

**ATTACHMENT 3
REVISED LANGUAGE FOR THE 2008 CARL MOYER PROGRAM GUIDELINES**

(Approved March 25, 2010)

Only those sections containing Board approved modifications from the 2008 Carl Moyer Program (CMP) Guidelines are presented here. Additions to language are indicated by underlined text. Deletions to language are indicated by ~~strikeout~~. Unmodified portions of these sections, either before or after any added/deleted language, will be indicated by the symbol “* * * * *” and incorporated by reference, as necessary.

The 2008 CMP Guidelines language will be revised as follows:

ON-ROAD PROGRAM CHANGES

**Chapter 4: On-Road Heavy-Duty Vehicles Fleet Modernization
Page IV-1. I. Projects Eligible for Funding**

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The following HDV fleet modernization projects are eligible for Carl Moyer Program funding. Note: the existing vehicle engine must be model year ~~1993~~2002 or older. Existing school buses may have an engine of any model year.

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Page IV-4. IV. (a)(8). General Criteria

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- (8) On-road diesel-fueled heavy-duty drayage trucks are subject to the ARB Drayage Truck Regulation as described in Chapter III. No Carl Moyer Program funding opportunities are available for projects at the Ports of Long Beach or Los Angeles. For all other ports and intermodal rail yards, funding is available for replacement of trucks with an engine model year of ~~1993~~2002 or older with a truck meeting the 2007 or newer emission standards through December 31, 2010. Cost effectiveness for these projects must be based only on NOx and ROG (not PM) and. For 1993 and older trucks, cost effectiveness calculations must use emission factors for a model year 1994 engine as the baseline. Other sources of funding that are available to replace heavy-duty drayage trucks include Proposition 1B and private funding from Port Authorities.

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Page IV-6. IV. (c)(1). Existing Vehicle Requirements

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- (1) Eligible Model Years for Vehicles Other than School Buses – The old vehicle must have an engine of model year ~~1993~~2002 or older.

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Page IV-6. IV. (c)(4). Existing Vehicle Requirements

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- (4) Eligible vehicles must have been registered by DMV with declared Combined Gross Vehicle Weight (CGW) range or declared Gross Vehicle Weight (GVW) range greater than 60,000 pounds. Verification of the declared CGW or GVW must be identified on the vehicle registration for the previous two years. DMV weight codes K, L, M, and N are greater than 60,000 pounds.

If two years of CGW or GVW documentation is not available, then the vehicle must meet all of the following conditions to be eligible:

- ~~1. Vehicle must have GVW greater than 33,000 pounds. CGW may not be used to satisfy this criteria, and~~
- ~~2. Current and valid vehicle registration must identify CGW greater than 60,000 pounds, and~~
- ~~3. The Executive Order for the existing engine must identify the Intended Service Class as Heavy Heavy Duty Diesel (HHDD). Medium Heavy Duty Diesel (MHDD) engines do not satisfy this criteria.~~

1. The horsepower of the existing engine must be greater than 250 horsepower, and
2. Vehicle must have a manufacturer GVWR greater than 33,000 pounds. Declared CGW or GVW may not be used to satisfy this criteria, and
3. Current and valid vehicle registration must identify declared CGW greater than 60,000 pounds, and
4. Manufacturer verification of GVWR and horsepower must be provided with the application.

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OFF-ROAD PROGRAM CHANGES

#1 – UPDATE OFF-ROAD DIESEL RETROFIT WAIVER

Chapters 5 & 7: Off-Road Compression Ignition Equipment and Off-Road Equipment Replacement

Page V-8. IV. (b)(10). Repower & Page VII-8. IV. (c)(10). Replacement Equipment Requirements

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- (10) ARB is providing ~~limited flexibility for one year after Board approval of these Guidelines~~ that allows the applicant to opt-out of the default retrofit requirement, for equipment not subject to an approved in-use regulation. Projects that are subject to an in-use regulation and have a retrofit waiver signed prior to March 25, 2010 may proceed without a retrofit provided the district commits to the project no later than June 25, 2010.
- (A) ~~This flexibility will expire one year after Board approval of these Guidelines unless the flexibility is reevaluated by the ARB Executive Officer.~~
- (B) ~~Projects utilizing this flexibility must have fully executed contracts prior to expiration of this flexibility.~~
- (CA) Applicants must sign a waiver acknowledging that due to ~~existing or~~ future regulations they may be required to install a retrofit on the funded equipment at their own cost.
- (D) ~~Districts must provide information regarding existing or future regulations to applicants upon request. The availability of this information must be made known to applicants upon signing of the waiver.~~
- (EB) Districts that offer the waiver and rank projects based on cost-effectiveness must evaluate repower plus retrofit projects solely on the repower portion of the project for ranking and selecting purposes. When calculating cost-effectiveness for this the sole purpose of ranking projects, if the applicant requested the maximum project life for repower plus retrofit (i.e., five years) then a seven year project life should be used, unless shortened by other regulatory requirements. If the applicant requested anything below five years, then cost-effectiveness shall be based on the requested project life.
- (FC) If two projects, one with repower plus retrofit and one with repower only, have the same cost-effectiveness when ranked and the district only has enough funds to pay for one project, then the district must select the repower plus retrofit project.
- (GD) Districts have the option to not offer this additional flexibility and are encouraged to evaluate individual projects based on the near source health impacts.

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#2 - MODIFY FARM EQUIPMENT PROJECT LIFE AND SURPLUS REQUIREMENT

Chapter 5: Off-Road Compression Ignition Equipment

Page V-5. IV. (a). General Off-Road CI Equipment Project Criteria

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- (1) Maximum project life:
 - (A) Repower Only (no retrofit) 7 years
 - (B) Repower + retrofit 5 years
 - (C) Retrofit 5 years
 - (D) Farm equipment (all projects) 10 years

A longer project life may receive case-by-case approval if applicants provide justifying documentation. The maximum project life does not consider regulatory requirements and may be shorter. Districts are required to offer a 10 year project life for farm equipment; however, applicants may request a project life less than 10 years.

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Page V-11. VI. Definitions

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Farm equipment: Off-road equipment used in agricultural operations as defined in the Regulation for In-Use Off-Road Diesel Vehicles, Section 2449(c)(1).

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Chapter 6: Off-Road Large-Spark Ignition Equipment

Page VI-3. IV. (a). General Off-Road LSI Equipment Project Criteria

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- (1) Maximum project life:
 - (A) New electric purchase 10 years
 - (B) Retrofit 5 years
 - (C) Farm equipment (all projects) 10 years

A longer project life may receive case-by-case approval if applicants provide justifying documentation. The maximum project life does not consider regulatory requirements and may be shorter. Districts are required to offer a 10 year project life for farm equipment; however, applicants may request a project life less than 10 years.

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Page VI-6. IV. (e)(4). Off-Road Large Spark-Ignition Fleet Requirement

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(4) Agricultural Crop Preparation Forklift Fleets Model Year 1990 and Newer: These fleets are required to either retrofit or repower 20% of their fleet, or meet a 3.0 g/bhp-hr fleet average HC + NOx level, by January 1, 2009. If complying using the retrofit/repower path, the rest of the fleet must be retrofit or repowered by January 1, 2012. Fleets that have met the 3.0 g/bhp-hr fleet average can apply for funding. Additionally, in accordance with SBX2 3, fleets that have retrofitted / repowered 20% of their fleet in compliance with the regulation are eligible for funding up to the final compliance date. In order to be eligible, these projects must be under fully executed contract, and must be installed and in operation prior to the applicable compliance date. ~~Additionally, fleets that have met the 2009 regulatory requirements can apply for Carl Moyer funding for projects that will be installed and in operation three years prior to the January 1, 2012, compliance deadline (i.e., January 1, 2009).~~

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Page VI-7. VI. Definitions

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Farm equipment: Off-road equipment used in agricultural operations as defined in the Regulation for In-Use Off-Road Diesel Vehicles, Section 2449(c)(1).

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Chapter 7: Off-Road Equipment Replacement

Page VII-4. IV. (a)(3). General Criteria

- (3) Project Life
- (A) The maximum project life for non-farm off-road CI equipment replacement projects is five years with the following exceptions:
 - 1. Three years: excavators, skid steer loaders, and rough terrain forklifts as defined in Section VI of this chapter.
 - 2. Seven years: crawler tractors, off-highway tractors, rubber tired dozers, and workover rigs as defined in Section VI of this chapter.
- (B) The maximum project life for all off-road non-farm LSI equipment replacement projects is three years.
- (C) The maximum project life for replacement of an LSI forklift with a zero emission forklift is ten years.
- (D) The maximum project life for all off-road farm equipment replacement projects is 10 years.
- (DE) A longer project may receive case-by-case approval if applicants provide justifying documentation. The maximum project life does not consider regulatory requirements and may be shorter. Districts are required to offer a 10 year project

life for farm equipment; however, applicants may request a project life less than 10 years.

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Page VII-16. IV. (i)(4). Off-Road Large Spark-Ignition Equipment Regulation

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- (4) Agricultural Crop Preparation Forklift Fleets Model Year 1990 and Newer: These fleets are required to either retrofit or repower 20% of their fleet, or meet a 3.0 g/bhp-hr fleet average HC + NOx level, by January 1, 2009. If complying using the retrofit/repower path, the rest of the fleet must be retrofit or repowered by January 1, 2012. Fleets that have met the 3.0 g/bhp-hr fleet average can apply for funding. Additionally, in accordance with SBX2 3, fleets that have retrofitted / repowered 20% of their fleet in compliance with the regulation are eligible for funding up to the final compliance date. In order to be eligible, these projects must be under fully executed contract, and must be installed and in operation prior to the applicable compliance date. Additionally, fleets that have met the 2009 regulatory requirements can apply for Carl Moyer funding for projects that will be installed and in operation three years prior to the January 1, 2012, compliance deadline (i.e., January 1, 2009).

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Page VII-17. VI. Definitions

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Farm equipment: Off-road equipment used in agricultural operations as defined in the Regulation for In-Use Off-Road Diesel Vehicles, Section 2449(c)(1).

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Chapter 10: Agricultural Sources

Page X-4. IV. (a). General Agricultural Sources Project Criteria

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- (1) The maximum project life for agricultural use engine projects is as follows:
- (A) Diesel engines 7 years
 - (B) Spark-ignited engines 7 years
 - (C) Electric motors 10 years
 - (D) Portable Farm equipment (all projects) 10 years

A longer project life may receive case-by-case approval if applicants provide justifying documentation. The maximum project life does not consider regulatory requirements and may be shorter. Districts are required to offer a 10 year project

life for farm equipment; however, applicants may request a project life less than 10 years.

- (2) Projects must have a minimum project life of three years, with the exception of engines subject to the agricultural engine requirements in the Stationary Diesel Engine ATCM. In accordance with SBX2 3, portable farm equipment may be eligible for funding up to the compliance date of an applicable in-use rule. In order to be eligible, portable equipment projects must be under fully executed contract, and must be installed and in operation prior to the applicable compliance date.

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Page X-6. IV. (b)(6). Repower

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- (6) An uncontrolled stationary engine subject to the Stationary Diesel Engine ATCM may use a project life for a repower project with a new diesel engine as follows:

Horsepower range	Project Life
< 100 hp	3 year project life through 12/31/08
	2 year project life through 12/31/09
	1 year project life through 12/31/10
100-750 hp	2 year project life through 12/31/08
	1 year project life through 12/31/09
> 750 hp	6 year project life through 12/31/08
	5 year project life through 12/31/09
	4 year project life through 12/31/10
	3 year project life through 12/31/11
	2 year project life through 12/31/12
	1 year project life through 12/31/13

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Page X-9. VI. Definitions

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Farm equipment: Agricultural sources as defined in Health and Safety Code § 39011.5.

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#3 - EXPAND OFF-ROAD EQUIPMENT REPLACEMENT PROGRAM

Chapter 7: Off-Road Equipment Replacement
Page VII-1. I. Projects Eligible for Funding

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Eligible projects are those in which a new or used piece of equipment with an engine meeting the current Model Year California emission standard replaces an uncontrolled, a Tier 1, or a Tier 2 fully functional off-road compression-ignition or large spark ignition piece of equipment that is to be scrapped.

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Page VII-3. III. Background

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- Emission benefits from two separate transactions must be included in the cost effectiveness calculations:
 - Emission reductions from existing uncontrolled, Tier 1, or Tier 2 equipment to zero emission.
 - Emission reductions from a new piece of equipment meeting the emission standards at time of purchase to zero emission. For the purposes of this program, ARB has interpreted this to mean new equipment that would have been purchased through normal attrition.

Further discussion on the calculation of emission benefits and cost-effectiveness may be found in the sample calculations in Appendix E.

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Page VII-5. IV. (b). Existing (Old) Equipment Requirements

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- (1) The old equipment must have an uncontrolled, a Tier 1, or a Tier 2 engine.

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Page VII-7. IV. (c)(1). Replacement Equipment Requirements

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- (D) The engine in the replacement equipment must be certified to a NOx emission standard that is at least 15 percent lower than the emission standard(s) applicable to the existing engine and be certified to either the current applicable emission standard, except as noted below, or to a FEL NOx or NOx+NMHC level that is lower than the required emission standard.

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LOCOMOTIVE PROGRAM CHANGES

#1 - UPDATE LOCOMOTIVE FUEL CONSUMPTION RATE FACTORS (TABLE B-25)

**Appendix B: Tables for Emission Reduction and Cost-Effectiveness Calculations
Page B-19. Table B-25. Fuel Consumption Rate Factors.**

**Table B-25
Fuel Consumption Rate Factors (bhp-hr/gal)**

Category	Horsepower/Application	Fuel Consumption Rate
Non- Mobile Agricultural Engines	> 50 hp	17.5
<u>Locomotive</u>	<u>Line Haul and Passenger (Class I/II)</u>	<u>20.8</u>
	<u>Line Haul and Passenger (Class III)</u>	<u>18.2</u>
	<u>Switcher</u>	<u>15.2</u>
Other	< 750 hp	18.5
	> 750 hp	20.8

**Appendix E: Example Calculations
Page E-29. VI. Locomotives**

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Example 1 – Switch Locomotive Engine Remanufacture Kit (Class 3 Railroad)

A Class 3 railroad operator opts to remanufacture an existing 1971 model year switch locomotive engine with a U.S. EPA-certified Tier 0 Engine Remanufacture Kit. The existing locomotive consumes 40,000 gallons of fuel per year, with 100 percent operation in California. The cost of the remanufacture kit plus installation of the kit costs \$400,000. The cost to purchase and install an automatic engine start-stop ILD is \$11,000. The railroad company will commit to a 10 year project life. Emission reductions are calculated as follows:

Baseline Technology Information:

- Locomotive model year (application): 1971
- Locomotive emission rate (Table B-18a): 16.36 g/bhp-hr NOx, 1.06 g/bhp-hr ROG, 0.378 g/bhp-hr PM10
- Activity (application): 40,000 gal/year
- Energy consumption factor = ~~20.8~~ 15.2 bhp-hr/gal (Table B-25)

Reduced Technology Information:

- Emission Factors (Table B-18a): 11.84 g/bhp-hr NOx, 1.06 g/bhp-hr ROG, 0.378 g/bhp-hr PM10¹
- Activity (application): 40,000 gal/year
- Energy consumption factor = ~~20.8~~ 15.2 bhp-hr/gal (Table B-25)
- ILD emission reduction factor (Table B-19): 0.90
- Locomotive project criteria allow for the Carl Moyer Program to pay for up to 85 percent of the remanufacture kit cost and 50 percent of ILD cost

Emission Reduction Calculations:

Formula C-6: Estimated Annual Emissions based on Fuel Consumed using Emission Factors or Converted Emission Standard (tons/yr):

1. Annual NOx baseline technology emissions
(16.36 g/bhp-hr*40,000 gal/yr*~~20.8~~ 15.2 bhp-hr/gal)*(ton/907,200g)
= ~~15.00~~ 10.96 ton/yr NOx
2. Annual NOx reduced technology emissions
(11.84 g/bhp-hr*40,000 gal/yr*~~20.8~~ 15.2 bhp-hr/gal*0.90)*(ton/907,200g)
=~~9.77~~ 7.14 ton/yr NOx
3. Annual ROG baseline technology emissions
(1.06 g/bhp-hr *40,000 gal/yr*~~20.8~~ 15.2 bhp-hr/gal)*(ton/907,200g)
= ~~0.97~~ 0.71 ton/yr ROG
4. Annual ROG reduced technology emissions
(1.06 g/bhp-hr*40,000 gal/yr*~~20.8~~ 15.2 bhp-hr/gal *0.90)*(ton/907,200g)
=~~0.87~~ 0.64 ton/yr ROG
5. Annual combustion PM10 baseline technology
(0.378 g/bhp-hr*40,000 gal/yr*~~20.8~~ 15.2 bhp-hr/gal)*(ton/907,200g)
= ~~0.347~~ 0.25 ton/yr PM10
6. Annual combustion PM10 reduced technology emissions
(0.378 g/bhp-hr*40,000 gal/yr*~~20.8~~ 15.2 bhp-hr/gal *0.90)*(ton/907,200g)
= ~~0.342~~ 0.23 ton/yr PM10

Formula C-10: Annual Surplus Emission Reductions by Pollutant (tons/yr) for Repowers and New Purchases

- NOx emission benefits = ~~15.00~~ 10.96 tons/yr – ~~9.77~~ 7.14 tons/yr
= ~~5.23~~ 3.82 tons/yr NOx
- ROG emission benefits = ~~0.97~~ 0.71 tons/yr - ~~0.87~~ 0.64 tons/yr
= ~~0.10~~ 0.07 tons/yr ROG
- PM10 emission benefits= ~~0.347~~ 0.20 tons/yr - ~~0.342~~ 0.23 tons/yr
= ~~0.035~~ 0.03 tons/yr PM10

Formula C-2: Annual Weighted Surplus Emission Reductions

$$\begin{aligned} & \del{5.23} \u{3.82} \text{ tons/yr} + \del{0.10} \u{0.07} \text{ tons/yr} + 20(\del{0.035} \u{0.03} \text{ tons/yr}) \\ & = \del{6.02} \u{4.40} \text{ weighted tons/yr} \end{aligned}$$

¹ For information regarding how to calculate reduced engine emission factors, refer to the Supplemental Documents webpage at: www.arb.ca.gov/msprog/moyer/guidelines/supplemental-docs.htm

Annualized Cost:

Project Life: 10 years

CRF (Table B-1): = ~~0.123~~ 0.117

Formula C-14: Incremental Cost

(\$400,000 * 85 percent) + (\$11,000 * 50 percent) = 345,500

Formula C-12: Annualized Cost

= ~~0.123~~ 0.117 * \$345,500 = \$42,497/yr \$40424/yr

Cost-Effectiveness:

Formula C-1: Cost-Effectiveness of Weighted Surplus Emission Reductions (\$/ton)

~~\$42,497/yr~~ \$40424/yr / (~~6.02~~ 4.40 weighted tons/yr)

= ~~\$7,057~~ \$9,187 / tons of weighted surplus emissions reduced

The project cost-effectiveness is below ~~\$16,000~~ \$16,400 per weighted ton of emissions reduced. Therefore, the project qualifies for ~~\$305,500~~ 345,500 in Carl Moyer Program funding.

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Example 3 – Idle-Limiting Device Installation (Class 3 Railroad)

A Class 3 railroad wants to purchase and install an AESS ILD on one of its 1970 uncontrolled switch locomotives. Fuel receipts indicate other switch locomotives with the same activity in the rail yard consume 25,000 gallons of fuel per year. The cost to purchase and install the AESS is \$14,000. The project life is 3 years. Emission reductions are calculated as follows:

Baseline Technology Information:

- Locomotive model year: 1970
- Locomotive emission rate (uncontrolled, Table B-18): 16.36 g/bhp-hr NOx, 1.06 g/bhp-hr ROG, 0.378 g/bhp-hr PM10
- Activity (application): 25,000 gal/year
- Energy consumption factor = ~~20.8~~ 15.2 bhp-hr/gal (Table B-25)
- ILD emission reduction factor (Table B-19): 0.90
- Locomotive project criteria allow for the Carl Moyer Program to pay for up to 50 percent of ILD cost

Emission Reduction Calculations:

Formula C-6: Estimated Annual Emissions based on Fuel Consumed using Emission Factors or Converted Emission Standard (tons/yr):

1) Annual NOx emission reductions

(16.36 g/bhp-hr * 25,000 gal/yr * ~~20.8~~ 15.2 bhp-hr/gal) *(ton/907,200g)
= ~~9.38~~ 6.85 ton/yr NOx

2) Annual NOx reduced technology emissions

(16.36 g/bhp-hr*25,000 gal/yr*~~20.8~~ 15.2 bhp-hr/gal*0.90)*(ton/907,200g)
= ~~8.44~~ 6.17 ton/yr NOx

3) Annual ROG baseline technology emissions

(1.06 g/bhp-hr * 25,000 gal/yr * ~~20.8~~ 15.2 bhp-hr/gal) *(ton/907,200g)
= ~~0.64~~ 0.45 ton/yr ROG

- 4) Annual ROG reduced technology emissions
 $(1.06 \text{ g/bhp-hr} * 25,000 \text{ gal/yr} * 20.8 \text{ bhp-hr/gal} * 0.90) * (\text{ton}/907,200\text{g})$
 $= 0.55 \text{ } \underline{0.40} \text{ ton/yr ROG}$
- 5) Annual combustion PM10 baseline technology
 $(0.378 \text{ g/bhp-hr} * 25,000 \text{ gal/yr} * 20.8 \text{ bhp-hr/gal}) * (\text{ton}/907,200\text{g})$
 $= 0.217 \text{ } \underline{0.16} \text{ ton/yr PM10}$
- 6) Annual combustion PM10 reduced technology emissions
 $(0.378 \text{ g/bhp-hr} * 25,000 \text{ gal/yr} * 20.8 \text{ bhp-hr/gal} * 0.90) * (\text{ton}/907,200\text{g})$
 $= 0.195 \text{ } \underline{0.14} \text{ ton/yr PM10}$

Formula C-10: Annual Surplus Emission Reductions by Pollutant (tons/yr) for Repowers and New Purchases

- Emission benefits NOx = ~~9.38~~ 6.85 tons/yr – ~~8.44~~ 6.17 tons/yr
 $= 0.94 \text{ } \underline{0.69} \text{ tons/yr NOx}$
- Emission benefits ROG = ~~0.61~~ 0.45 tons/yr – ~~0.55~~ 0.40 tons/yr
 $= 0.06 \text{ } \underline{0.04} \text{ tons/yr ROG}$
- Emission benefits PM10 = ~~0.217~~ 0.16 tons/yr – ~~0.195~~ 0.14 tons/yr
 $= 0.022 \text{ } \underline{0.02} \text{ tons/yr PM10}$

Formula C-2: Annual Weighted Surplus Emission Reductions

$$0.94 \text{ } \underline{0.69} \text{ tons/yr} + 0.06 \text{ } \underline{0.04} \text{ tons/yr} + 20(0.022 \text{ } \underline{0.02} \text{ tons/yr})$$

$$= 1.43 \text{ } \underline{1.05} \text{ weighted tons/yr}$$

Annualized Cost:

Project Life: 3 years

$$\text{CRF (Table B-1):} = 0.360 \text{ } \underline{0.354}$$

Formula C-14: Incremental Cost

$$\$14,000 * 0.50 = \$7,000$$

Formula C-12: Annualized Cost

$$0.360 \text{ } \underline{0.354} * \$7,000 = \$2,520/\text{yr} \text{ } \underline{\$2,478/\text{yr}}$$

Cost-Effectiveness:

Formula C-1: Cost-Effectiveness of Weighted Surplus Emission Reductions (\$/ton)

$$(\$2,520/\text{yr} \text{ } \underline{\$2,478/\text{yr}}) / (1.43 \text{ } \underline{1.05} \text{ weighted tons/yr})$$

$$= \underline{\$1,760} \text{ } \underline{\$2360/\text{tons of weighted surplus emissions reduced}}$$

The project cost-effectiveness is below ~~\$16,000~~ \$16,400 per weighted ton of emissions reduced. Therefore, the project qualifies for \$7,000 in Carl Moyer Program funding.

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#2 – CORRECT EXAMPLE LOCOMOTIVE EMISSION CALCULATION (EXAMPLE 2, APPENDIX E) AND ADD SUPPLEMENTAL DOCUMENT, “METHOD FOR ESTIMATING FUEL CONSUMPTION OF NEW LOCOMOTIVE”

Chapter 8: LOCOMOTIVES

Page VIII-7. IV. (b)(6). Alternative Technology Switcher Purchase

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- (6) For alternative technology switcher projects, fuel consumption for the new locomotive may differ from baseline fuel consumption if the new locomotive fuel use is sufficiently documented to ARB and air district staff. Instructions for estimating the fuel consumption of the new locomotive can be found in the supplemental document, “Method for Estimating Fuel Consumption of a New Locomotive”, located at:
www.arb.ca.gov/msprog/moyer/guidelines/supplemental-docs.htm

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Appendix E: Example Calculations

Page E-30. VI. Locomotives

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Example 2 – Multiple Engine Switcher Purchase (Class 1 Railroad)

A Class 1 railroad operator has the opportunity to purchase an alternative technology switch locomotive. Because this is a multiple engine switcher (Engine Family Number 7NREG0060LOC) with new electronics, a new battery, and other components, the project is evaluated as a new locomotive purchase. Fuel receipts indicate other switch locomotives with the same activity in the rail yard consume 45,000 gallons of fuel per year. The cost of the new alternative technology switcher is \$1.2 million. The project life is 10 years. Emission reductions are calculated as follows:

Baseline Technology Information:

- Locomotive model year: none
- Locomotive emission factor (Tier 0, Table B-18a)²: 11.84 g/bhp-hr NO_x, 1.06 g/bhp-hr ROG, 0.378 g/bhp-hr PM₁₀
- Activity (application): 45,000 gal/year
- Energy consumption factor = ~~20.8~~ 15.2 bhp-hr/gal (Table B-25)

² For information regarding how to determine reduced engine emission factors, refer to the Supplemental Documents webpage at: www.arb.ca.gov/msprog/moyer/guidelines/supplemental-docs.htm

Reduced Technology Information:

- Engine model year: 2007
- Emission factors (Engine Family 7NREG0060LOC)¹: 2.54 g/bhp-hr NOx, 0.105 g/bhp-hr ROG, 0.060 g/bhp-hr PM10
- ~~Activity (application): 45,000 gal/year~~
- ~~Energy consumption factor = 18.5 bhp-hr/gal (Table B-25)~~
- Use the product of the Activity (application) and the Energy consumption factor from baseline Technology for the total work of the Reduced Technology.
- Locomotive project criteria allow for the Carl Moyer Program to pay for up to 50 percent of Class 1 railroad alternative switcher locomotive purchase cost

Emission Reduction Calculations:

Formula C-6: Estimated Annual Emissions based on Fuel Consumed using Emission Factors or Converted Emission Standard (tons/yr):

1. Annual NOx baseline technology emissions
 $(11.84 \text{ g/bhp-hr} * 45,000 \text{ gal/yr} * ~~20.8~~ 15.2 \text{ bhp-hr/gal}) * (\text{ton}/907,200\text{g})$
 $= ~~12.24~~ 8.92 \text{ ton/yr NOx}$
2. Annual NOx reduced technology emissions
 $(2.54 \text{ g/bhp-hr} * ~~45,000 \text{ gal/yr} * 18.5 \text{ bhp-hr/gal}~~ 684,000 \text{ bhp-hr/yr}) * (\text{ton}/907,200\text{g})$
 $= ~~2.33~~ 1.91 \text{ ton/yr NOx}$
3. Annual ROG baseline technology emissions
 $(1.06 \text{ g/bhp-hr} * 45,000 \text{ gal/yr} * ~~20.8~~ 15.2 \text{ bhp-hr/gal}) * (\text{ton}/907,200\text{g})$
 $= ~~4.09~~ 0.80 \text{ ton/yr ROG}$
4. Annual ROG reduced technology emissions
 $(0.105 \text{ g/bhp-hr} * ~~45,000 \text{ gal/yr} * 18.5 \text{ bhp-hr/gal}~~ 684,000 \text{ bhp-hr/yr}) * (\text{ton}/907,200\text{g})$
 $= ~~0.40~~ 0.08 \text{ ton/yr ROG}$
5. Annual combustion PM10 baseline technology
 $(0.378 \text{ g/bhp-hr} * 45,000 \text{ gal/yr} * ~~20.8~~ 15.2 \text{ bhp-hr/gal}) * (\text{ton}/907,200\text{g})$
 $= ~~0.390~~ 0.29 \text{ ton/yr PM10}$
6. Annual combustion PM10 reduced technology emissions
 $(0.060 \text{ g/bhp-hr} * ~~45,000 \text{ gal/yr} * 18.5 \text{ bhp-hr/gal}~~ 684,000 \text{ bhp-hr/yr}) * (\text{ton}/907,200\text{g})$
 $= ~~0.055~~ 0.05 \text{ ton/yr PM10}$

Formula C-10: Annual Surplus Emission Reductions by Pollutant (tons/yr) for Repowers and New Purchases

- Emission benefits NOx = ~~12.24~~ 8.92 tons/yr – ~~2.33~~ 1.91 tons/yr
= ~~9.88~~ 7.01 tons/yr NOx
- Emission benefits ROG = ~~4.09~~ 0.80 tons/yr – ~~0.40~~ 0.08 tons/yr
= ~~4.00~~ 0.71 tons/yr ROG
- Emission benefits PM10 = ~~0.390~~ 0.29 tons/yr – ~~0.055~~ 0.05 tons/yr
= ~~0.335~~ 0.24 tons/yr PM10

Formula C-2: Annual Weighted Surplus Emission Reductions

$$9.88 \text{ ~~7.01~~ } \text{ tons/yr} + 4.00 \text{ ~~0.71~~ } \text{ tons/yr} + 20(0.335 \text{ ~~0.24~~ } \text{ tons/yr})$$
$$= 17.59 \text{ ~~12.52~~ } \text{ weighted tons/yr}$$

Annualized Cost:

Project Life: 10 years
 CRF (Table B-1): = 0.123
Formula C-14: Incremental Cost
 \$1,200,000 * 0.50 = \$600,000
Formula C-12: Annualized Cost
 0.123 * \$600,000 = \$73,800/yr

Cost-Effectiveness:

Formula C-1: Cost-Effectiveness of Weighted Surplus Emission Reductions (\$/ton)
 (\$73,800/yr)/(17.59 ~~12.52~~ weighted tons/yr)
 = **\$4,197 ~~\$5895~~/tons of weighted surplus emissions reduced**

The project cost-effectiveness is below ~~\$16,000~~ \$16,400 per weighted ton of emissions reduced. Therefore, the project qualifies for \$600,000 in Carl Moyer Program funding.

* * * * *

#3 - ACCEPT NON-FUEL BASED PROJECT ACTIVITY

Chapter 8: LOCOMOTIVES

Page VIII-5. IV. (a)(4). General Locomotive Project Criteria

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(4) Locomotive project activity must be based upon fuel consumption. Districts may propose alternate project activity, such as actual usage data logged electronically by one or more locomotives, for case by case approval.

* * * * *

ADMINISTRATION CHANGES

#1 – MODIFY THE USAGE REQUIREMENT IN CONTRACTS

Part III, Program Administration

Page 30. Section 26. Minimum Project Application Requirements

* * * * *

(c) Information regarding required previous years of existing engine usage documentation (miles traveled, hours operated, or fuel consumed per year) ~~may be found in the applicable source category chapter~~ must be included in the project application. The usage amount included in the project application must be used to evaluate project cost-effectiveness and maximum grant award. For projects for which historical usage data meet the criteria outlined in Section 29(f), minimum annual usage is not required to be specified in the contract.

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Page 35. Section 29. Minimum Contract Requirements

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(f) Project Specifications. All contracts shall include detailed information on the baseline and new vehicles, equipment, and/or engines that were used in the project cost-effectiveness calculation. This requirement may be met by including the project application as an attachment to the contract as long as the application is accurate and complete. A program-eligible new vehicle, piece of equipment and/or engine that is verified or certified to achieve greater reductions than the original project new vehicle, piece of equipment and/or engine may be substituted with prior approval of the district. All contracts shall specify the amount the engine is to operate within California (or the district) each year based on hours, miles, or fuel usage. For projects for which at least twenty-four (24) months of complete historical usage are documented and verified by the district, minimum annual usage is not required to be specified in the contract. Such historical usage shall be documented for at least the twenty-four (24) consecutive months immediately prior to the application date. The types of acceptable documentation for establishing historical annual usage will be clearly defined in each district's policies and procedures manual and will be subject to ARB approval at ARB's request. Additional forms of documentation to verify historical annual usage that are not included in a district's policies and procedures manual can be evaluated and approved by ARB on a case-by-case basis.

Contracts must also contain a statement that the project complies with the Carl Moyer Program Guidelines and criteria and shall meet all program requirements for the full contract term.

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Page 43. Section 33. Grantee Annual Reporting.

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(b) The annual report shall be in a format prescribed by the district and shall contain all of the following information: See Best Practice #34

- (1) Owner's name, address, and telephone number.
- (2) Information needed to uniquely identify the project engine, vehicle, or equipment, such as engine make, model, horsepower, and serial number.
- (3) Estimated percentage of time the vehicle or equipment has been operated in California since the previous annual report.

- (4) Readings of the usage meter (hour meter, odometer, EMU, etc.). If usage is more than 30 percent above or below that identified in the project application, the grantee shall describe any conditions (such as weather, permits, major maintenance, etc...) that significantly impacted project usage. In instances where annual usage is significantly lower than the contracted level due to unforeseen circumstances beyond the control of the engine owner, the owner may request a waiver from the district per Section 33(d)(4).

* * * * *

(d) If the project's usage does not average out to within 70 percent of the annual usage specified in the contract over at least a 3 year period (i.e. no more than 30 percent below the stated usage), the district shall take appropriate action to ensure the contracted emission reductions are realized. Activity for agricultural irrigation pump projects with a one-year project life must be within 70 percent of that stated in the project contract. Options for addressing actual usage that is more than 30 percent below that stated in the contract include, but are not limited to:

- (1) Extending of the project contract for additional years (if this doesn't overlap with an applicable rule implementation requirement).
- (2) Returning of project funds in proportion to the loss in emission reductions.
- (3) Transferring ownership of the vehicle or equipment to an entity committed to comply with the contract terms.
- (4) Granting a waiver, without penalty, to the engine owner for a defined time period if the owner demonstrates to the district Air Pollution Control Officer's satisfaction that the equipment was significantly underutilized due to unforeseen conditions beyond the owner's control. The engine owner must also demonstrate that the equipment for which a waiver is being requested is not being underutilized in favor of operating other, higher-polluting equipment.
 - (A) The conditions under which a waiver may be issued include, but are not limited to, the following:
 - (i) A decrease in usage due to the economic recession.
 - (ii) Unforeseen fluctuations in water allocations or pumping needs for agricultural irrigation pump engines.
 - (iii) Significant land fallowing for off-road agricultural equipment and agricultural irrigation pump engines.

(B) To be considered for a waiver, the engine owner must provide a written request to the district along with documentation that substantiates the need for the waiver and verifies that higher-polluting equipment is not consequently receiving more use. The types of acceptable documentation will be clearly defined and incorporated into each district's policies and procedures manual, and will be subject to ARB approval at ARB's request. Such documentation may include, but is not limited to, documentation from appropriate governmental agencies regarding surface water deliveries and fallow land, relevant logs regarding the amount of groundwater pumped in lieu of surface water deliveries, agricultural pump engine registration/permit information, records that show that idled vehicles or equipment are still owned by the participant, relevant information from the ARB's Diesel Off-Road On-Line Reporting System (DOORS), or other pertinent records. Additional forms of documentation that are not included in a district's policies and procedures manual can be evaluated and approved by ARB on a case-by-case basis.

In granting a waiver of the minimum annual usage requirement, the district shall specify the length of time for which the waiver is valid. The waiver will not excuse the participant from any contract requirement to provide annual usage reports.

The district's findings must be documented in writing, signed by the Air Pollution Control Officer, and be included in the project files. Appropriate notations to indicate that a waiver has been granted shall also be included in the "comments" field of the CARL database for each relevant project, if applicable.

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Page 44. Section 34. District Audit of Projects

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- (b) Districts shall conduct audits for the following projects at the end of their contract term as follows:
- (1) At least five percent (or a statistically significant number, whichever is less) of projects, and
 - (2) All of the projects whose owners fail to submit their final project annual report as per Section 33 of this chapter, and
 - (3) All of the projects that were found to be greater than 30 percent below the contracted activity level during any audit conducted as per Section 34(a),

above, except those projects that received a waiver per Section 33(d)(4) are not required to be audited per this paragraph.

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#2 – UPDATE COST-EFFECTIVENESS LIMIT AND CAPITAL RECOVERY FACTOR

Chapter 2: General Carl Moyer Program Criteria
Page II-2. (h). General Carl Moyer Program Criteria

* * * * *

(h) Projects must meet a cost-effectiveness of ~~\$16,000~~ \$16,400 per weighted ton of NOx, ROG, and PM10 reduced calculated in accordance with the cost-effectiveness methodology in Appendix C. All State funds plus any other funds under a district's budget authority or fiduciary control contributed toward a project must be included in the cost-effectiveness calculation.

* * * * *

Chapters 3-11: All Carl Moyer Program Category Chapters
Pages – Multiple. II. Maximum Eligible Funding Amounts

All references to \$16,000 per weighted ton of emissions reduced cost-effectiveness threshold shall be revised to \$16,400 per weighted tons of emissions reduced cost-effectiveness threshold.

Part III, Program Administration
Page 11. Section 11(b)(D). Match Funds Sources

* * * * *

(D) MV Fees used to fund Lower Emission School Bus Program projects may count towards the district match requirement if they meet the Carl Moyer Program requirements and the cost-effectiveness threshold of ~~\$16,000~~ \$16,400 per weighted ton of pollutants reduced. All air district or state incentive funds used to help pay for a school bus project must be included in this cost-effectiveness calculation.

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Part III, Program Administration
Page 35. Section 29(h)(1). Minimum Contract Requirements

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(1) Maximum Contract Amount. The maximum contract amount must not exceed the maximum funding level corresponding to the ~~\$16,000~~ \$16,400 per weighted ton program cost-effectiveness limit, nor may the maximum contract amount exceed the project incremental cost. The maximum contract amount must also

comply with any funding caps and other criteria for the specific project category as identified in these guidelines.

* * * * *

Appendix B: Tables for Emission Reduction and Cost-Effectiveness Calculations
Page B-1. Table B-1. Capital Recovery Factors (CRF) for Various Project Life At Four Percent Discount Rate

Table B-1 is replaced with the following Table:

* * * * *

Table B-1
Capital Recovery Factors (CRF) for Various Project Life
At Two Percent Discount Rate

Project Life	CRF
1*	1.020
2**	0.515
3	0.347
4	0.263
5	0.212
6	0.179
7	0.155
8	0.137
9	0.123
10	0.111
11	0.102
12	0.095
13	0.088
14	0.083
15	0.078
16	0.074
17	0.070
18	0.067
19	0.064
20	0.061

*For agricultural projects only.

**For agricultural projects and some on-road fleet modernization projects only (per Mailout MSC #09-21).

* * * * *

Appendix C: Cost-Effectiveness Calculation Methodology
Page C-6. II. B.1. Calculating the CRF

All references to the 4 percent discount rate used to determine the Capital Recovery Factor are revised to 2 percent.

Page C-8. III. List of Formulas. Formula C-13

All references to the 4 percent discount rate used to determine the Capital Recovery Factor are revised to 2 percent.

#3 – UPDATE MATCH FUND FORMULA

**Part III, Program Administration
Page 10. Section 10. Match Fund Formula**

(a) H&SC §44287 requires districts participating in the Carl Moyer Program are required to provide \$1 in match funding for every \$2 of state Carl Moyer Program funding awarded by ARB, with a cap on statewide match funds of \$12 million. Air Districts implementing the Carl Moyer Program must commit match funds equaling 15 percent of the State funds received.

The formula provided below shall be used by ARB to determine each district's required matching funds:

$$\frac{\text{Each district's annual allocation} \times \$12,000,000}{\text{Total allocation to all districts}}$$

(b) A district receiving the minimum grant award of \$200,000 is exempt from this match requirement. ~~may request a waiver of the match fund requirement if the district can demonstrate appropriate staff commitment for program implementation and administration or if the district elects to donate its funding allocation to the Rural District Assistance Program.~~

#4 – STREAMLINE DISTRICT APPLICATIONS

**Part III, Program Administration
Page 4. Section 5. District Applications for Program Funding**

(a) Districts must submit a completed application packet within 60 calendar days from the date of the solicitation letter. The completed application packet must include the following documents:

- (1) Completed Application: ~~The application must be completed and the Submission of the original form signed by the district's APCO. All information requested on the application must be provided or the application will be considered incomplete.~~ Districts requesting the minimum \$200,000 allocation may opt to direct their allocation directly to the Rural District Assistance Program.
- (2) Match Fund Commitment: Districts must specify the source and amount of local match funding on the application. Districts requesting more than

their tentative funding allocation must demonstrate that sufficient match funds are available to cover any additional funds requested. Refer to Section 10 to determine the approximate required match fund amount if requesting additional funds. Districts requesting no more than the minimum allocation will be exempted from the match requirement. ~~Districts requesting the minimum allocation may request a match waiver. ARB staff will verify that the listed amount and source of funds are available for the district to use under the Carl Moyer Program.~~ Districts may ~~meet~~ account for up to 15 percent of their match requirement with in-kind contributions. Additional information regarding allowable sources of match funding can be found in Sections 10 and 11 of this chapter. ^{See Best Practice #1}

- (3) District Board Resolution: ~~The application must include a resolution of the Submission of the district Governing Board resolution that commits the district to participate in the Carl Moyer Program, comply with the Carl Moyer Program requirements, and authorizes the district to accept funds from ARB and participate in the Carl Moyer Program, or to have such funds placed into the Rural District Assistance Program. For districts with a match requirement, the board resolution shall authorize the APCO to supply sufficient funding to meet the match requirement. If districts include have previously obtained a board resolution that authorizes the district to implement the Carl Moyer Program for multiple years, the district should document the resolution as still being in effect each year by including a copy of the resolution with the signed application must state the date of the resolution in the application.~~ ^{See Best Practice #2}
- (4) Policies and Procedures Manual: Districts must submit to ARB either: 1) a copy of their current Carl Moyer Program Policies and Procedures Manual for approval, or, once approved; 2) a statement, signed by a district representative, confirming that an updated version of their Policies and Procedures Manual is maintained at the district office; to ARB in order to be eligible for continued funding in order to be eligible for continued funding. The manual must describe the district's policies, procedures, and organizational structure for implementing the Carl Moyer Program. The submitted manual shall apply to the funding cycle for which the district is applying. ~~Districts may request additional time to complete their Policies and Procedures Manual as part of their application; however, a complete Policies and Procedures Manual must be submitted to and approved by ARB before a district is eligible to receive its initial funding disbursement. The Policies and Procedures Manual must include, at a minimum, the district's policies and procedures for following program components:~~
- (A) Program structure and organization, including coordination with ARB
 - (B) Solicitation of funds from ARB

- (C) Project solicitation, evaluation, and selection (including schedule for program implementation)
- (D) Environmental justice/at-risk communities (if applicable)
- (E) State and match fund obligation and expenditure
- (F) Fiscal practices and procedures
- (G) Light duty vehicle/fleet modernization projects (if applicable)
- (H) Pre- and post-inspections
- (I) Project reports
- (J) Contract components and contracting with applicants
- (K) Invoice review, approval, and payment protocols
- (L) District audits of projects
- (M) Details regarding program components identified in the following sections of this chapter: 13(d), 14(c), 18(a), 27(l), 30(b), 30(e), 30(f), 31(a), 31(c), 33(c), and 35(c).

~~(5) Status Report: Districts that are not in good standing must provide a Status Report demonstrating all funds received two years prior are expended, consistent with Sections 18 and 19 of this chapter, and that all funds received one year prior are committed via fully executed contracts. These fund expenditure and contract execution requirements may be met cumulatively, consistent with Section 20 of this chapter. Districts in good standing are not required to submit a Status Report.~~

(b) Any district whose latest required ~~Final~~ Yearly Report does not demonstrate full expenditure of program funds within two years, as tracked cumulatively as required by HSC §44287(k) and §44299.2(c) and Sections 17 through and 20 of this chapter, must do one of the following:

- (1) Return the expenditure shortfall within 60 calendar days after the June 30th expenditure deadline, as required by HSC §44287(k) and 44299.2(c),

or

- (2) Have the amount of the expenditure shortfall deducted from its pending funding allocation. The funds that were the basis for this deducted amount (i.e. the expenditure shortfall) shall continue to be considered behind schedule with regard to the two year expenditure deadline, and shall continue to be tracked by the district based upon the original year they were reserved from the State. Funds deducted from a district's allocation shall be redistributed to other eligible air districts as per Section 6(e) of this chapter.

* * * * *

#5 – STREAMLINE FUND DISBURSEMENTS

Part III, Program Administration

Page 7. Section 8. Fund Disbursements to Air Districts

(a) In order to receive a disbursement, each district must submit a Grant Disbursement Request to ARB. The Grant Disbursement Request form must be signed by a party authorized and designated by the district Governing Board.

(b) If there are stipulations on the Grant Award and Authorization form, all stipulations must be met prior to submitting the initial disbursement request.

(c) Protocol and minimum requirements for air districts to receive disbursements are as follows:

- (1) Initial Disbursement: A district may request an initial disbursement which includes all of its administrative funds and up to ten percent of its allocation or \$100,000, project funds, or \$200,000, whichever is greater. ~~A district also has the option to receive an initial allocation for up to an amount for which funds have been committed to specific, eligible projects~~ has the option to request additional project funds to be included in the initial disbursement if they can meet and demonstrate all the criteria described in subsection (2) – Additional Disbursement.

~~A district in good standing may receive its initial disbursement without demonstrating expenditure, contract execution, or commitment of prior year funds. In order to receive an initial disbursement, a district which is not in good standing must demonstrate expenditure of all funds awarded by ARB to the district two calendar years prior and contract execution for 90 percent of the funds awarded by ARB to the district in the previous calendar year. Tracking of progress may be done cumulatively, consistent with Sections 18 through 20 of this chapter.~~

- (2) Subsequent Additional Disbursements: ~~Subsequent disbursements can be for up to an amount for which funds have been committed to specific, eligible projects. To receive a subsequent disbursement, districts must have committed their initial disbursement to specific, eligible projects.~~ Districts may request any remaining portion of their project funds once the following criteria have been met and submitted to ARB:

- (A) Preceding Yearly Report demonstrates on-time expenditures consistent with H&SC Section 44287(k) and as stated in Section 5 (b)
- (B) Program staff submission of document(s) listing eligible projects in an amount equal to the disbursement request, and confirming the district's intent to fund those projects

(C) Program staff certification that an executed contract will not be entered into prior to any project being approved by the APCO or Board approved designee (for those districts not requiring Board action) or district Board (for those districts requiring Board approval of projects) as consistent with their Policies and Procedures Manual.

~~(3) Minimum Allocation Districts: An air district in good standing that has requested the minimum program allocation of \$200,000 for the current funding cycle that has fully expended its funding allocation from two years prior consistent with Sections 18 through 20 of this chapter (i.e., the district did not donate any part of its allocation from two years prior to the Pooled Rural District Program or to another district, or return the funds to ARB) may receive its full disbursement from ARB without meeting the requirements of Section 8(c)(1) and (2), above.~~

~~(d) Commitment of funds to a project may be demonstrated by the mechanisms described in Section 15 of this chapter, or by a letter from the APCO certifying fund obligation. On a case-by-case basis, ARB may accept other documentation of the commitment to fund specific projects.~~

~~(e)(d) Districts will receive one check for both program administration and project funds, but shall account for the administration and project funds separately.~~

~~(f) Funds for program outreach and administration shall be disbursed as follows:~~

~~(1) If the initial disbursement is 50 percent or less of the district's total funding allocation for that year, the district shall receive 50 percent of its program administration funding for that year with the initial allocation. A district may receive the remaining 50 percent of its program administration funding when total disbursements exceed fifty percent of the districts funding allocation.~~

~~(2) If the initial disbursement exceeds 50 percent of the district's funding allocation for that year, the district shall receive 100 percent of its program administration funding with its initial allocation.~~

#6 – SIMPLIFY EARNED INTEREST REPORTING AND TRACKING

Part III, Program Administration

Page 13. Section 13. Earned Interest

Interest earned on Carl Moyer Program funds must be reported to ARB. The interest income must earned may either be used to fund projects that meet the current Carl Moyer Program Guidelines (including any revisions in effect at the time of contract execution) or must be returned to ARB.

* * * * *

(b) Expenditures for Carl Moyer Program Projects. All projects funded with interest must meet all current Carl Moyer Program Guidelines, including any revisions in effect at the time of contract execution.

(b)(c) Expenditures for Program Administration. A district shall follow the following minimum requirements in expending earned interest on program administration:

- (1) — A district that segregates its Carl Moyer Program funds into separate accounts for program administration and Carl Moyer Program projects must use all interest earned in the project account to fund eligible Carl Moyer Program projects, and may use interest earned in the program administration account for either Carl Moyer Program administration or Carl Moyer Program projects.
- (2) A district that earns interest collectively on both project and administration funding can use up to five percent of earned interest on administrative expenses if the district has one million or more inhabitants and up to ten percent of earned interest on administrative expenses if the district has less than one million inhabitants.

(c) Expenditure of Small Sums. Residual amounts of earned interest may also be combined with Carl Moyer Program and/or earned interest from previous years to fund a single project. When combining funds from different fiscal years, the district must use the Guidelines in effect at the time of the obligation.

(d) Expenditure and Reporting Timeline. Districts typically track and report on earned interest in one of two ways — the Fiscal Year Method or the Funding Cycle Method, as illustrated in Table 4. Using the Fiscal Year Method, Carl Moyer Program Year X earned interest is that interest earned on all Carl Moyer Program funds in the fiscal year that begins in Year X (See Table 4). For the Funding Cycle Method, Year X earned interest is that interest earned on Year X Carl Moyer Program funds over the approximately two year period the district has to expend the funds. Whatever the method used to accrue and track earned interest, interest on Year X funds must be liquidated by the expenditure deadline for Year 'X+2' funds (i.e. June 30th four calendar years after Year X funding was awarded by ARB). Year X earned interest shall be reported with Year 'X+2' funds, consistent with the schedule identified in Table 4. Table 5 identifies the liquidation deadlines for interest accrued through program Year 12. Each district must indicate which method it utilizes to track and report on earned interest in its Policies and Procedures Manual.

Table 4: Interest Accrual, Liquidation, and Reporting Timelines for Two Commonly Used Interest Generation Methods

	Year X		Year X+1		Year X+2		Year X+3		Year X+4	
Jan			■	■						
Feb			■	■						
Mar			■	■						
Apr		■	■	■						
May		■	■	■						
June		■	■	■		■				Invoices Paid
July	■	■		■						
Aug	■	■		■						Final Report
Sep	■	■		■						
Oct	■	■		■						
Nov	■	■		■						
Dec	■	■		■						

Assumes Year X funds received from ARB on April 1 of first year.



Fiscal Year Method (interest earned on all Carl Moyer Program funds)



Funding Cycle Method (interest earned on Year X Carl Moyer Program funds)

Table 5:

Liquidation Deadlines for Earned Interest

Fiscal Year	Liquidation Deadline
Years 1-7	June 30, 2009
Year 8 (FY 2005-06)	June 30, 2010
Year 9 (FY 2006-07)	June 30, 2011
Year 10 (FY 2007-08)	June 30, 2012
Year 11 (FY 2008-09)	June 30, 2013
Year 12 (FY 2009-10)	June 30, 2014

Districts must also report on interest expended as of June 30, 2008 with their Year 8 Final Report (due August 31, 2008). There is no earned interest expenditure requirement or deadline for this report.

(e)(d) Reporting Requirements. Each district shall report interest earned on Final in Yearly Reports to ARB using the format provided by ARB on the schedules identified in Tables 4 and 5.

- (1) Districts must report on projects funded with earned interest the same way districts report on Carl Moyer Program-funded projects (i.e., by entering projects in the CARL and in their Annual and Final Yearly Reports). Any interest-funded project not reported to ARB prior to the 2010 Yearly Report must be reported via CARL. For the 2010 Yearly Report, interest-funded projects that have already been reported to ARB via spreadsheet do not need to be reported again via CARL. For such projects, districts

must provide a list that includes project name, project number, amount of interest liquidated, and date (year) liquidated.

- (2) Documentation of earned interest generation and expenditure must be retained for a minimum of the project life plus two years, contract term plus two years, or date of final project invoice payment plus three years, whichever is longer.
- (3) In the 2010 Yearly Report, for the period of July 1, 1998 through June 30, 2010, districts must report interest earned on Carl Moyer Program, Rural District Assistance Program, and Multidistrict fund balances by listing the following:
 - (A) Earned interest that was liquidated on Carl Moyer Program projects.
 - (B) Earned interest that was expended on Carl Moyer Program administration.
 - (C) Balance of earned interest held by the district on June 30, 2010, including those interest funds committed to projects but not yet liquidated.
- (4) For the balance of earned interest held on June 30, 2010 [13(d)(3)(C) above], a district will have the following options:
 - (A) Spending that amount on Carl Moyer Program projects and administration [consistent with 13(c) above] on the same schedule and with the same requirements as the district's Year 13 Carl Moyer Program grant award. For reporting purposes, such interest funds will be added to other Carl Moyer Program funds and will thus be counted in the cumulative contract execution and fund expenditure targets tracked by CARL. The targets will be adjusted to take into account interest used to pay for administrative costs. Projects funded by such interest will be counted toward meeting those targets.

or
 - (B) Alternatively, such unspent interest may be returned to the ARB by October 31, 2010.

or
 - (C) A combination of (A) and (B).

- (5) Beginning with the 2011 Yearly report (due on August 31, 2011), and for each Yearly Report thereafter, districts will report interest earned during the previous fiscal year (July 1 through June 30). The District may choose either to return the interest to ARB by October 31 of the same year as the relevant Yearly Report or add the earned interest to the next funding cycle. For example, interest earned during fiscal year 2010-2011 (Moyer Year 13) could be returned by October 31, 2011, or placed under contract and expended on the same schedule (and with the same requirements) as other 2011-2012, Moyer Year 14 funds. A portion of such interest funds may also be spent on administration consistent with 13(c) above. For reporting purposes, such interest funds will be added to other Carl Moyer Program funds and will thus be counted in the cumulative contract execution and fund expenditure targets tracked by CARL. Projects funded by such interest will be counted toward meeting those targets. The targets will be adjusted to take into account interest used to pay for administrative costs.

#7 – STREAMLINE DISTRICT REPORTING REQUIREMENTS

Part III, Program Administration

Page 18. Section 17. Annual Report

(Section 17) ~~Annual Report~~ Yearly Report

- (a) ARB shall send districts a copy of the appropriate ~~Annual~~ Yearly Report template to fill out, or make the report template available on ARB's website. The ~~Annual~~ Yearly Report template shall include instructions for the report's completion.
- (b) Districts shall submit ~~an Annual~~ the Yearly Report on or before August 31st ~~of the year following each funding cycle's allocation from ARB (See Table 6).~~ This report shall provide information regarding projects associated with funds received ~~during the previous calendar year~~ that are under executed contract as of June 30th of that year. At a minimum, districts shall update all of their project information in the CARL and specify the date of contract execution. See Best Practices #3 and #21
- (c) The ~~Annual~~ Yearly Report must include the following information ~~for projects associated with funds received one year prior:~~
- ~~(1) Project type, emission reductions, number of engines funded, and funds under executed contract for each Carl Moyer Program project, including match fund projects.~~
 - (1) Project details including project type, emission reductions, and number of engines funded for each Carl Moyer Program project, including match fund projects and projects funded with earned interest. Information from

executed contracts and project invoices may be entered into CARL and used to populate this data.

~~(2) Projects from previous funding cycles that were reported as “under contract” but which are no longer under contract must be updated as such.~~

(2) To corroborate the data in the Yearly Report, the APCO, Chief Financial Officer (CFO), and Carl Moyer Program Administrator must sign and certify that the project and fiscal information contained within the Yearly Report is, to the best of their knowledge, accurate and complete. The District Board may designate an alternate for the CFO, however; the designated alternate must be someone in addition to the APCO or Program Administrator, therefore ensuring certification of the report by more than one person. Submission of executed contracts and/or project invoices is not required. Physical documents are to be maintained at the district office and made available to ARB upon request.

~~(3) Verification of executed contracts, as follows:~~

~~(A) Districts not in good standing shall submit copies of executed contracts for all Carl Moyer Program projects, including match projects, to ARB. Districts may make and submit one complete copy of their standard contract format and then submit only the pertinent pages (initial page, signature page, and page describing the project, including contract amount) of each contract to ARB.~~

~~(B) Districts in good standing may provide a form signed by the APCO, Chief Fiscal Officer (CFO), and Carl Moyer Program manager certifying the amount of funds under contract in lieu of copies of executed contracts.~~

~~(4) Copies of executed but not previously submitted contracts for projects identified in Section 19(c)(1) of this chapter that commit Carl Moyer Program and local match funds to projects.~~

(3) A brief narrative specifying any enforcement actions and/or recaptured funds.

(4) Amount of interest accrued on State Carl Moyer Program funds. See Section 13 for more regarding earned interest.

~~(d) Districts may demonstrate progress in executing contracts cumulatively by substituting executed contracts for current year State Carl Moyer Program funding (i.e. early contract execution) for funds not yet under contract from a previous year.~~

(d) Projects funded with the \$2 MV Fee which are not Carl Moyer Program match projects shall be reported as follows:

- (1) Districts claiming SIP credit for \$2 MV Fee projects must report project-by-project details, by entering them into CARL.
- (2) Districts not claiming SIP credit for \$2 MV Fee projects must report fund expenditures for each of the four allowed uses identified in Section 9(a) of this chapter, but are not required to report project-by-project details.

(e) Districts that have not executed contracts to cover all project funds received during the previous calendar year shall work with their ARB Carl Moyer Program liaison to ensure the district is on target to expend all required program funds within two years ~~consistent with Sections 18 through 20 of this chapter~~ (see Section 20 – Cumulative Progress Tracking). At a minimum, such districts shall provide an e-mail or other written documentation briefly describing:

- (1) The reason for the delay in executing contracts, and
- (2) Their schedule for executing the remaining contracts, returning funds to ARB, contributing the funds to the Rural District Assistance Program, or other action(s) as needed to ensure project funds are expended within two years. Districts choosing to contribute funds to the Rural District Assistance Program must do so by ~~that year's November application~~ the March 1st deadline of the following year in the current expenditure cycle (as identified in Table 6). ~~Districts that either: 1) return funds awarded by ARB the previous calendar year or 2) contribute funds received the previous calendar year to the Rural District Assistant Program after that year's November application deadline shall be considered not in good standing. Funds contributed to the Rural District Assistance Program prior to that year's November application deadline shall not impact a district's good standing status.~~

**Table 6:
Key Carl Meyer Program Milestones for Calendar Years 2008 Through 2011**

	2008	2009	2010	2011
Jan	ARB Awards and Disburses Year 10 Funds to Districts	ARB Awards and Disburses Year 11 Funds to Districts	ARB Awards and Disburses Year 12 Funds to Districts	ARB Awards and Disburses Year 13 Funds to Districts
Feb				
Mar				
Apr				
May				
June	Year 8 Expended Year 9 Contracts	Year 9 Expended Year 10 Contracts	Year 10 Expended Year 11 Contracts	Year 11 Expended Year 12 Contracts
July				
Aug	Year 8 Final Report Year 9 Annual Report	Year 9 Final Report Year 10 Annual Report	Year 10 Final Report Year 11 Annual Report	Year 11 Final Report Year 12 Annual Report
Sep	Year 11 Solicitation	Year 12 Solicitation	Year 13 Solicitation	Year 14 Solicitation
Oct				
Nov	Year 11 Apps. Due	Year 12 Apps. Due	Year 13 Apps. Due	Year 14 Apps. Due
Dec				

This table identifies the general milestones for calendar years 2008 through 2011. The exact milestone and deadline dates are included in Sections 2 through 19 of this chapter.

(f) In the event previous years' funds that were liquidated are returned to a district, those returned funds must be committed to new projects along with the current year's funds in accordance with the current year's requirements. The district shall include the projects funded with the returned funds in the current years Yearly Reports. For the purposes of progress tracking, such funds will continue to be considered expended.

(g) Receipt of a Yearly Report by ARB does not imply ARB approval of project eligibility. Air district staff is responsible for project approval and funding eligibility determinations.

(h) Districts that are found to have funded ineligible projects shall be required to substitute eligible projects equal to the amount found ineligible or return the ineligible amount to the ARB.

(Section 19) Final Report To remain blank for future use

#8 – IMPROVE TRACKING OF CUMULATIVE PROGRESS

Part III, Program Administration

Page 22. Section 20. Cumulative Progress Tracking

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(c) Cumulative progress tracking shall include funds received by a district via the Rural District Assistance Program. Cumulative progress tracking shall not include funds donated by a district to the Rural District Assistance Program or returned to ARB before the November application March 1st deadline of the following year in the current

expenditure cycle identified in Table 1 on the year after the funds are received from ARB.

(d) To assist with cumulative progress tracking, twice a year a questionnaire will be provided to each implementing air district requesting the following four fiscal year information: grant amount, disbursement amount, amount contracted, and amount expended. Tracking may extend back to Carl Moyer Program Year 9 (i.e. FY 2006-2007).

(e) The semi-annual questionnaire must be submitted to ARB on the first business day of April and December each year. At a minimum, the report should include fiscal data through the end of February and October, respectively. Alternatively, district staff may contact ARB with a written response (e.g. e-mail) that the requested information is updated in CARL in which case ARB will generate the requested information for the cumulative progress tracking questionnaire.

#9 – REDUCE REQUIREMENTS FOR MINIMUM ALLOCATION AND RURAL DISTRICTS
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Part III, Program Administration

Page 31. Section 27(d). Application Evaluation and Project Selection

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(d) Districts must have a system for tracking applications. CARL may be used to satisfy this requirement if the district enters the data from all applications received into this database, whether the application is provided funding or not. At a minimum, the tracking system shall include the minimum information needed to readily identify the project applicant, project type, and project eligibility, and to calculate project cost-effectiveness and maximum grant award in CARL. Minimum allocation districts are not required to maintain an application tracking system. Any other implementing air district receiving less than one-half percent of the current fiscal year total Carl Moyer Program Funds, or \$450,000, whichever is less, is exempt from this requirement.

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Page 39. Section 30(g). Project Pre-Inspections

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(g) Minimum allocation districts and any other implementing air district receiving less than one-half percent of the current fiscal year total Carl Moyer Program Funds, or \$450,000, whichever is less, may reduce their required project pre-inspections to a minimum of 25 percent of the total number of projects associated with the current fiscal year funds, with projects selected from each source category funded.