



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## Goods Movement Program Ships at Berth (Shore Power) 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 in 2017 for the Year 5 Program.

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

The Air District will accept applications for ships at berth (shore power) projects during the second solicitation period: **Wednesday, March 1 through Friday, June 30, 2017.**

### **How much funding is available for cargo-handling and ships at berth projects?**

ARB approved an allocation of at least \$5 million for these two equipment categories but if demand is high, the Air District can allocate more funds to these. In total, the Air District allocation for Year 5 is approximately \$48 million.

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

At existing cargo ship berths (marine ports) within the four major trade corridors in California (see below) operators can apply to install ARB-approved emissions capture and control system infrastructure (e.g., bonnets, hoods). At existing cargo ship berths visited **solely** by vessels not subject to the control requirements of the CA Ships at Berth Regulation in effect as of 2015, operators can apply to install grid-based shore-side power or non-grid-based shore-side power infrastructure.

### **How can I apply?**

Contact Air District staff for application assistance. 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, June 30, 2017.**

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

If you have questions or need additional information, please contact Tina McRee at the Air District at [tmcree@baaqmd.gov](mailto:tmcree@baaqmd.gov) or 415-749-4701.

### **Useful Resources:**

- BAAQMD Goods Movement Program website: [www.baaqmd.gov/goods](http://www.baaqmd.gov/goods)
- ARB Goods Movement Program website: <http://www.arb.ca.gov/bonds/gmbond/gmbond.htm>
- Map of four major CA trade corridors: <http://www.arb.ca.gov/bonds/gmbond/docs/gmtradecorridors.jpg>
- CA Ships at Berth Regulation: <http://www.arb.ca.gov/ports/shorepower/shorepower.htm>

*\* Below is a summary of the program requirements from the 2015 ARB GMP guidelines and not a complete list of requirements.*





**Ships at Berth (cont.)**

<p><b>Option (3) Ship Emissions Capture and Control System</b></p> <p><b>Requirements</b></p>	<p>Partial funding of up to the lower of 50% of the eligible costs or a level commensurate with a cost-effectiveness of at least 0.10 pounds of weighted emissions reduced per State dollar invested for the purchase and installation of a ship emissions capture and control system (a.k.a. hood or bonnet) to reduce diesel PM and NOx emissions at 80% from ships at berths. Only units that have ARB-approved capture and treatment efficiency rates for PM and NOx consistent with ARB's Ships at Berth Rule are eligible for funding. Ship visits that are required under ARB's Ships-at-Berth Rule cannot be used for calculation of the emission reductions.</p> <p>Eligible costs may include purchase and installation of the emission treatment system and ducting, and hoods or bonnets necessary to connect to cargo ships at berth.</p> <p>Ineligible costs include shipside modifications to accept capture and control system, barge or other acquisition and modification for a portable system, design, engineering, consulting, environmental review, legal fees, permits, licenses and associated fees, taxes, utility construction or metered costs, insurance, operation, maintenance, and repair.</p> <p>In addition to the General Requirements listed previously, equipment owner shall:</p> <ul style="list-style-type: none"> <li>• Commit to a project life of 10 years of 100% California operation at the following levels or greater:             <ul style="list-style-type: none"> <li>○ Port of Los Angeles and Port of Long Beach:                 <ul style="list-style-type: none"> <li>▪ 1,500 hours per year.</li> </ul> </li> <li>○ All other ports within the four California trade corridors:                 <ul style="list-style-type: none"> <li>▪ 1,000 hours per year.</li> </ul> </li> </ul> </li> <li>• Commit to 100% operation within the four California trade corridors for the duration of the project life.</li> <li>• Document the system is commercially available and achieves an overall efficiency rate of at least 80% for the capture and removal of NOx and PM.</li> <li>• Demonstrate system performance and efficiency with source testing prior to funding and annually thereafter by capturing emissions from a cargo ship at port. Performance measures include: (i) no visible emissions after bonnet is connected to the vessel (opacity &lt;20%); and (ii) establish overall system efficiency rate is at least 80% using ARB approved methods for flow rate (Methods 1 to 4), NOx (ARB Method 100), and PM (ARB Method 5). Any alternative test methods must be approved by ARB.</li> <li>• Obtain a 10-year manufacturer's warranty (including labor and materials) to repair and/or replace system component(s) as needed to correct any mechanical, electrical or control system equipment or installation problems which may cause significant loss of capture, treatment efficiency or usability. The manufacturer's warranty may exclude minor items that are subject to normal wear and tear if approved by ARB.</li> </ul>
<p><b>Project Cost Assumptions</b></p>	<ul style="list-style-type: none"> <li>• Option (1): Total shore-side cost of equipping a berth with permanent grid-based electrical power is ~\$3-\$5 million/berth; some ports may incur higher costs to bring new/additional power capacity to the port that may increase the total cost to \$5-\$7 million/berth.</li> <li>• Option (2): Total cost of distributed generation power is anticipated to be \$2 million/megawatt (MW) unit.</li> <li>• Options (1) &amp; (2): Shipside modifications will cost ~\$500,000-\$1 million/ship.</li> <li>• Option (3): Ship emissions capture and control system estimated capital cost is approximately \$6 million for the current standard design of one 12,500 scfm unit with single bonnet.</li> </ul>