Appendix I

Glossary of Terms and Acronyms

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Air Basin [Glossary][1] – means a land area with generally similar meteorological and geographic conditions throughout. To the extent possible, air basin boundaries are defined along political boundary lines and include both the source and receptor areas. California is currently divided into 15 air basins. See section 39012 of the California Health and Safety Code.

Air Dispersion Model – A mathematical model or computer simulation used to estimate the concentration of toxic air pollutants at specific locations as a result of mixing in the atmosphere.

Alternate Fuels [13 CCR § 2421 (a)(1)] – means any fuel that will reduce non-methane hydrocarbons (on a reactivity-adjusted basis), NOx, CO, and the potential risk associated with toxic air contaminants as compared to gasoline or diesel fuel and would not result in increased deterioration of the engine. Alternate fuels include, but are not limited to, methanol, ethanol, liquefied petroleum gas, compressed natural gas, and electricity.

Ambient Risk – The background risk level from all the sources of air toxics pollutants within a certain specific area or location.

Annual Average Concentration – The concentration of an air toxics pollutant based on an annual average calculation for a full year of meteorological data.

Area Source [Glossary] – Those sources for which a methodology is used to estimate emissions. This can include area-wide, mobile and natural sources, and also groups of stationary sources (such as dry cleaners and gas stations). The California Clean Air Act requires air districts to include area sources in the development and implementation of the AQMP. In the California emission inventory all sources which are not reported as individual point sources are included as area sources. The federal air toxics program defines a source that emits less than 10 tons per year of a single hazardous air pollutant (HAP) or 25 tons per year of all HAPs as an area source, but shall not include motor vehicle or nonroad vehicles subject to regulation under Title II. .

Area-Wide Sources [Glossary] - Sources of pollution where the emissions are spread over a wide area, such as consumer products, fireplaces, road dust and farming operations. Area-wide sources do not include mobile sources or stationary sources.

Best Available Control Technology (BACT) [Glossary] – The most up-to-date methods, systems, techniques, and production processes available to achieve the greatest feasible emission reductions for given regulated air pollutants and processes. BACT is a requirement of NSR (New Source Review) and PSD (Prevention of Significant Deterioration).

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[1] From the Air Resources Board's Glossary for Air Pollution Terms, available online at http://www.arb.ca.gov/html/gloss.htm.

Best Available Retrofit Control Technology (BARCT) [Glossary] – An air emission limitation that applies to existing sources and is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source.

California Ambient Air Quality Standard (CAAQS) [Glossary – A legal limit that specifies the maximum level and time of exposure in the outdoor air for a given air pollutant and which is protective of human health and public welfare (Health and Safety Code 39606b). CAAQSs are recommended by the California Office of Environmental Health Hazard Assessment and adopted into regulation by the CARB. CAAQSs are the standards which must be met per the requirements of the California Clean Air Act (CCAA).

Cancer Risk – The theoretical probability of contracting cancer when exposed for a lifetime to a given concentration of a substance usually calculated as an upper confidence limit. The maximum estimate risk may be presented as the number of chances in a million of contracting cancer.

Compression-ignition engine [13 CCR §2410 (a)(10)] - A type of engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. The non-use of a throttle to regulate intake flow for controlling power during normal operation is indicative of a compression-ignition engine. A compression-ignition engine may be petroleum-fueled (i.e., diesel-fueled) or alternate-fueled. All engines and equipment that fall within the scope of the preemption of Section 209(e)(1)(A) of the Federal Clean Air Act (42 U.S.C. 7543(e)(1)(A) and as defined by regulation of the Environmental Protection Agency, are specifically not included within this category.

Construction Equipment [40 CFR Part 85, Subpart Q, § 85.1602]– Any internal combustion engine-powered machine primarily used in construction and located on commercial construction sites.

Criteria Pollutant [Glossary – An air pollutant for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set. Examples include: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and PM10 and PM2.5. The term "criteria air pollutants" derives from the requirement that the U.S. EPA must describe the characteristics and potential health and welfare effects of these pollutants. The U.S. EPA and CARB periodically review new scientific data and may propose revisions to the standards as a result.

Diesel Cycle Engine [13 CCR § 2421 (a)(16)] – A type of engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. The primary means of controlling power output in a diesel cycle engine is by limiting the amount of fuel that is injected into the combustion chambers of the engine. A diesel cycle engine may be petroleum-fueled (i.e., diesel-fueled) or alternate-fueled.

Diesel Fuel – Fuel meeting the following specification

> ASTM D975 – 98, Standard Specification for Diesel Fuel Oil; includes No. 1-D, No. 1-D low sulfur, No. 2-D, No. 2-D low sulfur, and No. 4-D.

Diesel Fueled Engine – Any internal combustion, compression-ignition (diesel-cycle) engine that is fueled by diesel fuel or jet fuel.

Diesel Oxidation Catalyst (DOC) – An exhaust treatment device that reduces carbon monoxide emissions, hydrocarbon emissions and the soluble organic fraction of diesel particulate matter through catalytic oxidation. Typical diesel PM control efficiencies range from 16% to 30%.

Diesel Particulate Filter (DPF) – An exhaust treatment device that reduces diesel particulate matter through filtration. DPFs must be periodically "regenerated" to remove the collected particulate matter. DPFs can incorporate passive regeneration techniques, such as the catalyzed particulate filter, or they can incorporate active regeneration techniques, such as the electrically regenerated particulate filter. Typical diesel PM control efficiencies range from 62% to 97%.

Diesel Particulate Matter (diesel PM) – That portion of the exhaust from a diesel fueled compression ignition engine which is collected via a particulate matter sampling method. Diesel PM consists of several constituents, including: an elemental carbon fraction, a soluble organic fraction and a sulfate fraction. The majority of diesel PM (i.e., 98%) is smaller than 10 microns in diameter.

District [Glossary] – An air pollution control district or an air quality management district. Currently, there are 35 air districts in California.

Elemental Carbon Fraction – For diesel particulate matter (a.k.a. the carbonaceous fraction or soot), the solid, non-volatile component of diesel particulate matter which is formed during the combustion process. The sponge-like structure of elemental carbon particles allow them to be carriers for low-volatility organic compounds, including the soluble organic fraction of diesel particulate matter. Elemental carbon particles are very small (0.01 to 0.08 μm in diameter) and can be easily inhaled into the deep areas of the respiratory tract.

Emergency Standby Engine – An engine which operates as a temporary replacement for primary mechanical or electrical power during an unscheduled outage. An engine is not considered an emergency standby engine if it is used for purposes other than: periodic maintenance, periodic readiness testing, unscheduled outages, or to supply power while maintenance is performed or repairs are made to the primary power supply.

Emission Factor [Glossary] – For stationary sources, an emission factor is the relationship between the amount of pollution produced and the amount of raw material processed or burned. For mobile sources, an emission factor is the relationship between the amount of pollution produced and the number of vehicle miles traveled. By using an emission factor for a pollutant and specific source activity data, it is possible to compute emissions from a source. This approach is used in preparing emissions inventories.

Emission Inventory [Glossary] – An estimate of the amount of pollutants emitted into the atmosphere from major mobile, stationary, area-wide, and natural-source categories over a specific time period such as a day or year.

Farm Equipment or Vehicle [40 CFR Part 85, Subpart Q § 85.1602] – Any internal combustion engine-powered machine primarily used in the commercial production and or commercial harvesting of food, fiber, wood, or commercial organic products, or for the processing of such products for further use on a farm. This includes

Fuel Borne Catalyst (FBC) – A fuel additive containing one or more fuel-soluble metals that acts as a catalyst to lower the temperature at which regeneration occurs within a diesel particulate filter.

Heavy-duty vehicle [EMFAC2000 Technical Support Document] – The EMFAC2000 inventory model classifies heavy-duty vehicles by gross vehicle weight rating (GVWR). Light heavy-duty vehicles have a vehicle weight of 8,501 to 14,000 lbs. GVWR, medium heavy-duty vehicles are 14,001 to 33,000 lbs. GVWR, and heavy heavy-duty vehicles are greater than 33,000 lbs. GVWR.

ISCST3 – Industrial Source Complex Short Term.

Light-duty truck [13 CCR § 1900 (a)(8)] – Any 2000 and subsequent model motor vehicle certified to the standards in section 1961(a)(1) rated at 8,500 pounds gross vehicle weight or less; and any other motor vehicle, rated at 6,000 pounds gross vehicle weight or less, which is designed primarily for the purposes of transportation of property or is a derivative of such a vehicle, or is available with special features enabling off-street or off-highway operation and use.

Marine diesel engine [13 CCR § 2421 (a)(28)] – A compression-ignition engine that is intended to be installed on a vessel.

Medium-duty vehicle [13 CCR § 1900 (a)(9)] – Any pre-1995 model year heavy-duty vehicle having a manufacturer's gross vehicle weight rating of 8,500 pounds or less; any 1992 through 2006 model-year heavy-duty low-emission, ultra-low-emission, super-ultra-low emission or zero-emission vehicle certified to standards in section 1960.1(h)(2) having a manufacturer's gross vehicle weight rating of 14,000 pounds or less; any 1995 through 2003 model year heavy-duty vehicle certified to the standards in section 1960.1(h)(1) having a manufacturer's gross vehicle weight rating of 14,000 pounds or

less; and any 2000 and subsequent model heavy-duty low-emission, ultra-low-emission, super-ultra-low emission or zero-emission vehicle certified to the standards in Section 1961(a)(1) or 1962 having a manufacturer's gross vehicle weight rating between 8,500 and 14,000 pounds.

Multiple Air Toxics Exposure Study II (MATES II) - The Multiple Air Toxics Exposure Study (MATES-II) is an urban toxics monitoring and evaluation study conducted for the South Coast Air Basin.

New Source Risk – Cancer risk resulted from toxic air contaminants due to the construction and operation of new stationary sources.

New Source Review (NSR) [Glossary] – A Clean Air Act requirement that State Implementation Plans must include a permit review, which applies to the construction and operation of new and modified stationary sources in nonattainment areas, to ensure attainment of national ambient air quality standards. The two major requirements of NSR are Best Available Control Technology and emission offsets.

Non-road Engine [13 CCR § 2452 (v)] – Any engine that is in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function, such as lawnmowers and string trimmers; or is in or on a piece of equipment that is intended to be propelled while performing its function, such as lawnmowers and string trimmers; or that, by itself or in a piece of equipment, is portable or transportable.

Off-road compression-ignition engine [13 CCR § 2421 (a)(31)] -

(A) Except as specified in paragraph (B) of this definition, an off-road compression-ignition engine is any internal combustion engine:

i. in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function and is primarily used off the highways (such as garden tractors, off-highway mobile cranes and bulldozers); or
ii. in or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or
iii. that, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to wheels, skids, carrying handles, dolly, trailer, or platform.

(B) An internal combustion engine is not an off-road compression-ignition engine if:

i. the engine is used to propel a vehicle subject to the emissions standards contained in Title 13, California Code of Regulations, Sections 1950 - 1978, or a vehicle used solely for competition, or is subject to standards promulgated under section 202 of the federal Clean Air Act (42 U.S.C. 7521); or
ii. the engine is regulated by a federal New Source Performance Standard promulgated under section 111 of the federal Clean Air Act (42 U.S.C. 7511); or

iii. the engine otherwise included in paragraph (a)(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at a single location approximately three months (or more) each year. This paragraph does not apply to an engine after the engine is removed from the location.

Off-Road Vehicle or Off-Road Equipment [13 CCR § 2421 (a)(32)] – A vehicle or equipment that is powered by an off-road compression-ignition engine.

Particulate Matter (PM) [Glossary] - Any material, except pure water, that exists in the solid or liquid state in the atmosphere. The size of particulate matter can vary from coarse, wind-blown dust particles to fine particle combustion products.

Passenger car [13 CCR § 1900 (a)(12)] – Any motor vehicle designed primarily for transportation of persons and having a design capacity of twelve persons or less.

PM_{10} [Glossary]– A criteria air pollutant consisting of small particles with an aerodynamic diameter less than or equal to a nominal 10 microns (about 1/7 the diameter of a single human hair). Their small size allows them to make their way to the air sacs deep within the lungs where they may be deposited and result in adverse health effects . PM10 also causes visibility reduction. For the purposes of this report, PM_{10} has the same meaning as Diesel Particulate Matter.

Point Source [Glossary]– Specific points of origin where pollutants are emitted into the atmosphere such as factory smokestacks.

Portable [13 CCR § 2452 (x)] – Designed and capable of being carried or moved from one location to another. Indicia of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. For the purposes of the portable engine and equipment program, dredge engines on a boat or barge are considered portable. The engine or equipment unit is not portable if any of the following are true:

(1) the engine or equipment unit or its replacement is attached to a foundation, or if not so attached, will reside at the same location for more than 12 consecutive months. Any engine or equipment unit such as back-up or stand-by engines or equipment units, that replace engines(s) or equipment unit(s) at a location, and is intended to perform the same or similar function as the engine(s) or equipment unit(s) being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of all engines or equipment units, including the time between the removal of the replacement engine(s) or equipment unit(s), will

be counted toward the consecutive time period; or the engine or equipment unit remains or will reside at a location for less than 12 consecutive months, if the engine or equipment unit is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location at least three months each year; or

(2) the engine or equipment unit is moved from one location to another in an attempt to circumvent the portable residence time requirements.

The period during which the engine or equipment unit is maintained at a storage facility is excluded from the residency time determination.

Portable Equipment Registration Program (PERP) – A statewide program for the registration and regulation of portable engines and engine-associated equipment units. See 13 CCR § 2450 – 2466.

Prime Engine – An engine that is not an emergency standby engine.

Reasonable Available Control Technology (RACT) – a control technique for limiting emissions from existing sources in certain nonattainment areas. RACT determinations are developed to aid districts in developing regulations to attain and maintain the state ambient air quality standards. RACT determinations help promote consistency among control requirements for similar emission sources among districts with the same air quality attainment designations.

Receptor – A resident or offsite worker that is exposed to a air toxic pollutant sources emissions.

Sac Volume – On a fuel injector, the Sac Volume is the space between needle valve and the tip of a fuel injector.

SCREEN3 Meteorological Data – A set of datum chosen to represent the most unfavorable meteorological conditions (i.e., those resulting in the highest concentration estimates) to simulate the worst case scenario.

Site-Specific Meteorological Data – A minimum of 3 to 5 years collection of meteorological data for a specific area as input data for the air dispersion model.

Soluble Organic Fraction (SOF) – The soluble organic fraction of diesel particulate matter is that portion of diesel PM that consists of the unburned portions of diesel fuel and lubricating oil which condense and adsorb on to the sponge-like elemental carbon particles. The soluble organic fraction includes extractable compounds such as aldehydes, alkanes, alkenes, aliphatic hydrocarbons, and polycyclic aromatic hydrocarbons and their derivatives.

Source Specific Rule – An air pollution control regulation that applies to one category or class of air pollution sources (e.g. boilers). An Airborne Toxic Control Measure (ATCM) is an example of a Source Specific Rule.

State Implementation Plan (SIP) [Glossary] – A plan prepared by states and submitted to U. S. EPA describing how each area will attain and maintain the national ambient air quality standards. SIPs include the technical foundation for understanding the air quality (e.g. emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

Stationary Engine – A stationary engine is an engine which is neither portable nor self-propelled and is operated at a single facility.

Sulfate Fraction – The sulfate fraction of diesel particulate matter is that portion of diesel PM formed when sulfur dioxide in an engine's exhaust stream oxidizes to form sulfur trioxide which then combines with available moisture to form sulfates.

Total Suspended Particulate (TSP) [Glossary] – Particles of solid or liquid matter -- such as soot, dust, aerosols, fumes, and mist -- up to approximately 30 microns in size. For the purposes of this report, TSP has the same meaning as diesel PM.

Toxic Air Contaminant (TAC) [Glossary] – An air pollutant, identified in regulation by the ARB, which may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health. TACs are considered under a different regulatory process (California Health and Safety Code Section 39650 et seq.) than pollutants subject to CAAQSs. Health effects to TACs may occur at extremely low levels, and it is typically difficult to identify levels of exposure which do not produce adverse health effects.

Transit Agency – A public entity responsible for administering and managing transit activities and services. Public transit agencies can directly operate transit service or contract out for all or part of the total transit service provided. The definition is consistent with that used by the Federal Transit Administration (Staff Report: Proposed regulation for a public transit bus fleet rule and emission standards for new urban buses, December 10, 1999).

Transportation Control Measure (TCM) [Glossary] - Any control measure to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions. TCMs can include encouraging the use of carpools and mass transit.

Unit Risk Number [Glossary] - The number of potential excess cancer cases from a lifetime exposure to one microgram per cubic meter (µ/m3) of a given substance. For example, a unit risk value of 5.5x10-6 would indicate an estimated 5.5 cancer cases per million people exposed to an average concentration of 1 µ/m3 of a specific carcinogen for 70 years.

Urban Bus – Current California regulations, by reference to the Code of Federal Regulations (CFR), Section 86.091-2, define an urban bus as a heavy heavy-duty diesel-powered passenger-carrying vehicle (+33,000 pounds GVW) with a load capacity of 15 or more passengers intended primarily for intra-city operation, i.e., within the confines of a city or greater metropolitan area. Urban bus operation is characterized by short rides and frequent stops. To facilitate this type of operation, more than one set of quick-operating entrance and exit doors are normally present. Since fares are usually paid in cash or tokens, rather than purchased in advance in the form of tickets, urban buses normally have equipment installed for collection of fares. Urban buses are also typically characterized by the absence of equipment and facilities for long distance travel, e.g., rest rooms, large luggage compartments, and facilities for stowing carry-on luggage (Staff Report: Proposed regulation for a public transit bus fleet rule and emission standards for new urban buses, December 10, 1999).

Volatile Organic Fraction (VOF) – The volatile organic fraction of diesel particulate matter is that portion of diesel PM that consists of the unburned portions of diesel fuel and lubricating oil which condense and adsorb on to the sponge-like elemental carbon particles. While similar to the Soluble Organic Fraction, the VOF is determined by a different test method.

Volume Source – Volume source is one of the Industrial Source Complex algorithms which is being used to model releases from a variety of industrial sources, such as building roof monitors, multiple vents, and conveyor belts.