

Overview of Diesel-Fueled Ag. Engine Requirements

MOST DIESEL-FUELED AG. ENGINES MUST SOON COMPLY WITH AIR QUALITY REGULATIONS!

This document is intended to give an overview of the State of California's airborne toxic control measure (ATCM) regulatory requirements for some diesel-fueled engines used in agricultural applications. While the State's regulatory requirements are effective statewide, the local air pollution control/air quality management districts may have stricter requirements. Therefore, the local air district where the affected engine is located should always be consulted for specific information regarding compliance deadlines and before making compliance decisions.

Which Engines Must Comply? All new or in-use (existing) diesel-fueled engines used in agricultural applications must comply, except for ag. wind machines and engines used to propel vehicles or equipment. An agricultural application is defined as one where an engine is directly involved in the growing and harvesting of crops or the raising of fowl or animals for the primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution. Agricultural operations do not include activities involving the processing or distribution of crops or fowl. Some engines may qualify for exemptions from a portion of this regulation; please refer to the "Are There Any Exceptions?" discussion on page 3. This regulation applies to engines that are owned, operated, sold, purchased, leased, or rented. Please note that engines not covered under this regulation may be subject to other Federal, State or local air district regulations.

What Do Affected Engine Owner/Operators Have To Do To Comply? 1) Register or permit affected engine(s) with their local air district. 2) Meet engine exhaust emission standards by using one or more of the following options: use of an alternative fuel (electric motor, gasoline, propane, etc.); replacement with a new compliant diesel-fueled engine; installation of an approved exhaust aftertreatment device; or use of an alternative diesel fuel (such as biodiesel). Note that affected engines located near residential areas may be subject to additional requirements. Consult the [Emission Limits and Compliance Dates](#) section of ARB's "Frequently Asked Questions -- Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines" (FAQ) for more information (see the ARB Contact Information section on page 5).

What Is The Compliance Deadline? There are two compliance deadlines for each affected engine. The first compliance deadline is for registration or permitting with your local air district (note: some local air districts may require periodic renewals after initial registration/permitting). The second deadline involves meeting the exhaust emission limits.

1) The registration or permitting deadline for owners/operators of engines that were in-use before January 1, 2005, is March 1, 2008. For new engines installed on or after January 1, 2005, but before March 1, 2008, the deadline is within 90 days of October 18, 2007, or the date of installation or modification (rebuild, relocation, retrofit, etc.) date, whichever is later. For new engines installed on or after March 1, 2008, the deadline is no later than 90 days after the initial installation date. Registration or permitting is done through the local air district where the affected engine is located.

2) Emission limit compliance deadlines vary by engine horsepower rating, model year, and application, ranging from December 31, 2010, to December 31, 2021. See the chart on the next page for specific information.

ENGINE EMISSION LIMIT COMPLIANCE DATES

Engine Size (horsepower)	Application	Engine Model Year	Engine Emission Limit Compliance Date NOTE: The Registration/Permitting Deadline is much earlier; see 1) above.
50 to 74	Gen Sets, Non-Emergency Use, Tier 0 (uncontrolled)	1997 and earlier	December 31, 2015
"	All Other Applications	1997 and earlier	December 31, 2011
"	All Applications	1998 to 2003	December 31, 2015
"	"	2004	December 31, 2015
"	"	2005	December 31, 2016
"	"	2006	December 31, 2017
"	"	2007	December 31, 2018
75 to 99	Gen Sets, Non-Emergency Use, Tier 0 (uncontrolled)	1997 and earlier	December 31, 2015
"	All Other Applications	1997 and earlier	December 31, 2011
"	All Applications	1998 to 2003	December 31, 2015
"	"	2004	December 31, 2015
"	"	2005	December 31, 2016
"	"	2006	December 31, 2017
"	"	2007	December 31, 2018
100 to 174	Gen Sets, Non-Emergency Use, Tier 0 (uncontrolled)	1996 and earlier	December 31, 2015
"	All Other Applications	1996 and earlier	December 31, 2010
"	All Applications	1997 to 2002	December 31, 2015
"	"	2003 and 2004	December 31, 2015
"	"	2005	December 31, 2016
"	"	2006	December 31, 2017
175 to 299	All Applications	1995 and earlier	December 31, 2010
"	"	1996 to 2002	December 31, 2014
"	"	2003	December 31, 2014
"	"	2004	December 31, 2015
"	"	2005	December 31, 2016
300 to 599	All Applications	1995 and earlier	December 31, 2010
"	"	1996 to 2000	December 31, 2014
"	"	2001 to 2003	December 31, 2014
"	"	2004	December 31, 2015
"	"	2005	December 31, 2016
600 to 750	All Applications	1996 and earlier	December 31, 2010
"	"	1997 to 2001	December 31, 2014
"	"	2003	December 31, 2014
"	"	2004	December 31, 2015
"	"	2005	December 31, 2016
Greater Than 750	All Applications	1996 and earlier	December 31, 2014
"	"	1997 to 2003	December 31, 2014
"	"	2004	December 31, 2015
"	"	2005	December 31, 2016
"	"	2006	December 31, 2017
"	"	2007	December 31, 2018
"	"	2008	December 31, 2019
"	"	2009	December 31, 2020
"	"	2010	December 31, 2021

Note that additional emission requirements may apply to some engines in some localities. Refer to the Emission Limits and Compliance Dates section of ARB's FAQ document (available from ARB, see the ARB Contact Information section on page 5) for more information.

Are There Any Exceptions?

- The ATCM requirements do not apply to agricultural wind machines or engines used to propel equipment or vehicles;
- In some areas, remotely-located agricultural engines and agricultural emergency standby generator set engines¹ are exempt from in-use engine emission limits, but are subject to new engine emission limits and to registration requirements:
 - A remotely-located agricultural engine must be located in a federal unclassified/attainment area for PM and ozone (a PM area map is available at: http://www.arb.ca.gov/desig/adm/2006/fed06_pm10.pdf and an ozone area map is available at: http://www.arb.ca.gov/desig/adm/2006/fed06_8-hr_ozone.pdf) and more than one-half mile from any off-site residential area (i.e., three or more residences), school, or hospital;
 - An agricultural emergency standby generator set engine must be equipped with a nonresettable hour meter and used solely to provide electrical power or mechanical work during electrical power service failures, fires, or floods beyond the control of the owner/operator (the owner/operator is required to keep a record of annual hours of operation); and
- Less than or equal to 50 horsepower agricultural engines are subject to new engine emission limits but are not subject to in-use engine emission limits or registration requirements.

How Do I Start The Process?

1) Determine if you own or operate any diesel-fueled engines that meet the definition of an ag. engine. If so, gather basic information about your engine(s), such as: location (including distance from homes and other buildings, if within one-half mile of them); application (well pump, booster pump, genset, etc.); horsepower rating; engine make, model, and model year; and any emission certification information (usually found on a plate or decal on the engine block of newer (approximately mid-1990s and later) engines).

2) Contact your local air district for registration or permitting applications for your engine(s). Be sure to ask about any possible exemptions that your engine(s) may qualify for. Finally, inquire about incentive funding programs for which you may be eligible. ARB has a separate document, Local Air Pollution Control District Locator, which gives the appropriate local air district contact information based on the zip code of the engine location. See the ARB Contact Information section on page 5.

3) For each affected engine, determine how the emission limits will be met. The limits are given in the Final Regulation language as well as the General Requirements and Exceptions section of ARB's FAQ; see the ARB Contact Information section on page 5 for information on obtaining these

¹ Non-emergency ag. generator set engines are subject to emission limits; see the Emission Limits and Compliance Dates section of ARB's FAQ for the emission limits; compliance dates are given in the Engine Emission Limits Compliance Dates Table on page 2.

documents. The table below lists potential means of complying with the ATCM's diesel agricultural engine emission limits. Special benefits or considerations regarding these compliance options are also identified to the extent ARB staff are aware of them. Common considerations applicable to all compliance options, e.g., availability and cost of equipment and fuel (or power) have not been listed, but should be discussed with agricultural advisors, engine distributor/dealers, and your local air district. More detailed information about these compliance options may be found in ARB's FAQ document (see the ARB Contact Information section on page 5).

SUMMARY OF COMPLIANCE OPTIONS FOR DIESEL AGRICULTURAL ENGINES		
Compliance Option	Benefits	Considerations
Replacement with Electric Motor	<ul style="list-style-type: none"> • Maximum multi-pollutant emission reduction (an incentive program funding priority or may provide an opportunity to create marketable emission reduction credits)¹ • Eliminates nearby receptor risk concern • An electric motor is not subject to ATCM emission limits or registration/reporting requirements 	<ul style="list-style-type: none"> • Requires electrical line connection and hook-up
Replacement with Tier 3, Tier 4, or Compliant Certified Diesel Engine	<ul style="list-style-type: none"> • Tier 3 and Tier 4 engines may provide multi-pollutant emission reduction (an incentive funding program priority) • Nearby receptor risk acceptable for Tier 4 engines and for most, but not all, Tier 3 engines • Engines may not require source testing since certification test results are available 	<ul style="list-style-type: none"> • Tier 3 engines located within one-quarter mile of a property boundary could pose an unacceptable risk and require additional emission reduction measures • If a Tier 0 engine is replaced with a compliant Tier 2 engine in 2010-11, additional emission reduction will be necessary in 2014-15, or 12 years after installation (i.e., engine model year)
Replacement with Spark-Ignited Engine (use of natural gas, propane, gasoline, or other diesel fuel alternative)	<ul style="list-style-type: none"> • Once replacement is reported, a spark-ignited engine is not subject to ATCM emission limits or registration/reporting requirements 	<ul style="list-style-type: none"> • May be subject to local air district spark-ignited engine emission requirements
Retrofit Certified Engine with Add-On Particulate Matter (PM) Control Device	<ul style="list-style-type: none"> • An add-on PM control device that has been verified by the State for use with certified (Tier 1 & later) ag. pump or genset engines may not require source testing 	<ul style="list-style-type: none"> • Source testing may be required for devices that have not been verified • NOx emission limits may require a second add-on control device • Maintenance and engine warranty concerns have been experienced with some add-on control devices in the past
Biodiesel Use	<ul style="list-style-type: none"> • No outlay for new equipment; however, fuel line replacement may be necessary 	<ul style="list-style-type: none"> • Source testing may be required to demonstrate compliance with NOx emission limits (see Section F, Compliance Guidance, of ARB's FAQs for details) • Less than or equal to 49 percent biodiesel must meet current federal and California fuel specifications • Possible engine performance and warranty issues

1. To create credits, emission reductions must be real, surplus, enforceable, quantifiable, and permanent. Generally, emission reductions are ineligible for creating credits if they occur as a result of Carl Moyer Program incentive funding.

An Important Note Regarding Business Transactions Involving Used Engines:

California emission standards and other requirements regulate the sale, purchase, rental/lease, and operation of diesel engines, including diesel engines used in agriculture. Tier 0 (non-emission certified) diesel agricultural irrigation pump and gen set engines do not meet Stationary Diesel Engine Airborne Toxic Control Measure (ATCM) emission standards for the installation and use of agricultural engines. Please consult your local air district prior to selling or purchasing any diesel agricultural pump or gen set engine, especially a used engine.

For More Information:

Local Air Pollution Control/Air Quality Management Districts

Contact the local air district where the affected engine is located. Contact information may usually be found in the telephone book (White Pages) under the "County Government Offices" or "City Government Offices" section; your local air district will have either "Air Pollution Control District" or "Air Quality Management District" as part of its name. Alternatively, visit ARB's air district locator website at: <http://www.arb.ca.gov/app/dislookup/dislookup.php> to look up an air district by city, county, or zip code. ARB also has a Local Air Pollution Control District Locator handout that may be useful to persons dealing with multiple engines that are located in more than one air district. This Locator will be posted on ARB's In-Use Diesel Stationary Ag. Engine website (see address below).

ARB Contact Information

ARB's In-Use Diesel Stationary Ag. Engine Website Address:
<http://www.arb.ca.gov/diesel/ag/inuseag.htm>

ARB is in the process of updating this website, including the addition of ARB outreach documents referenced elsewhere in this handout. These documents include the Local Air Pollution Control District Locator List, Fact Sheet - Control Measure for In-Use Stationary Diesel Agricultural Engines, Frequently Asked Questions (FAQ) - Airborne Toxic Control Measure for Stationary Compression Ignition Engines (ATCM), and others. Updated documents will be posted as they are released.

The support documents for this regulation, including the Final Regulation language, are located at ARB's website.

If you are a person with a disability and desire to obtain this document in an alternative format, please contact the ARB's ADA Coordinator at (916) 323-4916 (voice). Persons with hearing or speech impairments can contact us by using our Telephone Device for the Deaf (TDD) at (916) 324-9531 or (800) 700-8326 for TDD calls outside of the Sacramento area.

Contacts: Jon Manji at (916) 327-1507 or jmanji@arb.ca.gov
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