

**Proposition 1B:  
Goods Movement Emission Reduction Program  
Update to Program Guidelines**

**STAFF DRAFT CONCEPT PAPER**

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California Environmental Protection Agency



Proposition 1B: Goods Movement Emission Reduction Program  
Staff Draft Concept Paper for Update to Program Guidelines

**DOCUMENT AVAILABILITY**

Electronic copies of this document and related materials can be found at: <http://www.arb.ca.gov/gmbond>. Alternatively, paper copies may be obtained from the Board's Public Information Office, 1001 I Street, 1<sup>st</sup> Floor, Visitors and Environmental Services Center, Sacramento, California, 95814, (916) 322-2990.

If you need this document in an alternate format (i.e. Braille, large print) or another language, please contact Ms. Heather Jackson at (916) 322-8267 or [hbjackso@arb.ca.gov](mailto:hbjackso@arb.ca.gov). TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

**CONTACTS**

For more information on this Program and upcoming meetings, please see our website at: <http://www.arb.ca.gov/gmbond>, call us at: (916) 44-GOODS (444-6637), or email us at: [gmbond@arb.ca.gov](mailto:gmbond@arb.ca.gov).

**COMMENTS**

Please send written comments on this concept paper to:  
Ms. Barbara Van Gee, Manager  
Goods Movement Strategies Section  
Stationary Source Division  
Air Resources Board  
P.O. Box 2815  
Sacramento, California 95812  
or email at: [bvangee@arb.ca.gov](mailto:bvangee@arb.ca.gov).

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## **I. PURPOSE OF THIS CONCEPT PAPER**

Air Resources Board (ARB or Board) staff developed this concept paper to aid public discussion of updates to the existing Proposition 1B: Goods Movement Emission Reduction Program (Program) – Final 2010 Staff Report and Guidelines for Implementation dated March 25, 2010 (Guidelines).

The concepts in this paper for updates to the Guidelines are part of a periodic process to revisit the Program requirements. The proposed updates include modifications to existing project options based on new information, incorporating some new project choices, and administrative changes to improve effectiveness.

This paper is written for those already familiar with the Program. For background information and an explanation of terms, please see the 2008 Program Guidelines and accompanying Staff Report adopted by the Board on February 28, 2008 and posted on the Program website. These materials provide a comprehensive discussion of the Program structure, goals, and requirements. Currently, ARB staff is not considering any fundamental changes to the structure or goals of the Program.

We are seeking your input on the concepts and details described here, and other updates you believe would make the Program more effective in reducing emissions and the associated health risk from freight operations. Any changes must be consistent with the implementing legislation, which directs ARB to focus funding on projects that can achieve the greatest emission reductions per State dollar invested and the earliest possible health risk reduction in communities heavily impacted by freight transport.

Please provide your comments to ARB staff as soon as possible so we can consider them in the development of the proposed Update to the Guidelines. ARB expects to release the proposed Update to the Guidelines and Staff Report in December for Board consideration at a public hearing on January 25, 2013, in Diamond Bar.

## **II. BACKGROUND**

The diesel engines used in trucks, locomotives, ships, harbor craft, and cargo handling equipment to move goods in California are major contributors to the State's biggest pollution challenges. These sources account for more than two-thirds of the toxic diesel particulate matter (PM) statewide, with the highest levels in low-income and minority communities near ports, rail yards, freeways, and other freight facilities. They also produce about one-third of the nitrogen oxides (NOx) and sulfur oxides that form regional ozone or fine particles, especially in the South Coast and San Joaquin Valley.

ARB has implemented a comprehensive program to characterize and reduce the impacts of air pollution from freight operations on nearby communities. Building on health risk assessments for major port and rail yard facilities, ARB has adopted plans, regulations, incentive programs, and other strategies to cut emissions from freight sources.

**A. Health Impacts from Goods Movement**

California residents face serious health impacts from freight-related diesel pollution, especially in communities near ports, rail yards, roads with high truck traffic, and distribution centers. The diesel engines that move freight are also a major cause of high regional ozone and fine particle levels that harm millions of Californians today. Freight-related emissions are a public health concern at both the regional and community levels because they contribute to serious health effects, such as cardiac and respiratory diseases, increased asthma and bronchitis episodes, increased risk of cancer, and premature death.

**B. Plans and Strategies**

The Board established public health goals in its 2006 Emission Reduction Plan for Ports and Goods Movement in California (Plan): (1) to reduce the statewide health risk from diesel particulate matter (diesel PM or PM) by 85 percent by 2020, (2) to expeditiously reduce the localized health risk from diesel PM in impacted communities, and (3) reduce the emissions of NO<sub>x</sub> that contribute to regional fine particle and ozone pollution to achieve ambient air quality standards.

The Plan's emission reduction strategies to achieve these goals are also reflected in the Administration's 2007 Goods Movement Action Plan, the 2007 California State Implementation Plan (SIP), the 2008 Climate Change Scoping Plan and 2012 Vision for Clean Air Document.

The 2012 Vision for Clean Air: *A Framework for Air Quality and Climate Planning* (Vision) is a joint effort with the South Coast Air Quality Management District and the San Joaquin Valley Air Pollution Control District. It takes a coordinated look at strategies to meet California's multiple air quality and climate goals well into the future. The Vision effort indicates that broad deployment of zero/near-zero emission technologies in the South Coast and San Joaquin Valley air basins will be needed in the 2023 to 2032 timeframe to attain health-based air quality standards as required by federal law. In addition, California's 2050 climate goal provides an ambitious long-term target for greenhouse gas reductions.

ARB has adopted a broad suite of regulations and other programs for cleaner equipment and fuels to implement all of these plans. Key ARB regulations require: (1) the existing fleet of diesel trucks, harbor craft, and cargo handling equipment to accelerate the transition to low-emission models, (2) time limits on unnecessary truck idling, (3) the use of cleaner fuels in ships, harbor craft, and land-based sources, and (4) the use of shore-based electrical power for ships at dock instead of running the on-board diesel engines (i.e. shore power).

In addition, ARB has enforceable commitments with railroads and has expanded enforcement activities to protect nearby communities and improve regional air quality. And finally, ARB provides incentive programs to obtain emission benefits beyond what is required by regulations.

### **C. Program Authority and Scope**

Proposition 1B (Prop. 1B), approved by voters in 2006, authorizes \$1 billion in bond funding to the ARB to cut freight emissions in four priority trade corridors. Of the \$1 billion, \$980 million is to be used for this Program and \$20 million set aside by the control agencies to cover bond issuance and oversight costs. To date, ARB has received \$587 million for the Program. This leaves a balance of \$393 million that ARB needs new bond cash to implement. The major sources eligible for funding include heavy-duty diesel trucks, freight locomotives, ships at berth, commercial harbor craft, cargo handling equipment, and infrastructure for electrification of truck stops, distribution centers and other places trucks congregate.

State law (Health and Safety code section 39625 et seq.) directs ARB to administer the Program to maximize the emission reduction benefits while achieving the earliest possible health risk reduction in communities heavily impacted by goods movement. Executive Order S-02-07 on Bond Accountability provides further direction to ARB to ensure accountability and transparency in Program implementation.

The Program supplements regulatory actions and other incentives to cut diesel emissions by funding projects “not otherwise required by law or regulation.” The funds provide an incentive to equipment owners to upgrade to cleaner equipment and achieve early or extra emission reductions beyond those required by applicable regulations or enforceable agreements.

The Program is a partnership between ARB and local agencies (like air districts) to quickly reduce air pollution emissions and health risk from goods movement along California’s four priority trade corridors. ARB awards Program funds to local agencies; those agencies then use a competitive process to provide incentives to equipment owners to upgrade to cleaner technology.

### **D. Current Status**

The Board adopted the initial Guidelines in February 2008 and awarded the initial funding in May 2008 to local agencies. The truck, shore power, and most of the locomotive projects are currently operational and providing emissions benefits. The remaining locomotive projects will be operational by the end of 2012. Revised Guidelines were adopted by the Board in March 2010 and funding for grants in this cycle began in 2011 to support \$331 million in projects that will continue to be implemented through 2014. The majority of these funds are for truck projects with a significant number of projects being operational by the end of 2012. The Guidelines, together with subsequent Board Resolutions and Executive Orders, are available on the Program website.

Statute requires ARB to provide a semi-annual report to the Department of Finance on the status of the Program. The June 2012 status report is posted on the Program website and included as Appendix A to this concept paper. The report explains the rollout of bond funds, as well as detailing the current status of each local agency’s grant.

### **III. ELIGIBLE PROJECTS FOR NEW FUNDS**

The specifications for eligible projects are an integral part of the Update to the Guidelines. The Guidelines direct ARB staff to evaluate advances in technology, changes in equipment costs, regulatory actions, demand for Program funds in the prior funding cycle, and other new information that influences the design of project specifications.

Many regulations are now in effect and their compliance deadlines are taken into consideration with each update of the Guidelines. The effect of the regulations on the Program is that the nature of the eligible projects has changed. There are fewer projects that are “early” to the regulations; therefore in this update, the Program is moving towards funding eligible projects with emission reductions that are “extra.” Additionally, Program staff is proposing to provide additional funding for zero/near-zero emission technologies to encourage equipment owners to purchase the cleanest equipment.

This paper outlines concepts for the eligible projects in each source category that could be funded with new monies. Local agencies can choose which funding categories they wish to seek funding for and would need to allow equipment owners to apply for all eligible project options in that funding category, with funding awards determined by the competitive process.

#### **A. Trucks**

We are seeking comment on the eligibility requirements and funding amounts for various project options. The proposed updates are focused on trucks subject to ARB’s Statewide Truck and Bus Rule (Truck and Bus Rule), which defines the schedule to upgrade existing trucks to cleaner models. Trucks subject to the Statewide Drayage Truck Regulation are no longer eligible for future funding due to the compliance deadlines. ARB previously dedicated over \$135 million in Program funds to retrofit or replace over 3,500 drayage trucks.

##### **1. *Summary of All Truck Equipment Project Options***

The Truck and Bus Rule was updated by the Board in December 2010 and is now in effect. To determine which projects will be eligible for Program funds, staff reviewed the compliance deadlines under the Truck and Bus Rule to ensure that emission reductions would be “early or extra.” Staff identified funding opportunities for both large and small fleets, if the fleets maintain compliance with the Truck and Bus Rule requirements. The amount of “early or extra” PM reductions that will be available in 2014 (when projects are expected to be operational) is significantly less than for current projects; so future projects will yield primarily NOx reductions. Consequently, the proposed funding levels have been reduced to be more in line with the available reductions and still meet the legislative requirement to ensure cost-effective emission reductions. Table 1 shows the project options staff is evaluating.

**Table 1: Updated Equipment Project Concepts for Trucks**

Eligible Equipment and Upgrade		Maximum Program Funding		Project Life
		Proposed	Existing	
A	Replace Class 8 truck with MY1994-2006 engine with truck meeting MY2010 emission level <sup>1</sup>	\$30,000	\$60,000	5 years or 500,000 miles (whichever milestone comes first)
B	Replace Class 7 truck with MY1994-2006 engine with truck meeting MY2010 emission level <sup>1</sup>	\$25,000	\$40,000	
C	Replace Class 6 truck with MY1996-2006 engine with truck meeting MY2010 emission level <sup>1</sup>	\$15,000	N/A	
D	Replace Class 6-8 truck with MY1994-2006 engine with zero-emission vehicle	Same as above, plus \$40,000 to \$45,000 in additional AB118 funds <sup>2</sup>	N/A	
E	Repower truck with MY1994-2006 engine with new engine that meets MY2010 emission level <sup>1</sup>	\$20,000 Class 7/8 \$10,000 Class 6	\$30,000	
F	Three-way truck transaction: (1) replace truck with MY1998-2006 engine with newer truck meeting MY2010 emission level <sup>1</sup> (2) retrofit MY1998-2006 truck with PM filter (3) Scrap old truck with MY1993 or older engine	Same dollar amount as replacement above  N/A	\$60,000  \$5,000	

<sup>1</sup> MY2010 emission level means an engine certified by ARB Executive Order on the heavy duty test cycle to CERT and FEL emissions of 0.20 grams per brake-horsepower hour (g/bhp-hr) NOx and 0.01 g/bhp-hr PM or less.

<sup>2</sup> Subject to availability of AB 118 funds and the requirements of the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Program.

## 2. Discussion of Truck Concepts for Change

This section describes the proposed updates for truck projects, along with a brief discussion of the basis for those changes. Under the combination of equipment project options, local agencies would evaluate all of the applications from truck owners and score each application based on the established criteria of emission reductions and cost-effectiveness to determine which trucks receive funding. Each truck competes independently, so there is no advantage or disadvantage based on fleet size.

### a. Project option – funding levels for truck replacement

**Concept:** Reduce the funding cap to \$30,000 per Class 8 truck, \$25,000 per Class 7 truck, and \$15,000 per Class 6 truck for replacement with a truck meeting the MY2010 emission level.

**Basis:** The majority of current project benefits are from PM reductions. With these reductions now required by the Truck and Bus Rule, it is necessary to reduce the funding to achieve the same cost-effectiveness. It is expected that truck owners will be able to purchase used trucks that meet the MY2010 emission level in the 2014 timeframe. Therefore, although the grant amount would be reduced, staff expects eligible truck owners will still receive a grant for about half the cost of the (used) truck, similar to the current projects.

b. Project option – priority and enhanced funding for zero-emission vehicles

**Concept:** Provide the same amount of Program funding as replacement projects, plus additional AB 118 funding if available. In addition, zero-emission replacement projects will be given priority on ranked lists and AB 118 funds will not be included in the cost-effectiveness or emission reduction calculation.

**Basis:** Co-funding zero-emission trucks with AB 118 will provide an added incentive to applicants and promote transition to the cleanest zero-emission technology for future projects. Staff will continue to monitor the technology and look for additional opportunities to expand incentives to zero-emission technologies in future Guideline revisions. Staff considered providing additional incentives for natural gas trucks. However, at this time, these trucks are certified to the same emission standard as diesel engines (0.20 g/bhp-hr or less NO<sub>x</sub> and 0.01 g/bhp-hr or less PM) and are eligible for the standard funding amounts. In future Guidelines updates, staff will assess the viability of increasing grants for natural gas vehicles that meet standards that are lower than current levels.

c. Project option – funding levels for truck repower

**Concept:** Reduce the funding cap to \$20,000 per Class 7 or Class 8 truck, and \$10,000 per Class 6 truck for repowers with an engine meeting the MY2010 emission standard.

**Basis:** The majority of current project benefits are from PM reductions. With these reductions now required by the Truck and Bus Rule, it is necessary to significantly reduce the funding to achieve the same cost-effectiveness. Class 6 trucks have a later compliance deadline in the Truck and Bus Rule which will allow Program funds to be used for projects that still provide substantial PM benefits.

d. Project option – retrofits

**Concept:** Remove eligibility for retrofit projects.

**Basis:** Retrofits are no longer eligible for funding because the compliance deadlines in the Truck and Bus Rule prevent projects from achieving cost-effective early or extra emission reductions.

e. Project option – replacements

**Concept:** Require replacement projects to purchase newer trucks with an engine that meets the MY2010 emission level which the Program defines as: 0.20 g/bhp-hr or less NO<sub>x</sub> (FEL and CERT values) and 0.01 g/bhp-hr or less PM (CERT value).

**Basis:** Replacement with trucks meeting the MY2010 emission level reduces NO<sub>x</sub> emissions by over 80 percent compared to the MY2007 engines. Staff considered allowing engines meeting a 0.50 g/bhp-hr NO<sub>x</sub> standard to be eligible. However, the

proposed lower standard maximizes emission reductions and is consistent with the Program's goal to promote the cleanest certified available technology.

f. Eligibility – truck classification, weight and eligible engine

**Concept:** Increase range of eligibility to include Class 6 trucks that are involved in goods movement.

**Basis:** Staff proposes to expand eligibility to include Class 6 (GVWR 19,501-26,000 lbs.) trucks with 1996-2006 engines. This class still represents appropriate heavy-duty operation, consistent with the Program objectives. In addition, Class 6 trucks have later compliance deadlines in the Truck and Bus Rule which will allow Program funds to be used for projects that still provide substantial PM benefits.

g. Eligibility – engine model year

**Concept:** Change eligibility requirements for Class 7 and 8 trucks to allow replacement of old trucks with 1994-2006 engines.

**Basis:** Staff proposes to expand this eligibility requirement to include 2004 to 2006 engine model years while still obtaining cost-effective emission reductions. These engines did not previously provide cost-effective benefits compared to the replacement of 2003 and older trucks, since the emission reductions were based on replacement with a MY2007 emission level engine. With the requirement to upgrade to MY2010 emission levels, which provides over 80% in NOx benefits, these replacement projects now provide cost-effective emission reductions. Older, higher polluting vehicles would remain a priority and would rank higher in the competitive process. Additionally, 1993 and older trucks are no longer eligible due to compliance deadlines.

h. Eligibility – mileage documentation and prior California operation and registration

**Concept:** Streamline the process for documenting mileage, prior California operation, compliance checks, and California registration history.

**Basis:** Staff is working with the local agencies to explore streamlining options that would maintain the core eligibility of the Program and uphold the competitive process. This will promote consistency in implementation across districts while making the process easier for applicants and local agencies.

i. Eligibility – minimum mileage

**Concept:** Increase minimum vehicle miles traveled (VMT) per year from 5,000 to 20,000.

**Basis:** The amount of early or extra emission reductions that will be available for future projects is greatly reduced due to the compliance requirements of the Truck and Bus

Rule. Increasing the minimum mileage ensures that a reasonable cost-effectiveness is achieved in all cases.

**B. Locomotives and Rail Yards**

**1. Summary of All Locomotive Equipment Project Options**

ARB staff is proposing updating the project options for switcher and line-haul locomotives. Concepts include providing a higher amount of Program funding for early introduction of locomotives meeting the Tier 4<sup>1</sup> emission standard, modifying operational and eligibility requirements involving fuel usage, time in California, and ARB verification of emission levels, as well as reducing project life. Table 2 shows the project options staff is evaluating.

**Table 2: Updated Equipment Project Concepts for Locomotives and Rail Yards**

	Eligible Equipment	Equipment Upgrade	Maximum Program Funding	Project Life
A	Switcher (1,006 hp-2,300 hp) or Medium-horsepower line-haul locomotive (2,301 hp-4,000 hp) Uncontrolled, Tier 0, Tier 0+, Tier 1, or Tier 1+ diesel freight locomotive	Replace, repower or rebuild with new engine or install alternative technology to meet Tier 4 or lower emission standards for both NOx and PM	(a) Lower of 60% of eligible cost or \$1.8M if operational in 2015 (b) Lower of 50% of eligible costs or \$1.5M if operational in 2016 or later	10 years
B	Line-haul locomotive (4,001 hp or higher) Uncontrolled, Tier 0, Tier 0+, Tier 1, or Tier 1+ diesel freight locomotive	Replace, repower or rebuild with a new engine, or install alternative technology to meet Tier 4 or lower emission standards for both NOx and PM	(a) Lower of 70% of eligible cost or \$2.1M if operational in 2015 (b) Lower of 60% of eligible costs or \$1.8M if operational in 2016 or later	10 years
C	Existing freight rail yard	Install infrastructure for a locomotive emissions capture and control system (a.k.a. hood or bonnet) that achieves a minimum control effectiveness of 85% for NOx and 85% for PM	(a) Lower of 50% of eligible cost or a level commensurate with a cost-effectiveness of 0.15 lbs/State \$ or higher	10 years

<sup>1</sup>References to engine “Tiers” mean the applicable emission standards established by the U.S. Environmental Protection Agency (U.S. EPA).

**2. Discussion of Locomotive Concepts for Change**

This section describes the proposed updates for locomotive projects, along with a brief discussion of the basis for those changes. The changes under consideration would help implement some of the cleanest priority options in the *Recommendations to Provide Further Locomotive and Railyard Emission Reductions* that the Board approved in September 2009. Using the combination of existing and updated equipment project options, a local agency would evaluate all of the applications from locomotive owners and

rail yard operators, then score each application based on the established criteria of emission reductions and cost-effectiveness to determine which projects receive funding.

a. Project option – upgrade to Tier 4 for all locomotive types

**Concept:** Update the current project options to offer a higher amount of Program funding for locomotive replacement and repower projects that meet Tier 4 emission levels (1.3 g/bhp-hr or less NOx, and 0.03 g/bhp-hr or less PM) and that are operational in 2015.

**Basis:** The Tier 4 emission standards significantly reduce PM and NOx emissions and will apply to new locomotives manufactured beginning in 2015. This coincides with the timeframe when the projects will be operational, as it takes approximately two years to manufacture locomotives. Tier 4 locomotives are currently available in the medium-horsepower category. Since many locomotives remain in service for 30 years or more, we are proposing to support the cleanest engine technology. By offering to pay a greater share (percentage and dollar amount) of the cost for these engines we hope to create customer demand for the technology and spur the manufacturers to make them available sooner.

b. Eligibility requirement – flexibility to use MW-hr

**Concept:** Allow the minimum locomotive activity for eligibility to be expressed as gallons per year or as megawatt-hours (MW-hrs) per year.

**Basis:** Under normal business operation, a railroad company knows the total volume of diesel fuel used in all their operations but does not necessarily keep track of the amount of diesel fuel consumed by an individual locomotive. However, they may keep record of the MW-hrs generated by a locomotive. We are proposing providing applicants the flexibility to demonstrate that the equipment meets the minimum activity required in the Guidelines by using gallons of diesel consumed per year or MW-hrs generated per year.

c. Operating requirement – funding for 90% California-only operation

**Concept:** Allow applicants upgrading medium-horsepower and line-haul locomotives to select a 90% California operation for the new equipment with no penalty to the amount of funding.

**Basis:** Current Guidelines allow applicants of medium-horsepower and line-haul locomotive projects to choose a 90% California-only operation at a reduced funding amount. Removal of the funding reduction for 90% projects aligns with similar changes proposed for other source categories while still maintaining reasonable cost-effectiveness. It also provides an additional incentive for equipment owners to participate in the Program. This proposed change doesn't apply to switcher locomotives which may only leave the State for periodic maintenance.

d. Operating requirement – project life

**Concept:** Reduce project life to 10 years for all locomotive project options.

**Basis:** Geographic operations are restricted during the project life to ensure the locomotive project achieves emission reductions within the State. Reducing the project life from 15 years to 10 years is intended to increase participation while maintaining the significant emission reductions available within this category.

e. Operating requirement – require ARB verification of emissions

**Concept:** Update the current Program requirement to include an ARB written verification of the emission levels of new or upgraded locomotive equipment. A U.S. EPA Certificate of Conformity is required, if it is available.

**Basis:** For locomotive engines that meet Tier 4 standards, current Guidelines require owners to provide a U.S. EPA Certificate of Conformity to verify the Tier 4 emission levels. However, if a new technology is being used, there may be some cases where the U.S. EPA is still refining its emissions testing methods. To ensure that engines being funded by the Program are providing the necessary emission reductions, staff is proposing that equipment be verified by ARB in addition to providing the U.S. EPA Certificate of Conformity, if it is available. The ARB verification will complement the U.S. EPA certification process and ensure that funded locomotives meet the emission levels required by the Guidelines.

**C. Ships at Berth/Shore Power**

**1. *Summary of All Shore Power Equipment Project Options***

ARB's Ocean-Going Vessels At-Berth Rule (Shore Power Rule) begins to phase in emission control requirements from 2010-2014, depending on the technology chosen to comply. Given the impending deadlines and the substantial lead time needed to design and build/install the technology, we can no longer expect that Program funds will provide early emission reductions. Our focus for this source category must now be on achieving extra reductions, beyond those required under the Shore Power Rule by providing funding for berths that service ships not covered by the regulation (e.g. vehicle carriers, bulk ships, and tankers). Table 3 shows the project options staff is evaluating.

**Table 3: Updated Equipment Project Concepts for Ships at Berth/Shore Power**

Eligible Equipment		Equipment Upgrade	Maximum Program Funding	Project Life	Other Conditions (partial description)
A	Existing cargo ship berth that receives visits by ships not subject to the Shore Power Rule	Install grid-based shore power (landside infrastructure to berth)	Lower of 50% of eligible cost or \$2.5M	10 years	Ship visits must result in a cost-effectiveness of 0.10 lbs/State \$ or higher
B	Existing cargo ship berth or terminal that receives visits by ships not subject to the Shore Power Rule	Install non-grid-based shore power (zero-emission system or natural gas engine with selective catalytic reduction)	\$200k/MW	5 years	Ports of Los Angeles and Long Beach: 1,500 hrs/yr (2014 onwards)  Other ports: 1,000 hrs/yr (2014 onwards)
C	Existing cargo ship berth or terminal that receives visits by ships not subject to the Shore Power Rule	Install an emissions capture and control system (a.k.a. hood or bonnet) that achieves a minimum control effectiveness of 85% for NOx and 85% for PM	Funding level that provides a cost-effectiveness of 0.10 lbs/State \$ or higher	10 years	Ports of Los Angeles and Long Beach: 1,500 hrs/yr (2014 onwards)  Other ports: 1,000 hrs/yr (2014 onwards)

**2. Discussion of Shore Power Concepts for Change**

This section describes the changes to the existing options and the basis for those changes. A local agency would evaluate all of the applications from ports, shippers, and/or marine terminal operators (plus any competing applications for cargo handling equipment projects) and score each application based on the established criteria of emission reductions and cost-effectiveness to determine which projects receive funding.

a. Eligibility requirement – berths/terminals

**Concepts:** Require that equipment project options are only available for berths that receive visits by ships that are not subject to the Shore Power Rule. These include: vehicle carriers, bulk ships and tankers.

**Basis:** It is no longer reasonable to expect that shore power projects can be awarded, designed, built, and operational in time to provide early reductions ahead of the Shore Power Rule compliance dates. In response, the Program must focus on achieving extra reductions, beyond those required under the Shore Power Rule. The ships that visit these berths are not required to use shore power while at berth; therefore, to ensure that emission reductions occur, ARB and the local agencies will work with the ports will to develop mechanisms such as adding requirements to lease agreements to ensure benefits occur.

b. Eligibility requirement – cost-effectiveness

**Concept:** Require a minimum cost-effectiveness equal to or greater than 0.10 pounds of weighted emissions reduced per State dollar invested, for a project to be eligible to compete against other ships at berth/shore power projects (and cargo handling equipment projects) for funding.

**Basis:** Ship visits and hotelling time are a critical input to the emission calculations used in the competitive ranking process. Because future activity is uncertain and expected to vary considerably, requiring a minimum cost-effectiveness would ensure that Program funds achieve reasonable cost-effectiveness.

c. Eligibility requirement – minimum operating hours

**Concept:** Reduce the required minimum number of operating hours for non-grid shore power projects and the emissions capture control system.

**Basis:** Emission reductions for the non-grid-based option and emission capture control systems rely on the absolute number of operating hours per year. The reduction in the minimum usage requirement reflects the decline in the number of ship visits and average (hotelling) time at non-regulated berths. Bifurcating those requirements reflects the activity differences between the ports.

### **Administrative Changes for Prior Shore Power Projects under Contract**

Reimbursement – quarterly payments

**Concept:** Allow progress payments for grid-based shore power projects that are currently under contract with the local agencies.

**Basis:** The Program requires projects to be completed and post-inspected prior to payment. Shore power projects are long-term and high-cost. Ports have requested progress payments to be made prior to the completion of the project, which is typical for construction projects. The Governor directed ARB to provide flexibility in reimbursing ports for payments. The local agencies may reimburse the ports for up to 80% of eligible project costs, provided the equipment owner has expended the non-State match funding for each berth, and is in compliance with the equipment project contract. The Governor also directed ARB to provide additional flexibility for small ports (less than 10 berths) if they experience difficulties meeting these conditions. Staff will continue to work with applicable stakeholders to develop a proposal that provides additional flexibility while maintaining our fiduciary responsibility.

**D. Commercial Harbor Craft**

**1. Summary of All Commercial Harbor Craft Equipment Project Options**

ARB’s Harbor Craft Regulation requires specific vessel types to upgrade to cleaner technology over time. Staff is proposing to update the existing project options for the repower, replacement, and/or upgrades to hybrid power systems, of regulated and not regulated commercial harbor craft. New concepts being considered include expanding the eligible boundary of operations for all vessels and setting a minimum cost-effectiveness for all projects. The other changes being proposed relate to eligible engine tier upgrades, updates to funding levels, and eligible vessels. Table 4 shows the project options staff is evaluating.

**Table 4: Updated Equipment Project Concepts for Commercial Harbor Craft**

	Eligible Equipment	Equipment Upgrade	Maximum Program Funding	Project Life
A	Regulated in-use: Diesel-powered tugboats, towboats or crew and supply vessels with existing Tier 0 or Tier 1 propulsion engine(s)	Repower engine(s) or replace vessel with new Tier 3 or cleaner engine <sup>1,2</sup>	Lower of 50% of eligible cost or up to \$175/hp of old engine; funding level that provides a cost- effectiveness of 0.10 lbs/State \$ or higher	8 years
B	Not regulated in-use: Diesel-powered work or pilot boats or commercial fishing vessels with existing Tier 0 or Tier 1 propulsion engine(s)	Repower engine(s) or replace vessel with new Tier 3 or cleaner engine	Lower of 80% of eligible cost or up to \$280/hp of old engine; funding level that provides a cost-effectiveness of 0.10 lbs/State \$ or higher	8 years
C	Diesel-powered tugboats, towboats, pilot or work boats, crew and supply or commercial fishing vessels with existing Tier 2 or Tier 3 propulsion engine(s)	Retrofit hybrid power system on existing vessel, or replace existing vessel with a new vessel powered by a hybrid power system that achieves 30% PM and NOx emission reductions as compared to the original vessel, operating hours and duty cycle <sup>3</sup>	Lower of 80% of eligible cost or up to \$360/hp of old engine; funding level that provides a cost-effectiveness of 0.10 lbs/State \$ or higher	8 years

<sup>1</sup> Upgraded vessel must be operational at least 2 years before the applicable compliance date.

<sup>2</sup> References to engine “tiers” mean the applicable emission standards for marine engines established by the U.S. Environmental Protection Agency (U.S. EPA) incorporated in ARB’s Commercial Harbor Craft Regulation.

<sup>3</sup> An equipment owner may receive a grant to repower/replace a vessel (under option A and B) and add a hybrid power system in the same upgraded vessel. If combining option C with option A or B the maximum funding available for the project (combined options) is the lower of the total cost or up to \$360/hp of the old engine.

## 2. Discussion of Commercial Harbor Craft Concepts for Change

This section describes the concepts for proposed changes to commercial harbor craft projects and the basis for those changes. Under the equipment project options a local agency would evaluate all of the applications from harbor craft owners and score each application based on the established criteria of emission reductions and cost-effectiveness to determine which projects receive funding.

### a. Project option – funding levels

**Concept:** Increase the funding level for all project options (see Table 4 above).

**Basis:** The proposed increased funding level for all three options reflects the higher cost of new Tier 3 engines, and is more in line with funding levels that are offered by the Carl Moyer Program, yet still maintains reasonable cost-effectiveness.

### b. Project option – repower/replacement with a hybrid power system

**Concept:** Expand this option to all eligible vessels (tug boats, tow boats, crew and supply vessels, work or pilot boats, commercial fishing vessels).

**Basis:** Current Program Guidelines only allow funding of regulated harbor craft for upgrades to hybrid power systems or hybrid vessels. Hybrid power systems have already been developed for use on tugboats and towboats, and two are in operation at the Ports of Los Angeles and Long Beach. Opening this option to vessels not covered by the Harbor Craft Regulation could encourage development of hybrid technology for other vessel types.

### c. Project option – engine tier level upgrades

**Concept:** Limit engine repower or replacement upgrades to Tier 3 or better diesel engines and eliminate current option to upgrade to a Tier 2 engine.

**Basis:** ARB's Harbor Craft Regulation requires vessel owners to upgrade their existing engines (based on current engine model year) to either a Tier 2 or Tier 3 engine, whichever is the highest tier available when upgrading. Since many harbor craft have a long life, we are proposing funding for the cleanest engine technology. The U.S. EPA standard for all new Tier 3 engines is expected to be fully implemented during the timeframe of the next Program funding cycle. Therefore we are proposing to limit the upgrade to Tier 3 or better engines.

### d. Eligibility requirement – cost-effectiveness

**Concept:** Require a minimum cost-effectiveness equal to or greater than 0.10 pounds of weighted emissions reduced per State dollar invested, for a project to be eligible to compete for funding in this category.

**Basis:** Operating hours and regulatory status are critical inputs to the emission calculations used in the competitive ranking process. While a vessel’s regulatory status will not change during the next funding cycle, future activity is uncertain and expected to vary considerably. A minimum cost-effectiveness would ensure that State funds achieve reasonable cost-effectiveness.

e. Operating requirements – distance from California coastline

**Concept:** Extend operations beyond the current limit of 24 nautical miles (nm) from the California coast to 100 nm (California Coastal Waters).

**Basis:** Expanding the operational area provides opportunities for fishing vessel participation, aligns with the Carl Moyer Program, and still achieves cost effective emission reductions. The PM emissions calculated past 24 nm will not be included in the emission reductions. ARB staff will work with the local agencies on developing mechanisms to track and/or report the operations outside of the 24 nm.

**E. Cargo Handling Equipment**

**1. *Summary of All Cargo Handling Equipment Project Options***

The emission reductions from Program-funded upgrades cannot be used to comply with ARB’s Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards (CHE Regulation). Since the Board adopted the CHE Regulation in December 2005, most of the compliance deadlines have passed. Therefore, the upgraded equipment must move towards zero or near-zero technology to provide “extra” emission reductions. We are not considering any significant changes to existing project options. Table 5 shows the project options staff is evaluating.

**Table 5: Updated Equipment Project Concepts for Cargo Handling Equipment**

	Eligible Equipment	Equipment Upgrade	Maximum Program Funding	Project Life
A	Existing rubber-tired gantry crane (with 2006 or older MY engine)	Repower diesel engine with electric or zero-emission power system <sup>1</sup>	Lower of 50% of eligible cost or \$500,000	15 years
B	Existing diesel-powered yard truck (with 2006 or older MY engine)	Replace with new electric or zero-emission yard truck <sup>2</sup>	Lower of 50% of eligible cost or \$50,000	5 years

<sup>1</sup> Program funded equipment cannot be used to comply with the regulatory requirement for replacing non-compliant equipment with electric or zero-emission equipment associated with obtaining third and/or fourth years of “No VDECS Available” compliance extension.

<sup>2</sup> Program funded equipment is not eligible to be counted towards compliance for a two-year period.

## 2. Discussion of Cargo Handling Concepts for Change

This section describes the concepts for revisions to the cargo handling equipment projects. A local agency would evaluate all of the applications from cargo handling equipment owners – combined with applications for ships at berth/shore power projects that are part of the same funding category – and score each application based on the established criteria of emission reductions and cost-effectiveness to determine which projects receive funding.

### a. Project option – funding levels

**Concept:** Increase the funding to the lower of 50% of eligible cost or \$500,000 per rubber-tired gantry crane electrification.

**Basis:** Repowering a rubber-tired gantry crane to operate on electrical power can cost from \$600,000 up to \$1 million including the cost of needed infrastructure to bring electricity to the location of the crane. An increase in funding (from a maximum of \$100,000) will provide a greater incentive for equipment owners to upgrade equipment beyond the regulatory requirements while still maintaining a reasonable cost-effectiveness.

### b. Eligibility – model year requirements

**Concept:** Expand model years for rubber-tired gantry cranes and yard trucks to MY2006 or older from the current requirement of MY2004-2006.

**Basis:** The previous focus on this source category was for “early” emissions through retrofits or “diesel-to-diesel” replacements. With the CHE Regulation compliance date for a majority of existing cargo handling equipment having passed, this leaves only emission reductions that are “extra” to the CHE Regulation. With the focus on “extra”, staff is proposing to expand funding to all model years 2006 and older as they provide additional opportunities to achieve extra NOx and PM emission reductions. These projects will also cut fuel consumption and greenhouse gas emissions.

## IV. ADMINISTRATION

Based upon experience from prior grants and input from the local agencies implementing the Program, ARB staff is developing additional updates to the administration requirements within the Guidelines. These changes will streamline implementation while still maintaining the integrity of the Program. ARB staff will continue to work with the local agencies to finalize these updates.

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**APPENDIX A**

**Proposition 1B: Goods Movement Emission Reduction Program, June 2012 Semi-Annual Status Report**

**LOS ANGELES/INLAND EMPIRE TRADE CORRIDOR – South Coast AQMD**

Fiscal Year/ Category	Project Description	Grant Amount	Emission Reductions (pounds)		Current Project Status
			PM	NOx	
<b>FY2011-12</b>					
Priority Drayage Reserve	Replace old dirty trucks with newer clean models serving ports and railyards.  (G11GMLP1)	\$5,071,500	2,000	1,493,000	During a solicitation in early 2012, ARB received eligible applications to replace 160 trucks under the priority drayage reserve. District is currently signing contracts and all projects will be operational by the end of 2012. Funds that were not needed for drayage projects were allocated to fund local agencies' other truck projects.
<b>FY2011-12 &amp; FY2008-09</b>					
Other Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models.  (G11GMLT1) (G08GMLT1)	\$93,410,333  including: \$53,521,762 \$39,888,571	604,000	15,158,000	District is in the process of signing contracts with owners to upgrade almost 2,300 trucks. District expects projects for most large fleets to be operational by the end of 2012 and small fleets by the end of 2013.
<b>FY2008-09</b>					
Ships at Berth	Eliminate or reduce emissions from ships at berth.  (G08GMLS1)	\$59,973,125	373,000	21,841,000	District has signed contracts to install shorepower equipment for a total of 25 berths (12 for Port of Long Beach, 10 for Port of Los Angeles, 3 for Port of Hueneme). District expects construction to start in Fall 2012. Projects are expected to be operational by December 2013. Unused funds (\$1,326,875) were redirected to supplement the District's truck grant G11GMLT1.
Locomotives	Replace old dirty locomotives with newer clean models.  (G08GMLL1)	\$4,635,000	29,000	315,000	ARB approved a ranked list to upgrade 6 locomotives. District expects to sign a contract with the equipment owner in 2012. Unused funds (\$1,565,000) were transferred to the District's truck grant G11GMLT1.

**LOS ANGELES/INLAND EMPIRE TRADE CORRIDOR – South Coast AQMD (continued)**

Fiscal Year/ Category	Project Description	Grant Amount	Emission Reductions (pounds)		Current Project Status
			PM	NOx	
<b>FY2007-08</b>					
Drayage Trucks	Replace old dirty trucks serving the Ports of Los Angeles and Long Beach with newer clean models. (G07GMLP1)	\$6,930,000	72,000	1,104,000	District has completed the grant to scrap 132 old trucks and replace them with new natural gas trucks meeting the cleanest 2010 emission standards. All 132 trucks are operational.
	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models serving the rail yards. (G07GMLP2)	\$2,625,000	34,000	577,000	District has completed the grant to retrofit 2 trucks with soot filters and to scrap 50 old trucks and replace them with much cleaner trucks. All 52 upgraded trucks are operational.
	Replace old dirty trucks serving the Ports of Los Angeles and Long Beach with newer clean models. (G07GMLP3-03)	\$67,928,350	557,000	10,188,000	District has completed this project to scrap 1,312 old trucks and replace them with much cleaner trucks. All 1,312 trucks are operational. Unused funds (\$1,608,950) were transferred to the District's truck grant G11GMLT1.
Other Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models. (G07GMLT1)	\$6,877,500	104,000	1,638,000	District has completed the grant to scrap 131 old trucks and replace them with much cleaner trucks. All 131 trucks are operational.
	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models. (G07GMLT2)	\$43,630,350	502,000	13,671,000	District has completed projects to retrofit 33 trucks with soot filters and to scrap 815 old trucks and replace them with much cleaner trucks. All 848 trucks are operational. District plans to complete one truck stop electrification project by the end of 2012. Unused funds (\$2,216,279) were transferred to the District's truck grant G11GMLT1.
Locomotives	Replace old dirty locomotives at rail yards with newer clean models. (G07GMLL1)	\$3,090,000	37,000	1,007,000	District has signed a contract to repower 4 switcher locomotives with much cleaner engines and expects them to be operational by December 2012.

**LOS ANGELES/INLAND EMPIRE TRADE CORRIDOR – Port of Long Beach**

Fiscal Year/ Category	Project Description	Grant Amount	Emission Reductions (pounds)		Current Project Status
			PM	NOx	
<b>FY2007-08</b>					
Drayage Trucks	Replace old dirty trucks serving the Ports of Los Angeles and Long Beach with newer clean models.  (G07GMLP3)	\$3,550,000	62,000	609,000	Port has completed the grant to scrap 67 old trucks and replace them with much cleaner trucks. All 67 trucks are operational.
FY2011-12 Corridor Subtotal		\$5,071,500	2,000	1,493,000	
FY2011-12 & 2008-09 Corridor Subtotal		\$93,410,333	604,000	15,158,000	
FY2008-09 Corridor Subtotal		\$64,608,125	402,000	22,156,000	
FY2007-08 Corridor Subtotal		\$134,631,200	1,368,000	28,794,000	
Corridor Total		\$297,721,158	2,376,000	67,601,000	

**CENTRAL VALLEY TRADE CORRIDOR – San Joaquin Valley APCD**

Fiscal Year/ Category	Project Description	Grant Amount	Emission Reductions (pounds)		Current Project Status
			PM	NOx	
<b>FY2011-12 &amp; FY2008-09</b>					
Other Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models.  (G11GMCT1) (G08GMCT1)	\$61,893,915  including: \$17,166,612 \$44,727,303	588,000	14,830,000	District is in the process of signing contracts with owners to upgrade more than 1,200 trucks. District expects projects for most large fleets to be operational by the end of 2012 and small fleets by the end of 2013.
<b>FY2007-08</b>					
Other Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models.  (G07GMCT1)	\$4,882,500	113,000	1,364,000	District has completed the grant to retrofit 10 trucks with soot filters and to scrap 93 old trucks and replace them with much cleaner trucks. All 103 trucks are operational. Unused funds (\$52,500) were transferred to the District's truck grant G11GMCT1.
	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models.  (G07GMCT3)	\$40,824,420	609,000	14,319,000	District has completed the grant to retrofit 12 trucks with soot filters and to scrap 789 old trucks and replace them with much cleaner trucks. All 801 trucks are operational. Unused funds (\$1,244,777) were transferred to the District's truck grant G11GMCT1.

**CENTRAL VALLEY TRADE CORRIDOR – Sacramento Metropolitan AQMD**

Fiscal Year/ Category	Project Description	Grant Amount	Emission Reductions (pounds)		Current Project Status
			PM	NOx	
<b>FY2011-12 &amp; FY2008-09</b>					
Other Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models.  (G11GMCT2) (G08GMCT2)	\$10,558,879  including: \$752,053 \$9,806,826	55,000	1,746,000	District is in the process of signing contracts with owners to upgrade 240 trucks. Ten trucks are operational. District expects projects for most large fleets to be operational by the end of 2012 and small fleets by the end of 2013.
<b>FY2007-08</b>					
Other Trucks	Replace old dirty trucks with newer clean models.  (G07GMCT2)	\$102,847	1,000	27,000	District has completed the grant to scrap 2 old trucks and replace them with much cleaner trucks. Both trucks are operational.
	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models.  (G07GMCT4)	\$4,640,774	43,000	1,016,000	District has completed the grant to scrap 96 old trucks and replace them with much cleaner trucks. All 96 trucks are operational. Unused funds (\$752,053) were transferred to its truck grant G11GMCT2.
	Replace old dirty long-haul locomotives with new clean models.  (G07GMCL1)	\$10,300,000	295,000	2,844,000	District has signed a contract to repower 15 line haul locomotives with much cleaner engines and will be operational by the end of 2012. They are expected to routinely travel between the Central Valley and the Los Angeles/Inland Empire.
FY2011-12 & 2008-09 Corridor Subtotal		\$72,452,794	643,000	16,576,000	
FY2007-08 Corridor Subtotal		\$60,750,541	1,061,000	19,570,000	
Corridor Total		\$133,203,335	1,704,000	36,146,000	

**BAY AREA CORRIDOR – Bay Area AQMD**

Fiscal Year/ Category	Project Description	Grant Amount	Emission Reductions (pounds)		Current Project Status
			PM	NOx	
<b>FY2011-12</b>					
Priority Drayage Reserve	Replace old dirty trucks with newer clean models serving ports and railyards.  (G11GMBP1)	\$25,268,250	3,000	6,803,000	During a solicitation in early 2012, ARB and the District received eligible applications to replace almost 900 trucks under the priority drayage reserve. District is currently signing contracts and all projects will be operational by the end of 2012. Funds that were not needed for drayage projects were allocated to fund local agencies' other truck projects.
<b>FY2011-12 &amp; FY2008-09</b>					
Other Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models.  (G11GMBT1) (G08GMBT1)	\$15,743,213  including: \$8,149,010 \$7,594,203	110,000	2,969,000	District is in the process of signing contracts with owners to upgrade more than 300 trucks. District expects projects for large fleets to be operational by the end of 2012 and small fleets by the end of 2013.
<b>FY2008-09</b>					
Ships at Berth	Eliminate or reduce emissions from ships at berth and/or cargo equipment at ports and intermodal railyards.  (G08GMBS1)	\$20,000,000	97,000	5,660,000	District has signed contracts to install shorepower equipment for a total of 9 berths (8 for Port of Oakland, 1 for Ports America Outer Harbor Terminal). Construction has begun and projects are expected to be operational by December 2013.

**BAY AREA CORRIDOR – Bay Area AQMD (continued)**

Fiscal Year/ Category	Project Description	Grant Amount	Emission Reductions (pounds)		Current Project Status
			PM	NOx	
<b>FY2007-08</b>					
Drayage Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models serving the Port of Oakland. (G07GMBP1)	\$14,526,891*	190,000	1,897,000	District has completed the grant to retrofit 889 trucks with soot filters and to scrap 203 old trucks and replace them with much cleaner trucks. All 1,092 trucks are operational.
Other Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models. (G07GMBT1)	\$10,462,200	87,000	1,970,000	District has completed the grant to retrofit 13 trucks with soot filters and to scrap 198 old trucks and replace them with much cleaner trucks. All 211 trucks are operational. Unused funds (\$6,915,300) were transferred to the District's truck grant G11GMBT1.
Ships at Berth	Install grid-based shoreside electrical power at 3 ship berths at the Port of Oakland so ships can plug in and turn off their engines while docked. (G07GMBS1)	\$2,422,290	20,000	1,164,000	District has completed the grant to provide shore power at 3 berths with the first ship plugging into the grid in May 2011. Unused funds (\$433,710) were transferred to the District's truck grant G11GMBT1.
Locomotives	Replace old dirty locomotives at rail yards with newer clean models. (G07GMBL1)	\$0	0	0	Grant terminated and funds transferred to the existing port truck grant G07GMBP1, at the District's request.
FY2011-12 Corridor Subtotal		\$25,268,250	3,000	6,803,000	
FY2011-12 & 2008-09 Corridor Subtotal		\$15,743,213	110,000	2,969,000	
FY2008-09 Corridor Subtotal		\$20,000,000	97,000	5,660,000	
FY2007-08 Corridor Subtotal		\$27,411,381*	297,000	5,031,000	
Corridor Total		\$88,422,844*	507,000	20,463,000	

\*Includes the \$0.4 million from FY2008-09 funds used to supplement the Bay Area District's grant G07GMBP1 for port trucks in 2010.

**SAN DIEGO/BORDER TRADE CORRIDOR – San Diego APCD**

Fiscal Year/ Category	Project Description	Grant Amount	Emission Reductions (pounds)		Current Project Status
			PM	NOx	
<b>FY2011-12 &amp; FY2008-09</b>					
Other Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models.  (G11GMST1) (G08GMST2)	\$11,376,764  including: \$4,799,464 \$6,577,300	84,000	1,960,000	District is in the process of signing contracts with owners to upgrade more than 270 trucks. District expects projects for large fleets to be operational by the end of 2012 and small fleets by the end of 2013.
<b>FY2008-09</b>					
Commercial Harbor Craft	Replace old dirty engines in harbor craft with newer clean engines.  (G08GMSH1)	\$115,286	600	11,000	District has signed a contract to upgrade one harbor craft vessel and the project will be operational by December 2012. Unused funds (\$384,714) were transferred to the District's truck Grant G11GMST1.
<b>FY2007-08</b>					
Drayage Trucks	Retrofit or replace trucks serving the Port of San Diego.  (G07GMSP1)	\$0	0	0	Grant terminated and funds transferred to the existing port truck grant G07GMSP2, at the District's request.
	Replace old dirty trucks serving the Port of San Diego with newer clean models.  (G07GMSP2)	\$5,143,950	31,000	680,000	District has completed the grant to scrap 98 trucks and replace them with much cleaner trucks. All 98 trucks are operational. Unused funds (\$52,500) were transferred to the District's truck grant G11GMST1.
Other Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models.  (G07GMST2)	\$1,680,000	13,000	332,000	District has completed the grant to scrap 32 trucks and replace them with much cleaner trucks. All 32 trucks are operational. Unused funds (\$362,250) were transferred to the District's truck grant G11GMST1.

**SAN DIEGO/BORDER TRADE CORRIDOR – Imperial County APCD**

Fiscal Year/ Category	Project Description	Grant Amount	Emission Reductions (pounds)		Current Project Status
			PM	NOx	
<b>FY2011-12 &amp; FY2008-09</b>					
Other Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models.  (G11GMST2) (G08GMST1)	\$8,174,701  including: \$5,174,701 \$3,000,000	65,000	1,518,000	District is in the process of signing contracts with owners to upgrade more than 180 trucks. Two trucks are operational. District expects projects for large fleets to be operational by the end of 2012 and small fleets by the end of 2013.
<b>FY2007-08</b>					
Other Trucks	Retrofit trucks with soot filters and replace old dirty trucks with newer clean models.  (G07GMST3)	\$2,573,799	23,000	433,000	District has completed the grant to scrap 51 trucks and replace them with much cleaner trucks. All 51 trucks are operational. Unused funds (\$1,174,701) were transferred to the District's truck grant G11GMST2.

**SAN DIEGO/BORDER TRADE CORRIDOR – Port of San Diego**

Fiscal Year/ Category	Project Description	Grant Amount	Emission Reductions (pounds)		Current Project Status
			PM	NOx	
<b>FY2007-08</b>					
Ships at Berth	Install grid-based shore power at the Port of San Diego.  (G07GMSS1)	\$0	0	0	Grant terminated at the Port's request, and funds transferred to the San Diego District's existing port truck grant G07GMSP2.
FY2011-12 & 2008-09 Corridor Subtotal		\$19,551,465	149,000	3,478,000	
FY2007-08 Corridor Subtotal		\$9,397,749	67,000	1,445,000	
Corridor Total		\$29,064,500	216,600	4,934,000	

**STATE AGENCY – LOAN ASSISTANCE – Priority Drayage Reserve only**

State Agency	Project Description	Grant Amount	Emission Reductions (pounds)		Current Project Status
			PM	NOx	
<b>FY2011-12</b>					
ARB	Loan assistance to replace old dirty trucks with newer clean models serving ports and railyards.	\$5,000,000	TBD	TBD	Loan assistance to help replace drayage trucks funded under the priority drayage reserve through the South Coast and Bay Area Districts. Loan assistance is improved access to financing through the California Capital Access Program with funds used for a loan loss reserve account if a truck owner defaults on their loan. ARB will refine estimates for emission reductions after the projects become operational. Any unused funds will be used to fund local agencies' other truck projects.

**TOTALS – ALL PROJECTS FROM ALL FISCAL YEAR APPROPRIATIONS**

<b>Fiscal Year Appropriation</b>	<b>Description</b>	<b>Grant Amount</b>	<b>PM (lbs)</b>	<b>NOx (lbs)</b>
FY2011-12	Priority Drayage Reserve Projects	\$30,339,750	5,000	8,296,000
	ARB Loan Assistance Program	\$5,000,000	TBD	TBD
FY2011-12 & FY2008-09	Other Truck Projects <sup>1</sup>	\$201,157,805	1,506,000	38,181,000
FY2008-09	Non-Truck Projects	\$84,723,411	499,600	27,827,000
FY2007-08	All Projects <sup>2</sup>	\$232,190,871	2,793,000	54,840,000
<b>ALL FISCAL YEARS</b>				
	<b>TOTAL Project Funds</b>	<b>\$553.4 million</b>	<b>4,803,600 lbs or 2,402 tons</b>	<b>129,144,000 lbs or 64,572 tons</b>
Funding Subtotals by Fiscal Year Appropriation:				
FY2011-12 Only	Grants to Local Agencies <sup>3</sup>	\$119,903,352		
	Spring 2012 Bond Proceeds to be Allocated for Grants to Local Agencies	\$15,750,000		
	ARB Loan Assistance Program	\$5,000,000		
	ARB Administration <i>(may also be used in future fiscal years)</i>	\$4,700,000		
FY2010-11 Only	ARB Administration	\$3,250,000		
FY2009-10 Only	ARB Administration	\$3,250,000		
FY2008-09 Only	Grants to Local Agencies <sup>4</sup>	\$196,317,614		
	ARB Administration	\$2,960,000		
FY2007-08 Only	Grants to Local Agencies <sup>5</sup>	\$232,190,871		
	ARB Administration	\$3,240,000		
<b>ALL FISCAL YEARS</b>				
	<b>Project &amp; ARB Administration Funds</b>	<b>\$586.6 million</b>		

<sup>1</sup>Emission reduction totals shown above for “Other Truck” projects include projects funded by FY2008-09 and FY2011-12, because these projects are being funded from the same ranked lists.

<sup>2</sup>FY2007-08 emission reductions are based on the actual amount of FY2007-08 funds that were used, excluding unused funds that were re-directed to FY2011-12 local agency truck grants.

<sup>3</sup>Total FY2011-12 Grants to Local Agencies include:

- \$6.0 million from Spring 2010 bonds sales previously reserved for ARB administration funds that were re-directed to FY2011-12 local agency truck grants;
- \$14.8 million in unused funds from FY2007-08 grants that were re-directed to FY2011-12 local agency truck grants; and
- \$3.3 million in unused funds from FY2008-09 grants that were re-directed to FY2011-12 local agency truck grants.

<sup>4</sup>Total FY2008-09 Grants to Local Agencies exclude:

- \$0.4 million in FY2008-09 funds used to supplement the Bay Area District’s grant G07GMBP1 for port trucks in 2010; and
- \$3.3 million in unused funds from FY2008-09 grants that were re-directed to FY2011-12 local agency truck grants.

<sup>5</sup>Total FY2007-08 Grants to Local Agencies:

- Include the \$0.4 million from FY2008-09 funds used to supplement the Bay Area District’s grant G07GMBP1 for port trucks in 2010; and
- Exclude the \$14,813,020 in unused funds from FY2007-08 grants that were re-directed to FY2011-12 local agency truck grants.

**TOTALS – ALL PROJECTS BY TRADE CORRIDOR**

<b>Trade Corridor</b>	<b>Amount (\$ millions)</b>	<b>PM (lbs)</b>	<b>NOx (lbs)</b>
Los Angeles/Inland Empire	\$297,721,158	2,376,000	67,601,000
Central Valley	\$133,203,335	1,704,000	36,146,000
Bay Area	\$88,422,844	507,000	20,463,000
San Diego/Border	\$29,064,500	216,600	4,934,000
Spring 2012 Bond Proceeds to be Allocated for Grants to Local Agencies	\$15,750,000		
ARB Loan Assistance	\$5,000,000		
ARB Administration	\$17,400,000		
<b>TOTAL</b>	<b>\$586.6 million</b>	<b>4,803,600 lbs or 2,402 tons</b>	<b>129,144,000 lbs or 64,572 tons</b>