



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

# Goods Movement Program Cargo Handling Equipment Projects Year 5 Program - Fact Sheet

The Proposition 1B: Goods Movement Emission Reduction Program (GMP, Program) is a partnership between the California Air Resources Board (ARB) and local agencies to quickly reduce diesel emissions and health risk from freight movement along California trade corridors. Projects funded under this Program must achieve early or extra emission reductions not otherwise required by law or regulation. The Bay Area Air Quality Management District (Air District) will solicit projects during 2020-2021 for the Year 5 Program.

## **When will applications be available?**

The Air District will accept applications for cargo handling equipment and fueling/charging infrastructure projects during the fifth solicitation period **through Friday, January 15, 2021.**

## **How much funding is available for cargo-handling projects?**

ARB approved an allocation of about \$20 million for the program including the cargo handling project category.

## **How will projects be selected?**

District staff will evaluate all applications received during the solicitation period and submit a single approved-projects list to ARB for competitive ranking based on estimated emission reductions and cost-effectiveness. Applicants may request a reduced funding amount to increase a proposed project's competitiveness.

## **What types of equipment is eligible for funding?**

Rubber-tired gantry cranes (RTG), yard trucks, forklifts (3,000 lbs capacity and larger), other lift equipment (12,000 lbs capacity and larger) such as side handlers, stackers or top picks that are diesel-fueled and operate in ports, intermodal rail yards or freight distribution facilities in California trade corridors (link to map below).

## **What project types are available?**

Eligible project types include upgrading diesel-powered RTG with zero-emissions RTG system (electric, fuel cell), converting existing yard truck with an electric drive train and control system, replacing yard trucks with electric- or fuel cell-powered yard trucks, replacing forklifts with class 1 electric or fuel cell-powered forklifts, and replacing large-capacity lift equipment with electric- or fuel cell-powered lifts. With the replacement or conversion of at least one yard truck, applicants may also apply for a battery charger or hydrogen fueling unit.

## **How can I apply?**

Complete the Cargo Handling Equipment Application Form from our website (see below) and contact Air District staff with any questions. Infrastructure projects require a written proposal and cost estimate (quotation). Applications and all supporting documentation **must be received by the Air District no later than 5:00pm on Friday, January 15, 2021.**

## **How to maintain eligibility if my project is approved**

Owners must ensure their Project equipment meets the following at all times:

- Equipment and owner's fleet maintain and can document compliance with all ARB (air quality) regulations. Note that 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 (Verified Diesel Emission Control Systems) Available" compliance extension. Program-funded equipment is not eligible to be counted towards compliance for a two-year period following post-inspection date.
- Equipment owners are required to notify the Air District as soon as possible if anything about the Project changes, as there may be circumstances that cause the Project to become ineligible.

## **Where can I find more information?**

If you have questions or need additional information, please contact our staff at [grants@baaqmd.gov](mailto:grants@baaqmd.gov) or 415-749-4994 (option 1).

## **Useful Resources:**

- BAAQMD Goods Movement Program website: [www.baaqmd.gov/goods](http://www.baaqmd.gov/goods)
- ARB Goods Movement Program website: <https://ww2.arb.ca.gov/our-work/programs/proposition-1b-goods-movement-emission-reduction-program>
- Map of four major CA trade corridors: <http://www.arb.ca.gov/bonds/gmbond/docs/gmtradecorridors.jpg>
- CA Cargo Handling regulation: <https://ww2.arb.ca.gov/our-work/programs/cargo-handling-equipment>
- CA Off-Road Equipment regulation: <https://ww2.arb.ca.gov/our-work/programs/use-road-diesel-fueled-fleets-regulation>

*\* Below is a summary of the program requirements from the 2017 updates to the 2015 GMP Guidelines and not a complete list of requirements.*

## APPENDIX E Cargo Handling Equipment

### A. Equipment Project Specifications

<p><b>Eligible Equipment</b></p> <p><b>General Requirements (applicable to all project options)</b></p>	<p>Existing diesel-powered rubber-tired gantry (RTG) crane or existing diesel yard truck, lift (forklift, side handler top pick or reach stacker) operating at a seaport (port), intermodal railyard, or freight facility in the four California trade corridors.</p> <ul style="list-style-type: none"> <li>• Agree to equipment inspections.</li> <li>• Comply with record-keeping, reporting, and Program review or fiscal audit requirements.</li> <li>• Sign a legally binding contract with the local agency including project milestones and completion deadlines.</li> <li>• Properly maintain upgraded equipment in good operating condition and according to manufacturer's recommendations.</li> <li>• Demonstrate proof of equipment warranty and insurance on upgraded equipment that covers the replacement of the equipment.</li> <li>• Certify that there are no outstanding ARB violations or non-compliance with ARB regulations associated with the equipment or the owner.</li> </ul>
<p><b>Option (1) RTG Crane Conversion/ Replacement</b></p> <p><b>Requirements</b></p>	<p>Partial funding of up to the lower of 50% of the eligible cost or \$500,000/crane to upgrade existing diesel powered RTG cranes with a zero emission power system.</p> <p>Eligible costs may include the purchase of a new crane or installation of a zero emission engine, necessary parts for an existing RTG crane including directly related vehicle modifications, and infrastructure to supply electrical power, utility construction, and costs associated with increasing the capacity of electrical power to the crane.</p> <p>Ineligible costs include design, engineering, consulting, environmental review, legal fees, permits, licenses and associated fees, taxes, metered costs, insurance, operation, maintenance, and repair.</p> <p>Projects utilizing regulatory extensions are not eligible for funding.</p> <p>Equipment owner shall:</p> <ul style="list-style-type: none"> <li>• Commit to 15 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors.</li> <li>• Be permitted to keep the existing diesel engine installed and operational for a limited number of hours each year and do the following at their own expense: (1) install an hour meter on the existing diesel engine and (2) provide activity reports when requested by the local agency or ARB, in a format defined by ARB staff.</li> <li>• Commit to a maximum limit of diesel engine usage to 30 hours annually based on a rolling 3 year average.</li> <li>• Comply with all local permitting requirements.</li> <li>• Demonstrate proof of equipment warranty for 5 years.</li> </ul>







**Cargo Handling Equipment (cont.)**

<b>Project Cost Assumptions</b>	<ul style="list-style-type: none"> <li>• Total estimated cost of converting an existing RTG crane with a zero emission power system and modification of the port space to electrify the crane is approximately \$600,000/crane.</li> <li>• Total estimated cost of a zero emission powered RTG crane is approximately \$1.5 million.</li> <li>• Total estimated cost of a zero emission power system for yard trucks is approximately \$250,000.</li> <li>• Total estimated cost for a single through multi-unit battery charger for yard trucks is approximately \$30,000 to \$70,000.</li> <li>• Total estimated cost of a 5,000 lb capacity electric forklift with a battery and charger is approximately \$40,000.</li> <li>• Total estimated cost of a zero emission forklift is approximately \$20,000 to \$275,000.</li> <li>• Total estimated cost of a zero emission lift (except for forklift), greater than 12,000 lb. capacity, is approximately \$340,000 to \$660,000.</li> </ul>
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**B. Major Milestones for Project Completion**

- Equipment order.
- Equipment acquisition/installation.
- Submittal of invoice to local agency for reimbursement.
- Scrappage of old yard truck/equipment, when applicable.

**C. Application Information**

Equipment owners shall provide the following information and documentation in addition to the requirements described in these guidelines, and other information ARB or local agencies may request on the equipment project applications. The following sections apply to all equipment project options.

**1. General information**

- Name of applicant.
- Organization/agency/company name.
- Mailing address.
- Primary contact name and phone number.
- Person with equipment contract signing authority (owner) for companies with multiple employees.
- Proof of identity of equipment owner.
- Number of pieces of diesel cargo handling equipment.
- Submit documentation with application showing compliance with ARB regulations.
- Business information.
  - Fleet size.
  - Number of employees.

## 2. Current equipment and activity information

### a) Rubber-tired gantry crane

- Rubber-tired gantry crane (RTG) data.
  - Port, railyard or freight facility center where RTG crane operates.
  - Specific location.
  - Equipment make, model, model year.
  - RTG crane identification number or vehicle identification number (VIN).
  - Engine data (per engine).
    - Engine make, model, engine year, type (off-road or on-road).
    - Serial number.
    - Horsepower and fuel type.
- Activity data for the past 2 years.
  - Annual hours of operation.

Additional documentation may be requested by the local agency to verify information reported on the application.

### b) Yard truck

- Yard truck data.
  - Port, railyard, or freight facility where yard truck operates.
  - Truck make, model, model year.
  - Yard truck identification number or vehicle identification number (VIN).
  - Diesel engine data (per engine).
    - Engine make, model, engine year, type (off-road or on-road).
    - Serial number.
    - Horsepower and fuel type.
- Activity data for the past 2 years.
  - Annual hours of operation.
  - Identify the trade corridors in which the equipment is routinely operated.

### c) Forklift, top pick, side handler, or reach stacker

- Forklift, top pick, side handler, or reach stacker data.
  - Port, railyard, or freight facility where yard truck operates.
  - Equipment make, model, model year.
  - Identification number or serial number.
  - Equipment lift capacity.
  - Diesel engine data.
    - Engine make, model, engine year.
    - Serial number.
    - Horsepower and fuel type.
    - Engine emission certification standard or retrofit verification level (include Emission Control Group name).
    - Engine Family Name.

- Activity data for the past 2 years.
  - Annual hours of operation.
  - Identify the trade corridors in which the equipment is routinely operated.

Additional documentation may be requested by the local agency to verify information reported on the application.

### 3. Proposed equipment project information

#### a) *Rubber-tired gantry crane*

- Zero emission RTG data.
  - Equipment make, model, model year.
  - Equipment power rating.
- Estimated cost information for eligible expenses.
- New equipment information to calculate emission reductions, as determined by ARB.
- Equipment project funding demonstration.
  - Program funds requested.
  - Funding sources and amounts of other funding (private, local, other State, federal).
  - Total project cost (Program funds requested plus other match funding).
  - Documentation of match funding availability, if requested by the local agency.

#### b) *Yard truck*

- Zero emission yard truck data.
  - Truck make, model, model year.
  - Equipment power rating.
- Estimated cost information for eligible expenses.
- New equipment information to calculate emission reductions, if needed.
- Equipment project funding demonstration.
  - Total project cost.
  - Program funds requested.
  - Source and amounts of other funding (private, local, other State, federal).
  - Total project cost (Program funds requested plus other match funding).
  - Documentation of match funding availability, if requested by the local agency.

#### c) *Battery charger/hydrogen fueling units*

Battery charger/fueling unit.

- Equipment manufacturer
- Equipment power rating for electric charger only (voltage, amperage, wattage, efficiency).
- Equipment serial number.
- Number of charging ports.
- Equipment recharge rate for electric battery charger only.

- Anticipated cost of eligible equipment.
- Location of equipment.
- Description of usage monitoring system.
- Predicted activity rate with new equipment.
  - Estimated annual truck connections to charger/fueling units and average connection time.

Plus information for yard trucks.

- Zero emission yard truck data.
  - Truck make, model, model year.
  - Equipment power rating.
- Estimated cost information for eligible expenses.
- New equipment information to calculate emission reductions, as determined by ARB.
- Equipment project funding demonstration.
  - Program funds requested.
  - Source and amounts of other funding (private, local, other State, federal).
  - Total project cost (Program funds requested plus other match funding).
  - Documentation of match funding availability, if requested by the local agency.

*d) Forklift, top pick, side handler, or reach stacker*

- Forklift, top pick side handler or reach stacker data.
  - Port, railyard, or freight facility where yard truck operates.
  - Equipment make, model, model year.
  - Identification number or vehicle identification number (VIN).
  - Equipment lift capacity.
  - Diesel engine data.
    - Engine make, model, engine year.
    - New equipment information to calculate emission reductions, as determined by ARB.
    - Serial number.
    - Horsepower and fuel type.
    - Engine emission certification standard or retrofit verification level (include Emission Control Group name).
    - Engine Family Name.
  - Estimated cost for each eligible expense.
- Equipment project funding demonstration.
  - Program funds requested.
  - Source and amounts of other funding (private, local, other State, federal).
  - Total project cost (Program funds requested plus other match funding).
  - Documentation of match funding availability, if requested by the local agency.

### D. Scrap Requirements

In addition to the general scrappage requirements listed in Chapter IV.A.14., specific requirement for conversion and replacement projects are shown in Table E.1 below.

**Table E.1 Cargo Handling Equipment Project Scrap Requirements**

Source Category	Equipment Project Option	Additional Requirements
Cargo Handling Equipment	Option (1), and (2) Conversion	<ul style="list-style-type: none"> <li>• The local agency shall ensure the impound and transport of the old engine to the licensed dismantler (yard truck) or dismantler (all other equipment) up to 30 days after the new power system or equipment is placed into operation.</li> <li>• The licensed dismantler (yard trucks) or dismantler (all other equipment) must puncture and destroy the old engine within 90 days for RTGs or 60 days for all other equipment in accordance with these Guidelines to eliminate the possibility of future operation.</li> <li>• The licensed dismantler (yard trucks) or dismantler (all other equipment) shall provide proof of scrappage to the local agency within 10 days of the destruction of the engine.</li> <li>• The local agency or its designee must provide digital photographs, described below, showing the destruction of the old engine. The local agency must receive these photos within 10 days of the destruction of the engine.</li> <li>• The following digital photos must be taken and labeled for the project file:                         <ol style="list-style-type: none"> <li>1. View of existing equipment from front and side angle.</li> <li>2. Engine serial number either stamped on the block or on the tag.</li> <li>3. Destroyed engine block.</li> </ol> </li> </ul>

**Table E.1 Cargo Handling Equipment Project Scrap Requirements (cont.)**

<p>Cargo Handling Equipment (cont.)</p>	<p>Additional Requirements for Option (1), (3), (4), (6), (7), (8) and (9) Replacement</p>	<p>In addition to the requirements listed above for conversion projects:</p> <ul style="list-style-type: none"> <li>• The local agency shall ensure the impound and transport of the old equipment to the dismantler up to 30 days after the new equipment is placed into service.</li> <li>• The licensed dismantler (yard truck) or dismantler (all other equipment) must dismantle and destroy the equipment within 90 days after the replacing the old equipment and placing the new equipment is in operation. The destruction must be done in accordance with these Guidelines.</li> <li>• The equipment shall be physically destroyed in such a manner to eliminate the possibility of future operation.</li> <li>• For yard trucks, sever the old vehicle frame rails to ensure that the vehicle is rendered useless and to prevent further use.</li> <li>• Include at least one digital photo, which documents the destruction of the equipment along with the photos described above.</li> <li>• The dismantler shall provide proof of scrappage to the local agency within 10 days of the destruction of the old equipment.</li> </ul>
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**E. Post-Inspection**

For cargo handling equipment projects, the post-inspection shall occur within 60 days of owner receipt of fully operational equipment.

**Table E.2 Cargo Handling Equipment Post-Inspection Requirements**

Source Category	Equipment Project Option	Additional Requirements
<p>Cargo Handling Equipment</p>	<p>Option (1) RTG Crane Conversion/ Replacement</p>	<ul style="list-style-type: none"> <li>• Name of power system manufacturer.</li> <li>• Serial number and month/year of power system manufacturer.</li> </ul>
	<p>Option (2), (3), and (4) Yard Truck Conversion/ Replacement</p>	<ul style="list-style-type: none"> <li>• Vehicle type.</li> <li>• Yard truck identification number or vehicle identification number (VIN) or serial number.</li> <li>• Vehicle make, model, model year.</li> <li>• Gross vehicle weight rating (GVWR).</li> <li>• Fuel type.</li> </ul>

**Table E.2 Cargo Handling Equipment Post-Inspection Requirements (cont.)**

	<p>Option (5) Battery charger with replacement or conversion of yard trucks.</p>	<p>Vehicle Information</p> <ul style="list-style-type: none"> <li>• Vehicle type.</li> <li>• Yard truck identification number or vehicle identification number (VIN) or serial number. Vehicle make, model, model year.</li> <li>• Gross vehicle weight rating (GVWR).</li> <li>• Fuel type.</li> </ul> <p>Charger Information</p> <ul style="list-style-type: none"> <li>• Equipment manufacturer.</li> <li>• Equipment power rating (voltage, amperage, wattage, efficiency).</li> <li>• Serial number and month/year manufactured.</li> <li>• Number of charging ports.</li> <li>• Equipment recharge rate.</li> </ul> <p>Inspection shall include verification of operation by connecting equipment to a charger.</p>
	<p>Option (6), (7), (8), and (9) Forklift, side handler, top pick, reach stacker</p>	<p>Equipment Information</p> <ul style="list-style-type: none"> <li>• Type of equipment.</li> <li>• Equipment serial number.</li> <li>• Equipment make, model, model year.</li> <li>• Equipment lift capacity.</li> </ul> <p>Charger Information</p> <ul style="list-style-type: none"> <li>• Equipment manufacturer.</li> <li>• Equipment power rating (voltage, amperage, wattage, efficiency).</li> <li>• Serial number and month/year manufactured.</li> <li>• Number of charging ports.</li> <li>• Equipment recharge rate.</li> <li>• Photo of CEC compliance label.</li> </ul> <p>Inspection shall include verification of operation by connecting equipment to a charger.</p>

**F. Recordkeeping Requirements**

Equipment owners shall retain, at a minimum, all documents, invoices, and correspondence associated with the application, award, contract, purchase, installation, equipment operation (and if applicable, registration, insurance, and warranty), and reporting for at least 2 years after the end of the equipment project contact term or 3 years after final payment, whichever is later. Records shall be readily available and accessible to the local agency, ARB, or ARB designee upon request for the purposes of ongoing evaluations, Program reviews, or fiscal audits.

## **G. Annual Reporting Requirements**

Equipment owners shall be responsible for annual reporting to the local agency for the project life. The equipment owner annual report shall include, but is not limited to:

- Contact information (owner name, company, address, phone).
- Date and location of installation of equipment.
- Equipment type and name of home port, railyard or freight facility.
- RTG crane, side pick, top pick, reach stacker and yard truck or yard truck and battery charging station, make, model, year, serial number, and power rating.
- Annual hours of operation.
- Summary of maintenance and inspections conducted.
- Signed certification statement that the bond-funded technology was installed on the equipment for which it was approved, and that all information submitted to the local agency is true and accurate.
- Other information as requested by the local agency.