AGRICULTURAL ASSISTANCE PROGRAM

The Agricultural Assistance Program provides funds for "the new purchase, retrofit, repower, or add-on of previously unregulated equipment for agricultural sources." Unlike the Carl Moyer Program, the Agricultural Assistance Program does not require the emission reductions achieved to be surplus. Therefore, these funds can be used to pay for compliance in certain categories. However, the Agricultural Assistance Program does follow the Carl Moyer Program Guidelines for project selection and grant awards.

I. Background

The Agricultural Assistance Program was created through provisions of Assembly Bill 923 (AB 923, Firebaugh) and went into effect on January 1, 2005. This legislation authorizes local districts to increase motor vehicle fees by up to an additional $2. Districts receiving the additional $2 surcharge may use the funds to implement four specific programs:

- projects funded through the Carl Moyer Program.
- the new purchase, retrofit, repower, or of previously unregulated equipment for agricultural sources.
- school bus purchases through the Lower Emission School Bus Program.
- an accelerated vehicle retirement or repair program.

The Agricultural Assistance Program was created to implement the second program listed above. Qualified projects are eligible for funding for a minimum of three years from the date of adoption of an applicable rule or standard, or until the compliance date of that rule or standard, whichever is later. The emission benefits of projects funded by the Agricultural Assistance Program are already counted in the emission benefits of individual local rules or state regulations. District funds applied to the Agricultural Assistance Program do not count for district match funds in the Carl Moyer Program.

"Agricultural source of air pollution," for the purposes of AB 923 and the Agricultural Assistance Program, is defined in Heath and Safety Code § 39011.5(a) as a source or group of sources used in the production of crops or raising of fowl or animals located on contiguous property and under common ownership or control. Four categories of emission sources are identified as part of this definition:

- Large confined animal facilities (CAFs) as defined in Cal. Code of Regs., tit. 17, §86500.
- Internal combustion engines, including portable and off-road engines, unless used to propel instruments of husbandry.
- Sources subject to requirements of Title V, the federal Operating Permitting Program for major stationary sources.
- Sources of emissions otherwise subject to district regulation.

The statutory provisions of AB 923 also require that Agricultural Assistance Program projects follow the Carl Moyer Guidelines. Project criteria in the "Administration Chapter and the "Agricultural Sources" chapter are to be followed (except as specified in Section

III below), with modifications to the surplus emission reductions requirements and cost-effectiveness methodology.

II. Projects Eligible for Funding

The statutory provisions of AB 923 include requirements for Agricultural Assistance Program eligible projects:

- Projects must involve the new purchase, retrofit, or repower of equipment.
- Projects must reduce emissions from previously unregulated sources; that is, sources that are unregulated as of January 1, 2005 (the effective date of the legislation), but are subject to regulation at the time of the grant.
- Projects must be operational and post-inspected within three years of rule adoption or before the compliance date of the rule, whichever is later.
- ARB must determine that the applicable rule complies with Heath and Safety Code § 40913, 40914, and 41503.1 pertaining to district attainment plan measures. District plans must be designed to achieve and maintain the state ambient air quality standards by the earliest practicable date through the use of all feasible measures. ARB routinely reviews district rules for compliance with these requirements and will treat agriculture-related rules the same way.

Eligible project categories are found in Chapter 10 (Agricultural Sources), Section I Project Types Heading of the 2011 Carl Moyer Program Guidelines.

III. Project Criteria

Project criteria in Chapter 2 (General Criteria) and Chapter 10 (Agricultural Sources) as well as the project application (Section 26 and 27), contract (Section 29), inspections (Sections 30 and 31), payment (Section 32), reporting (Section 9), and other requirements as described in Chapter 3 Program Administration, of the 2011 Carl Moyer Program Guidelines are to be adhered to with the following exceptions:

(a) The Agricultural Assistance Program may be used to fund projects from previously unregulated agricultural sources of air pollution for a minimum of three years from the adoption of an applicable rule or until the compliance date, whichever is later.

(b) The cost-effectiveness of a project is based on total emission reductions over the life of the project, not surplus emission reductions.

(c) Emission reductions in the Agricultural Assistance Program are not required to be surplus to regulations.

IV. Cost-Effectiveness of Total Reductions

In order to ensure that the technologies and costs of projects funded by the Agricultural Assistance Program are generally comparable to those funded by the Carl Moyer Program, ARB staff require Agricultural Assistance Program projects to meet a "cost-effectiveness of total reductions" criterion. The cost-effectiveness of total reductions is determined by subtracting the emissions of the new engine from the emissions of the old engine. Districts may set more restrictive cost-effectiveness of total reductions limits when implementing local programs.

The cost-effectiveness of total reductions is the annualized cost divided by the emission reductions as if no regulatory requirement existed:

$$\frac{\text{Annualized Cost (\$/year)}}{\text{Weighted Emission Reductions if no Regulatory Requirement Existed (tons/yr)}}$$

For example, the cost-effectiveness of total reductions calculations for an agricultural irrigation pump engine would generally assume a project life of seven years, even if a local rule for agricultural use engines takes effect in two years, or has already taken effect.

The cost-effectiveness of total reductions cannot be compared to the cost-effectiveness of Carl Moyer Program-eligible projects because it includes the total emission reductions associated with a project instead of only the surplus emission reductions.

As described in the 2011 Carl Moyer Program Guidelines, the weighted total emission reductions are estimated by taking the sum of the project's annual emission reductions of NOx, ROG, and combustion PM using the following formula:

Weighted Total Emission Reductions = NOx reductions (tons/yr) + ROG reductions (tons/yr) + 20*[combustion PM reductions (tons/yr)]

The annual emission reductions for each pollutant (NOx, ROG, and combustion PM) are determined by calculating the annual emissions for the baseline technology, and then subtracting from it the annual emissions of the reduced technology. Annual emissions may be calculated based on hours of operation or fuel consumption. The formulas for calculating emissions are found in Appendix C of the 2011 Carl Moyer Program Guidelines.

The emission standards and load factors for off-road diesel engines and large SI engines in Appendix B of the 2011 Carl Moyer Program Guidelines must be used for these calculations. Annualized cost is the amortization of the one-time incentive grant amount for the life of the project to yield an estimated annual cost. The formula for calculating annualized cost is provided in Appendix C of the 2011 Carl Moyer Program Guidelines.

The incremental cost of a project is a percentage of new technology project costs. The percent of agricultural source engine project costs eligible for funding are in Chapter 10 (Agricultural Sources) of the 2011 Carl Moyer Program Guidelines.

General examples of calculating the cost-effectiveness of projects are provided in Appendix C of the Carl Moyer Program Guidelines. The examples are of projects achieving surplus emission reductions. However the steps leading to the final formula are similar for both programs and may be used as a guide.