



Metro

Los Angeles County
Metropolitan Transportation Authority

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**EXECUTIVE MANAGEMENT AND AUDIT COMMITTEE
CONSTRUCTION COMMITTEE
JULY 21, 2011**

SUBJECT: GREEN CONSTRUCTION POLICY

ACTION: ADOPT GREEN CONSTRUCTION POLICY

RECOMMENDATION

Adopt the Los Angeles County Metropolitan Transportation Authority (LACMTA) Green Construction Policy for implementation on construction projects conducted on LACMTA properties and rights-of-way. Phase the implementation of this policy, through a collaborative process, for implementation by other jurisdictions that receive/program LACMTA funding (in whole or in part) for construction projects.

ISSUE

Expediting the LACMTA's Measure R Initiative through the America Fast Forward Program will reduce overall emissions and get people out of their cars and onto transit sooner. However, the potential to create significant harmful emissions from traffic congestion and those associated with construction activities and existing non-mitigated legacy construction equipment usage remains high. This concern is echoed by the US Environmental Protection Agency (USEPA), the South Coast Air Quality Management District (SCAQMD), and various non-profit environmental organizations in the last few months through comment letters to LACMTA's environmental documents, or in public meetings. Specifically, the USEPA and the SCAQMD have recommended through those forums that the LACMTA either implement best management practices or require the use of cleaner on-road and off-road equipment to mitigate particulate matter (PM) and nitrogen oxide (NO_x) compound emissions.

The development and implementation of a Green Construction Policy was advanced in a motion sponsored by Director Richard Katz and approved by the LACMTA Board of Directors on December 9, 2010. An LACMTA Board approved Green Construction Policy will facilitate agency-wide and uniform implementation of cost-effective solutions to this recognized air quality issue.

DISCUSSION

Staff presented a Draft Green Construction Policy during the March 2011 and June 2011 Executive Management and Audit Committee meetings. Additional guidance was given by our Board of Directors during those meetings to ensure the development of a comprehensive policy, consistent with the intent of Director Katz's December 2010 motion; but more importantly considers issues associated with the implementation of such a policy outside of the LACMTA jurisdiction. Additional considerations would include lessons learned from the policies, guidelines, or framework of other jurisdictions within our region specifically those of the Port of Los Angeles, Port of Long Beach, and Los Angeles World Airports (LAWA).

Over the course of four months, staff had conducted separate meetings with various stakeholders that included non-profit environmental organizations, construction contractors, manufacturers of retrofit equipment; as well as representatives of the South Coast Air Quality Management District, Port of Los Angeles, Port of Long Beach, and Los Angeles World Airports. The meetings were designed not only to develop a more comprehensive LACMTA Green Construction Policy but to gain consensus on language and provisions that should be included in the policy. Additional meetings were conducted in June and July to gain input from Metro's Technical Advisory Committee, Metro Streets and Freeways Sub-Committee, Metro Transit Business Advisory Council, Northern Corridor Cities Meeting, Antelope Valley Air Quality Management District, Los Angeles County Department of Public Works, and Small Business Outreach meeting to discuss the policy. After going through this extensive outreach, the Green Construction Policy included in Attachment A is attached for Board consideration. This policy includes a commitment for the immediate adoption of the policy on construction projects conducted on LACMTA properties and rights-of-way. The policy will be phased, through a collaborative process, for implementation by other jurisdictions that receive/program LACMTA funding (in whole or in part) for construction projects.

Staff's recommendation to adopt this LACMTA Green Construction Policy is in line with the clean construction requirements already existing in New York, Illinois (Cook Co.), and Rhode Island (Providence), among others. Locally, the Port of Los Angeles, Port of Long Beach, and LAWA have already incorporated clean construction requirements into their specifications.

From an informal survey of transit agencies nationwide [through the American Public Transportation Association (APTA)], it appears that only a handful of our peers have considered clean/green construction equipment requirements. There appears to be no transit agency at this time that has adopted such a policy. With the adoption of this policy, we will be the industry leader in the APTA community.

FINANCIAL IMPACT

LAWA and Port of Los Angeles staffs have been implementing clean construction requirements in their construction activities. Specifically to LAWA, they have indicated that the cost to implement these requirements in total, including the labor associated with contractor bid costs, an Independent Third Party Monitor, environmental management contractor staff, plus the cost for retrofitting the off-road construction vehicles with diesel emission control systems, is approximately 0.3% of the overall construction costs on one of their \$150 million projects. In LAWA staff's opinion, the costs to do the same level of effort would conservatively be around 0.5% on a typical construction project.

The Contractor or equipment owner (in cases where construction equipment is leased) is responsible for all costs of purchase, installation, and maintenance of retrofit device or any new construction equipment required by the policy. The Contractor shall also be responsible for any compliance costs to be incurred by any of their subcontractors. Finally, no Contractor shall be given a competitive advantage or disadvantage as a result of the policy. Costs for complying with the policy shall not be considered by LACMTA in evaluating bids.

As indicated in the policy, the LACMTA will provide information to the Contractor and their subcontractors in identifying and applying for grants and loans that are available for the greening of existing construction equipment or purchase of new green construction equipment.

ALTERNATIVES CONSIDERED

Rejection of the recommended Board action is inconsistent with the intent of the Board approved motion to develop this policy. Rejection of the staff recommendation is also inconsistent with the provisions of our Board adopted Environmental Policy that specifically commits to specific actions in mitigating environmental and human health impacts, while maintaining sustainable operations.

NEXT STEPS

After the proposed Green Construction Policy is adopted by the LACMTA Board, staff will incorporate the requirements of this policy in all future procurement contracts. It is not retroactive. Staff will encourage Contractors that work on existing construction projects in LACMTA properties or rights-of-way to implement the provisions of this policy to the greatest extent feasible. Staff will develop a collaborative process to phase the implementation of this policy in other jurisdictions that receive/program LACMTA funding (in whole or in part) for construction projects.

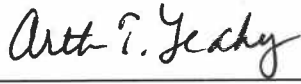
ATTACHMENT

A. LACMTA Green Construction Policy

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LACMTA GREEN CONSTRUCTION POLICY

POLICY STATEMENT

The Los Angeles County Metropolitan Transportation Authority (LACMTA) will only use greener, less polluting construction equipment and vehicles; and implement best practices to meet or exceed air quality emission standards in all construction projects performed on LACMTA properties and rights-of-way. Phase the implementation of this policy, through a collaborative process, for implementation by other jurisdictions that receive/program LACMTA funding (in whole or in part) for construction projects.

PURPOSE

This policy provides requirements for 1) identifying and mitigating air emission impacts on human health, environment, and climate of on-road and off-road construction equipment and generators used in our construction and development activities; 2) implementing appropriate Best Management Practices (BMP) to complement equipment mitigations; and 3) implementing strategies to ensure compliance with this policy.

This policy is effective and enforceable immediately upon adoption for all new construction projects. This policy is not retroactive. However, for all existing construction projects [i.e., where contracts have already been awarded], LACMTA will encourage all Contractors to implement the provisions of this policy to the greatest extent feasible. The intent of this policy is to reduce harmful air emissions (particularly particulate matter and nitrogen oxides) while minimizing any significant impact to cost and schedule in any existing construction project. Nothing in this policy shall require a retrofit that does not meet California OSHA standards.

COMMITMENTS

The LACMTA is an international leader in implementing environmental and sustainability principles in all of its planning, construction, operations, and procurement activities. The LACMTA commits to the following construction equipment requirements, construction BMPs, and implementation strategies for all of its construction projects performed on LACMTA properties or rights-of-way. The implementation of this policy will be phased, through a collaborative process, for implementation in other jurisdictions that receive/program LACMTA funding (in whole or in part) for construction projects.

CONSTRUCTION EQUIPMENT

Through this Green Construction Policy, the LACMTA commits to ensuring that all of the on-road and off-road equipment used in its construction activities are green and less-polluting as follows:

Construction Equipment (excluding On-Road Equipment)

- 1) Construction equipment shall incorporate, where feasible, emissions-reducing technology such as hybrid drives and specific fuel economy standards.
- 2) Idling shall be restricted to a maximum of 5 minutes, except as provided in the exceptions to the applicable CARB regulations regarding idling.
- 3) Equipment Engine Specifications:
 - a. **Prior to December 31, 2011:** All off-road diesel-powered construction equipment greater than 50 horsepower (hp) shall meet Tier-2 off-road emission standards at a minimum. In addition, all construction equipment greater than 50 hp shall be retrofitted with a CARB-verified Level 3 Diesel Emissions Control Device system (DECS).
 - b. **From January 1, 2012, to December 31, 2014:** All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier-3 off-road emission standards at a minimum. In addition, all construction equipment greater than 50 hp shall be retrofitted with a CARB-verified Level 3 DECS. Any emissions control device used by the Contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
 - c. **From January 1, 2015 and onwards:** All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier-4 off-road emission standards at a minimum. In addition, if not already supplied with a factory-equipped diesel particulate filter, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB. Any emissions control device used by the Contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

On-Road Equipment

- 1) Trucks or equipment hauling material such as debris or any fill material shall be fully covered while operating at, to and from the LACMTA construction project.

- 2) Idling shall be restricted to a maximum of 5 minutes, except as provided in the exceptions to the applicable CARB regulations regarding idling.
- 3) EPA Standards:
 - a) **Prior to December 31, 2013:** All on-road heavy-duty diesel trucks or equipment with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater shall meet or exceed the EPA 2007 on-road emission standards for PM (0.01 g/bhp-hr); or shall be equipped with a CARB verified Level 3 diesel particulate filter.
 - b) **From January 1, 2014 and onwards:** All on-road heavy-duty diesel trucks or equipment with a GVWR of 19,500 pounds or greater shall comply with EPA 2007 on-road emission standards for PM and NO_x (0.01 g/bhp-hr and at least 1.2 g/bhp-hr, respectively).

Generators

Every effort shall be made to utilize grid-based electric power at any construction site, where feasible. Where access to the power grid is not available, on-site generators must:

- 1) Meet a 0.01 gram per brake-horsepower-hour standard for PM, or
- 2) Be equipped with BACT for PM emissions reductions.

Exceptions

These on-road and off-road construction equipment and generator requirements shall apply unless any of the following circumstances exist and the Contractor provides a written finding consistent with project contract requirements that:

- 1) The Contractor intends to meet the requirements of this policy as to a particular vehicle or piece of equipment by leasing or short-term rental, and the Contractor has attempted in good faith and due diligence to lease the vehicle or equipment that would comply with this policy, but that vehicle or equipment is not available for lease or short-term rental within 200 miles of the project site, and the Contractor has submitted documentation to LACMTA showing that the requirements of this Exception provision apply.
- 2) The Contractor has been awarded funding by SCAQMD or another agency that would provide some or all of the cost to retrofit, repower, or purchase a piece of equipment or vehicle, but the funding has not yet been provided due to circumstances beyond the Contractor's control, and the Contractor has attempted in good faith and due diligence to lease or short-term rent the

equipment or vehicle that would comply with this policy, but that equipment or vehicle is not available for lease or short-term rental within 200 miles of the project site, and the Contractor has submitted documentation to LACMTA showing that the requirements of this Exception provision apply.

- 3) Contractor has ordered a piece of equipment or vehicle to be used on the construction project in compliance with this policy at least 60 days before that equipment or vehicle is needed at the project site, but that equipment or vehicle has not yet arrived due to circumstances beyond the Contractor's control, and the Contractor has attempted in good faith and due diligence to lease or short-term rent a piece of equipment or vehicle to meet the requirements of this policy, but that equipment or vehicle is not available for lease or short-term rental within 200 miles of the project, and the Contractor has submitted documentation to LACMTA showing that the requirements of this Exception provision apply.
- 4) Construction-related diesel equipment or vehicle will be used on an LACMTA construction project site for fewer than 10 calendar days per calendar year. The Contractor shall not consecutively use different equipment or vehicles that perform the same or a substantially similar function in an attempt to use this Exception to circumvent the intent of this policy.

In any of the situations described above, the Contractor shall provide the next cleanest piece of equipment or vehicle as provided by the step down schedules in Table A for Off-Road Equipment and Table B for On-Road Equipment.

Table A. Off-Road Compliance Step Down Schedule*

Compliance Alternative	Engine Standard	CARB-verified DECS (VDECS)
1	Tier 4	N/A**
2	Tier 3	Level 3
3	Tier 2	Level 3
4	Tier 1	Level 3
5	Tier 2	Level 2
6	Tier 2	Level 1
7	Tier 2	Uncontrolled
8	Tier 1	Level 2

Equipment less than Tier 1, Level 2 shall not be permitted.

Table B. On-Road Compliance Step Down Schedule*

Compliance Alternative	Engine Model Year	CARB-Verified DECS (VDECS)
1	2010	N/A
2	2007	N/A**
3	2004	Level 3
4	1998	Level 3
5	2004	Uncontrolled
6	1998	Uncontrolled

Equipment with a model year earlier than Model Year 1998 shall not be permitted.

***How to use Table A and Table B:** For example, if Compliance Alternative #3 is required by this policy but a Contractor cannot obtain an off-road vehicle that meets the Tier 2 engine standard that is equipped with a Level 3 DECS (Compliance Alternative #3 in Table A) and meets one of the above exceptions, then the Contractor shall use a vehicle that meets the next compliance alternative (Compliance Alternative #4) which is a Tier 1 engine standard equipped with a Level 3 DECS. Should the Contractor not be able to supply a vehicle with a Tier 1 engine equipped with a Level 3 DECS in accordance with Compliance Alternative #4 and has satisfied the requirements of one of the above exceptions as to the Contractor's ability to obtain a vehicle meeting Compliance Alternative #4, the Contractor shall then supply a vehicle meeting the next compliance alternative (Compliance Alternative #5), and so on. If the Contractor is proposing an exemption for on-road equipment, the step down schedule in Table B should be used. A Contractor must demonstrate that it has satisfied one of the exceptions listed in the selected Compliance Alternative # before it can use a subsequent Compliance Alternative. The goal is to ensure that the Contractor has exercised due diligence in supplying the cleanest fleet available.

****Tier 4 or 2007 Model Year equipment not already supplied with a factory-equipped diesel particulate filter shall be outfitted with Level 3 VDECS.**

BEST MANAGEMENT PRACTICES

In addition to equipment requirements, the Best Management Practices (BMPs) listed below are imposed on all construction projects that performed on LACMTA properties and rights-of-way.

BMPs shall include, at a minimum:

- 1) Use of diesel particulate traps or best available control technology, as feasible;
- 2) Maintain equipment according to manufacturers' specifications;
- 3) Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use, except as provided in the exceptions to the applicable CARB regulations regarding idling for off-road and on-road equipment;

- 4) Maintain a buffer zone that is a minimum of 1,000 feet between truck traffic and sensitive receptors, where feasible;
- 5) Where applicable and feasible, work with local jurisdictions to improve traffic flow by signal synchronization;
- 6) If feasible and as allowed by local jurisdictions, configure construction parking to minimize traffic interference;
- 7) Enforce truck parking restrictions, where applicable;
- 8) Prepare haul routes that conform to local requirements to minimize traversing through congested streets or near sensitive receptor areas;
- 9) Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site, as feasible;
- 10) Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable;
- 11) Use electric power in lieu of diesel power where available; and
- 12) Traffic speeds on all unpaved roads to be 15 mph or less.

IMPLEMENTATION

The following shall be incorporated to ensure proper compliance with this policy.

Notification

Contractors of construction activities that are located within 1,000 feet of sensitive receptors shall notify each of these sites in writing at least 30 days before construction activities begin. Notification shall include the name of the project, a description of the location, the acreage of the construction site, the type and quantity of equipment and vehicles that will be operating at or near the site, the start date and reasonably anticipated duration of the construction, and contact information for a LACMTA community liaison who can answer any questions.

Enforcement

Each solicitation by LACMTA for a construction project contract and each contract entered into as a result of such solicitation shall include provisions authorizing enforcement of the requirements of this policy.

Violations of any of the requirements of this policy shall be deemed to be a material breach of the Contractor agreement, and LACMTA shall have available

all remedies including warnings, fines, requirement to remove equipment, institution of special assessments, and termination of contract.

LACMTA shall conduct inspection of construction sites and affected off-road and on-road equipment and generator as well as compliance with air quality rules. These inspections will be conducted as part of existing LACMTA staff functions and without advance notice to the Contractor.

Records

Prior to Notice to Proceed (NTP) to commence construction project and to be verified afterwards consistent with project contract requirements and through enforcement provisions above, the Contractor shall submit to LACMTA the following information for all construction equipment to be used in all construction projects on LACMTA properties or rights-of-way:

- 1) A certified statement that all construction equipment used conform to the requirements specified above;
- 2) A list of all the equipment and vehicles [i.e., for off-road equipment, include the CARB-issued Equipment Identification Number (EIN)] to be used;
- 3) A copy of each Contractor's certified EPA rating and applicable paperwork issued either by CARB, SCAQMD and any other jurisdiction that has oversight over the equipment; and
- 4) The name, business address, e-mail address, and phone number for the individual person responsible for each of the pieces of equipment and vehicles subject to this policy.

If an unanticipated need for the use of equipment or a vehicle arises after construction has commenced or after the Contractor has submitted the information required by the above subsections (1)–(4), the Contractor shall provide such information for the unanticipated equipment or vehicle within 14 days after an identified emergency or when the need arises and prior to the use of the equipment or vehicle.

Quantification and Reporting of Emission Reductions

No later than 18 months after the date the LACMTA Board of Directors adopts this policy, and annually thereafter, LACMTA shall develop a summary report presented to the Board and available on the LACMTA website which shall include:

- 1) A description of the implementation of this policy;
- 2) Quantification of the resulting PM and NO_x emission reductions;
- 3) A list and description of monitoring and enforcement actions;
- 4) A description of other appropriate measures of progress;
- 5) A description of the outreach of this policy in other jurisdictions that receive/program LACMTA funding (in whole or in part) for construction projects;
- 6) A description of implementation problems encountered and opportunities for additional reductions in emissions; and
- 7) Recommendations for any statutory or policy changes.

Implementation and Compliance Costs

The Contractor or equipment or vehicle owner (in cases where the equipment or vehicle is leased) is responsible for all costs of purchase, installation, and maintenance of retrofit devices or any new construction equipment required by this policy. The Contractor shall also be responsible for any compliance costs to be incurred by any of their subcontractors.

The LACMTA will provide information to the Contractor and their subcontractors to aid in the identification of and application for grants and loans that are available for the retrofit or repower of existing construction equipment or purchase of new green construction equipment.

No Contractor shall be given a competitive advantage or disadvantage as a result of this policy. Costs for complying with this policy is a part of the Contractor's bid and will not have any consideration in evaluating bids.

DEFINITIONS

Best Available Control Technology (BACT) is defined as technology, verified by CARB, for an off-road vehicle that achieves reductions in PM emissions at the highest applicable classification level for diesel emission control strategies. A summary of CARB-verified diesel emission control strategies may be found at <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>. Where this policy requires BACT, this requirement can be satisfied by a factory installed equivalent device, such as a diesel particulate filter.

Classification Levels are defined as levels of diesel emission control retrofit technologies, with Level 3 being the highest classification level, and the only level acceptable for a retrofit under this policy, except as provided for in this policy:

- Level 3 is defined as retrofit technology that reduces diesel PM emissions by 85 percent or greater or reduces engine emissions to less than or equal to 0.01 grams diesel PM per brake horsepower-hour;
- Level 2 is defined as retrofit technology that reduces diesel PM emissions by between 50 and 84 percent;
- Level 1 is defined as retrofit technology that reduces diesel PM emissions by between 25 and 49 percent.

Construction Project is defined as a project that is performed on LACMTA properties or rights-of-way. If the project is performed in collaboration with another agency or agencies or parties, including where the other agency or agencies or parties have the lead responsibility for construction, LACMTA shall discuss with those agencies or parties the incorporation of the provisions of this Green Construction policy into all agreements, including Memoranda of Understanding, between LACMTA and the other agency or agencies or parties. Until such time, provisions of this policy shall only be used as a guideline in performing construction projects that receive/program LACMTA funds in whole or in part.

Sensitive Receptor Site is defined as a site that is within the definition provided in the CARB Air Quality and Land Use Planning Guidelines (2005) (www.arb.ca.gov/ch/landuse.htm) such as schools, daycares, playgrounds, and hospitals.