010.

$CI^{XD}_{BaselineCrudeAvg}$ is the California average crude oil carbon-intensity value, in gCO2E/MJ, attributed to the production and transport of the crude oil supplied as petroleum feedstock to California refineries during the baseline calendar year, 2010. For purposes of this provision, $CI^{XD}_{BaselineCrudeAvg}$ for CARBOB (XD = "CARBOB") and diesel fuel (XD = "diesel") is the Baseline Crude Average carbon intensity value set forth in the Lookup Table. The Baseline Crude Average carbon intensity value is calculated using data for crude oil supplied to California refineries during the baseline calendar year, 2010.

$CI^{XD}_{20XXCrudeAvg}$ is the California average crude oil carbon-intensity value, in gCO2E/MJ, attributed to the production and transport of the crude oil supplied as petroleum feedstock to California refineries during specified calendar years. For purposes of this

provision, $CI^{XD}_{20XXCrudeAve}$ for CARBOB (XD = "CARBOB") and diesel fuel (XD = "diesel") is the Annual Crude Average carbon intensity value set forth in the Lookup Table. $CI^{XD}_{20XXCrudeAve}$ will be updated annually. $CI^{XD}_{2012CrudeAve}$ will be calculated using data for crude oil supplied to California refineries during the calendar year 2012. $CI^{XD}_{2013CrudeAve}$ will be calculated using data for crude oil supplied to California refineries during the calendar years 2012 and 2013. $CI^{XD}_{2014CrudeAve}$ will be calculated using data for crude oil supplied to California refineries during the calendar years 2012, 2013, and 2014. All subsequent updates to $CI^{XD}_{20XXCrudeAve}$ will be calculated using data for crude oil supplied to California refineries during the most recent three calendar years.

E^{XD} is the amount of fuel energy, in MJ, from CARBOB (XD = "CARBOB") or diesel (XD = "diesel"), determined from the energy density conversion factors in Table 4, either produced in California or imported into California during a specific calendar year.

C has the same meaning as specified in section 95485(a)(3)(A).

2. *Addition of Incremental Deficits that Result from Increases in the Carbon-Intensity of Crude Oil to a Regulated Party's Compliance Obligation.*

   a. Incremental deficits for CARBOB or diesel fuel that result from increases in the carbon-intensity of crude oil will be calculated and added to each affected regulated party's compliance obligation for the compliance period in which the $Deficits^{XD}_{Incremental20XX}$ become effective, which will be the year following the year in which the $CI^{XD}_{20XXCrudeAve}$ was established and added to the Lookup Table.

   b. Incremental deficits for CARBOB or diesel fuel for each regulated party will be based upon the amount of CARBOB and Diesel fuel supplied by the regulated party in each compliance period for which the $Deficits^{XD}_{Incremental20XX}$ are effective.

3. Process for Calculating the Annual Crude Average Carbon Intensity Value.

   a. The Annual Crude Average carbon intensity value will be calculated using a volume-weighted average of individual crude carbon intensity values. Volumes for individual crudes will be the total volumes reported by all regulated parties in the Annual Compliance Reports for the calendar year.

Individual crude carbon intensity values are those listed in Table 8.

b. Within 15 days of receiving the Annual Compliance reports, the Executive Officer shall post the Annual Crude Average carbon intensity calculation at the ARB-LCFS website (http://www.arb.ca.gov/fuels/lcfs/lcfs.htm) for public comment. Written comments shall be accepted for 15 calendar days following the date on which the analysis was posted. Only comments related to potential factual or methodological errors in the posted Annual Crude Average carbon intensity value may be considered. The Executive Officer shall evaluate the comments received and, if the Executive Officer deems it necessary, may request in writing additional information or clarification from the commenters. Commenters shall have 10 days to respond to these requests. The Executive Officer shall post the final Annual Crude Average carbon intensity value at the ARB-LCFS website within 15 days of completion of the comment period, if no comments are received. If comments are received, the Executive Officer shall post the final Annual Crude Average carbon intensity value within 15 days of receiving any additional information or clarification requested from the commenters by the Executive Officer.

4. Credit for Purchasing Crudes Produced using Innovative Crude Production Methods.

A regulated party may receive credit for fuel or blendstock derived from petroleum feedstock which has been produced using innovative methods. For the purpose of this section, an innovative method means crude production using carbon capture and sequestration or solar steam generation that was implemented by the crude producer during or after the year 2010 and results in a reduction in carbon intensity for crude oil recovery (well to refinery entrance gate) of 1.00 gCO2E/MJ or greater. The crude oil producer must submit to ARB carbon intensity values for petroleum feedstock recovered both with and without implementation of the innovative method. Credits for CARBOB, gasoline, or diesel derived from this petroleum feedstock must be calculated as specified below:

$$Credits_{Innov}^{XD}\ (MT) = (\ CI_{Without}^{XD} - CI_{With}^{XD}\ )_{Innov} \times E_{Innov}^{XD} \times C$$

where,

$Credits_{Innov}^{XD}$ (MT) mean the amount of LCFS credits generated (a positive value), in metric tons, by the volume of a fuel or blendstock produced in California and derived wholly from petroleum feedstock which uses the innovative production method;

CI_{With}^{XD} means the carbon intensity value, in gCO2E/MJ, of the petroleum feedstock produced with the innovative method;

$CI_{Without}^{XD}$ means the carbon intensity value, in gCO2E/MJ, of the petroleum feedstock produced using a similar process but without the innovative method (hereinafter referred to as the comparison baseline method);

E_{Innov}^{XD} is the amount of fuel energy, in MJ, from CARBOB (XD = "CARBOB") or diesel (XD = "diesel"), determined from the energy density conversion factors in Table 4, produced in California and derived wholly from petroleum feedstock produced with the innovative method;

C has the same meaning as specified in section 95485(a)(3)(A).

a. General Requirements. The innovative crude oil production method must be approved for use pursuant to this section before a regulated party can receive credit under the LCFS regulation for producing fuels or blendstocks from the innovative crude. This regulatory approval must be initiated by the crude oil producer through a written application to the Executive Officer. The application must contain at least the following:

   i. A description of the innovative method, the comparison baseline method, and how emissions are reduced;

   ii. An engineering drawing(s) or process flow diagram(s) that illustrate the innovative method;

   iii. Calculations using the OPGEE model, or alternative model approved by the Executive Officer, to estimate the carbon intensities for the production of the crude using the innovative method and the comparison baseline method. The calculations must identify all modified parameters in the model and demonstrate that the inputs to the model accurately reflect the conditions specific to the crude production process;

iv. Any other technical documentation to support the applicant's claim that emissions will be reduced from the use of the innovative method.

b. Scientific Defensibility and Substantiality. For a proposed application for the use of innovative crude oil production methods to be approved, the applicant must demonstrate both that the innovative method is scientifically defensible and that it meets a substantiality requirement. These requirements are specified below:

i. Scientific Defensibility. A crude oil producer that seeks approval for an innovative crude oil production method bears the sole burden of demonstrating that the proposed innovative crude oil production method is scientifically defensible. Proof that a proposed innovative crude oil production method is scientifically defensible may rely on, but is not limited to, publication of the proposed innovative crude oil production method in a major, well established and peer-reviewed scientific journal (e.g., Science, Nature, Journal of the Air and Waste Management Association, Proceedings of the National Academies of Science).

ii. Substantiality Requirement. For each of its crude oils for which a crude oil producer is seeking approval as an innovative crude oil production method, the applicant must demonstrate that the proposed innovative crude oil production method has a well-to-refinery gate carbon intensity that is at least 1.00 gram CO2-eq/MJ less than the well-to-refinery gate carbon intensity for the crude oil produced using the comparison baseline method. "Well-to-refinery gate" means all the steps involved in the extraction, production and transport of the crude oil to California, but it does not include the carbon intensity due to refining the crude oil, transporting the fuel, or the vehicle's use of the fuel.

c. Application and Data Submittal. A crude oil producer may apply to the Executive Officer for approval of an innovative crude oil production method under the LCFS. Unless otherwise noted, all applications for an innovative crude oil production method shall comply with the requirements below.

i. An applicant that submits any information or documentation in support of a proposed innovative crude oil production method must include a written statement clearly showing that the applicant understands and agrees to the following:

A. The applicant must specifically identify all information submitted pursuant to this provision that is a trade secret; "trade secret" has the same meaning as defined in Government Code section 6254.7;

B. All information in the application not identified as trade secrets are subject to public disclosure pursuant to title 17, CCR, sections 91000-91022 and the California Public Records Act (Government Code sec. 6250 et seq.); and

C. If the application is approved, the carbon intensity values will be incorporated into the Crude Lookup Table and LCFS Reporting Tool

ii. All applications shall include a detailed description of the innovative method and its comparison baseline method. The description must include:

A. Schematic flow charts that identify the system boundaries used for the purposes of performing the life cycle analyses on the proposed innovative crude oil production method and the comparison baseline method. Each piece of equipment or stream appearing on the process flow diagrams shall be clearly identified and shall include data on its energy and materials balance. The system boundary shall be shown in the schematic.

B. A description of all feedstocks used, including their points of origination, all feedstock transportation distances and modes, and all processing to which feedstocks are subject. This discussion shall cover energy and chemical use, transport modes and distances, storage, and processing. A description of all

non-feedstock inputs used in the crude production process.

C. A description of all co-products, byproducts, and waste products.

D. A description of all facilities involved in the production of the crude oil and other byproducts, co-products, and waste products.

E. A list of all combustion-powered equipment, along with their respective capacities, sizes, or rated power, fuel utilization type, and proposed use throughout the crude production lifecycle.

F. A description of the thermal and electrical energy consumption that occurs throughout the crude production life cycle. All fuels used (natural gas, biogas, coal, biomass, etc.) must be identified. The regional electrical energy generation fuel mix used in the analysis must be identified. Internally generated power such as cogeneration and combined heat and power must also be described.

G. A description of the transportation modes used throughout the crude production life cycle. This discussion must identify origins and destinations (at least on a regional basis), cargo carrying capacities, fuel shares, and the distances traveled in each case.

iii. The application shall include complete life cycle assessments performed on the proposed innovative crude oil production method and its comparison baseline method using OPGEE or an alternative model approved by the Executive Officer. Electronic copies of the models shall be provided. The descriptions of the life cycle assessment results must provide

A. Detailed information on the energy consumed, the greenhouse gas emissions generated, and the final carbon intensity.

B. Documentation of all non-default model input values used in the carbon intensity calculation process. If values for any significant crude oil production parameters are unknown, the application shall so state and model default values shall be used for these parameters in the analysis.

C. Detailed description of all supporting calculations that were performed outside of the model.

D. Documentation of all modifications other than those covered by item (II) above, made to the model. This discussion shall include sufficient specific detail to enable the Executive Officer to replicate all such modifications and, in combination with the inputs and supporting calculations identified in items II and III above, replicate the carbon intensity results reported in the application.

iv. A list of references covering all information sources used in the preparation of the life cycle analysis. All reference citations in the lifecycle analysis report shall include in-text parentheticals stating the author's last name and date of publication. All in-text parenthetical citations shall correspond to complete publication information provided in the list of references, and complete publication information shall at a minimum, identify the author(s), author's affiliation, title of the referenced document, publisher, publication date, and pages cited. For internet citations, the reference shall include the universal resource locator (URL) address of the citation, as well as the date the website was last visited.

v. A signed transmittal letter from the applicant attesting to the veracity of the information in the application packet and declaring that the information submitted accurately represents the long-term, steady state operation of the innovative crude oil production method described in the application packet. The transmittal letter shall be the original copy, be on company letterhead, be signed by an officer of the applicant with authority to attest to the veracity of the

information in the application and to sign on behalf of the applicant, and be from the applicant and not from an entity representing the applicant (such as a consultant or legal counsel).

vi. All documents (including spreadsheets and other items not in a standard document format) that contain confidential business information (CBI) must prominently display the phrase "Contains Confidential Business Information" above the main document title and in a running header. Additionally, a separate, redacted version of such documents must also be submitted. The redacted versions must be approved by the applicant for posting to a public LCFS web site. Within redacted documents, specific redactions must be replaced with the phrase "Confidential business information has been deleted." This phrase must be displayed clearly and prominently wherever CBI has been redacted.

vii. All applications, supporting documents, and all other relevant data or calculation or other documentation, except for the transmittal letter described in paragraph (v) above, shall be submitted electronically such as via e-mail or an online-based interface unless the Executive Officer has approved or requested in writing another submission format.

d. Application Approval Process. The application must be approved pursuant to this section before a regulated party may obtain credit under the LCFS regulation for producing fuels or blendstocks from the innovative crude.

i. Within 30 calendar days of receipt of an application designated by the applicant as ready for formal evaluation, the Executive Officer shall advise the applicant in writing either that:

A. The application is complete, or

B. The application is incomplete and the Executive Officer will identify which requirements of section 95486(b)(2)(A)(4)a-c. above have not been met.

1. The applicant will be permitted to submit additional information to meet the requirements to section 95486(b)(2)(A)(4)a-c.

2. If the applicant is unable to achieve a complete application within 180 days of the Executive Officer's receipt of the application, the application will be denied on that basis, and the applicant will be informed in writing.

ii. Once the Executive Officer has deemed an application to be complete, it will be posted for public comment at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm. Comments will be accepted for 10 calendar days following the date on which the application was posted. Only comments related to potential factual or methodological errors may be considered. The Executive Officer will forward to the applicant all comments identifying potential factual or methodological errors. Within 30 days, the applicant shall either make revisions to its application and submit those revisions to the Executive Officer, or submit a detailed written response to the Executive Officer explaining why no revisions are necessary.

iii. An application submitted pursuant to this section shall not be approved if the Executive Officer determines:

A. Based upon the application information submitted pursuant to this section, the proposed crude production method is not innovative, as that term is defined in this section.

B. Based upon the application information submitted pursuant to this section, the applicant's carbon intensity calculations cannot be replicated using the ARB OPGEE model.

iv. If the Executive Officer finds that an application meets the requirements set forth in subsection 95486(b)(2)(A)4, the Executive Officer will take final action to approve the crude oil carbon intensity value and the associated innovative crude oil production

method, describing all limitations and operational conditions to which the innovative crude oil production method will be subject, by amending this section 95486 in accordance with Government Code section 11340, et seq. If the Executive Officer finds that an application does not meet the requirements of subsection 95486(b)(2)(A)4, the application will not be approved, and the applicant will be notified in writing and the basis for the disapproval shall be identified.

v. Recordkeeping. Each crude oil producer that has crude approved as innovative must maintain records identifying each facility at which it produces crude oil for sale in California under the approved innovative crude oil production method. For each such facility, the crude oil producer must compile records for at least three years showing:

A. The annual volume of crude oil produced using the approved innovative crude oil production method and the annual volume of crude subsequently sold in California under the approved innovative crude oil production method.

B. Compliance with all limitations and operational conditions identified by the Executive Officer in paragraph iv, above.

If the crude oil approved as innovative is marketed as part of a crude blend, the crude oil producer must also maintain for at least three years annual records identifying the constituent crudes that comprise the blend and the percentage that each constituent crude contributes to the blend.

These records shall be submitted to the Executive Officer within 20 days of a written request received from the Executive Officer or his/her designee, provided the request is made before the expiration of the period during which the records are required to be retained.

(B) *For All Other Fuels and Blendstocks.*

Except as provided in section 95486(c) and (d), for each of a regulated party's fuels, the regulated party must determine whether the Carbon Intensity Lookup Table contains one or more pathways that closely correspond to the regulated party's fuel pathways. This determination shall be made as set forth in 95486 (a)(2). If the regulated party determines that the Carbon Intensity Lookup Table contains one or more pathways that closely correspond to the regulated party's pathways, the regulated party shall use the carbon intensity value in the Lookup Table that most closely corresponds to the production process used to produce the regulated party's fuel. The determination that the Carbon Intensity Lookup Table contains one or more pathways that closely correspond to the regulated party's pathways, and the ultimate selection of a Lookup Table carbon intensity value selected by the regulated party is subject to approval by the Executive Officer as set forth in section 95486 (a)(3).

[Note: For example, if one of the regulated party's fuels is compressed natural gas (CNG) used in a light-duty vehicle, and the CNG is derived from dairy digester biogas, the regulated party would use the total carbon intensity value in Carbon Intensity Lookup Table 6 (i.e., the last column in Lookup Table 6) corresponding to the applicable Fuel (compressed natural gas) and Pathway Description (Dairy Digester Biogas to CNG). The result in this example would be a total carbon intensity value of 13.45 gC02e/MJ.]

(c) *Method 2A – Customized Lookup Table Values (Modified Method 1).*

Under Method 2A, the regulated party may propose, for the Executive Officer's written approval pursuant to section 95486(f), modifications to one or more inputs to the CA-GREET model, or modifications to one or more inputs to an alternative model(s) used by the Executive Officer under section 95486(b)(1) to generate the carbon intensity values in the Method 1 Lookup Table.

For any of its transportation fuels subject to the LCFS regulation, a regulated party may propose the use of Method 2A to determine the fuel's carbon intensity, as provided in this section 95486(c). For each fuel subject to a proposed Method 2A, the regulated party must obtain written approval from the Executive Officer for its proposed Method 2A before the regulated party may use Method 2A for determining the carbon intensity of the fuel. The Executive Officer's written approval may include more than one of a regulated party's fuels under Method 2A.

The Executive Officer may not approve a proposed Method 2A unless the regulated party and its proposed Method 2A meet the scientific defensibility,

"5-10" substantiality, and data submittal requirements specified in section 95486(e)(1) through (3) and the following requirements:

(1) The proposed modified inputs to CA-GREET or other alternative model(s) approved by the Executive Officer pursuant to section 95486(b)(1) must accurately reflect the conditions specific to the regulated party's production and distribution process;

(2) The proposed Method 2A uses only the inputs that are already incorporated in CA-GREET or other alternative model(s) approved by the Executive Officer pursuant to section 95486(b)(1) and does not add any new inputs (e.g., refinery efficiency); and

(3) The regulated party must request the Executive Officer to conduct an analysis or modeling to determine the new pathway's impact on total carbon intensity due to indirect effects, including land-use changes, as the Executive Officer deems appropriate. The Executive Officer will use the GTAP Model (February 2009), which is incorporated by reference, or other model determined by the Executive Officer to be at least equivalent to the GTAP Model (February 2009).

(d) *Method 2B – New Pathway Generated by California-Modified GREET (v.1.8b).*

Under Method 2B, the regulated party proposes for the Executive Officer's written approval the generation of a new pathway using CA-GREET, or, pursuant to section 95486 (b)(1), an alternative model that has been determined by the Executive Officer to be at least equivalent to CA-GREET, as provided for in this provision. The Executive Officer's approval is subject to the requirements as specified in section 95486(f) and the following requirements:

(1) For purposes of this provision, "new pathway" means the proposed full fuel-cycle (well-to-wheel) pathway is not already in the Lookup Table specified in section 95486(b)(1), as determined by the Executive Officer;

(2) The regulated party must demonstrate to the Executive Officer's satisfaction that CA-GREET can be modified successfully to generate the proposed new pathway. Alternatively, the regulated party may demonstrate to the Executive Officer's written satisfaction that, pursuant to section 95486 (b)(1), a method that is at least equivalent to CA-GREET could successfully be employed to generate the proposed new pathway carbon intensity. If the Executive Officer determines that the CA-GREET model or a proposed alternative model cannot successfully generate the proposed new pathway, the proponent-regulated party must use either Method 1 or Method 2A to determine its fuel's carbon intensity;

(3) The regulated party must identify all modified parameters for use in the CA-GREET for generating the new pathway;

(4) The CA-GREET inputs used to generate the new pathway must accurately reflect the conditions specific to the regulated party's production and marketing process; and

(5) The regulated party must request the Executive Officer to conduct an analysis or modeling to determine the new pathway's impact on total carbon intensity due to indirect effects, including land-use changes, as the Executive Officer deems appropriate. The Executive Officer will use the GTAP Model (February 2009), which is incorporated by reference, or other model determined by the Executive Officer to be at least equivalent to the GTAP Model (February 2009).

(e) *Scientific Defensibility, Burden of Proof, Substantiality, and Data Submittal Requirements and Procedure for Approval of Method 2A or 2B.* For a proposed Method 2A or 2B to be approved by the Executive Officer, the regulated party must demonstrate that the method is both scientifically defensible and, for Method 2A, meets the substantiality requirement, as specified below:

(1) *Scientific Defensibility and Burden of Proof.* This requirement applies to both Method 2A and 2B. A regulated party that proposes to use Method 2A or 2B bears the sole burden of demonstrating to the Executive Officer's satisfaction, that the proposed method is scientifically defensible.

(A) For purposes of this regulation, "scientifically defensible" means the method has been demonstrated to the Executive Officer as being at least as valid and robust as Method 1 for calculating the fuel's carbon intensity.

(B) Proof that a proposed method is scientifically defensible may rely on, but is not limited to, publication of the proposed Method 2A or 2B in a major, well-established and peer-reviewed scientific journal (e.g., Science, Nature, Journal of the Air and Waste Management Association, Proceedings of the National Academies of Science).

(2) *"5-10" Substantiality Requirement.* This requirement applies only to a proposed use of Method 2A, as provided in section 95486(c). For each of its transportation fuels for which a regulated party is proposing to use Method 2A, the regulated party must demonstrate, to the Executive Officer's satisfaction, that the proposed Method 2A meets both of the following substantiality requirements:

(A) The source-to-tank carbon intensity for the fuel under the proposed Method 2A is at least 5.00 grams CO2-eq/MJ less than the

source-to-tank carbon intensity for the fuel as calculated under Method 1. "Source-to-tank" means all the steps involved in the growing/extraction, production and transport of the fuel to California, but it does not include the carbon intensity due to the vehicle's use of the fuel; "source-to-tank" may also be referred to as "well-to-tank" or "field-to-tank."

(B) The regulated party can and expects to provide in California more than 10 million gasoline gallon equivalents per year (1,156 MJ) of the regulated fuel. This requirement applies to a transportation fuel only if the total amount of the fuel sold in California from all providers of that fuel exceeds 10 million gasoline gallon equivalents per year.

(3) *Data Submittal.* This requirement applies to both Method 2A and 2B. A regulated party proposing Method 2A or 2B for a fuel's carbon intensity value must meet all the following requirements:

(A) Submit to the Executive Officer all supporting data, calculations, and other documentation, including but not limited to, flow diagrams, flow rates, CA-GREET calculations, equipment description, maps, and other information that the Executive Officer determines is necessary to verify the proposed fuel pathway and how the carbon intensity value proposed for that pathway was derived;

(B) All relevant data, calculations, and other documentation in (A) above must be submitted electronically, such as via email or an online web-based interface, whenever possible;

(C) The regulated party must specifically identify all information submitted pursuant to this provision that is a trade secret; "trade secret" has the same meaning as defined in Government Code section 6254.7; and

(D) The regulated party must not convert spreadsheets in CA-GREET containing formulas into other file formats.

(f) *Approval Process.* To obtain Executive Officer certification of a proposed Method 2A or 2B pathway, the regulated party must submit an application as follows:

(1) *General Information Requirements.*

(A) For a proposed use of Method 2A, the regulated party's application must contain all the information specified in section 95486(c), (e), and (f)(2);

(B) For a proposed use of Method 2B, the regulated party's application must contain all the information specified in section 95486(d), (e)(1), (e)(3), and (f)(2).

(2) *Use of Method 2A or 2B Prohibited Without Executive Officer Approval.* The regulated party must obtain the Executive Officer's written approval pursuant to section 95486(f)(5) of its application submitted pursuant to section 95486(f)(1) above before using a proposed Method 2A or 2B for any purpose under the LCFS regulation. Any use of a proposed Method 2A or 2B before Executive Officer approval is granted shall constitute a violation of this regulation for each day that the violation occurs. A regulated party that submits any information or documentation in support of a proposed Method 2A or 2B must include a written statement clearly showing that the regulated party understands and agrees to the following:

(A) All information not identified in 95486(e)(3)(C) as trade secrets are subject to public disclosure pursuant to title 17, CCR, sections 91000-91022 and the California Public Records Act (Government Code § 6250 et seq.); and

(B) If the application is certified by the Executive Officer, the carbon intensity values, associated parameters, and other fuel pathway-related information obtained or derived from the application will be incorporated into the LCFS Reporting Tool for use by the applicant.

(3) *Fuel Pathway Application Requirements.*

(A) No fuel pathway may be certified under this subsection (f) unless the applicant demonstrates each of the following to the Executive Officer's satisfaction:

1. The fuel that is produced from the proposed pathway would comply with all applicable ASTM or other generally recognized national consensus standards.

2. The proposed fuel pathway would be covered by an approved Multimedia Analysis, as required under section 95487.

3. If applied for under the Method 2A provisions in section 95486(c), the proposed fuel pathway must:

   a. Result in a fuel carbon intensity reduction of at least 5 gCO_2e/MJ over the applicable reference fuel pathway. The reference fuel pathway is the pathway from the Carbon Intensity Lookup Table that most closely corresponds to the proposed Method 2A pathway.

   b. Be for a fuel that the applicant can and expects to provide in California in quantities of not less than 10 million gallons per year.

4. The fuel that would be produced under the proposed pathway would not be exempt from the LCFS under section 95480.1(c)

(B) Any person may apply to the Executive Officer for use of a transportation fuel pathway under the LCFS. Unless otherwise noted, all applicants for a certified Method 2A or 2B fuel pathway shall submit the items in the list below.

1. All documents (including spreadsheets and other items not in a standard document format) that contain confidential business information (CBI) must prominently display the phrase "Contains Confidential Business Information" above the main document title and in a running header. Additionally, a separate, redacted version of such documents must also be submitted. The redacted versions must be approved by the applicant for posting to a public LCFS web site. Within redacted documents, specific redactions must be replaced with the phrase "Confidential business information has been deleted." This phrase must be displayed clearly and prominently wherever CBI has been redacted.

2. All applications and supporting documents except for the transmittal letter described in (C)(12) below shall be in electronic form unless the Executive Officer has approved or requested in writing another submission format. Documents such as receipts, which are available in paper form only, shall be scanned into an electronic file for submittal. The transmittal letter described in (C)(12) below shall be submitted as an original copy on paper and signed in blue ink.

(C) All applications for LCFS fuel pathway certification shall, unless otherwise noted, include the following:

1. A completed Method 2A/2B application form, available at http://www.arb.ca.gov/fuels/2a2b-app.doc, which includes the following information.

   a. Company name and mailing address
   b. Name and contact information for a primary contact person
   c. Name and contact information for Consultant/Third Party Application Preparer
   d. LCFS Reporting Tool Organization ID code (if known)
   e. U.S. Environmental Protection Agency (U.S. EPA) Company ID (if known)
   f. U.S. EPA Facility ID (if known)
   g. Pathway application type and brief description of proposed pathway
   h. For Method 2A applicants only:
      i. Reference pathway
      ii. Compositional differences (if any) between the fuel produced by the new sub-pathway and the reference pathway identified
   i. Final carbon Intensity of the proposed pathway or sub-pathway
   j. Annual volume of fuel that would be produced using the proposed new pathway (millions of gallons per year [MGY])
   k. Annual volume of fuel produced using the proposed new pathway that would enter the California market
   l. Lower Heating Value of the fuel to be produced from the new pathway (megajoules per gallon)
   m. The range of production volumes over which the proposed pathway carbon intensity value is valid.
   n. Any information that may be helpful in determining the land use change impacts (if any) of the proposed pathway

2. A lifecycle analysis report, which includes the following information:

   a. A detailed description of the full fuel production process. The description should include:

      i. A description of the full well-to-wheels fuel life cycle, including the geographic locations where each primary step in the fuel life cycle occurs.

This description shall identify where the system boundary was established for the purposes of performing the life cycle analysis on the proposed pathway, and shall be accompanied by a schematic flow chart illustrating the generalized fuel life cycle. The system boundary shall be shown in the schematic.

ii. A description of all feedstocks used, including their points of origination, all feedstock transportation distances and modes, and all pre-processing to which feedstocks are subject. For fuels utilizing agricultural crops for feedstocks, the description shall include the agricultural practices used to produce those crops. This discussion shall cover energy and chemical use, typical crop yields, feedstock harvesting, transport modes and distances, storage, and pre-processing (such as drying or oil extraction). If feedstock transportation modes and distances and/or agricultural practices are unknown, the application shall so state, and shall use CA-GREET 1.8b defaults for these parameters in the analysis.

iii. A description of all non-feedstock inputs used in the fuel production process. These include, but are not limited to enzymes, fertilizers, chemicals (including agricultural chemicals), and microorganisms.

iv. A description of the transportation modes used throughout the fuel life cycle. This discussion must identify origins and destinations (at least on a regional basis), cargo carrying capacities, fuel shares, and the distances traveled in each case.

v. A description of all facilities involved in the production of fuel under the proposed pathway.

vi. A list of all combustion-powered equipment, along with their respective capacities, sizes, or rated power, fuel utilization type, and proposed use throughout the fuel lifecycle.

vii. A discussion of the thermal and electrical energy consumption that occurs throughout the fuel life cycle. All fuels used (natural gas, biogas, coal, biomass, etc.) must be identified. The regional electrical energy generation fuel mix used in the CA-GREET analysis must be identified. Internally generated power such as cogeneration and combined heat and power must also be described.

viii. A description of all co-products, byproducts, and waste products associated with production of the proposed fuel.

b. A description of the formal life cycle analysis performed on the proposed pathway. This description must provide clear, detailed information on the energy consumed, the greenhouse gas emissions generated, and the final pathway carbon intensity, as calculated using the approved version of CA-GREET. Important intermediate values in each of the primary life cycle analytical categories shall be shown. Those categories are upstream processes, feedstock and fuel production, feedstock and finished fuel transport, and the use of the fuel in a vehicle. It shall include, at a minimum:

i. A table showing all CA-GREET input values used in the analysis. The worksheet, row, and column locations of the cells into which these inputs were entered shall be identified. The locations of unchanged default values should not be identified. In combination with the inputs identified in item b.ii. below, this table shall enable the Executive Officer to enter the reported inputs into a copy of CA-GREET 1.8b and to replicate the carbon intensity results reported in the application.

ii. A detailed discussion of all modifications other than those covered by item b.i. above, made to the CA-GREET spreadsheet. This discussion shall allow the Executive Officer to duplicate all such modifications and, in combination with the inputs identified in item b.i. above, replicate the

carbon intensity results reported in the application.

iii. Documentation of all non-default CA-GREET values used in the carbon intensity calculation process.

iv. A detailed description of all supporting calculations that were performed outside of the CA-GREET spreadsheet.

c. A list of references covering all information sources used in the preparation of the life cycle analysis. All reference citations in the lifecycle analysis report shall include in text parentheticals stating the author's last name and date of publication. All in text parenthetical citations shall correspond to complete publication information provided in the list of references, and complete publication information shall at a minimum, identify the author(s), author's affiliation, title of the referenced document, publisher, publication date, and pages cited. For internet citations, the reference shall include the universal resource locator (URL) address of the citation, as well as the date the website was last visited.

3. Invoices covering a period of no less than two years for all forms of energy consumed in the fuel production process. The period covered shall be the most recent two-year period of relatively typical operation. Each set of invoices (natural gas, electricity, coal, etc.) shall be accompanied by an Excel spreadsheet summarizing the invoices. Every invoice submitted shall appear as a record in the summary. Each record shall, at a minimum, specify in a separate column the period covered by the purchase, the quantity of energy purchased during that period, the invoice amount, and any special information that applies to that record (the special information column need not be populated for every record).

4. If transportation distances other than the CA-GREET defaults are used in the life cycle analysis of the proposed fuel pathway, receipts covering a period of no less than two years for all affected hauling trips shall be provided. Each set of invoices shall be accompanied by an Excel spreadsheet summarizing the invoices. Every invoice submitted shall appear as a record in the summary. Each

record shall, at a minimum, specify in a separate column the period covered by the purchase, the number of trips purchased, the distance covered by each trip, the invoice amount, and any special information that applies to that record (the special information column need not be populated for every record).

5. A copy of the CA-GREET spreadsheet prepared for the life cycle analysis of the proposed fuel pathway. All Method 2A and 2B pathway carbon intensities must be calculated using CA-GREET, version 1.8b unless the Executive Officer has approved the use of a method that is at least equivalent to the calculation methodology used by CA-GREET version 1.8b.

6. One or more process flow diagrams that, singly or collectively, depict the complete fuel production process. Each piece of equipment or stream appearing on the process flow diagram shall include data on its energy and materials balance, along with any other critical information such as operating temperature, pH, rated capacity, etc.

7. All applicable air pollution control permits issued by the local air pollution control jurisdiction. If air pollution control permits are not required, the life cycle analysis report shall fully explain why this requirement does not exist.

8. Descriptions of all co-located facilities, which in any way utilize outputs from, or provide inputs to the fuel production facility. Such co-located facilities include but are not limited to cogeneration facilities, facilities that process or utilize co-products such as distillers grains with solubles, facilities that provide waste heat to the fuel production process, and facilities which provide or pre-process feedstocks or thermal energy fuels. If energy is supplied to the fuel production facility by a co-located cogeneration plant and that plant also supplies energy to other facilities, those other facilities must be identified and described.

9. A copy of the federal Renewable Fuel Standard 2 (RFS2) Third Party Engineering Review Report required pursuant to 40 CFR 80.1450, if available. If the RFS2 engineering report is not available, the Life Cycle Analysis Report should explain why it is not available.

10. Copies of the federal Renewable Fuel Standard 2 (RFS2) Fuel Producer Co-products Report as required pursuant to 40 CFR 80.1451(b)(1)(ii)(M)-(N). The period covered by the Co-products Report submittal to the Executive Office shall coincide with the period covered by the energy receipts submitted under Paragraph 3, above.

11. Audited statements or reports showing annual finished fuel sales. The period covered by the finished fuel sales reports submittal to the Executive Office shall coincide with the period covered by the energy receipts submitted under Paragraph 3, above.

12. A signed transmittal letter from the applicant attesting to the veracity of the information in the application packet and declaring that the information submitted accurately represents the long-term, steady state operation of the fuel production process described in the application packet. The transmittal letter shall:

    a. Be the original copy. Photocopies, scanned electronic copies, facsimiles, and other non-original documents will not be accepted.

    b. Be on company letterhead.

    c. Be signed in blue ink by an officer of the applicant with authority to attest to the veracity of the information in the application and to sign on behalf of the applicant.

    d. Be from the applicant and not from an entity representing the applicant (such as a consultant or legal counsel).

(D) Within 30 calendar days of receipt of an application designated by the applicant as ready for formal evaluation, the Executive Officer shall advise the applicant in writing either that the application is complete or incomplete. If it is deemed incomplete, the Executive Officer shall identify which requirements of section 95486(f)(3)(C) above have not been met. The applicant will be permitted to submit additional information to meet the requirements to section 95486(f)(3)(C). If the applicant is unable to achieve a complete application within 180 calendar days of the Executive Officer's receipt of the application, the application shall be denied on that basis, and the applicant will be informed in writing.

(E) Once the Executive Officer has deemed an application to be complete, it will be posted to the Method 2A/2B website for public comment. Comments will be accepted for 10 calendar days following the date on which the application was posted. Only comments related to potential factual or methodological errors may be considered. The Executive Officer will forward to the applicant all comments identifying potential factual or methodological errors. Within 30 days, the applicant shall either make revisions to its application and submit those revisions to the Executive Officer, or submit a detailed written response to the Executive Officer explaining why no revisions are necessary.

(F) If public comments are received pursuant to 95486(f)(3)(E) above, evaluation of the application will begin the first business day after the Executive Officer receives responding materials submitted by the applicant, as provided in section 95486(f)(3)(E). If no public comments are received pursuant to 95486(f)(3)(E), evaluation will begin the business day following close of the public comment period. The applicant will be informed in writing of the Executive Officer's findings by no later than 90 calendar days from the date that evaluation begins.

(G) At any point, and from time to time, during the formal evaluation process, the Executive Officer may request in writing additional information or clarification from the applicant. Between the time that request is issued, and the time the requested information is submitted, no evaluation time, as described in (F), above, will be deemed to have elapsed.

(H) As provided in this subsection, if the Executive Officer is unable to reach a determination within the time period specified in (F) above, the application will be denied without prejudice.

1. Applications denied without prejudice may be resubmitted for consideration under this section 95486.

2. If the basis of the denial was that the proposed pathway is not amenable to evaluation through the certification process described in section 95486(f)(3), the Executive Officer will inform the applicant in writing that an approval under the Method 2 certification process is not possible, but that he or she may request an evaluation under the terms of the California Administrative Procedure Act (Government Code section 11340.6) as an amendment to the Low Carbon Fuel Standard.

(I) The Executive Officer will evaluate all applications against the following criteria.

1. The Executive Officer will first replicate the applicant's carbon intensity calculations. Replication will proceed as follows:

   i. Starting with a copy of CA-GREET that had not previously been used for calculations associated with the proposed pathway, the Executive Officer will enter all the inputs reported by the applicant under provision 95486(f)(3)(C)2.b.i.

   ii. The Executive Officer will then apply all CA-GREET modifications reported by the applicant under provision 95486(f)(3)(C)2.b.ii.

   iii. If the Executive Officer is able to duplicate the applicant's CA-GREET results, the Executive Officer will proceed to (I)2. below. If the Executive Officer is not able to duplicate the applicant's CA-GREET results, the application shall be denied.

2. Using the energy purchase data obtained from receipts submitted by the applicant and the fuel production accounting data submitted by the applicant, the Executive Officer will verify the energy consumption inputs to the CA-GREET carbon intensity calculations that were submitted by the applicant pursuant to 95486(C)(2)b.i. If the Executive Officer is unable to verify the applicant's CA-GREET energy consumption inputs by calculating them from energy receipt data and fuel production volumes, the application shall be denied.

(J) If the Executive Officer finds that an application meets the requirements of subsection 95486(f)(3)(I) and determines that the applicant has satisfactorily made the demonstrations identified in subsection 95486(c), then the Executive Officer will certify in writing the fuel pathway for use by the applicant and shall describe all limitations and operational conditions to which the new pathway will be subject. The Executive Officer shall act on a complete application within the time periods specified in paragraph (F), above.

(K) If the Executive Officer at any time determines that a certified fuel pathway does not meet the operational conditions specified in the

written certified notification issued by the Executive Officer as specified in paragraph (J), above, the Executive Officer shall revoke or modify the certification as is necessary to assure that no fuel that does not meet all applicable operational conditions, including the specified fuel life cycle carbon intensity, is produced for sale in California under that pathway. The Executive Officer shall not revoke or modify a prior certification order without first affording the applicant an opportunity for a hearing in accordance with title 17, CCR, section 60040, et seq.

(L) *Recordkeeping.*

1. Each fuel provider that has been certified to use a fuel pathway pursuant to subsection (c) must maintain records identifying each facility at which it produces a transportation fuel for sale in California under the certified fuel pathway. For each such facility, the entity must compile records for at least three years showing:

   a. the volume of fuel produced and subsequently sold in California under the certified fuel pathway.

   b. the quantity of all forms of energy consumed to produce the fuel covered in section 1. above. Thermal energy shall be reported in units of BTUs per gallon and electrical energy in units of kilowatt-hours per gallon of fuel produced. All receipts for the purchase of this fuel shall be maintained.

   c. The quantities of all products co-produced with the fuel covered by certified LCFS pathway. Records shall be kept on only those co-products which are included in the calculation of the pathway carbon intensity. Copies of the federal Renewable Fuel Standard 2 Fuel Producer Co-products Report described in 95486(f)(3)(C)10 will meet this requirement. For co-products for which copies of the federal Renewable Fuel Standard 2 Fuel Producer Co-products Report are not available, sales receipts and bills of lading for the sale of all such co-products must be retained. If the amount of co-product produced exceeds the amount sold by five percent or more, full documentation of the fate of the unsold fractions shall be maintained.

   These records shall be submitted to the Executive Officer within 20 days of a written request received from the

Executive Officer or his/her designee, provided the request is made before the expiration of the period during which the records are required to be retained.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95487. Requirements for Multimedia Evaluation

(a) *Pre-Sale Approval Requirement.* Except as provided for in section 95487(c), a regulated party must not sell, supply, distribute, import, offer for sale, or offer for use in California a regulated fuel unless one of the following conditions has first been met:

(1) a multimedia evaluation for the regulated fuel has been conducted pursuant to the requirements specified in this regulation, and that evaluation has been approved by the Executive Officer; or

(2) a multimedia evaluation for the regulated fuel has been conducted, and that evaluation was approved by the Executive Officer prior to the date the Office of Administrative Law (OAL) approves the LCFS regulation.

(b) *Requirements.*

(1) The Executive Officer, or his or her designee, shall not approve a multimedia evaluation subject to this section 95487(b) unless the evaluation has undergone the process for review and approval specified in H&S section 43830.8, including but not limited to, receiving peer review and approval by the California Environmental Policy Council pursuant to H&S section 43830.8(d)-(g). For purposes of H&S section 43830.8(a), each Executive Officer approval of a regulated fuel for compliance with the LCFS regulation under section 95487(a)(1) shall constitute compliance with the requirement in H&S section 43830.8(a) for conducting a multimedia evaluation prior to adoption of a "regulation that establishes a specification for motor vehicle fuel."

(2) All multimedia evaluations subject to this section 95487 shall be evaluated in accordance with the California Environmental Protection Agency (Cal/EPA) guidance document entitled, *Guidance Document and Recommendations on the Types of Scientific Information Submitted by Applicants for California Fuels Environmental Multimedia Evaluations (June 2008)*, which can be downloaded at

http://www.arb.ca.gov/fuels/multimedia/080608guidance.pdf, and which is incorporated herein by reference.

(c) *Exemptions.*

(1) *Negative Declaration For ARB-Adopted New Or Amended Fuel Specifications.* The requirements of this section 95487 do not apply to a regulated fuel if:

(A) the regulated fuel is subject to a proposed ARB regulation establishing a new or amending an existing fuel specification, which ARB adopts after the date OAL approves the LCFS regulation; and

(B) the California Environmental Policy Council, following an initial evaluation of the proposed regulation, conclusively determines that the regulation will not have any significant adverse impact on public health or the environment.

(2) *CaRFG, Diesel Fuel, E100, E85, CNG, LNG, and Hydrogen.* The requirements of this section 95487 do not apply to a regulated fuel if:

(A) the fuel is subject to an ARB-adopted fuel specification; and

(B) the Executive Officer does not amend that fuel specification after OAL approves the LCFS regulation.

Fuels subject to this section 95487(c)(2) include CaRFG, diesel fuel, E100, E85, CNG, LNG, and hydrogen. The exemption applies only to the extent that the Executive Officer does not amend the fuel specification for any of the above fuels. When OAL approves an ARB amendment to a fuel specification identified above, the exemption shall no longer apply for that fuel.

(3) *Biomass-Based Diesel and Electricity.* The requirements of this section 95487 do not apply to a regulated fuel that:

(A) is subject to the Division of Measurement Standards' Engine Fuels Standards (4 CCR §4140 et seq.); but

(B) is not subject to an ARB-adopted fuel specification.

Fuels subject to this section 95487(c)(3) include biomass-based diesel and electricity. The exemption applies only to the extent that the Executive Officer does not adopt a fuel specification for any of the above fuels. When OAL approves an ARB-adopted fuel

specification for a fuel identified above, the exemption shall no longer apply for that fuel.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95488. Banking, Trading and Purchase of Credits.

(a) *Calculation of Credit Balance and Annual Compliance Obligation.*

(1) *Compliance Period.* Beginning in 2011 and every year thereafter, the annual compliance period is January 1 through December 31 of each year.

(2) *Calculation of Compliance Obligation and Credit Balance at the End of a Compliance Period.* A regulated party must calculate the credit balance at the end of a compliance period as follows:

$$\textit{Compliance Obligation} = \textit{Deficits}^{\textit{Gen}} + \textit{Deficits}^{\textit{Carried Over}}$$

$$\textit{Credit Balance} = \textit{Credits}^{\textit{Gen}} + \textit{Credits}^{\textit{Acquired}} - \textit{Sum of } (\textit{Credits}^{\textit{retired}} + \textit{Credits}^{\textit{Sold}} + \textit{Credits}^{\textit{Exported}})$$

where:

$\textit{Deficits}^{\textit{Gen}}$ are the total deficits generated pursuant to section 95485(a) for the current compliance period;

$\textit{Deficits}^{\textit{Carried Over}}$ are the deficits carried over from the previous compliance period;

$\textit{Credits}^{\textit{Gen}}$ are the total credits generated pursuant to section 95488;

$\textit{Credits}^{\textit{Acquired}}$ are the total credits purchased or otherwise acquired, including carry back credits acquired pursuant to section 95488(b)(3);

$\textit{Credits}^{\textit{Sold}}$ are the total credits sold or otherwise transferred;

$\textit{Credits}^{\textit{Exported}}$ are the total credits exported to programs outside the LCFS; and

$Credits^{Retired}$ are the total credits retired within the LCFS.

(3) *Compliance Demonstration.* A regulated party's annual compliance obligation is met when the regulated party demonstrates via its annual report that it possessed and has retired a number of credits from its credit account (established pursuant to section 95488) that is equal to its compliance obligation.

(4) *Deficit Carryover.* A regulated party that does not retire sufficient credits to fully offset its compliance obligation creates a negative credit balance in a compliance period. The regulated party may carry over the deficit to the next compliance period, without penalty, if both the following conditions are met:

(A) the regulated party fully met its annual compliance obligation for the previous compliance period; and

(B) the number of $Credits^{retired}$ for the current annual compliance period is at least equal to 90 percent of the current annual compliance obligation.

(5) *Deficit Reconciliation.*

(A) A regulated party that meets the conditions of deficit carryover, as specified in section 95488(a)(4), must eliminate any deficit generated in a given compliance period by the end of the next compliance period. A deficit may be eliminated only by retirement of an equal amount of generated credits ($Credits^{Gen}$), by acquisition of an equal amount of credits from another regulated party ($Credits^{Acquired}$), or by any combination of these two methods.

(B) If the conditions of deficit carryover as specified in section 95488(a)(4) are not met, a regulated party is subject to penalties to the extent permitted under State law. In addition, the regulated party must eliminate any deficit generated in a given compliance period by the end of the next compliance period. A deficit may be eliminated only by retirement of an equal amount of generated credits ($Credits^{Gen}$), by acquisition of an equal amount of credits from another regulated party ($Credits^{Acquired}$), or by any combination of these two methods.

(C) A regulated party that is reconciling in the current compliance period a deficit from the previous compliance period under (A) or (B) above remains responsible for meeting the LCFS regulation requirements during the current compliance period.

(b) *Generation and Acquisition of Transferrable Credits.*

(1) Upon submission and acceptance of a quarterly report, the total number of credits generated through the supply of fuels or blendstocks with carbon intensity values below that of the applicable standard will be deposited in a credit account of the applicable regulated party. Once banked, credits may be retained indefinitely, retired to meet a compliance obligation or transferred to other regulated parties.

(2) The Executive Officer may, at the time of credit creation or credit transfer, assign a unique identification number to each credit. Credits are subject to review and audit by the Executive Officer, and credits may be reversed or adjusted as necessary by the Executive Officer upon a finding that the credits were improperly generated. A proposed credit transfer between regulated parties is also subject to review and verification by the Executive Officer and may be disallowed or adjusted as specified in sections 95488(c)(1)(C)(3) and 95488(c)(4) by the Executive Officer or a third party designated by the Executive Officer.

(3) *Acquisition of "Carry Back" Credits to Meet Obligation.*

(A) *Extended Credit Acquisition Period.* A regulated party may acquire, via purchase or transfer, additional credits between January 1 and March 31 ("extended period") to be used for meeting the compliance obligation of the year immediately prior to the extended period. Credits acquired for this purpose are defined as "carry back" credits.

(B) A carry back credit may be used for the purpose of meeting the compliance of an immediate prior year if all of the conditions below are met:

1. The additional credit was acquired during the extended period, and

2. The additional credit was generated in a compliance year prior to the extended period.

(C) *Use of Carry Back Credits.* Beginning 2012 and each year thereafter, a regulated party may elect to use additional credits purchased during the extended period for the purpose of meeting the obligation of the year immediately prior to the extended period.

1. A regulated party electing to use carry-back credits must identify the number and source of credits it desires to use as carry-back credits in its annual compliance report submitted

to the Executive Officer no later than April 30 of the year in which the additional credits were obtained.

2. A regulated party electing to use carry-back credits:

   a. Must carry back and retire a sufficient amount of carry back and other credits to meet 100 percent of its compliance obligation in the prior compliance year, or

   b. Must minimize its compliance shortfall by retiring all credits purchased during the extended period that are eligible to be used as carry back credits.

(c) *Credit Transfers.*

(1) A regulated party who wishes to sell or transfer credits ("the Seller") and a regulated party who wishes to purchase or acquire a credit ("the Buyer") may enter into an agreement to transfer credits.

(A) *Requirements for the Transfer of Credits.* The Seller may transfer credits provided the number of credits to be transferred by the Seller does not exceed the number of total credits in the Seller's credit account defined as follows:

$$\text{Total Credits} = Credits^{Gen} + Credits^{Acquired} - \text{Sum of } (Credits^{Retired} + Credits^{Sold} + Credits^{Exported})$$

where:

$Credits^{Gen}$, $Credits^{Acquired}$, $Credits^{Retired}$, $Credits^{Sold}$ and $Credits^{Exported}$ have the same meaning as those in section 95488(a).

(B) *Requirements for Documenting a Proposed Credit Transfer.* When a transfer agreement is desired, the Seller shall provide the Buyer a Credit Transfer Form 10282011-v1, which is hereby incorporated by reference and available at http://www.arb.ca.gov/fuels/lcfs/regamend/20111014_LCFS_Credit_Transfer_Form(2).pdf, containing the Seller's signature, date when the signature was entered, and the following information:

1. Date of the proposed Credit transfer agreement.
2. Names of the Seller and Buyer's Company as registered in the LCFS Reporting Tool.
3. The Federal Employer Identification Numbers (FEIN) of the Seller and Buyer's Company as registered in the LCFS Reporting Tool.

4. The first name and last name of the person who performed the transaction on behalf of the Seller's Company.
5. The phone number and email of the person who performed the transaction on behalf of the Seller's Company.
6. The first name and last name of the person who performed the transaction on behalf of the Buyer's Company.
7. The phone number and email of the person who performed the transaction on behalf of the Buyer's Company.
8. The number of credits proposed to be transferred and the credit identification numbers, if any, assigned to the credits by the board.
9. The price or equivalent value of the consideration (in U.S. dollars) to be paid per metric ton of credit proposed for transfer, excluding any fees.

Except as provided in section 95488(e) below, the Executive Officer will treat information submitted in Credit Transfer Forms as Confidential Business Information.

(C) *Requirements for the Purchase of a Credit.*

1. *Confirmation of Agreement for Credit Transfer.* After receiving the Credit Transfer Form from the Seller, it is the Buyer must confirm the accuracy of the information contained in the Credit Transfer Form by signing and dating the Credit Transfer Form.

2. *Reporting to the Executive Officer.* The Buyer shall submit the Credit Transfer Form with all of the required information to the Executive Officer by electronic mail or another submission method as instructed by the Executive Officer.

3. *Recording of a Credit Transfer.* The Executive Officer will record the transfer request, and will update the account balance of the Seller and Buyer to reflect the proposed transfer. Within 5 business days of receiving a Credit Transfer Form, the Executive Officer shall, either:

    a. Process and approve the transfer request and update the account balances of the Seller and Buyer to reflect the proposed, provided the Executive Officer determines all required information was submitted and it accurately reflects the parties' positions at the time of the proposed transfer; or

b. Notify the parties that the proposed is infeasible and identify the reasons for rejecting the transfer.

(2) *Frequency of Credit Transfer.* Credits may be transferred between a Seller and Buyer on a frequency that is agreed upon between the two parties.

(3) *Facilitation of Credit Transfer.* A Seller or Buyer may elect to use a third party (a "credit facilitator") to facilitate the transfer of credits for the Seller, the Buyer or both. A credit facilitator may, with the consent of the parties, conduct a "blind transaction" where the Buyer of the credit does not know the identity of the Seller, and/or the Seller of the credit does not know the identity of the Buyer. The credit facilitator may include, but is not limited to, a credit transfer service agency or broker who assists in arranging the transfer of credits. However, a credit facilitator cannot own or otherwise exercise control over the credit. If the credit facilitator acts on the behalf of the buyer, seller or both to document the proposed transfer pursuant to the requirements of subsections (c)(1)(B) and (C) the credit facilitator must concurrently submit to the Executive Officer documentation showing that the credit facilitator has been authorized to act on behalf of the buyer, seller or both.

(4) *Correcting Credit Transfer Errors.* A regulated party is responsible for the accuracy of information submitted to the Executive Officer. If a regulated party discovers an error in the information reported to the Executive Officer or recorded by the Executive Officer, the regulated party must inform the Executive Officer in writing within five (5) business days of the discovery. If the Executive Officer determines that the regulated party was responsible for the error, the regulated party must submit a corrected Credit Transfer Form. If the Executive Officer determines that the error occurred during the recording of the credit by board staff, the Executive Officer will make the correction and no additional re-submissions are required.

(d) *Mandatory Retirement of Credits for the Purpose of Compliance.*

(1) At the end of a compliance period, a regulated party that possesses credits and has also has incurred deficits must retire a sufficient number of credits so that:

(A) Enough credits are retired to completely meet the regulated party's compliance obligation for that compliance period, or

(B) If the total number of credits is less than the total number of deficits, the regulated party must retire all credits within its possession, and

(C) A regulated party that has not retired sufficient credits to meet 100 percent of its compliance obligation at the end of a compliance year must calculate the ratio of all remaining credits to outstanding deficits as specified in section 95488(a)(3).

(2) *Credit Retirement Hierarchy.* A regulated party may specify which credits are to be retired to meet its annual compliance obligation.

(A) Once a credit retirement specification has been submitted by a regulated party in its annual report, it is final and may not be altered.

(B) A regulated party not electing a credit retirement hierarchy will be assigned the default hierarchy provided by the Executive Officer.

(e) *Public Disclosure of Credit and Deficit Balances and Credit Transfer Information.*

(1) The Executive Officer shall, no less frequently than quarterly, provide to the public a report containing a summary of credit generation and transfer information including, but not limited to:

(A) Total deficits and credits generated or incurred in the most recent quarter for which data are available, including information on the types and quantities of fuels used to generate credits.

(B) Total deficits and credits generated or incurred in all previous quarters of the most recent year for which data are available, including information on the types and quantities of fuels used to generate credits.

(C) Total credits in possession of regulated parties and the total number of outstanding deficits carried over by regulated parties from a previous compliance year.

(D) Information on the credits transferred during the most recent quarter for which data is available including, but not limited to, the total number of credits transferred, the number transfers, the number of parties making transfers and the monthly average credit price for transfers that reported a price.

(E) Total credits transferred and used as carry-back credits during the first quarter of the current compliance period.

(2) The Executive Officer shall provide reports, no less frequently than monthly, to regulated parties and the public containing information necessary or helpful to the functioning of a credit market. Such reports

may include recent information on credit transfer volumes, credit prices and price trends and other information determined by the Executive Officer to be of value to market participants and the public. The Executive Officer shall establish, and may periodically modify, a schedule for the routine release of these reports.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95489. Regulation Review

As provided in this section, the Executive Officer shall conduct two reviews of the implementation of the LCFS program. The first review shall be completed and presented to the Board by January 1, 2012; the second review shall be completed and presented to the Board by January 1, 2015.

(a) The scope of each review shall include, at a minimum, consideration of the following areas:

(1) The LCFS program's progress against LCFS targets;
(2) Adjustments to the compliance schedule, if needed;
(3) Advances in full, fuel-lifecycle assessments;
(4) Advances in fuels and production technologies, including the feasibility and cost-effectiveness of such advances;
(5) The availability and use of ultralow carbon fuels to achieve the LCFS standards and advisability of establishing additional mechanisms to incentivize higher volumes of these fuels to be used;
(6) An assessment of supply availabilities and the rates of commercialization of fuels and vehicles;
(7) The LCFS program's impact on the State's fuel supplies;
(8) The LCFS program's impact on state revenues, consumers, and economic growth;
(9) An analysis of the public health impacts of the LCFS at the state and local level, including the impacts of local infrastructure or fuel production facilities in place or under development to deliver low carbon fuels, using an ARB approved method of analysis developed in consultation with public health experts from academia and other government agencies;
(10) An assessment of the air quality impacts on California associated with the implementation of the LCFS; whether the use of the fuel in the State will affect progress towards achieving State or federal air quality standards, or results in any significant changes in toxic air contaminant emissions; and

recommendations for mitigation to address adverse air quality impacts identified;

(11) Identification of hurdles or barriers (e.g., permitting issues, infrastructure adequacy, research funds) and recommendations for addressing such hurdles or barriers;

(12) Significant economic issues; fuel adequacy, reliability, and supply issues; and environmental issues that have arisen; and

(13) The advisability of harmonizing with international, federal, regional, and state LCFS and lifecycle assessments.

(b) The Executive Officer shall establish an LCFS advisory panel by July 1, 2010. Panel participants should include representatives of the California Energy Commission; the California Public Utilities Commission; fuel providers; storage and distribution infrastructure owner/operators; consumers; engine and vehicle manufacturers; environmental justice organizations; environmental groups; academia; public health; and other stakeholders and government agencies as deemed appropriate by the Executive Officer. The advisory panel shall participate in the reviews of the LCFS program required by this section, and the Executive Officer shall solicit comments and evaluations from the panel on the ARB staff's assessments of the areas and elements specified in section (a) above, as well as on other topics relevant to the periodic reviews.

(c) The Executive Officer shall conduct the reviews specified above in a public process and shall conduct at least two public workshops for each review prior to presenting the reports to the Board. In presenting the results of each program review to the Board, the Executive Officer shall propose any amendments or such other action as the Executive Officer determines is warranted.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95490. Enforcement Protocols.

Notwithstanding section 95484(b) and (c), the Executive Officer may enter into an enforceable written protocol with any person to identify conditions under which the person may lawfully meet the recordkeeping, reporting, or demonstration of physical pathway requirements in section 95484(b) and (c). The Executive Officer may only enter into such a protocol if he or she reasonably determines that the provisions in the protocol are necessary under the circumstances and at least as effective as the applicable provisions specified in section 95484(b) and (c). Any such protocol shall include the person's agreement to be bound by the terms of the protocol.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).