LAX MASTER PLAN

COMMUNITY BENEFITS AGREEMENT (CBA)

2011 Annual Progress Report

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Los Angeles World Airports

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2011 ANNUAL PROGRESS REPORT

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Los Angeles World Airports

LAX Master Plan Program
2011 CBA Annual Progress Report
September 2012

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1.0 Executive Summary

On December 6, 2004, the Los Angeles World Airports' Board of Airport Commissioners (BOAC) unanimously approved an agreement with the LAX Coalition for Economic, Environmental and Educational Justice (Coalition) that provides environmental mitigation programs and jobs-related benefits to communities that would be impacted by the implementation of the Los Angeles International Airport (LAX) Master Plan.

The Community Benefits Agreement includes measures to mitigate noise, pollutant emissions, and traffic impacts of the Master Plan, as well as benefits such as job training and hiring programs for eligible residents of the Project Impact Area (PIA)[1] and the City of Los Angeles. The agreement precludes LAWA from making expenditures or taking actions prohibited by the Federal Aviation Administration (FAA) or any other regulatory authority. The Cooperation Agreement also prohibits the use of Los Angeles City's General Fund or any other City-controlled non-airport source of funds to meet any of LAWA's obligations under the Agreement.

In accordance with Section XVI "Miscellaneous" of the Agreement, LAWA is required to prepare annual reports on the implementation of the Community Benefits Agreement and the progress of the LAX Master Plan Program. LAWA is to provide the annual reports to the Coalition Representatives and make them available for at least one month on the LAWA website. This document is the seventh annual report on the progress of the Agreement. This document has been provided to the Coalition Representative and is available at LAWA website http://www.ourlax.org/comBenefits.aspx.

[1] *Project Impact Area includes the communities immediately surrounding the airport and those most impacted by airport operations, and is comprised of South Los Angeles, El Segundo, Hawthorne, Inglewood, and Lennox.*

2.0 Introduction/Background

The Community Benefits Agreement is comprised of several documents as follows:

1. **Cooperation Agreement.** The Cooperation Agreement sets out the legal framework of the Agreement, including conditions, commitments, obligations, enforcement, etc.

2. **Community Benefits Agreement (CBA).** The CBA, an attachment to the Cooperation Agreement, details the various proposals of mitigation and benefits. The various proposals include:

   Noise Mitigation

   - Increased Funding for Airport Noise Mitigation Program
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3. **Settlement Agreement with Inglewood Unified School District.** This Agreement includes the conditions, commitments, obligations, enforcement, etc., of both LAWA and the Inglewood Unified School District in the provision of the following:

   LAWA Funding of Certain District Mitigation Measures: LAWA will fund certain mitigation measures for the Inglewood Unified School District in an amount not to exceed $118,500,000 for noise abatement.

   Security-Related Items: LAWA will assist the Inglewood Unified School District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups, and the local communities in the event of an airport-related emergency.

   Community Programs: LAWA will work collaboratively with the Inglewood Unified School District to support a variety of community programs, such as job training and academic programs.

4. **Settlement Agreement with Lennox School District.** Similarly, this Agreement includes the conditions, commitments, obligations, enforcement, etc., of both LAWA and the Lennox School District in the provision of the following:

   LAWA Funding of Certain District Mitigation Measures: LAWA will fund certain mitigation measures for the Lennox School District not to exceed $111,000,000 for noise abatement.

   Security-Related Items: LAWA will assist the Lennox School District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups and the local communities in the event of an airport-related emergency.

   Community Programs: LAWA will work collaboratively with the Lennox School District to support a variety of community programs, such as job training and academic programs.

The execution of the specified elements of the Agreements is tied to final City Council and FAA approval of the LAX Master Plan Program. As described in each Agreement, LAWA's obligations are conditioned upon FAA approval of these expenditures and use of airport revenues for these specific purposes. Under no circumstance will any of LAWA's obligations under these Agreements require any expenditure from the City's General Fund or any other City-controlled source of funds.

3.0 Community Benefits Agreement Progress Update

Section III. Residential Noise Mitigation

III.A Funding of Aircraft Noise Mitigation Program (ANMP)

The Agreement states:

"Beginning in fiscal year 2004-2005, LAWA shall fund its Aircraft Noise Mitigation Program (ANMP) at least at the following levels:

- $4.275 million per year for the Inglewood component; and
- $4.275 million per year for the County of Los Angeles component.

These funding levels shall be met by LAWA. LAWA shall use additional revenue, including Airport Improvement Program funds, as appropriate. LAWA expenditure of funds under this Section III.A is contingent on the City of Inglewood and the County of Los Angeles complying with all requirements established in BOAC Resolution Nos. 21481 and 21360, and with FAA regulations."

Status → In Progress:
The County of Los Angeles requested funding for 2010 and 2011 in the amount of $7,500,000 each. The City of Inglewood, for the third year in a row, has not requested any annual funding. In 2011 funds in the amount of $7,500,000 were authorized for the County of Los Angeles. The second request for funding from the County of Los Angeles is being processed and will be considered part of the 2011 allocation. The County of Los Angeles also received withheld sums of $100K and $1M for two grants that were closed out during the months of February and March 2011. The County is in compliance with program requirements, and the November 2010 recommendations that stemmed from the Final Audit.

Therefore, the allocation of new funds in 2011 is as follows:

Calendar Year 2011	
County of Los Angeles (component)	*$ 8,600,000.00*
Inglewood (component)	*$ 0.00*
Total	*$ 8,600,000.00*

III.B Acceleration of Noise-Mitigation Programs for City

The Agreement states:

"Within eight months of the effective date of this Agreement, LAWA will provide a written schedule and work program to the Coalition Representative that is designed to achieve completion of the ANMP soundproofing program for the City by the end of 2008, and will take all reasonable steps to timely implement that schedule and work program."

Status → In Progress:
Progress on this program is driven by the voluntary participation of impacted residential homeowners in the communities of Playa del Rey, Westchester, and South Los Angeles. LAWA staff completed notification to all property owners of their eligibility on April 2010. The estimated construction completion date for the City of Los Angeles' program is 2012. LAWA has spent approximately $150 million to-date on the implementation of this program.

III.C Acceleration of Noise-Mitigation of Places of Worship

The Agreement states:

"LAWA shall accelerate the program of soundproofing Places of Worship as part of the ANMP in effect as of the effective date of this Agreement. Within eight months of the effective date of this Agreement, LAWA shall conduct a needs assessment for this program, in consultation with the Coalition Representative. LAWA shall provide annual reports on the progress of the program."

Status → In Progress:
Coordination with the Coalition on this provision is on-going.

III.D End of Block Soundproofing

The Agreement states:

"Within one year of the completion of the current ANMP for participating jurisdictions, LAWA shall commence an end-of-block soundproofing program, under which, if any residence on a particular city-block falls within the applicable noise contour for that block, then each residence on that block will be eligible for noise mitigation as described in this Section III.D. Offers of soundproofing shall be made to the owner of each residence, whether or not the owner of that residence chose to participate in previous soundproofing programs. Soundproofing under this program shall reduce interior noise at participating residences to an interior CNEL of 45 decibels or less, within habitable rooms."

Status → On-Going:
Progress on this program is driven by voluntary participation. Within the City of Los Angeles, all end-of-block eligible property owners have been notified (via certified mail) of their eligibility in the program. The estimated construction completion date for the City of Los Angeles' program is 2012. Approximately 1,200 dwelling units were added under the block rounding program that utilizes Passenger Facility Charge (PFC) funding approved by the FAA. The County of Los Angeles and the City of El Segundo have both submitted and received FAA approval of End of Block proposals, and have subsequently included additional homes within the Airport Improvement Program (AIP) funding eligible areas. LAWA fully supports these efforts, and will provide supplemental funding to the jurisdictions to mitigate those properties. All eligible properties are prioritized according to the program requirements, including generally mitigating the most highly impacted areas first.

III.E Suspension of Avigation Easement

The Agreement states:

"1. Present Avigation Easement Requirements. All homeowners receiving LAWA provided or funded noise insulation measures within the 65 dBA CNEL noise contour presently must execute express, full avigation easements (as set out in Exhibit A). In return for LAWA's providing these noise insulation benefits, each homeowner presently must sign a full, express avigation easement (as set out in Exhibit A), expressly waiving his or her ability to sue LAWA with respect to the impacts (listed in the avigation easements) that are created by aircraft operations at LAX on the affected residences.

2. Proposed Modified Easement Requirements. In order to promote the cooperation between LAWA and the Coalition that is envisioned by this Agreement, and as long as this Agreement remains in effect, LAWA agrees to suspend its requirement that express, full avigation easements (as set out in Exhibit A) be executed by homeowners receiving LAWA provided or funded noise insulation benefits for particular residences located within the 65 dBA CNEL noise contour in the City of Los Angeles, City of Inglewood, and Los Angeles County communities of Lennox and West Athens, and only under the following circumstances:

   a. Caltrans approves LAWA' compromise position as described in this Agreement during the effective term of this Agreement. This approval is necessary because Caltrans currently requires avigation easements as part of LAWA's ongoing noise variance within its permit from Caltrans to operate LAX;

   b. In lieu of requiring full, express avigation easements (as set out in Exhibit A), the homeowners will execute the Noise Easement attached as Exhibit B. The homeowners will provide, among other things, a written acknowledgment, accompanying the homeowner's authorization to proceed with the installation that the homeowner is aware of the proposed level of noise reduction that the installation is intended to provide. After the installation, the homeowner will execute an acknowledgement that the improvements have been installed and have attenuated the noise.

LAWA promises to make all reasonable efforts to obtain Caltrans' expedited approval of suspension of the requirement for full, express avigation easements (as set out in Exhibit A) and use of the Noise Easement (as set out in Exhibit B) in its place."

Status → Completed:
The dedication of avigation or any other easements in return for funding of, or participation in, the residential soundproofing program has been eliminated pursuant to the terms of a separate, independent agreement, the LAX Master Plan Stipulated Settlement Agreement, except under very limited circumstances as required by California Airport Noise Standards. Under these limited criteria, a

modified noise easement similar to the one proposed by the CBA is being used.

III.F Compatibility with Local Building Codes

The Agreement states:

"LAWA shall not require property owners participating in the ANMP to satisfy regulations or standards related to property conditions where these regulations or standards are more stringent than those actually enforced by the local government jurisdiction possessing code enforcement authority over the property in question."

Status → No action at this time:
No action is required on this provision as LAWA does not impose regulations or standards related to property conditions that are more stringent than those enforced by the local government jurisdiction as these requirements are not part of LAWA's noise mitigation programs.

III.G Limitations on Nighttime Departures

The Agreement states in part:

"LAWA and the Coalition agree that restrictions on departures between the hours of midnight and 6:30 a.m. over the communities to the east of LAX would be desirable, when LAX is operating under normal weather conditions (when LAX is either in Over-Ocean Operations or remains in Westerly Operations and excluding times when LAX operates in Easterly Operations). This is known as the "LAX Proposed Restriction".

1. Part 161 Study. By April of 2005, LAWA shall have completed a Contract Award Process for a study on the feasibility of implementing the LAX Proposed Restriction (the "Part 161 Study"). Within 90 days of the contract award, the contract will have commenced. LAWA shall require that the Part 161 Study meet the relevant requirements of 14 C.F.R. Part 161, and that the entity performing the Study provide annual reports to LAWA on study progress and findings"...

2. Record of Eastbound Departures. LAWA shall maintain a record of all nighttime eastbound departures during Over-Ocean Operations and Westerly Operations. This record shall be made available to the public on the LAWA website and shall be updated monthly.

3. Community Response Program. LAWA shall operate a community response program through which the public may report nighttime flights in the areas east of LAX. LAWA shall maintain a record of all individual reports, and shall prepare annual reports documenting individual reports, including records of airline, flight, date, and time of each reported flight, where possible. All records of reports, excluding the reporting individual's name and address, shall be maintained as public records and posted on the LAWA website."

Status → In Progress:

The Part 161 Study process encompasses three general elements including: (1) data collection and analysis to justify the LAX Proposed Restriction; (2) evaluation and explanation of the legal, environmental, and economic impacts of the proposed restriction; and (3) preparation and submittal to the FAA of the required reports and application materials. LAWA began the Part 161 Study in June 2005.

The LAX Part 161 Study re-commenced in April 2011 upon approval of a two-year contract extension with the selected vendor, Harris Miller Miller and Hanson Inc. (HMMH), by the BOAC and the City Council. The baseline and projected fleet mix forecasts were completed and submitted to FAA for approval. HMMH began preliminary noise modeling based on these forecasts. The draft ordinance to implement the LAX Proposed Restriction was prepared. HMMH submitted a preliminary draft of the application to LAWA for review. LAWA and HMMH also started planning for the Public Outreach Program, which will commence in 2012. The application also is expected to be submitted to the FAA in 2012.

Section IV. Job Training

The Agreement states in part:

"Job Training Program. Beginning in fiscal year 2005-2006, LAWA shall provide $3 million per year for five years, not to exceed $15 million over five years, to fund job training for Airport Jobs and Aviation-Related Jobs, and for Pre-apprenticeship Programs. Any funds unspent in a particular year shall be rolled over to the subsequent year. At the conclusion of the five-year period, any unused funds shall revert to the job training funds described in Section XV…"

Status → In Progress:

Job Training Program

Although the FAA has not approved a job training program (JTP) for LAWA and therefore no LAWA funds may be used for job training, LAWA leverages its relationships with various agencies funded to provide job training.

By leveraging relationships with over 16 JTP partners, LAWA, through its Business and Job Resources Division (BJRD) initiated its JTP in January 2007. LAWA was successfully able to partner with agencies funded through other means to provide job training opportunities to residents in the PIA. Currently, LAWA is working with agencies that provide an array of training, including computer skills, customer service, time management, bilingual skills, leadership skills, and other classes.

Based on surveys to employers, both internally and externally, new training courses, including Conversational Spanish for Concessions Division staff, and Management training in the areas of communication, coaching, and interviewing took place last year. The conversational Spanish course officially started on September 8, 2010 with a class of about 20 LAWA students and continued throughout 2011, training more than 80 individuals. Several beginning and intermediate Spanish classes were held throughout the year.

Many local residents have completed training in customer service, retail sales, auto mechanics and other disciplines through the LAWA partnerships. The Mayor's Office has initiated discussions with Worksource Centers, the Los Angeles Community College District and surrounding LAWA businesses to conduct Hospitality Training for local residents. Plans are underway to create training modules that will result in career paths for residents within the hospitality industry. Upon the completion of training, these candidates will be well-positioned to compete for job opportunities at the hotels or with various Airport employers.

In addition, LAWA has partnered with Santa Monica College to offer opportunities for customized training in the following areas at no cost to LAWA's employees: Business Skills, Continuous Improvement and Professional Development, Computer and Technology Skills, Leadership and Team Building among other areas.

LAWA, along with the LAX Coalition, will continue to assess other job training opportunities and/or areas for collaboration with local training providers.

As of December 31, 2011
*JTP Referrals: 637 Completed Training: 369**
**This number includes new employees as well as incumbent workers.*

Training Goals for 2012
JTP Referrals: 700 Completed Training: 400

Section V. First Source Hiring Program

The Agreement states in part:

"First Source Hiring Program for Airport Jobs. The First Source Hiring Program shall provide early access to targeted applicants for available Airport Jobs, and employers will receive prompt, cost-free referrals of qualified and trained applicants. Except where City's Worker Retention Policy requires retention of particular workers, LAWA shall require participation in the First Source Hiring Program with regard to all Airport Jobs by any:

- New Airport Contractor, Airport Lessee, and/or Airport Licensee resulting from the approved LAX Master Plan Program;
- Airport Contractor that enters into or receives a new, amended, or renewed Airport Contract, or receives a voluntary extension of an existing Airport Contract;

- Airport Lessee that enters into or receives a new, amended, or renewed lease of any property owned by LAWA, or receives a voluntary extension of an existing lease; and

- Airport Licensee that agrees, receives, or is subject to a new, amended, extended, or revised licensing or permitting agreement or set of requirements.

As of July 1, 2005, LAWA shall ensure that the First Source Hiring Program, attached as Exhibit C, is a material term of all Airport Contracts, lease agreements, and licensing or permitting agreements or sets of requirements that are new, extended, amended, renewed, or revised. Under these Airport Contracts, agreements, or requirements, employer participation in the First Source Hiring Program shall commence on the effective date of the Airport Contract agreement, or requirement in question, or on July 1, 2005, whichever is later…."

Status → In Progress:

<u>First Source Hiring Program</u>

The First Source Hiring Program (FSHP) is designed to provide access to airport jobs for residents from the communities immediately surrounding the airport and those most impacted by airport operations. Those communities are a part of the PIA and are comprised of South Los Angeles, El Segundo, Hawthorne, Inglewood and Lennox.

The FSHP is now automated with an Applicant Tracking System (ATS) to quickly assist those LAWA employers in need of prescreened and qualified individuals for employment consideration. Over 9,000 people have registered and posted their resumes on the ATS.

The Business and Jobs Resources Center (BJRC) works closely with the Work Source, One-Stop Centers and, community and faith-based organizations that serve the airport area and beyond to register potential candidates on the ATS for positions with LAWA employers. FSHP is training the job developers at these organizations to prescreen and qualify their clients to be eligible for opportunities at LAWA as they arise. Their clients are able to post their resumes and apply for positions and those applications are reviewed by hiring managers in the terminals.

The BJRC also participates in the Mayor's monthly roundtable with the Port of Los Angeles and the Los Angeles Department of Water and Power to discuss and work through workforce development initiatives and on the Mayor's South Los Angles Initiative. The purpose of this initiative is to ensure job opportunities for those residents that experience disproportionate levels of poverty and unemployment compared to the general population, many of whom live in the designated PIA.

As new concessions contracts are being awarded, targeted recruitment events will be coordinated with prime contractors to bring prescreened candidates for interview consideration. The FSHP scheduled such an event for the Delaware North Corporation at the Proud Bird Restaurant in January 2012. Delaware North expected to interview over 300 applicants for food service positions at their many food and beverage locations within LAX.

During 2011, targeted interviews were hosted for the following companies at the BJRC Office:

- *Crews of California*
- *Duty Free Shops, North America*
- *G-2 Secure Staff*
- *Hudson News*

Human Resources Managers from these companies utilized office space at BJRC to conduct interviews away from their confined space in the Terminals. These events yielded many new hires for their respective companies.

As of 6/30/2011 – Actual (Reported on Fiscal Year Basis)

FSHP
Referrals: 6,141 Hires: 803

Hiring Goals:

FSHP
Through June 2011: 790 Through June 2012: 954

Gateways Internship Program

The Gateways Internship Program provides college and high school students with exposure to career opportunities in the aviation industry and other airport-related jobs. The Gateways Program gives students on-the-job practical experience in various airport jobs through education, training, and mentoring activities to better prepare them to enter the workforce.

The Gateways Internship Program has partnered with various colleges such as UCLA, USC, Cal State University of Long Beach, Cal State University of Los Angeles, Loyola Marymount, West Los Angeles College, Cal State Fullerton, CSUN, Cal State University Dominquez Hills, Cerritos College, Santa Monica College, East Los Angeles Community College, Trade Technical College, Southwest College, and Chaffey College. LAWA also partners with Playa Vista Job Opportunities and Business

Services (PV Jobs), Watts Labor Community Action Committee (WLCAC), and Los Angeles Job Corps to place students into its internship program. Since its inception, the Gateways Program has placed more than 800 students in a wide range of internship positions, including Administrative, IT, Engineering, Human Resources, Noise Management, Environmental Management, Airfield Operations, Community Relations, Public Relations, and FAA-related.

LAWA's Gateways Program is comprised of three internship programs:

- *Gateways College Student Professional Worker Program*
- *Gateways Volunteer Internship Program*
- *Gateways International Student Professional Worker Program*

The BJRC was able to place over 100 students through its three programs within various internships in LAWA Divisions this year. This increase in internship positions was accomplished primarily through funding partners included community and faith based organizations and colleges.

The majority of the student interns worked during the summer. However, this year a substantial number of college students were able to work year-round.

The BJRC conducted extensive outreach to students by attending Career Day events at colleges, posting internship job descriptions to the college career sites, and connecting with various college career centers and advisors. BJRC also disseminated internship information at 40 community job fairs. Additionally, the BJRC has continued its relationship with Cerritos College to place IT students with LAWA through its approved prerequisite course work to the program. The BJRC also continues its partnership with City of Los Angeles Public Works High School Internship Program.

In addition to students from local and out-of-state schools, the BJRD also attracts international students who wish to volunteer at LAX. BJRC hosted international students from Germany, Korea, Belgium, and Japan.

Goals for Next Year

Program goals for the upcoming year will be to increase the number of paid positions through partnerships with other organizations, and to increase the volunteer internship numbers by continuing our current relationships with the various colleges and community and faith based organizations. Also, BJRC plans to reach out to colleges that have not participated in the internship program and to increase international student participation, through the Mayor's International Internship Program.

Section VI. Living Wage, Worker Retention, and Contractor Responsibility

The Agreement states:

"LAWA shall apply to all Airport Contractors, Airport Lessees, and Airport Licensees the City's Living Wage Ordinance, as set forth in Los Angeles Administrative Code Section 10.37; the City Worker Retention Policy, as set forth in Los Angeles Administrative Code Section 10.36; and the Contractor Responsibility Program set forth in BOAC Resolution No. 21601, in accordance with City policy."

Status → Completed:
This provision currently applies to all LAWA contracts as set forth in Board Resolution No. 21601.

Section VII. Air Quality Study

The Agreement states in part:

"Air Quality Study. LAWA shall fund a study by an Independent Expert of toxic air contaminants and criteria air pollutant emissions from jet engine exhaust and other emission sources ("Air Quality Study"). In addition to other contaminant and pollutant emissions, the Air Quality Study shall measure jet engine exhaust emissions and provide chemical composition data from a representative sample of engine types and ages under a variety of conditions that reflect actual operations, and shall include this data and all other relevant study results as part of the final study provided to LAWA."

Status → In Progress:
In 2009, the Study's Technical Working Group (TWG), comprised of representatives from U.S. Environmental Protection Agency (EPA), Federal Aviation Administration (FAA), California Air Resources Board, South Coast Air Quality Management District, State of California Office of Environmental Health Hazard Assessment, and representatives from community organizations, reviewed the draft documentation from the Phases I and II of the Study, and recommended that additional analysis of the sizeable Demonstration Project data and air sampling of taxiing aircraft be completed prior to developing the methodology, protocols, and work plan for Phase III. In 2010, LAWA developed an approach to move the Air Quality Study forward.

LAWA coordinated with the AQMD to conduct some taxiway air monitoring in April 2011. CDM Smith further analyzed the Demonstration Project data, and prepared the Phase III draft work plan in consultation with LAWA and a focused TWG team.

In August 2011, LAWA selected Tetra Tech, Inc. to conduct Phase III from its existing environmental on-call contractors with a budget not-to-exceed $2.75 million (the contract used for Phases I and II had expired). Air monitoring was scheduled to begin in January 2012.

The Study approach includes a total of 17 monitoring sites, consisting of "fixed monitoring stations", "community satellite sites", and "saturation sampling sites."

Four fixed monitoring stations are located in the communities surrounding LAX:
- Community North - Westchester
- Community South - El Segundo
- Community East - Lennox
- Upwind Northwest Site - Playa del Rey

There also are four smaller satellite sites located in Hawthorne, Westchester, El Segundo, and west of LAX; and gradient sampling to provide measurements for a subset of air pollutants at nine additional sites throughout the areas surrounding the airport.

The air quality monitoring will occur over two seasons – the winter season, beginning in late January 2012, and the summer season, beginning in July 2012 - to account for typical seasonal changes in meteorology, airport operations, and the associated effects on pollutant transport and dispersion. The analysis of the monitoring and modeling

results will occur in the latter half of 2012 and report preparation is expected to be complete by Spring 2013.

VIII. Health Study

The Agreement states in part:

"Health Study. LAWA shall fund a study to measure and investigate upper respiratory system and hearing loss impacts of LAX operations due to the LAX Master Plan Program. LAWA, in consultation with the Coalition Representative, shall develop a scope of work and objectives for the Health study…"

Status → Not applicable at this time:
It is expected that the Health Study will commence after the completion of the Air Quality Study described in Section VII.

Section IX. Community-Based Research Studies as Part of LAWA's Future LAX Master Plan Program Project-Level Analysis

The Agreement states in part:

"Inclusion in Project-Level Environmental Analysis. LAWA acknowledges that, pursuant to CEQA, it will perform additional environmental review on the various LAX Master Plan Program project components as they are processed for future approval. In undertaking this additional environmental review, LAWA shall require the general contractor preparing the environmental documents for these future project-level analysis to subcontract with an Independent Expert to coordinate community-based research studies as described in Section IX.B (the "Community-Based Studies"), that are designed to become a part of the environmental analysis. LAWA shall expend no less than $300,000 on the Community-Based Studies. As future project-level environmental documents are prepared for LAX Master Plan Program projects, LAWA is not required to utilize the Community-Based Studies as part of each project-level environmental review, and shall have discretion to determine whether a particular project-level analysis would be appropriate for including the Community-Based Studies…"

Status → Not applicable at this time:
LAWA determined that none of the project-level environmental analysis conducted in 2011 was appropriate for including the Community-Based Studies.

Section X. Air Quality

The Agreement states in part:

Section X.A. Electrification of Passenger Gates

"1. Passenger Gate Electrification Schedule. LAWA shall ensure that all Passenger Gates are equipped and able to provide electricity sufficient for aircraft needs under the following schedule:

a. All Passenger Gates for which new construction (excluding maintenance) is completed after the effective date of this Agreement shall be equipped and able to provide electricity to parked aircraft from date of initial operation and at all time thereafter.

b. Three years from the effective date of this Agreement, and at all times thereafter, at least fifty percent of Passenger Gates at LAX shall be equipped and able to provide electricity to parked aircraft.

c. Five years from the effective date of this Agreement, and at all times thereafter, one hundred percent of Passenger Gates at LAX shall be quipped and able to provide electricity to parked aircraft.

2. Aircraft Use of Gate-Provided Electricity. LAWA shall ensure that gate-provided electricity is provided to all aircraft parked at Equipped Passenger Gates and, except for the exemptions identified in this section, that all aircraft use the gate-provided electricity in lieu of engine operation of aircraft or mobile/ground auxiliary power units…

3. Assessment of Electrification of Passenger Loading Areas. LAWA shall conduct an assessment of operations at Passenger Loading Areas for the purpose of determining whether electrification of Passenger Loading Areas is Operationally Infeasible. The assessment shall include, but not limited to, inventory utilization, operations, technological trends, and capital and maintenance costs…

4. Commuter Flight Loading and Unloading. By the conclusion of the LAX Master Plan Program, loading and unloading of passengers of commercial aircraft shall be performed only through Passenger Gates."

Status → Completed:
All passenger gates, i.e., terminal and regional boarding ramp gates are electrified with 400 hertz ground power.

Section X.B. Electrification of Cargo Operations Areas

"1. Cargo Operations Areas Electrification Schedule. LAWA shall ensure that all, unless determined under procedures described below to be Operationally Infeasible and/or Technically Infeasible, all Cargo Operations

Areas are equipped and able to provide electricity sufficient for aircraft needs as following:

a. All Cargo Operations Areas for which new construction, not maintenance, is completed after the effective date of this Agreement shall be equipped and able to provide electricity to parked aircraft from date of initial operation of the Cargo Operations Area at LAX and at all time thereafter.

b. Three years from the effective date of this Agreement, and at all times thereafter, at least fifty percent of Cargo Operations Areas at LAX shall be equipped and able to provide electricity to parked aircraft.

c. Five years from the effective date of this Agreement, and at all times thereafter, one hundred percent of Cargo Operations Areas at LAX shall be equipped and able to provide electricity to parked aircraft.

2. Aircraft in Cargo Operations Areas Use of LAX-Provided Electricity if Available. LAWA shall ensure that electricity sufficient for aircraft needs is provided to all aircraft parked at Equipped Cargo Operations Areas and that all these aircraft use LAX-provided electricity as power in lieu of engine operation of aircraft or ground/mobile auxiliary power units…

3. Assessment of Electrification of Cargo Operation Areas and Feasibility Evaluation. LAWA shall conduct an assessment of Cargo Operations Areas for the purpose of evaluating whether electrification of a particular Cargo Operations Areas is Operationally Infeasible and/or Technically Infeasible. The assessment shall include, but not limited to, inventory utilization, operations, technological trends, and capital and maintenance costs…"

Status → In Progress:
LAWA completed the first phase of a feasibility assessment in 2006. LAWA has determined that an updated assessment of the electrification program is needed to account for changes on the Airport over the past few years, including remodeling and renovation of some terminals and facilities and airlines moving to different locations on the Airport.

Section X.C. Electrification of LAX hangars

"LAWA shall conduct an assessment of operations at LAX Hangars for the purpose of determining whether electrification of LAX Hangars to provide electricity sufficient for aircraft needs at LAX Hangars is Operationally Infeasible and/or Technically Infeasible. The assessment shall include, but not be limited to, inventory utilization, operations, technological trends, and capital and maintenance costs…"

Status → In Progress:
LAWA completed the first phase of a feasibility assessment in 2006. LAWA has determined that an updated assessment of the electrification program is needed to account for changes on the Airport over the past few years, including remodeling and renovation of some terminals and facilities and airlines moving to different locations on the Airport.

Section X.D. FAA Prohibition

"If an FAA Determination, as defined in and pursuant to the procedures set out in the Cooperative Agreement, or any other regulatory authority prohibits LAWA from taking actions required by Subsections A through C of this Section X, or threatens to withhold federal funding if LAWA takes actions required by Subsections A through C of this Section, then LAWA shall set aside $1.7 million to the air quality fund described in Section XV."

Status → Not applicable at this time:
Action is required only if the FAA prohibits LAWA from implementing this section.

Section X.E. Reporting

"LAWA shall report in writing to the Coalition Representative on the progress of electrification of Passenger Gates, Cargo Operations Areas, and LAX Hangars semiannually. Reports shall include, but not be limited to, the number and types of facilities and areas electrified, operational guidelines issued, a summary of exemptions granted, reports of violations of usage requirements, and actions taken by LAWA to enforce usage requirements."

Status → In Progress:
LAWA has provided a status of the electrification program in each of the annual CBA reports. The updated electrical assessments will include an analysis of which reporting requirements are feasible.

Section X.F. Construction Equipment

Best Available Emission Control Devices Required. LAWA shall require that all diesel equipment used for construction related to the LAX Master Plan Program be outfitted with the best available emission control devices primarily to reduce diesel emissions of PM, including fine PM, and secondarily, to reduce emissions of NOx. This requirement shall apply to diesel-powered off-road equipment (such as construction machinery), on-road equipment (such as trucks) and stationary diesel engines (such as generators).

Status → In Progress:
As stipulated in Section X.F.8 of the Community Benefits Agreement (CBA), an Independent Third Party Monitor was retained by LAWA to monitor compliance with the requirements of Section X.F. The role of the Independent Third Party Monitor is to monitor, document, and report on a semi-annual basis to LAWA and the Coalition on compliance with all elements of Section X.F, including but not limited to the use of verified diesel emission control systems (VDECS) on LAX Master Plan Program construction-related diesel equipment, a summary of

exemptions granted, and any reports of violations or noncompliance with the requirements of CBA Section X.F.

The following is an update of activities and findings reported by the Independent Third Party Monitor as it relates to diesel construction equipment utilized on the Taxiway S and the Bradley West (BWP) construction projects.

Section X.F.1 – Best Available Emissions Control Devices Required

All diesel equipment used for construction related to the LAX Master Plan Program is required to be outfitted with best available emission control devices, primarily to reduce diesel particulate matter emissions, including fine particulate, and secondarily to reduce emissions of oxides of nitrogen (NOx). This requirement applies to diesel-powered off-road equipment, on-road equipment, and stationary diesel engines. The emission control devices utilized for the equipment at the LAX Master Plan Program construction shall be verified or certified by the California Air Resources Board (CARB) or Environmental Protection Agency (EPA) for use on on-road or off-road vehicles or engines.

Status → In Progress:
The Independent Third Party Monitor reviewed the documentation submitted by the Contractors for each piece of diesel equipment utilized or planned for possible utilization on the Taxiway S and BWP relative to compatibility with Best Available Emissions Control Devices. Approximately 352 pieces of diesel equipment have been assessed to date to determine compatibility with a CARB-verified or EPA-certified diesel emission control device.

To assist in performance of this Section, the Independent Third Party Monitor developed and implemented a monitoring process to track each piece of diesel equipment and document each construction firm's compliance as it related to outfitting their diesel construction equipment with the best available emissions control devices.

The findings for this Section are as follows:

- *Taxiway S construction is substantially complete. Independent Third Party Monitoring documented 68 pieces of equipment, including independent verification of equipment compatibility with a CARB or EPA-verified VDECS, and documentation of equipment that has received an exemption from LAWA. Sixteen (16) pieces of diesel equipment were equipped with a diesel emission reduction system: seven (7) pieces of diesel equipment were equipped with Level 3 diesel particulate filters; five (5) vehicles were equipped with the Caterpillar ACERT low emission engine technology; and four (4) vehicles were equipped with low-emission engines operating on compressed natural gas (CNG).*
- *Major construction work continues on the Bradley West Project, anticipated for completion in late 2012. To date, 284 pieces of equipment have been independently reviewed by the third Party*

Monitor. Eight (8) pieces of diesel construction equipment are equipped with a Level 3 diesel particulate filter. Seven (7) additional pieces of diesel off-road construction equipment were identified as being compatible with a Level 3 particulate filter; LAWA project management directed the construction company to retrofit these vehicles prior to deployment on the airfield.

Off-road diesel equipment operating on the Taxiway S and BWP whose engines were determined to be compatible with a Level 3 VDECS, but not retrofitted with the best available emissions control technology, were documented to ensure that the equipment had been granted an exemption in accordance with Section X.F.4

X.F.2 - Demonstration Projects

Notwithstanding the verification or certification requirement set forth in Section X.F.1, LAWA may allow diesel equipment used for construction related to the LAX Master Plan Program to be outfitted with a new emission control device designated by LAWA as a "Demonstration Project", even if the device has not yet been verified or certified by CARB or EPA for use in on-road or off-road vehicle or engine applications. These devices shall, at a minimum, meet all pollution reduction requirements specified in Section X.F.3.

Status → In Progress:
The Independent Third Party Monitor is available to assist LAWA and the LAX Coalition in identifying potential opportunities to conduct a Demonstration Project in accordance with Section X.F.2. No Demonstration Projects were initiated during 2011.

Section X.F.3 - Emission Reduction Standards

Emission control devices used pursuant to Section X.F.1 shall achieve emission reductions no less than what would be achieved by a Level 2 (50 percent particulate matter reduction) diesel emission control strategy for a similar sized engine as defined by CARB regulations. Under no circumstances shall an emission reduction device or strategy used on the LAX Master Plan Program construction site increase the emission of any pollutant above that which is the standard for that engine.

Status → In Progress:
The Independent Third Party Monitor assessed each piece of diesel construction equipment equipped with a VDECS pursuant to Section X.F.1 and documented its compliance as it related to meeting or exceeding Level 2 diesel emission reductions.

Final findings for this Section are as follows:

With respect to Taxiway S and BWP construction activities during 2011, fifteen (15) pieces of diesel construction equipment were equipped with VDECS. The primary VDECS used on the retrofitted equipment is the HUSS FS-MK diesel particulate filter, verified at Level 3 (greater than 85

percent particulate matter reduction). No Level 1 or Level 2 VDECS were identified for equipment assessed pursuant to Section X.F.1.

The Third Party Monitor verified with CARB that the Level 3 device utilized on the Taxiway S and BWP did not result in an increase of any pollutant above which is standard for that equipment's engine.

Section X.F.4 – Exemptions

The requirements of Sections X.F.1 through X.F.3 do not apply to a piece of construction related diesel equipment for which the operator provides a written finding, based upon appropriate market research and approved by LAWA, that the best available emission control device for reducing the emissions of pollutants as requires by Sections X.F.1 through X.F.3 is unavailable for that equipment, in which case the contractor shall use whatever technology for reducing exhaust emissions is available and appropriate for that vehicle or engine, if any. In addition, Sections X.F.1 through X.F.3 do not apply to a piece of construction related diesel equipment that is used on LAX Master Plan Program construction sites for fewer than twenty (20) calendar days per calendar year.

Status → In Progress:
The Third Party Monitor reviewed each piece of diesel construction equipment proposed for use on the Taxiway S and BWP as it pertained to the requirements of Sections X.F.1 and X.F.3 and independently determined if a CARB verified or EPA certified diesel emission control system was compatible. These findings were documented and compared with exemptions granted by LAWA. Findings for this Section are as follows:

- *Equipment whose engine is compatible with a CARB verified or EPA certified diesel emission control system, but whose use on the Taxiway S or BWP would not exceed twenty (20) calendar days per calendar year was granted a "20-day" exemption by LAWA. The Third Party Monitor maintained an independent database of all equipment operating under the 20-day exemption rule, including the date the equipment was moved onsite and the date the equipment was required to be removed from the airfield;*
- *The Third Party Monitor reviewed and documented cases where it was determined that the VDECS would impair the equipment operator's field of vision. These vehicles were granted a safety exemption by LAWA. Specific classes of diesel equipment, including motor graders, received an exemption from LAWA on the basis of safety. The Independent Third Party Monitor reviewed and documented each piece of diesel construction equipment that received a safety exemption;*
- *Exemptions were also granted by LAWA for diesel equipment equipped with small displacement engines and horsepower ratings less than 50 hp; this included light towers and air compressors. In addition, on-road vehicles licensed under the Department of Motor Vehicles were granted an on-road vehicle exemption.*

- *The Third Party Monitor also independently assessed and documented diesel equipment for which no CARB verified or EPA certified diesel emission control system was available. This equipment was granted an exemption by LAWA on the basis of unavailability.*

Section X.F.5 - Ultra-Low Sulfur Diesel and Other Fuels

All diesel equipment used for construction related to the LAX Master Plan Program shall use only Ultra-Low Sulfur Diesel Fuel (ULSD) with a sulfur content of fifteen (15) parts per million or lower. If adequate supplies of ULSD are not available in the Southern California area, other fuels may be used, provided that the other fuels do not result in greater emissions of fine particulate matter or oxides of nitrogen that that which would be produced by the use of ULSD.

Status → In Progress:
The Third Party Monitor independently reviews and documents fuel purchase records for diesel fuel used on the Taxiway S and BWP. Findings for this Section are as follows:

- *South Coast AQMD Rule 431.2, which took effect on June 1, 2006, requires diesel fuel refined and sold for on-road and off-road use within the jurisdiction of the AQMD to contain no more than 15 parts per million (ppm) sulfur by weight. This requirement was subsequently adopted on a statewide basis by the California Air Resources Board, effective September 1, 2006. Thus, ULSD is the only diesel fuel legally available for purchase within California;*

- *No shortage of ULSD was experienced within Southern California during Taxiway S or BWP construction in 2011. No substitution of any fuel in lieu of 15 ppm ULSD occurred during any LAX Master Plan construction project;*

- *The Third Party Monitor reviewed fuel purchase records as provided by LAWA on behalf of the construction firms. No exceptions to the requirements of Section X.F.5 were documented;*

- *The Independent Third Party did not monitor on-road vehicles operating on the Taxiway S or BWP that were fueled off-site. Fuel purchase records were only provided for vehicles that were fueled on the airfield using mobile refueling trucks.*

Section X.F.6 - Operational Requirements

Operational Requirements pertaining to excessive vehicle idling and required engine maintenance intervals shall be issued by LAWA and enforced.

Status → In Progress:
The Third Party Monitor monitored excessive vehicle idling enforcement and compliance with engine maintenance intervals based on independent observation, review of enforcement action documentation, and review of construction firm engine maintenance procedures and records. Findings as it relates to this Section are as follows:

- *No written violations pertaining to excessive equipment idling were cited by LAWA on any construction firm. On infrequent occasions, vehicles deemed to be idling beyond the period of time stipulated in CARB regulations were instructed to turn off their engines. Formal enforcement actions were not deemed necessary by LAWA;*
- *Each construction firm proposing a piece of diesel equipment was required to submit in writing the scheduled maintenance procedures for that piece of equipment. The Third Party Monitor has reviewed each maintenance plan submitted to LAWA.*

Section X.F.7 – Enforcement by LAWA

Compliance with all requirements delineated in Sections X.F. is required of all Airport Contractors, Airport Lessees, and Airport Licensees. LAWA shall enforce the findings and determinations of the Independent Third Party Monitor.

Status → In Progress:
No formal enforcement actions were taken by LAWA in 2011 as it pertains to Taxiway S and BWP construction activities. No public complaints related to construction activities were received in 2011.

Section X.F.8 – Independent Third Party Monitor

Compliance with requirements of Section X.F. is required to be monitored, documented, and reported by an Independent Third Party Monitor.

Status → In Progress:
LAWA retained an Independent Third Party Monitor. The findings of the Independent Third Party Monitor are reported in this document and in Appendix B.

Section X.F.9 – Reassessments of Emission Control Devices

"LAWA shall designate the best available emission control devices annually or more frequently, in consultation with the Coalition Representative and the Independent Third Party Monitor. LAWA, in consultation with the Coalition Representative, shall establish processes to revise these designations and incorporate the requirement to use the emission control devices newly designated as best available into construction bid documents to take into account advances in emission control devices prior to bidding of new construction phases of the LAX Master Plan Program. The process of emission control technology review

shall include any new relevant requirements promulgated by CARB or EPA. Results from the reassessments shall not be applied retroactively."

Status → In Progress:

The Independent Third Party Monitor reviewed each piece of diesel construction equipment proposed for use on the CFTP and Taxiway S for compatibility with newly verified Level 3 VDECS. While it was understood that the requirement to utilize new VDECS could not be applied retroactively for equipment operating on the CFTP and Taxiway S, the reassessment process and findings will be used to designate best available control emission devices for subsequent LAX Master Plan Program construction projects.

Section X. G. Ground Service Equipment Diesel Emissions Reduction Incentive Program

"GSE Incentive Program. LAWA shall create a program providing incentives for the reduction of GSE diesel emissions ("GSE Incentive Program"). LAWA shall expend at least $500,000 on the GSE Incentive Program. Participation by GSE operators in the GSE Incentive Program shall be voluntary. Funding for the program shall commence in fiscal year 2005-06."

Status → In Progress:
The specific guidance for the incentive program will be based on the revised GSE Inventory planned for 2012.

Section X. H. Ground Service Equipment Inventory

"1. Scope of GSE Inventory. LAWA shall prepare a study ("GSE Inventory") detailing all GSE operated On-Site. The GSE Inventory shall include, but not be limited to, an inventory of the number, type, sizes, model year, usage history, and identify of operator for all GSE operated On-Site at the time of the GSE Inventory…

2. Determination of 1997 GSE Fleet for Nonparticipating GSE Operators. The GSE Inventory shall include a determination of the number and types of On-Site GSE that were operated On-Site in 1997 by each Nonparticipating GSE Operator…"

Status → Completed:
The study has been completed and the results were issued to the Coalition in May of 2007. LAWA plans to update the LAX GSE inventory and conduct a comprehensive e-GSE feasibility study in 2012.

Section X.I. Requirements for Emissions Reductions by Nonparticipating GSE

"In order to achieve emission reductions from GSE operated at LAX by Nonparticipating GSE Operators, LAWA shall issue requirements leading to the use of less-polluting GSE by Nonparticipating GSE Operators, as described in

this Section X.I. New, amended, renewed, or extended Airport Contracts, lease agreements, and any relevant LAX licensing or permitting requirements for Nonparticipating GSE Operators shall include language requiring compliance with requirements of this Section X.I. and allowing assessment of liquidated damages as described in this Section X.I against any entity responsible for a violation…"

Status → In Progress:
LAWA, in conjunction with airlines, is evaluating strategies and options for GSE emission reductions in compliance with this section.

Section X.J. Emission Reductions from On-Road Trucks, Buses, and Shuttles

"1. Inventory of On-Road Heavy-Duty Vehicle Traffic and Study of Feasible Mitigation

a. Heavy-Duty Vehicle Study. LAWA shall fund a study of on-road Heavy-Duty Vehicle traffic related to LAX Operations. This study shall begin no later than one year from the effective date of this Agreement. The study shall be completed within twelve months of its initiation. The Study shall be conducted by an Independent Expert, selected through a Contract Award Process…"

Status → In Progress:
A draft scope for this study was submitted to the Coalition in July 2005.

"2. Conversion of Truck, Shuttles, Passengers, Vans and Buses to Alternative Fuel

a. Covered Vehicles. Requirements established under this Section X.J.2 shall apply to all on-road vehicles, including trucks, shuttles, passenger vans, and buses, that are 8,500 lbs gross vehicle weight rating or more and are used in operations related to LAX ("Covered Vehicles"). Diesel equipment for construction related to the LAX Master Plan Program that is subject to Section X.F. of this Agreement shall be exempt from requirements established pursuant to this Section X.J.2.

b. Conversion Schedule. LAWA shall ensure that by five years from the effective date of this Agreement, 50 percent of the Covered Vehicles operated by any Airport Contractor, Airport Lessee, and Airport Licensee (collectively "Operators") are Alternative-Fuel Vehicles or Optional Low NOx Standard Vehicles. LAWA shall ensure that by ten years from the date of execution of this Agreement, 100 percent of the Covered Vehicles operated by each Operator are Alternative-Fuel Vehicles or Optional Low NOx Standard Vehicles.

c. Least-Polluting Available Vehicles. In cases where Operators cannot comply with requirements established pursuant to Section X.J.2.b because neither Alternative-Fuel Vehicles nor Optional Low NOx

Standard Vehicles are commercially available for performance of particular tasks, LAWA shall instead require Operators to use Least-Polluting Available Vehicles for such tasks. An Independent Third Party Monitor shall determine on an annual basis whether Alternative-Fuel Vehicles or Optional Low NOx Standard Vehicles are commercially available to perform particular tasks, and, in cases where Alternative-Fuel Vehicles or Optional Low Standard Vehicles are not commercially available for performance of a particular task, shall identify the Least Polluting Available Vehicles for performance of that task."

Status → In Progress:
LAWA has an Alternative Fuel Vehicle Requirement Program that applies to all on-road vehicles weighing 8,500 lbs gross or larger. This program is currently in effect and requires the conversion of car rental shuttles, trucks, and other large vehicles in use at LAX.

LAWA has taken a leadership role to meet this commitment and has met the mid-way milestone for vehicles over 8,500 pounds. The entire LAX fleet is 65% alternative fuel. One hundred percent (100%) of the LAX courtesy shuttles are alternative fuel, as are the Americans with Disability Act (ADA) shuttles.

The rental car companies report that about 95% of the LAX rental car shuttle fleet is fueled by compressed natural gas or has diesel particulate traps.

Section X.K. Particulate Matter (PM 2.5)

"1. Assessment of PM 2.5. LAWA shall assess and mitigate impacts of PM 2.5 in compliance with all applicable provisions of state and federal law. LAWA's obligation to mitigate PM 2.5 impacts within the context of the CEQA may be limited by feasibility, overriding considerations or other requirements articulated in applicable state and federal laws.

2. Determination of PM 2.5 Significance Thresholds. The assessment and mitigation of PM 2.5 impacts shall comply with the requirements for both attainment of PM 2.5 ambient air quality standards and the mitigation of significant project-related and cumulative impacts under CEQA.

3. Conferring with Applicable Agencies. LAWA shall confer with applicable agencies, including SCAQMD, CARB, and the EPA, to assure compliance with state and federal PM 2.5 ambient air quality standards after guidance for measuring and evaluating exceedances has been established. With respect to projects requiring CEQA analysis, LAWA shall include the SCAQMD as a responsible agency in the review process to seek adherence to the threshold standards to be established.

4. LAWA Project Assessment of PM 2.5. LAWA shall conduct and complete a CEQA assessment of PM 2.5 impacts related to the first LAX Master Plan Program project to be initiated after establishment of applicable thresholds, either by SCAQMD or as outlined above. This assessment shall be completed in consultation with SCAQMD as a responsible agency in the CEQA review process."

Status → Completed:
In 2008, LAWA initiated environmental analysis of the Crossfield Taxiway Project (CFTP) and published a Draft Environmental Impact Report (EIR) on September 25, 2008. The Draft EIR included an assessment of PM 2.5 impacts in its air quality analysis. Note: This requirement was not considered to apply to the SAIP based on the fact that the CEQA analysis for that project was already well underway before the CBA took effect (i.e., SAIP EIR NOP was published in August 2004, while CBA was not executed until February 2005.)

Section X.L. Rock-Crushing Operations and Construction Material Stockpiles

"LAWA shall locate rock-crushing operations and construction material stockpiles for all construction related to the LAX Master Plan Program in areas away from LAX-adjacent residents to reduce impacts from emissions of fugitive dust…"

Status → In Progress:
Subject requirement was included in construction specifications of the Bradley West Project (BWP) and the rock-crushing plant for the BWP complied with this requirement. This requirement is included in construction specifications for all upcoming projects at LAX.

Section X.M. Limits on Diesel Idling

"LAWA shall prohibit diesel-powered vehicles from idling or queuing for more than ten consecutive minutes On-Site, unless CARB adopts a stricter standard, in which case LAWA shall enforce that standard. Exemptions to this rule may be granted for safety-related and operational reasons, as defined in CARB regulations."

Status → Completed:
Subject requirement was included in construction specifications for the CFTP and BWP and was monitored by LAWA's Independent Third Party Monitor. This requirement will be included in construction specifications for all upcoming projects at LAX.

Section X.N. Provision of Alternative Fuel

"LAWA shall ensure that its infrastructure for providing fuel to Alternative-Fuel Vehicles is sufficient and available, where not Operationally Infeasible and/or Technically Infeasible, to meet all requests for alternative fuel from contractors and other uses of LAX."

Status → In Progress:
LAWA has a liquefied natural gas (LNG)/compressed natural gas (CNG) facility located on airport property to service LAWA vehicles. There is also a public retail station owned and operated by Clean Energy on the southeast corner of Aviation Boulevard and 104th Street that sells CNG and hydrogen fuels.

Clean Energy is currently building a second CNG station on the west side of Aviation Boulevard between Arbor Vitae and Century Boulevard. The new station is a $3 million private-sector investment. Clean Energy will own and operate the station under a long-term property lease with Hertz. Clean Energy reports that when complete, the new CNG station will be the largest capacity public-access CNG station in the U.S and will be capable of fueling up to six full-size transit buses or 10 light-duty vehicles, simultaneously. The combined CNG capacity for both Clean Energy stations will be 3,500+ gallons per hour.

Section X.O. Hydrogen Fuel Cell Infrastructure

"LAWA shall support efforts to place a hydrogen fuel cell system for the generation of electricity at or near LAX. This fuel cell system shall meet or exceed CARB 2007 distributed generation certification standard."

Status → Completed:
LAWA investigated the use of fuel cells for the Central Utility Plant replacement project (CUP-RP) Environmental Impact Report. The use of fuel cells would not be feasible due to size constraints and energy inefficiency.

Section X.P. Cleaner Burning Jet Fuels

"LAWA shall support efforts to encourage the airlines and petroleum industries to embark on a study to promote the use of jet fuels that minimize air pollutant emissions from jet engines."

Status → In Progress:
LAWA is in close communication with United Airlines on their continued efforts to test ultra-clean jet fuels. In May 2010, United successfully completed the first commercial flight using an "ultra-clean" fuel made from synthetic gas developed by the engineering firm Rentech. On November 7, 2011 United Airlines completed a revenue flight from Houston to Chicago on a blend of 40% biofuel from algal oil and 60% conventional jet fuel. San Francisco-based Solazyme signed a letter of intent with United to supply up to 20 million gallons per year, by 2014, of bio-jet fuel produced from algae. In November of 2011, Alaska Airlines began a series of 75 flights from Seattle to Washington and Portland, Oregon, on a 20% blend of biofuel from waste cooking oil. LAWA will continue to monitor and support these efforts where appropriate.

XI. Green Building Principles

The Agreement states in part:

"To the extent practical and feasible, in accordance with local building codes and California state codes, and subject to limitation or restrictions in accordance with FAA or Transportation Security Administration standards guidelines, LAWA shall incorporate Leadership in Energy and Environmental Design (LEED) building standards into demolition, design, construction and operation of all aspects of the LAX Master Program. LAWA shall apply the LEED standards for New Commercial and Major Renovations, Version 2.1, as defined by the U.S. Green Building Council.

LAWA shall abide by all applicable City regulations with respect to energy efficiency, sustainability and green building design."

Status → In Progress:
Currently in practice to the extent feasible and practical. LAWA has developed the Airport's Sustainability Planning, Design, and Construction Guidelines. In 2011, the new Aircraft Rescue and Fire Fighting facility at Los Angeles International Airport achieved LEED Gold certification from the U.S. Green Building Council. The structure is the first Aircraft Rescue and Fire Fighting facility at an international airport to achieve LEED Gold.

XII. Traffic

The Agreement states in part:

"A. Construction Traffic

1. Designated Routes. LAWA shall designate routes for construction equipment, construction-related vehicles, and trucks participating in construction projects related to the LAX Master Plan Program to access LAX. These route designations shall ensure that such construction equipment, construction-related vehicles, and trucks do not travel (i) on 111th Street between Hawthorne Boulevard and Inglewood Avenue; (ii) on 104th Street between Hawthorne Boulevard and Inglewood Avenue; (iii) on Inglewood Avenue between Century Boulevard and Inglewood Ave….

   a. Community Response Program. LAWA shall establish a mechanism for members of the public to report instances of non-compliance with designated truck routes….

2. Lennox/405 Interchange. If LAWA participates in construction of an interchange to the 405 Freeway at Lennox Boulevard, LAWA shall consult with the Coalition Representative and impacted residents in developing mitigation measures that shall be included in the project's Environmental Impact Report, to minimize negative impacts such as residential relocations and the demolition of a community center. These mitigation measures shall include pedestrian and bicycle access over or under the 405 Freeway at Lennox Boulevard, to ensure that local residents can safely access both sides of the 405 Freeway at Lennox Boulevard."

Status → In Progress:
LAWA, working with the Los Angeles Department of Transportation, designates routes for construction traffic on a project by project basis. LAWA developed a website at http://www.lawa.org/laxdev to provide construction information for the public. The general, program-wide construction hotline number to report incidences of non-compliance is (310) 649-LAWA (5292).

XIII. Minority Business Enterprise, Women Business Enterprise, and Small Business Utilization and Retention Program

The Agreement states in part:

"A. LAWA shall coordinate with the Mayor's Office, CDD, and other relevant business advocacy and assistance organizations to initiate a program to increase participation in the planning, construction, operation and maintenance of LAX by PIA small businesses and minority-owned business enterprises and women-owned business enterprises (MBE/WBE)….."

Status → In Progress:
The Business Outreach Unit (BOU) conducts a monthly workshop "How to Do Business With Los Angeles World Airports" at Los Angeles World Airports in collaboration with the Procurement Services Division. The workshop provides the business owner an opportunity to learn about the procurement processes and services available to them free of charge and with no charge for parking. LAWA presenters are from Purchasing, Public Works/Certification, Bond Assistance Program/Merriwether and Williams Insurance Services, Contract Services/Administrative Requirements, and from the Business and Job Resources/Business Assistance. Business owners are given the opportunity to introduce their company so that the presenters know who is in the audience so that they can direct information on a particular product or service. Annually, attendance at the workshops averages 300 business representatives. Attendance at the monthly workshops averages 25.

The BOU has developed a database, BizConnect, of approximately 6,000 businesses that are seeking to do business with LAWA. This database was developed with the support of LAWA's Information Management and Technology Group, and is maintained by the BJRC staff. Staff periodically requests updated information from the listed businesses so that current information is always available. BizConnect lists the companies' contact, concept, and certification information for distribution internally and externally. The database is accessible to the public at www.lawa.org/bjrc.

The BOU actively participates in LAWA Division's Request for Qualifications, Request for Proposals, and Request for Bids meetings. Announcements on potential procurement opportunities are sent to businesses listed on BizConnect and to other business assistance agencies that LAWA partners with for distribution.

The BOU also participates and supports outreach events by LAWA's Divisions, City Departments, and other public agencies. This past year LAWA conducted or participated in approximately 280 meetings and events. The unit is actively involved with local Chambers and ethnic business organizations in supporting its members and programs through sponsorship, participation or promotion.

XIV. Community Preparedness for Airport-Related Emergency

The Agreement states:

"LAWA shall assist in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups (e.g., Red Cross, FEMA), and the local communities in the event of an airport-related emergency."

Status → In Progress:
Los Angeles World Airports (LAWA) continues to provide effective and well coordinated response to incidents that may pose a threat to life safety and/or disrupt airport operations. By working closely with its many partner agencies, LAWA strives to proactively put emergency management principles in place to successfully mitigate, prepare, respond to, and recover from large-scale incidents. In 2010, LAWA opened the new LAX Airport Response Coordination Center (ARCC). The ARCC is a new 24/7 centralized operations center to serve the LAX airport community during normal operations. The ARCC also includes the Incident Management Center (IMC) that manages special events and emergency incidents at LAX. The ARCC and IMC will enhance communication and coordination capabilities during incidents which fosters collaboration with LAWA and its many partner agencies.

XV. Designated Airport Fund

The Agreement states in part:

"Where this Agreement provides that LAWA shall contribute airport revenues to job training funds or air quality funds, LAWA will follow the procedures set forth in the Cooperative Agreement regarding "Alternative Job Training and Air Quality Expenditure."

Status → In Progress:
If an FAA determination, as defined in and pursuant to the procedures set out in the Cooperative Agreement, or any other regulatory authority prohibits LAWA from taking actions required by the CBA Sections V, VII, VIII, IX, X, or threatens to withhold federal funding if LAWA takes actions required by the referenced sections, then LAWA will set aside funds to the Job Training and Air Quality Funds to the extent allowed.

XVI. Miscellaneous

The Agreement states in part:

"A. Implementation Meetings. To facilitate implementation of this Agreement, address concerns, and ensures an ongoing dialogue between the Coalition Representative and LAWA, the Coalition Representative and LAWA shall have regular Implementation Meetings….

B. Annual Reports. LAWA shall prepare annual reports on the implementation of this Agreement and the progress of the LAX Master Plan Program, and shall forward these reports to the Coalition Representative and post the reports on the LAWA website for at least a one-month period….

C. Contract Award Process. Where a provision of this Agreement refers to a Contract Award Process, that process shall be as described in this Section XVI.C. A Contract Award Process is "initiated" on the date the draft protocols and/or scope of work to be included in the RFP are provided to the Coalition Representative…"

D. Special Arbitrator.

E. General LAWA Enforcement Responsibility…"

Status → In Progress:
Implementation meetings are regularly scheduled with the Coalition. LAWA prepares annual reports on the implementation of the CBA and the progress of the LAX Master Plan Program.

4.0 Lennox School District – Sound Attenuation Measure

The Agreement states in part:

"LAWA Funding of Certain District Mitigation Measures. Subject to FAA Determination regarding the use of airport funds under the federal anti-revenue diversion laws, LAWA will fund certain mitigation measures for the District not to exceed $111,000,000 for noise abatement. Mitigation measures include replacement of HVAC equipment with pollution abatement, double-paned windows and/or sound reduction windows and doors, roofing upgrades, replacement of relocatable classrooms, and temporary housing during construction.

Security-Related Items. LAWA will assist the District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups (e.g., Red Cross, Federal Emergency Management Agency) and the local communities in the event of an airport-related emergency.

Community Programs. LAWA will work collaboratively with the District to support a variety of community programs, such as job training and academic programs; and…"

Status → In Progress:
On December 7, 2005, LAWA and Lennox School District submitted a request to the FAA for an advisory opinion on the use of airport revenues for noise mitigation measures at Whelan School. In their response on January 12, 2006, the FAA raised questions and issues regarding the Los Angeles County Superior Courts' April 8, 1976 Judgment and Final Order.

On October 2, 2008, Public Law 110-337 authorized the Secretary of Transportation to expand the use of passenger facility fees for the purpose of carrying out certain noise mitigation at Lennox and Inglewood Unified School Districts.

In July 2009, LAWA submitted a letter to the FAA on behalf of Lennox School District asking that the Secretary of Transportation make a determination, based on Public Law 110-337, that certain schools in Lennox are adversely affected by airport noise, and thereby would be eligible for PFC funding for noise mitigation. Subsequently, the FAA indicated to LAWA that this determination will be made as part of the PFC application process.

On January 10, 2011, the BOAC authorized LAWA to submit the PFC application to the FAA for authorization to collect and use PFC funds to sound insulate impacted schools in the Lennox School District (LSD), with the application submitted to FAA on February 2, 2011.

On May 2, 2011 the FAA issued the Final Agency Decision (FAD) finding the schools in LSD to be "significantly impacted and adversely affected by aircraft noise," and authorized the expenditure of up to $34,089,058 in PFC funds to insulate the schools listed in the Settlement Agreement between LAWA and LSD.

On September 19, 2011 BOAC approved the Letter of Agreement between LAWA and LSD, and authorized the release of $10 million to LSD for the first year of the sound insulation program. The funds were delivered to LSD on December 12, 2011.

5.0 Inglewood School District – Sound Attenuation Measure

The Agreement states in part:

"LAWA Funding of Certain District Mitigation Measures. Subject to FAA Determination regarding the use of airport funds under the federal anti-revenue diversion laws, LAWA will fund certain mitigation measures for the District not to exceed $118,500,000 for noise abatement. Mitigation measures include replacement of HVAC equipment with pollution abatement, double-paned windows and/or sound reduction windows and doors, roofing upgrades, replacement of relocatable classrooms, and temporary housing during construction.

Security-Related Items. LAWA will assist the District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups (e.g., Red Cross, Federal Emergency Management Agency) and the local communities in the event of an airport-related emergency.

Community Programs. LAWA will work collaboratively with the District to support a variety of community programs, such as job training and academic programs; and…"

***Status → In Progress**:*
On October 2, 2008, Public Law 110-337 authorized the Secretary of Transportation to expand the use of passenger facility fees for the purpose of carrying out certain noise mitigation at Inglewood Unified and Lennox School Districts.

Per communications with the FAA related to Lennox School District in 2005 and again in 2009, eligibility for funding projects listed under this Settlement Agreement with IUSD will be made by the FAA through the PFC application process. Further details related to these communications with the FAA are described in Section 4.0.

LAWA continues working with IUSD and FAA to complete the PFC application for submittal to FAA requesting authorization to impose and use PFC funding for sound insulation of impacted schools in IUSD. The date of completion of the PFC application is uncertain at this time but it is anticipated that the application will be submitted to BOAC and FAA during CY 2012.

6.0 Summary

To date, LAWA continues to implement applicable provisions from the Community Benefits Agreement. Construction-related provisions were included in the Taxiway S and Bradley West Project using contract specifications and are being implemented during construction. These provisions are also being incorporated into all ongoing Master Plan projects at this time. Working together with the Coalition, LAWA continues to monitor and implement the required provisions as the LAX Master Plan Program moves forward.

APPENDIX A

UPDATED NOISE MITIGATION PROGRAM AND SCHEDULE

LAWA - Residential Soundproofing Program

December 2011

LAX Residential Soundproofing Program

Background

Los Angeles World Airport's (LAWA) Residential Soundproofing Program (RSP) was established in 1997 to implement the LAX Aircraft Noise Mitigation Program by soundproofing dwelling units in noise impacted areas in the City of Los Angeles. The program covers approximately 9,400 residential units in areas of the City of Los Angeles, around LAX, with a recorded Community Noise Equivalent Level (CNEL) of 65 decibels (dB) and higher, as shown on the map produced by LAWA for the fourth quarter of 1992. This number includes 1,200 resulting from the Community Benefits Agreement calling for the soundproofing of properties within the same block of a previously impacted parcel. These 9,400 homes are located in Playa del Rey, Westchester and areas of South Los Angeles. The RSP is strictly voluntary and will not incur any cost to the property owner.

Typical examples of soundproofing include replacing or modifying loose-fitting doors and windows with acoustically rated doors and windows, adding insulation to attics, upgrading the air ventilation system, and fitting chimneys and vents with dampers and/or acoustic louvers. Residences located east of the San Diego Freeway also receive a central air conditioning system in lieu of the ventilation system.

The program is on track to be completed by the end of 2012 at a cost of about $160 million. This Soundproofing Program is fully funded by Passenger Facility Charges (PFCs).

Program Status

As of December 2011, of the 9,400 eligible units, 7,018 have been soundproofed or are currently undergoing soundproofing. Owners of 311 dwelling units who have signed installation documents are currently in the design phase of soundproofing or awaiting contract awards by the Board. However, owners of 1,058 units have declined or have been unresponsive to certified mailings. In addition, 1,013 units are no longer eligible due to new construction, vacant parcels, or prior easements.

To date, there have been 132 construction contracts awarded totaling approximately $130 million.

Project Budget: $160 million **Project Completion Date:** 2012

Project Spent to date: $148 million **Project Percent complete:** 90%

PROJECT COMPLETION PLAN

On April 2010 LAWA notified (via certified mail) all non-responsive homeowners of the program completion and informed them of a deadline to sign up by June 1, 2010. LAWA anticipates construction will be completed by 2012 for those homeowners who have signed installation agreements.

APPENDIX B

THIRD PARTY MONITOR SEMI-ANNUAL REPORT DATED DECEMBER 31, 2011

LAX Master Plan Projects Semiannual Report
Independent Third Party Monitor

Prepared by:

Clean Fuel Connection, Inc.

December 31, 2011

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SECTION 1 - INTRODUCTION

This Semiannual Report was prepared by Clean Fuel Connection Inc. (CFCI), Independent Third Party Monitor for LAX Master Plan Projects, and is submitted in accordance with Section X.F.8 of the Community Benefits Agreement (CBA)[1]. The purpose is to document CFCI's efforts as they relate to the monitoring of LAX Master Plan construction activities and construction contractor conformance to all requirements incorporated in CBA Section X.F.

This Semiannual Report discusses findings of the Third Party Monitor relative to two (2) LAX Master Plan projects that were undergoing construction during the period commencing July 1, 2011 and ending December 31, 2011. These projects include the Taxiway S Project and the Tom Bradley International Terminal, formerly referred to as the Tom Bradley Terminal Project (BWP).

CFCI's efforts to date in monitoring, documenting, and reporting on the status of CBA Section X.F as it pertains to LAX Master Plan projects include:

- **Development of an Equipment database to include all known equipment utilized in each Master Plan Project**. This database, which is included as an Appendix to this Semiannual Report, documents the technical specifications of each piece of on and off-road construction equipment. The database documents each piece of equipment relative to compatibility with diesel emission control devices, the emission control device used or planned for use on each piece of construction equipment, or whether the equipment was determined to be incompatible with any available emission control system. The database also documents all equipment operating under an approved LAWA exemption, including but not limited to "20-day" exemptions, driver-visibility safety exemptions, or special circumstance exemptions;
- **Field verification of the equipment database and reconciliation with LAWA project management vehicle records**. The construction contractors provide LAWA project management with airfield equipment lists on a periodic basis (typically monthly). The Third Party Monitor reviews all available vehicle records for the purpose of verifying compliance with 20-day exemption obligations as well as reconciling LAWA project management records with the Third Party Monitor equipment database;

[1] http://www.ourlax.org/commBenefits/pdf/LAX_CBA_Final.pdf

- **Examination and verification of requests for exemptions from installation of Best Available Control Technology (BACT).** As discussed in Section 2 of this Report, CFCI independently reviews each piece of construction equipment proposed for use on a LAX Master Plan Project to determine compatibility with a commercially available California Air Resources Board (CARB) or U.S. Environmental Protection Agency (EPA) verified Diesel Emission Control System (VDECS). The results of this independent assessment are documented in each Semiannual Report as well as the equipment database;
- **Examination of fuel purchase records to verify that low sulfur diesel is being used**.
- **Monitoring of installed emission control devices on construction equipment**. This includes physical inspections of diesel construction equipment retrofitted with a VDECS to ensure emission control devices are properly installed and functioning;
- **On-airfield monitoring of construction equipment operations enforcement**. This includes, but is not limited to, observation of construction operations to determine compliance with equipment idling restrictions, fugitive dust emissions mitigation requirements, as well as identification of construction equipment in an apparent state of disrepair due to the presence of visible smoke;
- **Annual Reassessment of Available Emission Control Systems**. On an annual basis, the Third Party Monitor conducts a comprehensive evaluation of available CARB and EPA-verified emission control systems. The purpose of this reassessment is to ensure LAWA incorporates the any newly designated best available control strategies into construction bid documents prior to bidding of new construction phases of the LAX Master Plan Program. The process of emission control technology review also includes any new, relevant requirements promulgated by CARB or EPA. This Semiannual Report includes the results of the Annual Emission Control System Reassessment.

The CFCI project staff is comprised of the following individuals:

- Enid Joffe, founder and owner of Clean Fuel Connection, Inc.;
- Ray Gorski, lead air quality engineer and principal field engineer;
- Lauren Dunlap, air quality engineer and principal analyst in determining compatibility of emission control devices and calculations of emission reductions for VDECS installed on Master Plan project equipment.

Significant LAX Master Plan milestones achieved during the period covered by this Semiannual Report include the completion of Taxiway S. Taxiway S opened for use on November 17, 2011 and is the fifth Master Plan Project completed under the LAX modernization program. As of December 31, 2011, the Tom Bradley Terminal Project was the only Master Plan Project with ongoing construction activity.

SECTION 2 - TASK-BY-TASK STATUS REPORT

The following section documents CFCI's work over the past six months on each of the specific tasks in the Third Party Monitor Scope of Work.

Task 1: Best Available Emissions Control Devices Required

Section X.F.1 of the Community Benefits Agreement (CBA) for the LAX Master Plan Program requires that all diesel equipment used for construction be outfitted with the best available emission control devices, primarily to reduce diesel particulate matter on the order of 10 microns[2] in diameter (PM_{10}), and fine particulate, which is on the order of 2.5 microns in diameter ($PM_{2.5}$). A secondary objective of this requirement is to reduce oxides of nitrogen emissions (NO_x), which are ozone precursors. Section X.F.1 of the CBA applies the requirement to outfit all diesel equipment, including off-road vehicles such as heavy-duty construction equipment, as well as on-road vehicles such as trucks, street sweepers, etc. The requirement also affects non-mobile diesel sources, such as portable generators, air compressors, and light towers. Thus, the requirement to retrofit diesel equipment used in LAX Master Plan construction projects encompasses every piece of diesel equipment, irrespective of its status as on-road mobile, off-road mobile, or stationary.

Section X.F.1 requires that the diesel emission control systems used to retrofit diesel equipment be verified or certified for use on on-road or off-road vehicles or engines by the California Air Resources Board (CARB), or verified by the U.S. Environmental Protection Agency (EPA) for use on on-road or off-road vehicles or engines. Section X.F.1 further allows CARB and EPA-verified "mobile source" devices to be applied to "stationary sources", such as generator engines, and allows technologies verified for "on-road" engines to be applied to "off-road" equipment. Thus, the overall context of Section X.F.1 is very

[2] One micron equals $1x10^{-6}$ meter or 0.000001 meter.

broad and allows maximum flexibility in matching diesel emission control systems with diesel equipment used in Master Plan construction.

The role and responsibilities of the Independent Third Party Monitor as it relates to Section X.F.1 of the CBA is delineated in the following contract Task statements:

- Task 1.1 - Contractor shall develop a monitoring process and database to track each piece of diesel equipment used for construction, including documentation procedures and reporting requirements;
- Task 1.2 – Contractor shall monitor, document, and report independently from LAWA, each construction firm's compliance as it relates to outfitting their diesel construction equipment with the best available emissions control devices available.

The following are the results and findings of the Third Party Monitor as they relate to Tasks 1.1 and 1.2 for the period commencing in July 1, 2011 through December 31, 2011.

Task 1.1 – Monitoring Process, Database Development, and Documentation:

Key elements of the monitoring process include:

- *Review of available documentation* – The principal source of technical information for each vehicle proposed for operation on the Taxiway S and Tom Bradley International Terminal projects are the equipment reports submitted by the construction contractors for review by LAWA project management and environmental management staff. These reports document whether or not a compatible verified diesel emission control system (VDECS) is available for a given piece of diesel equipment;
- *Incorporation of all available data into an Equipment Database* – All relevant information derived from review of the equipment reports or field inspections is documented in the equipment database. This database is the principal tool for performing independent verification and validation of the information contained in the equipment reports reviewed and approved by LAWA;
- *Identification and documentation of missing, inconsistent, or inaccurate data* – The database notes which pieces of information are either missing or whose accuracy is suspect;

- *Request for Additional Information and/or Clarification* – Missing data or data that require validation are compiled, and a request for clarification is issued by the Independent Third Party Monitor to LAWA project management staff;
- *Field Inspections* – In specific cases, the Independent Third Party Monitor will request permission to conduct a field inspection of the specific piece of equipment under scrutiny;
- *Task 1.2 Independent Verification and Validation* – For each piece of diesel construction equipment included in the database, an independent determination of whether or not a compatible VDECS device is available is conducted;
- *Documentation of Analysis Results* – For each piece of diesel equipment assessed, the availability and compatibility of a VDECS is recorded in the database;
- *Data Reconciliation* – The Third Party Monitor reconciles information contained in the database with the reports maintained by LAWA project management and the construction manager's staff.

The Database Development element of Task 1.1 was conducted in accordance with a single objective – record as much data and supporting information as possible to fully characterize each piece of equipment proposed for operation on an LAX Master Plan construction project. To ensure completeness the database incorporates the following data fields:

- *Equipment ID Number* – Most equipment operating on an LAX Master Plan construction project is marked with a unique identifying number by the equipment owner. It has been the practice of the Independent Third Party Monitor and LAWA project management staff to use this unique ID when describing, discussing or documenting a specific piece of equipment. All equipment is tracked and monitored relative to this ID number;
- *Owner* – the owner of the piece of diesel equipment, such as prime contractor R&L Brosamer;
- *Equipment Category* – A brief description for the type of diesel equipment, such as "articulated dump truck";
- *Equipment Manufacturer* – The manufacturer of the piece of equipment, usually the equipment chassis. In most cases the manufacturer of the chassis is different from the engine manufacturer;

- *Equipment Model Year* – The year of manufacture of the equipment or vehicle, usually referring to the chassis and vehicle body. It should be noted that it is common for the equipment chassis or body and diesel engine to be different model years;
- *Equipment Model Number* – The number or other descriptive terminology used by the equipment manufacturer in marketing the vehicle, oftentimes used to differentiate similar products;
- *Equipment Serial Number* – This differs from the Equipment ID number described above. The equipment serial number is the vehicle chassis or body identification number assigned by the equipment manufacturer;
- *Engine Manufacturer* – The manufacturer of the main diesel engine used in the equipment. In some cases, most notably off-road heavy-duty scrapers and on-road street sweepers, the equipment has two diesel engines. The first and second engines are designated #1 and #2, respectively, in the database;
- *Engine Model* – The number or other descriptive terminology used by the manufacturer in engine marketing, used to differentiate similar products;
- *Engine Model Year* – The year of manufacture of the diesel engine, diesel emission control devices are often verified for a specific engine model year;
- *Engine Serial Number* – A unique identification number or alphanumeric code assigned by the engine manufacturer;
- *Engine Displacement* – The total volumetric size of the engine's combustion cylinders, usually described as "cubic inches" or "liters". Displacement expressed in cubic inches is calculated by multiplying the number of cylinders by the piston area (square inches) and by the length of the piston stroke (inches). The commonly used metric designation of "liters" is the total engine displaced volume measured in cubic centimeters (1 liter = 1,000 cubic centimeters);
- *Engine Horsepower* – The rated horsepower of the engine by the engine manufacturer;
- *Engine Family* – Engine Family is a descriptive designation given by CARB to a diesel engine upon certification. It is a code, similar to an automobile Vehicle Identification Number, that identifies the engine model year, engine manufacturer, the engine's displacement, on-road or off-road applicability, emissions equipment included during certification testing. This piece of

data, along with engine manufacturer and engine model year, is essential to determine conclusively if a VDECS is compatible with the engine undergoing assessment. With practice, one can quickly ascertain a substantial amount of information about an engine by deciphering the engine family designation;

- *Engine #2 Data* – Similar to the above for Engine #1, data are documented for the second diesel engine on a piece of equipment. In the case of heavy-duty earth moving scrapers, the two engines are front and rear; in the case of street sweepers, the second engine is an auxiliary engine that operates the vehicle's rotary brooms and vacuum system.

For each piece of diesel equipment, the database also documents:

- Whether that piece of equipment has or is currently operated on a Master Plan project. For equipment that has been removed, the date of removal is recorded if known. This portion of the database is currently undergoing reconciliation with the results of the airfield equipment inventory.
- For equipment operating under a 20-day exemption, the date the equipment was placed on the airfield and the date removed. For more discussion on 20-day exemption status, please refer to the Task 4 Section of this report;
- Each piece of equipment's compatibility with both off-road and on-road Verified Diesel Emission Control Systems available at the time the equipment was originally submitted by the owner for review by project management staff.

During the period of July 1, 2011 through December 31, 2011, 352 pieces of construction-related equipment were assessed and documented in the Equipment Database. This includes documentation equipment compatibility with available VDECS devices.

A sample of the type of data recorded is shown below in Table 1.1-1:

Table 1.1-1 – Sample of Equipment Database Fields

Equipment Number	Equipment Owner	Equipment Model Number	Engine Model	Equipment Category	Engine Horsepower	Manufacturer	Engine Model Year	Engine Family
369001	ARB, INC.			Mobile Ram		ABI		
111-004	Malcom Drilling	RG 19 T	C16	Drill Rig	630	Bauer	2004	4CPXL15.8EXK
623-9	Fine Grade Equipment	623F	3406C	Scraper	365	Caterpillar	1996	TCP14.RZDBRJ
140-10	Fine Grade Equipment	140H	3306	Motor Grader	150	Caterpillar	1997	VCP10.RZDARF

14-10	Fine Grade Equipment	14H	3306	Motor Grader	215	Caterpillar	1997	VCP10.RZDARG
160-1	Fine Grade Equipment	160H	3306	Motor Grader	180	Caterpillar	1997	VCP10.RZDARG
3414	Griffith	345 BL	3176C	Excavator	290	Caterpillar	1998	WCPXL10.3ERK
140-12	Fine Grade Equipment	140H	3306	Motor Grader	165	Caterpillar	1998	WCPXL10.5MRF
557	La Londe	D6RXL	3306	Crawler Tractor	175	Caterpillar	1998	WCPXL10.5MRF
140-11	Fine Grade Equipment	140H	3306	Motor Grader	165	Caterpillar	1999	XCPXL10.5MRF

Task 1.2 – Independent Monitoring, Documentation, & Reporting of Compliance with CBA Section X.F.1; Best Available Emission Control Devices Required:

The primary objective of this Task is to independently verify and validate the findings of LAWA project management and contractor staff as it relates to the availability and compatibility of diesel emission control systems for diesel equipment operating on a Master Plan Project. Using the methodology described under Task 1.1, CFCI staff regularly coordinates with LAWA project management, requesting and receiving access to files and records for diesel equipment operating or proposed for operation on a Master Plan project.

Only CARB and/or EPA-verified devices available at the commencement of construction activities on a specific Master Plan project were considered when assessing compliance with CBA Section X.F.1. This is based upon the following language included in the CBA:

- The CBA stipulates in Section X.F.9.a. "Reassessments of Emission Control Devices", that *"the process of emission control technology review shall include any new relevant requirements or regulations promulgated by CARB or EPA. Results from the reassessments shall not be applied retroactively"*;
- CBA Section X.F.9.b. states under "Application of New Requirements", that *"any new designations of emission control devices as best available shall apply only to projects that start after the devices are verified or certified for use by CARB or EPA, or approved for use as part of a Demonstration Project"*.

At the time of commencement of construction activities on Taxiway S and the Tom Bradley International Terminal, multiple diesel emission control devices were verified by CARB for off-road use. CARB assigns a designation to each diesel emission control device as a function of its effectiveness in reducing diesel particulate matter (PM) emissions. This is referred to as the "Verification Level" of the device; CARB currently recognizes three verification levels, as follows:

- Level 1 – greater than or equal to 25% reduction of diesel PM;
- Level 2 – greater than or equal to 50% reduction in diesel PM;
- Level 3 – greater than or equal to 85% reduction in diesel PM.

As shown above, CARB Level 3 offers the highest level of diesel pollution reduction. In accordance with the CBA, the "Best Available Control Technology" (BACT) is Level 3 verification.

Task 1.2 Results

Each of the 352 pieces of diesel equipment submitted for LAWA project management review were independently assessed to determine their compatibility with a CARB and/or EPA-verified diesel emission control system. The following sections discuss conformance with Task 1.2 for each of the two LAX Master Plan projects monitored during the previous six months.

1.2.1 Taxiway S – Major construction of Taxiway S (Taxiway "Sierra") is complete and the Taxiway opened for air operations on November 17, 2011. Flatiron Construction Company was the prime contractor.

Figure 1.2.1-1: Taxiway S Opening Day at LAX – November 17, 2011

Photo Courtesy of LAWA

A total of 68 pieces of equipment were assessed during Taxiway S construction. The equipment is shown below in Table 1.2.1-1:

Table 1.2.1-1: Equipment List for Taxiway S Construction

Equipment Owner	Equipment Category	Manufacturer	Model Year	Equipment Model Number	Engine Manufacturer
Flatiron	3/4 Ton Pickup	Ford	2006		Ford
Flatiron	3/4 Ton Pickup	Ford	2006		Ford
Flatiron	3/4 Ton Pickup	Ford	2006		Ford
Flatiron	3/4 Ton Pickup	Ford	2006		Ford
Flatiron	3/4 Ton Pickup	Ford	2006		Ford
Flatiron	F450 Pickup	Ford	2008	F450	Ford
Flatiron	F550 Pickup	Ford	2006	F550	Ford
Flatiron	F550 Pickup	Ford	2008	F550	Ford
Flatiron	Fuel/Lube Truck	Peterbilt	2007		Caterpillar
Flatiron	Water Truck	Freightliner	1996	4000 Gallon	N/A
Flatiron	Water Truck	International	2009	2000 Gallon	N/A
Flatiron	Water Truck	International	2009	2000 Gallon	N/A
Flatiron	CNG Sweeper	Tymco	2000	Model 600	N/A
Flatiron	CNG Sweeper	Elgin	2002	Crosswind	N/A
Flatiron	CNG Sweeper	Elgin	2002	Crosswind	N/A
Flatiron	CNG Sweeper	Elgin	2005	Crosswind	N/A
Flatiron	Hydro Crane	Terex	2006	T-340	N/A
Flatiron	Concrete Placer	Gomaco	2002	RTP-500	John Deere
Flatiron	Concrete Paver	Gomaco	2008	2800	Caterpillar
Flatiron	Concrete Paver	Gomaco	2007	4000	Caterpillar
Flatiron	Concrete Cure	Gomaco	2008	TC 600	Caterpillar
Flatiron	Motor Grader	Volvo	2006	G990	Volvo
Rental	Backhoe	Caterpillar	2008		Perkins
Rental	Excavator	John Deere	2004	800C	Izuzu
Rental	Excavator	Caterpillar	2006	345 CL	Caterpillar
Rental	Rubber Tire Backhoe	Caterpillar	2006	446D	Caterpillar
Rental	Tracked Dozer	Caterpillar	2006	D8T	Caterpillar
Rental	Backhoe	John Deere	2006		John Deere
Rental	Tracked Dozer	Caterpillar	2000		Caterpillar
Rental	Excavator	Caterpillar	2001		Mitsubishi
Rental	Motor Grader	Caterpillar	2006		Caterpillar
Rental	Rubber Tire Backhoe	Caterpillar	2006		Caterpillar
Flatiron	Excavator	Caterpillar	2008		Caterpillar
Rental	Manlift	Genie	2008		N/A

Rental	Manlift	Genie	2008		Deutz
Flatiron	Loader	Caterpillar	2004		Caterpillar
Rental	Excavator	Caterpillar	2006		Caterpillar
Rental	Excavator	Caterpillar	2009		Caterpillar
Rental	Excavator	Caterpillar			
Rental	Loader	Caterpillar			
Rental	Skiploader	John Deere			
Rental	Wheeled Dozer	Caterpillar			
Rental	Double Drum Roller	Dynapac			
Rental	Loader	Kamatsu			
Antigo	Breaker	Badger	2007	Badger 8600	Deutz
Antigo	Breaker	Badger	2003	Badger T8600	Cummins
Antigo	Breaker	Badger	2008	Badger T8600	John Deere
Lange		Caterpillar	1994	973	Caterpillar
Lange		Caterpillar	1990	EL300B	Caterpillar
Royal	Compressor	Ingersoll	2007	185 CFM	John Deere
Royal	Compressor	Ingersoll	2007	185 CFM	John Deere
Royal	Light Plant	Wacker	2000	320-4000 LT4	Caterpillar
Royal	Light Plant	Wacker	2000	320-4000 LT4	Caterpillar
Royal	Light Plant	Wacker	2002	LTC4L	Lombardini
Royal	Light Plant	Wacker	2002	LTC4L	Lombardini
Royal	Light Plant	Wacker	2002	LTC4L	Lombardini
Royal	Skid Steer	Bobcat	2006	Bobcat S200	Deutz
Royal	Backhoe	John Deere	2008	410J	John Deere
Royal	Backhoe	John Deere	2008	410 J	John Deere
Royal	Light Duty Pickup	Ford	2002	F250	International
Royal	Light Duty Pickup	Ford	2005	F250	International
Royal	Heavy Duty Pickup	Ford	2005	F650	International
Royal	Light Duty Pickup	Ford	2008	F250	International
Royal	Medium Duty Pickup	Ford	2008	F550	International
Royal	Medium Duty Pickup	Ford	2008	F450	International
Royal	Medium Duty Pickup	Ford	2008	F450	International
Soil Stabilization		Caterpillar	2000	RM350B	Caterpillar
Soil Stabilization		Wirtgen	2006	WR2400	Mercedes Benz
Soil Stabilization		Caterpillar	2001	3406	Caterpillar

Forty-two (42) pieces had sufficient documentation provided to allow an independent assessment of compatibility with a CARB-verified diesel emission control device. Equipment that did not have sufficient documentation was primarily medium duty on-road pickup trucks, which received an exemption from LAWA, and rental equipment that was used for a period of less than 20 days, thus earning 20-day exemption status. Also, four (4) pieces of equipment are powered using compressed

natural gas (CNG). These are street sweepers used to clean the construction site and adjacent road surfaces as a fugitive dust mitigation measure. The diesel equipment that included sufficient data was assessed against the CARB database of verified diesel emission control devices. Twenty-three (23) pieces of diesel equipment were found to be compatible with a commercially available device; these are shown below in Table 1.2.1-2:

Table 1.2.1-2: Taxiway S Equipment Compatible with VDECS

			Compatible VDECS					
Equipment Number	Equipment Owner	Equipment Category	Caterpillar DPF	Cleaire Phoenix	DCL International Mine-X	ECS Purifilter H	ESW ThermaCat	HUSS FS-MK
32-10-001	Flatiron	Placer	●	●	●	●	●	●
32-55-001	Flatiron	Paver			●	●	●	●
Savala B-72	Rental	Backhoe				●		●
RJL JD800	Rental	Excavator			●	●		●
RJL 537	Rental	Excavator			●	●	●	●
Savala B-66	Rental	Backhoe						●
ECCO	Rental	Dozer			●	●	●	●
ECCO #5884	Rental	Dozer			●	●	●	●
Penhall #837	Rental	Grader			●	●	●	●
Savala B-64	Rental	Backhoe						●
13-45-003	Flatiron	Excavator			●	●	●	●
King	Rental	Manlift						●
RJL #706	Rental	Excavator			●	●	●	●
RJL #771	Rental	Excavator		●	●	●	●	●
T8616	Antigo	Breaker		●	●	●		●
T8614	Antigo	Breaker				●		●
LP008	Royal	Light Plant						●
LP009	Royal	Light Plant						●
Lp010	Royal	Light Plant						●
TR042	Royal	Backhoe				●		●
TR043	Royal	Backhoe				●		●
358	Soil							●
368	Soil				●	●		●

It should be noted that in the prior Semiannual Report, specific pieces of Taxiway S equipment were reported as compatible with a Level 3 VDECS called the Cleaire "AllMetal". The Air Resources Board had conditionally verified the Cleaire Allmetal diesel retrofit system for certain 1996 through 2011 model year diesel engines in both tracked and rubber-tired off-road vehicles.

The Executive Officer of the ARB has subsequently directed Cleaire to suspend sales and installations of the Allmetal system and undertake specific remedial actions regarding its performance. As such, Cleaire is no longer selling, leasing, offering for sale, offering for lease the Allmetal off-road device starting September 16, 2011. This direction also prohibits the installation or subsequent sale of this device after September 16, 2011. As a result of this action, CFCI has annotated the equipment database to reflect that the Cleaire Allmetal is currently not verified.

Seventeen (17) pieces of equipment were determined to be incompatible with any VDECS verified by CARB at the time of Taxiway S construction.

Of the 23 pieces deemed compatible, four (4) had VDECS installed; specifically, a Level 3 CARB verified diesel particulate filter. Five (5) additional vehicles were equipped with Caterpillar ACERT low-emission diesel engines. This equipment is shown below in Table 1.2.1-3:

Table 1.2.1-3: Taxiway S Equipment Retrofitted with VDECS or Low-Emission Engines

Equipment Number	Equipment Owner	Equipment Category	Manufacturer	Model Year	Engine Manufacturer	Engine Model	VDECS or Low emission
Savala B-72	Rental	Backhoe	Caterpillar	2008	Perkins	C4.4-ACERT	ACERT
Savala E129	Rental	Excavator	Caterpillar	2001	Mitsubishi	3306	ACERT
13-45-003	Flatiron	Excavator	Caterpillar	2008	Caterpillar	C13	ACERT
RJL #706	Rental	Excavator	Caterpillar	2006	Caterpillar	C13	ACERT
RJL #771	Rental	Excavator	Caterpillar	2009	Caterpillar	C7	ACERT
TR037	Royal	Skid Steer	Bobcat	2006	Deutz	V-33-Di	DPF
TR042	Royal	Backhoe	John Deere	2008	John Deere	4045HT054	DPF
TR043	Royal	Backhoe	John Deere	2008	John Deere	4045HT054	DPF
VH215	Royal	HD Pickup	Ford	2005	International	C7	DPF

The equipment for which a VDECS was compatible but not installed had been granted a waiver by LAWA for one of the following reasons:

1. 20-Day Exemption – Antigo Breakers; Soil Stabilization Equipment;
2. "<50 Horsepower – Royal Electric Light Plants;
3. Driver Visibility – the balance of diesel equipment not retrofitted with a diesel particulate filter or equipped with a low-emission engine was granted an exemption by LAWA on the basis of a potential driver visibility impediment.

Additional detail regarding equipment exemptions is included in under Task 4 of this Semiannual Report.

1.2.2 Tom Bradley International Terminal – The project will provide greater capacity to the Tom Bradley International Terminal's (TBIT) west side with the addition of eighteen (18) new boarding gates to accommodate new-generation aircraft such as the Airbus A380. The facility will include expanded passenger waiting areas and a Great Hall with 140,000 square feet of dining, retail shopping, airline club lounges, and other passenger amenities beyond passenger screening.

The project includes upgraded customs and immigration federal inspection areas for more efficient passenger processing, as well as secured corridors between Terminal 3, TBIT and Terminal 4 so connecting passengers can conveniently go from one terminal to the next.

Figure 1.2.2-1: Tom Bradley International Terminal Project Under Construction at LAX

Photo Courtesy of LAWA

During the period of this Semiannual Report, approximately 284 pieces of diesel construction equipment were assessed relative to their compatibility with a verified diesel emission control system. It is important to note that not all of this equipment will be utilized on any LAX Master Plan construction project. The contractor provides a listing of all potential equipment to be utilized during construction

activities. Only a subset of the total equipment list is ultimately brought on the airfield. The Third Party Monitor, however, is obligated to assess all equipment submitted, irrespective of whether or not it is actually utilized.

Of the 284 pieces of equipment assessed, twenty-three (23) pieces were missing CARB Executive Order engine family designation information. The engine family number is the primary data used to determine whether or not a verified diesel emission control system is compatible with a diesel engine; thus, in cases where no engine family number was provided, a definitive match with a VDECS could not be accurately performed.

Twenty-eight (28) additional pieces of diesel equipment had corresponding engine family designations that were deemed incorrect; in most cases, the data provided was not an actual engine family number. In these cases, a definitive match with a verified diesel emission control system could not be independently made. The third Party Monitor has requested that LAWA obtain correct data from the responsible construction contractor.

In several cases, an engine family designation was provided that had either an obvious error or was correctable with modest additional research. In these cases, CFCI staff was able to correct engine family designations and make a determination as to whether the diesel equipment was compatible with a diesel emission control device.

Each piece of diesel equipment with valid data was correlated against a CARB database of over twenty verified diesel emission control strategies – this is detailed in the Equipment Database.

In accordance with CBA Section X.F.1, both off-road and on-road diesel emission reduction technologies were evaluated for compatibility with diesel equipment operating on the Tom Bradley International Terminal Project. The complete results of the analysis are included in the database.

Of the 284 pieces of diesel equipment included in the database, 233 were sufficiently characterized to determine compatibility with a verified diesel emission control device. Of these 233 pieces of equipment, 220 were found to be compatible with at least one VDECS device; thirteen (13) were initially found to be incompatible with any CARB or EPA-verified device. It should be noted that these vehicles are undergoing additional scrutiny to ensure the CARB engine family designation is correctly recorded; any changes will be noted in the next Semiannual Report. However, it is significant that the majority of equipment operating on the Tom Bradley Terminal Project is technically compatible with a verified diesel emission control system.

One technical issue was identified that required further investigated by the CFCI staff in cooperation with LAWA project management. In several cases, it appears that the prime construction contractor, or their technical representative, misinterpreted the CARB Executive Order (EO) for the HUSS FS-MK diesel emission control device. Specifically, an incorrect EO was used to determine if the device was verified at the time of initiation of construction activities on the Bradley Terminal Project. Because the construction contractor used the incorrect EO, it appeared that the HUSS FS-MK was not technically available at the start of construction activities. In fact, the device was fully verified and available as a Best Available Control Technology option. This issue is more fully discussed under Task 4, "Exemptions".

It is important to emphasize, however, that compatibility between the equipment's diesel engine and a diesel emission control device is not a definitive conclusion that the equipment can be retrofitted. Task 4 will discuss cases in which the equipment has been exempted from the requirement to be retrofit with a diesel emission control device due to driver visibility concerns. Other factors influence the requirement to retrofit a specific piece of diesel equipment, including whether or not the equipment's engine is equipped with exhaust gas recirculation (EGR, a NOx reduction emission control), or whether the equipment is granted an exemption due to anticipated low usage, i.e., a "20-day" exemption.

As of December 31, 2011, LAWA records and Third Party Monitor documentation review and onsite observations indicate that a total of twelve (12) pieces of equipment are equipped with a Level 3 VDECS. At least three (3) additional pieces of equipment have installation of a VDECS pending. The balance of equipment is either operating under an approved exemption category or has a verified diesel emission control system compatibility evaluation pending.

Task 2: Demonstration Projects

Section X.F.2 of the CBA states that LAWA may allow construction-related diesel equipment to be outfitted with new emission control systems that are not CARB verified or EPA certified for use for on-road or off-road vehicles or engines. Such projects will be designated by LAWA as "Demonstration Projects". The roles and responsibilities of the Independent Third Party Monitor as they relate to Demonstration Projects is set forth in Task 2 of the contract and includes the following two primary subtasks:

- Task 2.1 – The Third Party Monitor shall perform a technical evaluation of the proposed demonstration technology and provide written findings to the Coalition Representative and LAWA.

The Third Party Monitor shall also assist with the implementation of a Demonstration Project, including identifying suitable emission control devices and Demonstration Project funding sources;

- Task 2.2 – Upon acceptance by LAWA, the Third Party Monitor shall monitor, document, and report independently from LAWA, compliance of the demonstration equipment with all defined Demonstration Project requirements, including but not limited to the pollution reduction requirements specified in Section X.F.3 of the CBA.

No demonstration projects were conducted during the six-month period of July 1st through December 31st 2011.

Task 3: Emission Reduction Standard

Section X.F.1 of the Community Benefits Agreement (CBA) for the LAX Master Plan Program requires that all diesel equipment used for construction be outfitted with the best available emission control devices, primarily to reduce diesel particulate matter which is on the order of 10 microns[3] in diameter (PM_{10}), and fine particulate, which is on the order of 2.5 microns in diameter ($PM_{2.5}$). A secondary objective of this requirement is to reduce oxides of nitrogen emissions (NO_x), which are ozone precursors. This section also states that under no circumstance shall an emission reduction device or strategy used on the LAX Master Plan Program construction site increase the emission of any pollutant above that which is the standard for that engine.

The role and responsibilities of the Independent Third Party Monitor as it relates to Section X.F.1 of the CBA is delineated in the following contract Task statements:

- Task 3.1 - Contractor shall monitor, document, and report independently from LAWA, compliance of each piece of diesel construction equipment used pursuant to CBA X.F.1. as it relates to meeting or exceeding Level 2 diesel emission reductions for a similar sized engine;
- Task 3.2 – Contractor shall monitor, document, and report independently from LAWA, compliance of each piece of diesel construction equipment used pursuant to CBA X.F.1 to ensure its emission reduction device or strategy does not result in an increase of any pollutant above that which is standard for that engine;

[3] One micron equals $1x10^{-6}$ meter or 0.000001 meter.

- Task 3.3 – Contractor shall monitor, document and report on emission reductions of NO_x, ROG, PM and CO achieved through the use of best available control technology.

Task 3.1 - Monitor, document, and report equipment compliance with Level 2 requirement.

As summarized above in Task 1, the Third Party Monitor compiled a database of LAX Master Plan project equipment (Appendix). This database is continually updated with new information collected from LAWA project management staff on behalf of the construction contractors or visual inspection by CFCI. As part of this inventory, the Task 1 effort included an equipment-by-equipment review for applicability of approved Best Available Control Technologies (BACT). Specifically, the equipment listed in this master database was compared against all available Verified Diesel Emission Control Systems (VDECS), with first priority given to Level 3 diesel emission reductions.

Not all equipment proposed for operation on the Tom Bradley Terminal Project is necessarily used – contractors provide a list of potential needs prior to the start of construction activities. Typically, a subset of this proposed equipment is actually used in construction activities. Also, not all equipment resides on the airfield during the entire project duration; equipment is moved on and off the airfield as construction demands dictate.

Task 3.2 – Ensure emission reduction devices/strategy does not result in an increase of any pollutant above that which is standard for that engine.

The U.S. EPA and ARB verification procedures are designed to ensure that no measurable increase on other pollutant emissions results from installation of the approved VDECS. Furthermore, the verification letters for the ECS Purifilter provide no indication that the use of this device increases any emissions in an amount that exceeds the standard for that engine. One issue that should be noted is that the ARB verification procedures include a NO_2 limit requirement. Specifically, NO_2 may not increase more than 20 percent as a result of the installation and operation of the device[4]. All VDECS assessed under Task 1 comply with the CARB NO_2 limit requirements.

Task 3.3 –Contractor shall monitor, document and report on emission reductions of NO_x, ROG, PM and CO achieved through the use of best available control technology.

[4] Title 13 CCR section 2706(a)

CFCI quantified the emission reduction benefits of the air pollution mitigation strategies implemented at the Taxiway S. In addition to the use of VDECS, emission reductions associated with onsite material recycling were quantified. These results are shown below in Table 1.3.2-1.

Table 1.3.2-1: Quantified Air Quality Benefits Attributable to Taxiway S Pollution Mitigation Measures

Strategy / Performance Measure (Pounds of Pollution Reduced)	**PM_{10}**	**$PM_{2.5}$**	**CO**	**CO_2**	**ROG**	**NO_x**	**SO_2**
Emission Control Technology							
Diesel Engine Retrofits	114	105	N/A	N/A	N/A	N/A	N/A
Comments	This estimate assumes each of the 15 units that are equipped with VDECS operate an average of 20 hours per week. On-road vehicles assumed to have an average speed of 10 miles per hour.						
ULSD Fuel	The use of Ultra Low Sulfur Diesel (ULSD) fuel is mandated by the State of California. All CFTP equipment uses ULSD in compliance with this state law. CARB estimates that the use of ULSD reduces PM emissions by 20 to 28 percent and NOx emissions by 5 to 7 percent, depending on the age of the engine.						
Operational Requirements							
Engine Idling Restrictions	1.3	1.2	N/A	5,174	19	97	N/A
Comments	Emissions from the avoided truck trips due to the construction material recycling on-site and from the 5-minute idling rule applied to both on-road and off-road construction equipment. Approximately two violations per month were identified; enforcement followed each violation.						
Required Engine Maintenance	0	0	0	0	0	0	0
Comments	This section tracks the emissions avoided due to identification and prompt repair of malfunctioning equipment. No high emitters were identified during this reporting period, and thus there are no avoided emissions for this category.						
Traffic Control Measures							
Rush Hour Restrictions	Since emissions from free flowing traffic are lower compared to congested conditions, scheduling truck deliveries during off-peak hours had a positive impact on air quality.						

Strategy / Performance Measure (Pounds of Pollution Reduced)	PM_{10}	$PM_{2.5}$	CO	CO_2	ROG	NO_x	SO_2
Comments	The effect of vehicle velocity on emissions has been well established. A comprehensive study of diesel emissions done by Cambridge Systematics, Inc. investigated PM emissions as a function of speed. Comparing emission factors from 1995, heavy-duty trucks under urban operational conditions, on average there was a 60% decrease in emissions when the speed increased from the range of 0-16 km/hr to 32-48 km/hr.						
Employee Shuttle	Final evaluation pending receipt of shuttle participation, operating hours and route data.						
Comments	By using a parking shuttle, emissions were avoided from individual cars of about 40-50 employees (the distance was 6 miles round-trip and the shuttle ran twice a day but not every day, therefore a scaling factor of 0.9 was applied for this calculation).						
Onsite Material Recycling	586	539	6,383	2,381,348	640	22,049	23
Comments	Emissions avoided from recycling used construction material (concrete, asphalt) instead of hauling material to a landfill 40 miles away. Note that the concrete batch plant was grid-powered (no diesel-fueled generators were used).						
Total (lbs.)	**701**	**645**	**6,383**	**2,386,522**	**659**	**22,146**	**23**
Total (tons)	**0.35**	**0.32**	**3.2**	**1,193**	**0.33**	**11.1**	**0.01**

LAX Master Plan Project Environmental Benefits – Historical Perspective

Independent third party monitoring has been performed on five (5) LAX Master Plan Projects:

- South Airfield Improvement Program, including relocation of Runway 25L and the construction of a center taxiway between runways 25L and 25R;
- Crossfield Taxiway Program (Runway R);
- Aircraft Rescue and Firefighting Facility (ARFF, LSFD Station 80);
- Taxiway S; and
- Tom Bradley International Terminal.

For each Master Plan Project, environmental benefits attributable to mitigation measures stipulated in the CBA are quantified; these are reported in the Semiannual Reports. While this Semiannual Report

focuses primarily on Taxiway S and the Tom Bradley International Terminal projects, overall environmental benefits for LAX Master Plan Projects to date have never been reported in a single document.

Table 1.3.2-2, below, shows the total air pollutant emissions avoided through the implementation of environmental mitigation measures stipulated in the CBA. As shown, environmental mitigation strategies required for LAX Master Plan Projects have eliminated almost 7.800 pounds of particulate matter, a toxic air contaminant, and 157,000 pounds of nitrogen oxides, an ozone precursor. Additionally, approximately 16 million pound of carbon dioxide, the primary combustion greenhouse gas pollutant, have been avoided.

Table 1.3.2-2: Total Emission Reductions to Date on LAX Master Plan Projects (pounds)

	PM_{10}	$PM_{2.5}$	CO	CO_2	ROG	NO_x	SO_2
SAIP	5,409	3,656	38,349	9,658,792	8,121	96,248	104
Crossfield Taxiway	1,687	1,552	17,803	3,964,446	2,774	38,764	37
Taxiway S	701	645	6,383	2,386,522	659	22,146	23
Total (pounds)	**7,797**	**5,853**	**62,535**	**16,009,760**	**11,554**	**157,158**	**164**

To put the above total emission reduction values into context, the air pollutant emissions mitigated on LAX Master Plan construction projects to date are roughly equivalent to *eliminating 8,800,700 average one-way passenger vehicle trips to or from LAX*.[5]

Task 4: Exemptions

Task 1 of the Third Party Monitor Scope of Work focuses in part on determining if a verified diesel emission control system was available and compatible with a piece of diesel equipment proposed for use on the CFTP. CBA Section X.F.4 states that the requirement to retrofit equipment with a verified diesel emission control system is not applicable to construction-related diesel equipment *"for which the operator provides a written finding, based upon appropriate market research and approved by LAWA, that the best available emission control device for reducing the emission of pollutants as required by CBA*

[5] Traffic modeling indicates that the average passenger automobile trip length to or from LAX is 25 miles.

Sections X.F.1-3 is unavailable for that equipment, in which case the contractor shall use whatever technology for reducing the emission of pollutants, if any, is available and appropriate for that vehicle".

CBA Section X.F.4 also relieves the equipment operator from the requirements of CBA Sections X.F.1 through X.F.3 for *"construction-related diesel equipment used on LAX Master Plan Program construction sites for fewer than twenty (20) days per calendar year"*.

The role and responsibilities of the Independent Third Party Monitor as it pertains to CBA Section X.F.4 include the following Tasks:

- Verify that application for an exemption under CBA Section X.F.4. is justified on the basis of a) physical incompatibility of the best available emission control device with the piece of construction-related equipment seeking an exemption; b) unavailability of the best available emission control device with the piece of construction-related equipment seeking an exemption;
- Verify that construction-related diesel equipment granted an exemption pursuant to CBA Section X.F.4. (ii) does not exceed twenty (20) days of use on LAX Master Plan Program construction sites per calendar year.

The Third Party Monitor identified five (5) areas in which construction-related diesel equipment was granted exempt status by LAWA. These include the following:

1. Exemptions granted on the basis of unavailability of a best available VDECS in accordance with CBA Section X.F.4 (i) for a specific piece of diesel equipment;
2. Exemptions granted on the basis of physical incompatibility of a VDECS with a specific piece of diesel construction equipment, even though a VDECS is available for and compatible with that equipment's diesel engine;
3. "20-day" exemptions granted in accordance with CBA Section X.F.4 (ii);
4. "On-Road" vehicle exemptions;
5. Small displacement engine exemptions.

1.4.1 Taxiway S

Exemptions Granted Due to Unavailability of a Compatible VDECS

Each piece of diesel equipment for which sufficient data was provided was compared to the CARB database to determine compatibility with a verified diesel emission control system. Seventeen pieces of equipment were found to be incompatible with any commercially available VDECS device:

Table 1.4.1-1: Equipment Not Compatible with a Diesel Emission Control System (VDECS) Device

Equipment Number	Equipment Owner	Equipment Category	Equipment Model Number	Engine Manufacturer	Exemption Status
32-50-002	Flatiron	Concrete Paver	2800	Caterpillar	No VDECS matches
32-61-004	Flatiron	Concrete Cure	TC 600	Caterpillar	No VDECS matches
RJL #683	Rental	Backhoe		John Deere	No VDECS matches
Savala E129	Rental	Excavator		Mitsubishi	No VDECS matches
37-50-037	Flatiron	Loader		Caterpillar	No VDECS matches
AC025	Royal	Compressor	185 CFM	John Deere	No VDECS matches
AC026	Royal	Compressor	185 CFM	John Deere	No VDECS matches
LP006	Royal	Light Plant	320-4000 LT4	Caterpillar	No VDECS matches
LP007	Royal	Light Plant	320-4000 LT4	Caterpillar	No VDECS matches
TR037	Royal	Skid Steer	Bobcat S200	Deutz	No VDECS matches
354	Soil Stab.		3406	Caterpillar	No VDECS matches

20-Day Exemptions

Several pieces of equipment were also granted an exemption because of low usage during Taxiway S construction. These vehicles and equipment are shown below in Table 1.4.1-2:

Table 1.4.1-2: Taxiway S Equipment Operated Under a 20-Day Exemption

Equipment Number	Equipment Owner	Equipment Category	Equipment Model Number	Engine Manufacturer	Exemption Status
93-26-012	Flatiron	Fuel/Lube Truck		Caterpillar	20 Day Exemption
Mr. Crane #38	Flatiron	Hydro Crane	T-340	N/A	20 day Exemption
18-40-005	Flatiron	Motor Grader	G990	Volvo	20 day Exemption
T8616	Antigo	Breaker	Badger 8600	Deutz	20 Day Exemption
T8610	Antigo	Breaker	Badger T8600	Cummins	20 Day Exemption
T8614	Antigo	Breaker	Badger T8600	John Deere	20 Day Exemption
	Lange		973	Caterpillar	20 Day Exemption
	Lange		EL300B	Caterpillar	20 Day Exemption
358	Soil Stab.		RM350B	Caterpillar	20 Day Exemption
368	Soil Stab.		WR2400	Mercedes Benz	20 Day Exemption

On-Road Vehicle Exemptions and Small Displacement Engine Exemptions

As previously discussed within this Report, LAWA granted exemptions to on-road equipment and vehicles as well as equipment with engines less than or equal to 50 horsepower. Thus, all pickup trucks, light towers, air compressors, etc. used during Taxiway S construction were not required to be retrofitted with a BACT diesel emission control device:

Table 1.4.1-3: Taxiway S Equipment Operated Under an On-Road or Small displacement Exemption

Equipment Number	Equipment Owner	Equipment Category	Equipment Model Number	Engine Manufacturer
92-20-182	Flatiron	3/4 Ton Pickup		Ford
92-20-186	Flatiron	3/4 Ton Pickup		Ford
92-20-194	Flatiron	3/4 Ton Pickup		Ford
92-25-129	Flatiron	3/4 Ton Pickup		Ford
92-25-131	Flatiron	3/4 Ton Pickup		Ford
93-10-131	Flatiron	F450 Pickup	F450	Ford
93-21-020	Flatiron	F550 Pickup	F550	Ford
93-21-027	Flatiron	F550 Pickup	F550	Ford
Water Tech	Flatiron	Water Truck	4000 Gallon	N/A
UNI #2	Flatiron	Water Truck	2000 Gallon	N/A
UNI #1	Flatiron	Water Truck	2000 Gallon	N/A
AC025	Royal	Compressor	185 CFM	John Deere
AC026	Royal	Compressor	185 CFM	John Deere
LP006	Royal	Light Plant	320-4000 LT4	Caterpillar
LP007	Royal	Light Plant	320-4000 LT4	Caterpillar
LP008	Royal	Light Plant	LTC4L	Lombardini
LP009	Royal	Light Plant	LTC4L	Lombardini
Lp010	Royal	Light Plant	LTC4L	Lombardini
VH170	Royal	Light Duty Pickup	F250	International
VH211	Royal	Light Duty Pickup	F250	International
VH215	Royal	Heavy Duty Pickup	F650	International
VH254	Royal	Light Duty Pickup	F250	International
VH257	Royal	Med Duty Pickup	F550	International
VH259	Royal	Med Duty Pickup	F450	International
VH261	Royal	Med Duty Pickup	F450	International

1.4.2 Tom Bradley International Terminal Project

As noted in Section 1.2.4, approximately 220 pieces of diesel equipment were either granted exemptions from being retrofitted with a CARB or EPA verified device, or were undergoing a compatibility determination as of December 31, 2011. Diesel equipment proposed for operation on the Tom Bradley Terminal Project that has been granted an exemption by LAWA is discussed in the following paragraphs.

Exemptions Granted Due to Unavailability of a Compatible VDECS

Approximately eight (8) pieces of diesel equipment evaluated by the Third Party Monitor were determined to not be compatible with a CARB or EPA-verified diesel emission control device, as shown below in Table 1.4.2-1:

Table 1.4.2-1: Diesel Equipment Not Compatible with a Diesel Emission Control Device

Equipment Number	Equipment Owner	Equipment Model Number	Engine Model	Equipment Category	Manufacturer	Engine Model Year	Engine Family
105G	Pacific Boring	TAD1353GE		Generator	Volvo	2009	9VPXL12.8BCA
A9	Pacific Boring	TCD914L06		Boring Machine 48" A/Auger	Deutz	2007	7DZXK06.5074
140	Pacific Boring	C7		Grove RT740 Crane	Caterpillar	2008	8CPXL7.2ESL
762	La Londe	710J	6068HT067	Loader Backhoe	John Deere	2009	9JDXL06.8105
VH252	Royal Electric	F250 XL	A325	On-Road Truck	Ford	2008	7NVXH06.4AGA
VH256	Royal Electric	F550 XL	A325	On-Road Truck	Ford	2008	7NVXH06.4AGA
VH258	Royal Electric	F250 XL	A325	On-Road Truck	Ford	2008	7NVXH06.4AGA
C6	Concrete Coring	F550	N/A	On-Road Truck	Ford	2008	BNVXH06.4AGC

A technical issue was identified that required discussion between the Third Party Monitor and LAWA project management. In approximately seven (7) cases, the prime construction contractor, or their technical representative, misinterpreted the CARB EO for the HUSS FS-MK diesel emission control

device. Specifically, an incorrect EO date was used to determine if the device was verified at the time of initiation of construction activities on Tom Bradley Terminal.

Manufacturers of diesel emission control systems often seek CARB authority to expand the number of engines or model years for which the device is verified. When a device is approved by CARB for use on additional engine families or engine family model years, CARB issues an updated EO to reflect this expanded compatibility. The new EO supersedes the prior EO and is valid as of the date executed.

The HUSS FS-MK diesel emission control system received an updated EO on February 1, 2009. Because this date was subsequent to the contract date for the construction company, the HUSS FS-MK device was not deemed eligible as a Best Available Control Technology, citing the interpretation of the CBA to include only CARB and/or EPA-verified devices available at the commencement of construction activities.

In the case of the HUSS FS-MK device, however, the construction contractor did not properly interpret the CARB Executive Order hierarchy. While it is true that approval of the most current HUSS FS-MK Executive Order occurred after the commencement of construction activities, a previous HUSS Executive Order was in effect at that time. Thus, the construction contractor should have utilized the prior Executive Order to determine if a given piece of diesel construction equipment was or was not compatible. In approximately nine cases the Third Party Monitor determined that the diesel equipment was compatible with the HUSS device and that a valid Executive Order was in effect at the commencement of construction activities, but was granted an incompatibility waiver based upon a subsequent Executive order date. The equipment deemed compatible is listed below in Table 1.4.4-2:

Table 1.4.2-2: Equipment Granted Incompatibility Exemption

Equipment Number	Equipment Owner	Equipment Model Number	Engine Model	Equipment Category	Manufacturer	Engine Model Year	Engine Family
	King	RS6-42	6,000 lb. Telescoping Forklift	Forklift	Gehl	2006	6JDXL06.8082
GP1	Pacific Boring	V2203		Grout Pump (Strong)	Kabota	2002	YKBXL02.2FCD
GP2	Pacific Boring	BF4L1011F		Grout Pump (Swhing)	Deutz	2003	3DZXL02.7014
GBM	Pacific Boring	4045TF270		Power Motor	John Deere	2005	5JDXL04.45057
GBM	Pacific	1B30-X		Bentonite	Hutz	2005	4HZXL.347V30

PUMP	Boring			Tank			
E-141	Savala	ZX300LC	C9	Excavator	Hitachi	2005	5SZXL08.8EXA
E-149	Savala	PC228	SAA6D114E-2	Excavator	Komatsu	2008	8KLXL0409AAC

The Third Party Monitor discussed this issue with CARB, and CARB did confirm that the diesel equipment in question was compatible with the HUSS system. However, it was also noted that EOs can be confusing; thus, in this case, it appears the incompatibility determination was inadvertent based on a misunderstanding of the CARB process.

The Third Party Monitor also discussed this issue with the LAWA project management staff. It was agree that the best course of action was to educate involved parties regarding this issue in an effort to avoid similar occurrences in the future.

It should be noted, however, that this equipment might be eligible for an exemption under another CBA Section X.F.4 provision. For example, it is likely the excavators shown in Table 1.4.4-2 would have been granted a safety exemption due to the potential impact a VDECS could have on driver visibility.

20-Day Exemptions

As of December 31st 2011, one piece of diesel construction equipment had been formally granted a 20-day exemption, as shown below:

Table 1.4.2-3: Equipment Granted a "20-Day" Exemption

Equipment Number	Equipment Owner	Equipment Model Number	Equipment Category	Engine Horsepower	Manufacturer	Engine Model Year	Engine Family
A8	Pacific Boring	BF4M1013	Boring Machine 48" A/Auger	112	Deutz	2000	YDZXL07.1005

However, it is anticipated that additional specialty equipment will be granted 20-day exemption status during the construction of the Tom Bradley Terminal Project. The Semiannual Report scheduled for publication in July 2011 will document any additional equipment operating under this exemption provision.

Safety Exemptions

Multiple pieces of diesel equipment were exempted from the requirement to install a diesel emission control device due to safety considerations, specifically the potential that the device would impair the

equipment operator's line of sight visibility. As discussed in previous sections of this Semiannual Report, motor graders have been granted a categorical exemption based on safety for all LAX Master Plan projects implemented to date. Diesel equipment that has been granted a safety exemption is listed below in Table 1.4.2-4.

Table 1.4.2-4: Diesel Equipment Granted a Safety Exemption

Equipment Number	Equipment Owner	Equipment Model Number	Engine Model	Equipment Category	Manufacturer	Engine Model Year	Engine Family
623-9	Fine Grade Equipment	623F	3406C	Scraper	Caterpillar	1996	TCP14.RZDBRJ
D6-3	Fine Grade Equipment	D6	3126B	Crawler Tractor	Caterpillar	2004	4CPXL07.2HSK
B-71	Savala	450E	C404/ACERT	Backhoe	Caterpillar	2007	7PKXL04.4NJ1
3575	Griffith	450E	C4.4 ACERT	Backhoe	Caterpillar	2008	8PKXL04.4NJ1
623-10	Fine Grade Equipment	623F	C15	Scraper	Caterpillar	2009	9CXL15.2ESW
L-64	Savala	WA380-5L	SAA6D114E-2	Wheel Loader	Komatsu	2003	3KLXL0505ABD
623-5	Fine Grade Equipment	623B	3406	Scraper	Caterpillar	1983	1263NA020
623-8	Fine Grade Equipment	623E	3406	Motor Grader	Caterpillar	1991	1347NA011
623-11	Fine Grade Equipment	623F	3406	Scraper	Caterpillar	1995	1263NA
140-10	Fine Grade Equipment	140H	3306	Motor Grader	Caterpillar	1997	VCP10.RZDARF
14-10	Fine Grade Equipment	14H	3306	Motor Grader	Caterpillar	1997	VCP10.RZDARG
160-1	Fine Grade Equipment	160H	3306	Motor Grader	Caterpillar	1997	VCP10.RZDARG
140-12	Fine Grade Equipment	140H	3306	Motor Grader	Caterpillar	1998	WCPXL10.5MRF
140-11	Fine Grade Equipment	140H	3306	Motor Grader	Caterpillar	1999	XCPXL10.5MRF
479	La Londe	140H	3306	Motor Grader	Caterpillar	2001	1CPXL10.5MRF
14-11	Fine Grade Equipment	14H	3306	Motor Grader	Caterpillar	2001	1CPXL10.5MRG
140-13	Fine Grade Equipment	140H	3176	Motor Grader	Caterpillar	2003	3CPXL10.3ESK
140-14	Fine Grade Equipment	140H	3176	Motor Grader	Caterpillar	2003	3CPXL10.3ESK
551	La Londe	140H	3176	Motor Grader	Caterpillar	2003	3CPXL10.3ESK
553	La Londe	140H	3176	Motor Grader	Caterpillar	2003	3CPXL10.3ESK

3473	Griffith	140H	3176C	Motor Grader	Caterpillar	2004	4CPXL10.3ESK
3486	Griffith	140H	3176C	Motor Grader	Caterpillar	2004	4CPXL10.3ESK
16-21	Fine Grade Equipment	16G	3406	Motor Grader	Caterpillar	1979	1263NA023
16-27	Fine Grade Equipment	16G	3406	Motor Grader	Caterpillar	1988	1263NA028
16-19	Fine Grade Equipment	16G	3406	Motor Grader	Caterpillar	1990	1347NA017
16-22	Fine Grade Equipment	16G	RM736	Motor Grader	Caterpillar	2007	
16-24	Fine Grade Equipment	16G	RM736	Motor Grader	Caterpillar	2007	

On-Road Vehicle Exemptions and Small Displacement Engine Exemptions

On-road vehicles and equipment have for the most part been granted a categorical exemption by LAWA. It should be noted that for the majority of the vehicles listed in Table 1.4.4-5 at least one CARB verified diesel emission control system does exist and is compatible as it pertains to the requirements stipulated by the CARB Executive Order.

Royal Electric (Equipment ID numbers VH257, VH259, and VH261) and Griffith (Equipment ID 3572) were granted an exemption due to these vehicles being equipped with exhaust gas regeneration (EGR).

Table 1.4.2-5: On-Road Vehicles & Equipment Granted a Categorical Exemption

Equipment Number	Equipment Owner	Equipment Model Number	Engine Model	Equipment Category	Manufacturer	Engine Model Year	Engine Family
500	Robertson's	357	TBD	Concrete Truck	Pete	2004	
766	Robertson's	357	ISC 315	Concrete Truck	Pete	2004	
721	Robertson's	357	ISC 315	Concrete Truck	Pete	2005	
N/A	Goss Construction	Silverado 3500	N/A	On-Road Truck	Chevrolet	2006	
N/A	Goss Construction	F450	N/A	On-Road Truck	Ford	2000	
N/A	Goss Construction	F450	7.3	On-Road Truck	Ford	2000	
VH134	Royal Electric	F450 XL	TBD	On-Road Truck	Ford	2000	

I-85	Fine Grade Equipment	VALEW 7400	MAXXFORCE DT	Water Truck	International	2009	
VH119	Royal Electric	F450 XL	TBD	On-Road Truck	Ford	1999	XNVXH07.3ANE
N/A	Goss Construction	F650	N/A	On-Road Truck	Ford	2000	WCOXH0442HSK
VH128	Royal Electric	F450 XL	B235	On-Road Truck	Ford	2000	YNVXH07.3ANA
VH129	Royal Electric	F450 XL	B235	On-Road Truck	Ford	2000	YNVXH07.3ANA
VH170	Royal Electric	F250XL	B250CF	On-Road Truck	Ford	2002	2NVXH07.3ANC
VH186	Royal Electric	F450XL	A325	On-Road Truck	Ford	2003	3NVXH06.0AEA
C-3	Concrete Coring	F550	N/A	On-Road Truck	Ford	2004	3NVXH06.0AEA
C-34	Concrete Coring	F550	N/A	On-Road Truck	Ford	2004	4sZXH06.64AA
VH274	Royal Electric	F750	ISB 215	On-Road Truck	Ford	2005	4CEXH0359BAG
VH215	Royal Electric	F650	C7	On-Road Truck	Ford	2005	5CPXH0442HBK
VH254	Royal Electric	F250 XL	A325	On-Road Truck	Ford	2008	6NVXH06.4AGC
VH252	Royal Electric	F250 XL	A325	On-Road Truck	Ford	2008	7NVXH06.4AGA
VH170	Royal Electric	F-250 XL	B250CF	On-Road Truck	Ford	2002	2NVXH07.3ANC
VH213	Royal Electric	F450 XL	A325	On-Road Truck	Ford	2005	5NVXH06.0AEC
VH216	Royal Electric	F550 XL	A325	On-Road Truck	Ford	2005	5NVXH06.0AEC
VH205	Royal Electric	F250XK	A325C	On-Road Truck	Ford	2005	5NVXH06.0AED
VH210	Royal Electric	F250 XL	A325C	On-Road Truck	Ford	2005	5NVXH06.0AED
VH224	Royal Electric	F550 XL	A325	On-Road Truck	Ford	2006	6NVXH06.0AEC
VH225	Royal Electric	F550 XL	A325	On-Road Truck	Ford	2006	6NVXH06.0AEC
VH237	Royal Electric	F250 XL	A325	On-Road Truck	Ford	2007	6NVXH06.0AEC
VH242	Royal Electric	F250 XL	A325	On-Road Truck	Ford	2008	6NVXH06.4AGC
VH256	Royal Electric	F550 XL	A325	On-Road Truck	Ford	2008	7NVXH06.4AGA
VH258	Royal Electric	F250 XL	A325	On-Road Truck	Ford	2008	7NVXH06.4AGA
VH257	Royal Electric	F550 XL	A325	On-Road Truck	Ford	2008	6NVXH06.4AGA
VH259	Royal Electric	F450 XL	A325	On-Road	Ford	2008	7NVXH06.4AGA

				Truck			
VH261	Royal Electric	F450 XL	A325	On-Road Truck	Ford	2008	7NVXH06.4AGA
C6	Concrete Coring	F550	N/A	On-Road Truck	Ford	2008	BNVXH06.4AGC
VH116	Royal Electric	FL-70	3126	On-Road Truck	Freightliner	1995	SCP442DzDARK
3572	Griffith	M2	OM926LA	Flat Bed Truck	Freightliner	2006	6MBXH7.20DJA
264027	ARB, INC.	10K Reachlift RCH	QSB4.5	10K Reachlift	JLG	2007	7CEXL02.75AAG
3570	Griffith	G10-55A	3472/2400	Telehandler	JLG	2007	7PKXL04.4NJ1
351	Robertson's	357	ISC 315	Concrete Truck	Pete	2004	2CEXH0505CAX
608	Robertson's	357	ISC 315	Concrete Truck	Pete	2004	4CEXH0505CAR
T-22	Savala	330	ISC260	Water	Pete	2004	4CEXH0505CAS
T-23	Savala	330	ISC260	Water Truck	Pete	2004	4CEXH0505CAS
147	Robertson's	357	ISC 315	Concrete Truck	Pete	2006	5CEXH0505CAX
171	Robertson's	357	ISC 315	Concrete Truck	Pete	2006	5CEXH0505CAX
722	Robertson's	357	ISC 315	Concrete Truck	Pete	2006	5CEXH0505CAX
179	Robertson's	357	ISC 315	Concrete Truck	Pete	2006	5CEXH0505CAX
148	Robertson's	357	ISC 315	Concrete Truck	Pete	2006	5CEXH0505CAX
146	Robertson's	357	ISC 315	Concrete Truck	Pete	2006	5CEXH0505CAX
682	Robertson's	357	ISC 315	Concrete Truck	Pete	2006	5CEXH0505CAX
652	Robertson's	357	ISC 315	Concrete Truck	Pete	2006	5CEXH0505CAX
142	Robertson's	357	ISC 315	Concrete Truck	Pete	2006	5CEXH0505CAX
143	Robertson's	357	ISC 315	Concrete Truck	Pete	2006	5CEXH0505CAX
141	Robertson's	357	ISC 315	Concrete Truck	Pete	2006	5CEXH0505CAX
1078	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	5CEXH0505CAX
1118	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1024	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1112	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX

1080	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1081	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1095	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1082	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1079	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1030	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1144	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1027	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1105	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1083	Robertson's	357	ISC 315	Concrete	Pete	2007	6CEXH0505CAX
1140	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1093	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1139	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1029	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1054	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1137	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1053	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1142	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1047	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1156	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1143	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1145	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1138	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX
1141	Robertson's	357	ISC 315	Concrete Truck	Pete	2007	6CEXH0505CAX

In addition, LAWA granted an exemption to diesel equipment with a horsepower rating of less than or equal to 50 hp; this equipment is listed below in Table 1.4.2-6:

Table 1.4.2-6: Equipment Less than 50 hp was Granted an Exemption from the CBA BACT Requirements

Equipment Number	Equipment Owner	Equipment Model Number	Engine Model	Equipment Category	Manufacturer	Engine Model Year	Engine Family
LP003	Royal Electric	MH400	D-850	Light Plant	Coleman	1990	
LP004	Royal Electric	LT4	3LB1/PV.04	Light Plant	Wacker	1999	JOZ1.1U6D2RA
LP007	Royal Electric	320-4000 LT4	3LB1	Light Plant	Wacker	2000	Y3ZXX01.1WNA
LP006	Royal Electric	320-4000 LT4	3LB1	Light Plant	Wacker	2000	YSZXS01.1WNA
LP008	Royal Electric	LTC4L	LDW 1003	Light Plant	Wacker	2002	2LBDL.916F69
LP009	Royal Electric	LTC4L	LDW 1003	Light Plant	Wacker	2002	2LBDL.916F69
LP010	Royal Electric	LTC4L	LDW 1003	Light Plant	Wacker	2002	2LBDL.916F69
482098	ARB, INC.			Air Compressor			
482132	ARB, INC.			Air Compressor			
534003	ARB, INC.			Pump			
534033	ARB, INC.			Pump			
RLF1488	ARB, INC.			Light Plant			
AC021	Royal Electric	P185 WJD	4024-TF-150B	Compressor	Ingersoll Rand	1999	XJDXL06.8016
AC022	Royal Electric	P185 WJD	4024-TF-150B	Compressor	Ingersoll Rand	2000	XJDXL06.8016
AC025	Royal Electric	P185 WJDR	4024-TF-270	Compressor	Ingersoll Rand	2007	7JDXL02-4090
AC026	Royal Electric	P185 WJDR	4024-TF-270	Compressor	Ingersoll Rand	2007	7JDXL02-4090
CB1	Concrete Coring	N/A	N/A	Air Compressor	John Deere	2000	YJDXL06.8016
CB6	Concrete Coring	N/A	N/A	Air Compressor	John Deere	2000	YJDXL06.8016

Task 5: Ultra Low Sulfur Diesel and Other Fuels

Section X.F.5 of the Community Benefits Agreement requires that all diesel equipment used for construction on LAX Master Plan Projects use only Ultra-Low Sulfur Diesel (ULSD) fuel containing 15 parts per million (ppm) of sulfur by weight or less. This requirement is in effect as long as adequate supplies are available in the Southern California region.

There are three tasks in the Scope of Work for the Third Party Monitor related Ultra Low Sulfur Diesel.

- Task 5.1 - Contractor shall monitor, document, and independently report on construction equipment related to LAX Master Plan Program construction as it relates to the use of ultra-low sulfur diesel fuel. Contractor will be provided all available fuel procurement records for construction equipment related to the LAX Master Plan Program;
- Task 5.2 – Contractor shall independently verify and report to LAWA and the Coalition Representative that adequate supplies of ULSD are or are not available in Southern California. For the purpose of this Task, "Southern California" is defined as the geographic region comprising Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties;
- Task 5.3 – Contactor shall independently verify and report to LAWA and the Coalition Representative that fuels substituted in lieu of ULSD do not result in greater emissions of fine PM or NO_x than that which would be produced by the use of ULSD at 15ppm or lower. Verification will be based on CARB certification or equivalent.

South Coast AQMD Rule 431.2, which took effect on June 1, 2006, requires diesel fuel refined and sold for on-road and off-road use within the jurisdiction of the AQMD to contain no more than 15 ppm sulfur by weight. The California Air Resources Board subsequently adopted this requirement on a statewide basis on September 1, 2006. Thus, ULSD is the only diesel fuel legally available for purchase within California.

To independently verify the sulfur content of the diesel fuel used by equipment operating on LAX Master Plan projects, CFCI has requested fuel purchase records from the contractor and has examined the fuel receipts to ensure that only ULSD is being used. Fuel purchase records are clearly marked "ULSD"; thus, there is no ambiguity as to whether or not the fuel has the ultra-low sulfur content.

Task 6: Operational Requirements

Section X.F.6 of the CBA requires that Operational Requirements be issued and enforced by LAWA as it pertains to: a) limitations of equipment engine idling; and, b) maintenance of equipment engines.

The environmental requirements mandated by LAWA state that *"Contractor shall prohibit construction diesel vehicles or equipment from idling in excess of the idling restrictions as defined in the CARB Vehicle Idling Rule. The contractor shall advise drivers and operators of these requirements at the pre-construction orientation meeting, remind them on a daily basis, and post signs in appropriate places indicating the CARB Vehicle Idling Rule. Exemptions may be granted for safety and operational reasons, as defined in CARB or as approved by the Engineer. The contractor and subcontractors shall have policies and procedures in place for compliance with the Vehicle Idling Rule and a copy of such shall be submitted within 30 days of Notice to Proceed to the Engineer for approval"*.

In CFCI's capacity as Third Party Monitor, monitoring, documentation, and reporting of operational requirements was conducted in accordance with the following two Tasks:

- Task 6.1 – The Independent Third Party Monitor shall establish processes and procedures for determining whether a construction firm is complying with the operational requirements specified by LAWA. For the purpose of this Task, Operational Requirements include, but are not limited to, engine idling and engine maintenance requirements;
- Task 6.2 – The Independent Third Party Monitor shall monitor, document, and independently report to LAWA and the Coalition Representative on operational requirements issued and enforced by LAWA as they relate to limitations on idling and engine maintenance, at a minimum. Idling and engine maintenance records for construction equipment related to the LAX Master Plan Program will be provided to the Contractor by LAWA.

The following sections describe the process developed and implemented to track adherence to the operational requirements delineated in the CBA, as well as the independent findings of the Interim Third Party Monitor.

Process for Determining Compliance with Operational Requirements

The process to determine construction contractor compliance with the Operational Requirements set forth in the CBA has two distinct components:

1. Review by the Independent Third Party Monitor of applicable written procedures, monthly logs, and records documenting construction contractor compliance with Operational Requirements;
2. Onsite inspections conducted independently by the Third Party Monitor to confirm Operational Requirements are being implemented in accordance with CBA requirements.

In conducting reviews of construction contractor records, logs, and written procedures, requests for specific information and/or documents were submitted by the Third Party Monitor to LAWA's construction manager's staff. Requests for documentation were in turn submitted to the construction contractor by LAWA. This protocol was established and adhered to by all parties to ensure the reporting relationships between LAWA project management and the construction contractor were maintained and to prevent requests from the Third Party Monitor being construed by the construction contractor as contractual direction.

Once obtained by LAWA construction manager staff, the requested records, logs, and written procedures are provided to the Third Party Monitor for review. In most cases, photocopies are provided. In certain cases, such as equipment maintenance records, however, documents are retained at a location other than the on-site construction trailers; this requires that the documents be inspected at the offsite location. This is discussed further under Task 6.2, below.

Vehicle and Equipment Idling – The Environmental Requirements for the Tom Bradley Terminal Project prohibit construction vehicles and equipment from excessive idling in accordance with the restrictions defined in the CARB Vehicle Idling Rule[6]. This Rule, more formally referred to as the *Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling*, is codified in Title 13 Section 2485 of the California Code of Regulations and took affect on February 1, 2005.

The law states that operators of diesel fueled commercial vehicles with a gross vehicle weight rating (GVWR) of 10,000 pounds or greater shall not idle their vehicle's primary diesel engine for greater than five (5) minutes at any location. The law only applies to commercial vehicles that are or must be licensed for operation on the highway.

The "five minute rule" is waived under the following circumstances:

- Idling when the vehicle must remain motionless due to traffic conditions;

[6] www.arb.ca.gov/toxics/idling/regtext.htm

- Idling when the vehicle is queuing that at all times is beyond 100 feet from any restricted area (i.e., homes and schools);
- Idling to verify safe operating condition;
- Idling mandatory for testing, servicing, repairing, or diagnostic purposes (cleaning of commercial vehicles is not considered servicing);
- Idling when positioning or providing power for equipment that is performing work;
- Idling when operating defrosters, heaters, air conditioners, or other equipment to prevent a safety or health emergency.

While the CARB Rule pertains only to "on-road" vehicles, it is important to note that LAWA extends the CARB idling restrictions to off-road vehicles and equipment operating in conjunction with Bradley International Terminal construction. In practice, LAWA's enforcement of idling restrictions exceeds those mandated under the CARB Rule for both on-road and off-road vehicles and equipment.

The Third Party Monitor reviewed and independently verified the following documentation pertaining to notice of idling restriction requirements:

- Posted Signs – large signs are posted at the construction site entrance in clear view of trucks entering the air operations area. These signs clearly state the restrictions on vehicle idling, as shown in Figure 1.6.1-1;
- Written Policies – LAWA construction manager staff provided the Third Party Monitor with copies of the written idle restriction policies and procedures provided to the construction contractor;
- Notes from construction contractor/LAWA Project Management Status Meetings – in which reiteration of LAWA idling restrictions were reviewed.

Figure 1.6.1-1: Posted Notices Remind Drivers of Delivery Curfew Hours

It is the observation of the Third Party Monitor, and confirmed by LAWA project management, that excessive idling is less of an issue as compared to previously implemented LAX Master Plan projects such as the South Airfield Improvement Project (SAIP). The CARB anti-idling rule has been in place long enough that most vehicle and equipment operators are aware of its existence. Also, due to the price of diesel fuel, it is cost-effective to turn the vehicle engine off when not needed.

The limited amount of necessary enforcement of excessive idling restrictions continues to be performed on a "catch and release" basis; the LAWA project management staff detect an idling vehicle and inform the driver of the idling restrictions and ask them to turn their engine off. LAWA does not cite or fine the driver for a first offense. In discussion with LAWA project management, the policy of issuing a warning has worked successfully and there have been no documented repeat offenders. According to LAWA project management, during the period of July 1st through December 31st 2011 the average occurrence rate for excessive idling is less than one incident per week.

Equipment Maintenance Records – The CBA requires that the construction contractor properly maintain all equipment in accordance with the manufacturers' specifications and schedules. Further, that all maintenance and repair records shall be made available upon request. The Third party Monitor has made this request and is awaiting receipt of vehicle maintenance records.

LAWA project management and the Third Party Monitor also conduct regular visual inspections of diesel equipment operating on LAX Master Plan projects, looking for excessive exhaust soot or other indications that the equipment is in a state of disrepair. During the reporting period, one (1) vehicle was determined by LAWA to be emitting excessive smoke. The equipment owner was instructed to remove the vehicle for repair or remove the vehicle from the airfield. The vehicle was removed, repaired, and returned to service. This action is also discussed under Task 7, Enforcement by LAWA.

Task 7: Enforcement by LAWA

Section 7 of the Independent Third Party Monitor Scope of Work states that: "The Contractor shall monitor, document and independently report to the Coalition Representative on enforcement actions by LAWA".

During the period of July 1st through December 31, 2011, LAWA project management and environmental contract staff did not levy any fines against a Master Plan project construction contractor. LAWA did, however, take informal actions on multiple occasions to correct activities not in keeping with CBA obligations, but deemed insufficiently serious to warrant formal enforcement or fines.

Examples of informal enforcement actions taken by LAWA, and reported to the Third Party Monitor, include the following:

- Vehicle and Equipment Excessive Idling – LAWA project management and environmental contractor staff identify approximately one or two vehicle each month that appear to be idling in excess of the five (5) minute maximum. In all cases, the driver has been instructed to turn off the vehicle engine, and is made aware of the idling restrictions enforced on LAX construction projects. Individuals are also instructed that a repeat offense may result in a fine. During this reporting period, several drivers have received verbal warnings;
- An apparent violation of construction vehicle delivery routes, times, and idling occurred when multiple trucks were found queued at airfield entry gates outside of posted delivery hours. No

drivers were cited, however, as it was determined that the trucks had been rerouted due to road closures in and around LAX necessitated by the Presidential motorcade;

- A minor construction dispute arose over the use of sandblasting to remove paint on an existing taxiway surface. The construction company was informed that South Coast AQMD Rule 1140 restricts the use of an abrasive sandblasting medium to surface areas less than 1,000 square feet. For surface areas greater than 1,000 square feet, hydro (water) blasting must be used. LAWA project management subsequently required the construction company to suspend abrasive blasting operations and use hydro-blasting equipment to remove the remainder of the taxiway paint.

No enforcement actions were required for noise violations or fugitive dust emissions.

Task 8: Reassessments of Emission Control Devices

The Community Benefits Agreement Section X.F.9 requires that a reassessment of best available emission control devices be conducted on an annual basis, or more frequently if warranted. The purpose is to ensure that bid documents take into account advances in emission control devices prior to bidding new construction phases of the LAX Master Plan Program. This reassessment was conducted for all verified devices as of December 31, 2011.

Section X.F.9 further requires that the emission control technology review process include any new and relevant requirements or regulations promulgated by CARB or the U.S. EPA, with the understanding that the results from any reassessment of diesel emission control systems cannot be applied retroactively. Specifically, Section X.F.9.b. states "any new designations of emission control devices as best available shall apply only to projects that start after the devices are verified or certified for use by CARB or the EPA... "

For this report, CFCI reviewed all CARB-verified, Level 3 emission control devices as of December 31, 2011 for application to the LAX Master Plan project equipment. As part of CARB's verification program, device manufacturers periodically update their verifications, often adding eligible engines for a particular device, or otherwise revising the conditions of a device' verification. For this annual review, each CARB Level 3 device was evaluated for applicability to the LAX Master Plan project fleet. In a number of cases, revised or new verifications were found to be applicable to vehicles not previously

deemed to be "retrofitable". It is important to note, however, that findings under Task 8 are not applied to ongoing projects but are instead intended to broaden the number of devices available for follow-on Master Plan Projects.

In the period between July 1, 2011 and December 31, 2011, one (1) new diesel emission control system has earned CARB Level 3 verification for on-road diesel vehicles and equipment, and one (1) system has earned Level 3 conditional off-road verification. In addition, CARB canceled the verification of the Cleaire Allmetal device, which had been conditionally verified during the previous reporting period. A discussion of this cancellation as well as the newly verified devices is provided below:

ECS Purifilter Plus M

The Air Resources Board has verified the ECS Purifilter Plus M diesel retrofit system for certain 2002 through 2009 model year heavy-duty on-road diesel engines in on-road applications. The Purifilter Plus M reduces diesel particulate matter emissions by at least 85 percent and is designated as a Level 3 plus system. The primary components of the Purifilter Plus M include an electric heating element, a catalyzed silicon carbide diesel particulate filter, and a backpressure monitoring and notification system. The Purifilter Plus M system is compatible with on-road vehicles using diesel fuel that contains up to 20 percent biodiesel.

Donaldson NR-LNF

The Air Resources Board has conditionally verified the Donaldson NR-LNF system for certain off-road diesel equipment powered by off-road diesel engines manufactured from 1996 through 2010. The Donaldson NR-LNF system reduces emissions of diesel particulate matter by at least 85 percent and is designated as a Level 3 plus system. Approved engines are certified to a particulate matter emission level equal to or less than 0.2 grams per brake horsepower-hour and to an oxides of nitrogen emission level of at least 3.0 g/bhp-hr, are rated to 100 horsepower through 600 horsepower, and are not equipped with exhaust gas recirculation systems.

Cleaire Allmetal and Longmile

On September 17, 2011, CARB's Executive Officer directed Cleaire to suspend sales and installations of the Allmetal and Longmile systems and undertake specific remedial actions regarding their performance. As such, Cleaire no longer sold the Allmetal off-road or Longmile on-road devices as of September 16, 2011. These suspensions were a result of field experience that indicated these systems

did not comply with the conditions and requirements in the applicable verification requirements and because they may experience a catastrophic failure mode that was previously unknown, creating concerns about the safe deployment of these systems.

Task 9: Implementation of Public Complaint Registration Process

Task 9 of the Third Party Monitor Scope of Work requires the contractor to develop and implement a public complaint registration process. The components of the task are:

- Task 9.1 – Contractor shall develop and implement a process allowing any member of the public to register a complaint alleging any entity's noncompliance with the requirements of CBA Section X.F.
- Task 9.2 – Contractor shall investigate all complaints registered by a member of the public and determine if, when, and where a violation occurred. Contractor shall notify LAWA and the LAX Coalition Representative each time a complaint is registered.
- Task 9.3 – Contractor shall provide records or summaries of public complaints registered with Contractor, including actions, findings, and determinations, to the public upon request. Contractor shall provide LAWA and the LAX Coalition Representative copies of all actions, finding, and determinations requested by the public.

As LAWA already has a widely publicized hotline for complaints, it was decided to utilize the existing number instead of establishing a new one in order to avoid duplication and potential confusion in the community.

Zero (0) documented public complaints were logged during the period of July 1, 2011 through December 31, 2011. No noise or fugitive dust complaints were recorded, and LAWA, the South Coast AQMD, or any other environmental regulatory authority took no enforcement actions during that period.

Factors that most likely contribute to the absence of public complaints include:

- Dissemination and strict enforcement of the environmental requirements of the CBA by LAWA project management and inspectors;
- Construction activities associated with Taxiway S and the Tom Bradley Terminal projects primarily take place largely in the geographic center of the LAX airfield. Sensitive receptors, such as the communities of El Segundo, are to a large extent buffered by the South airfield runways. A similar situation exists on the Northern area, where the North airfield runways

provide a buffer. This serves as a barrier to common construction nuisances such as noise curfew violations.

SECTION 3 - RESULTS AND CONCLUSIONS

The following is a summary of Third Party Monitor independent monitoring results and findings for the six-month period commencing July 1, 2011 and ending December 31, 2011:

- Monitoring and documentation of diesel equipment utilized or proposed for utilization on two LAX Master Plan projects. Approximately 352 pieces of diesel equipment were independently assessed to determine compatibility with a commercially-available CARB/EPA-verified diesel emission control system;
- Monitoring of diesel emission control devices installed on construction equipment. As documented in the above Sections of this report, all devices currently in use on LAX construction projects have been deemed functional;
- A review and documentation of all exemptions granted by LAWA that allow a piece of diesel construction equipment to operate on LAX construction projects without a best available control technology retrofit. This includes equipment that was deemed incompatible with a verified VDECS, granted an exemption on the basis of safety, or granted a "20-day" exemption on the basis of infrequent equipment use;
- Quantification of emission reduction and air quality benefits resulting from environmental mitigation measures, including but not limited to the use of best available diesel control technologies, onsite crushing of reclaimed concrete and aggregate reuse in an onsite concrete batch plant – this recycling of existing concrete reduces heavy-duty truck trips that otherwise would have been required to export debris and import concrete;
- In accordance with CBA requirements, CFCI conducted a reassessment of available CARB and EPA-verified diesel emission control systems. This reassessment is conducted on an annual basis. The intent is that LAWA use these findings to designate newly verified devices as best available control devices and incorporate the requirement to use these devices into construction bid documents for new construction phases of the LAX Master Plan Program.

These findings, however, are not to be applied retroactively to Master Plan Projects already in the construction phase.

Overall, diesel equipment used on construction activities during the specified time period was found to be in substantial compliance with all provisions of the CBA Section X.F. As noted in a prior Semiannual Report, a few cases were identified where diesel construction equipment appear compatible with a Level 3 VDECS but are not identified by LAWA as requiring a BACT retrofit.

The next Semiannual Report will cover the period commencing January 1, 2012 and ending June 30, 2012. It is anticipated that the next Semiannual Report will include results of independent third party monitoring of one or more new LAX Master Plan Projects. The demolition of the former American Airlines lowboy hanger is anticipated to commence in April 2012, followed by Phase 1 construction of Taxiway T.

Manufacturer	Engine Model Year	Engine Family	LSD Notes (Blue notes from Feb 2012)	ON or OFF Road (Sort Column)	Exemption Request Approval Date	Exemption Status	Emissions Controls Installed	Compatable Device as of February 1, 2009	Compatable Device as of January 16, 2011	Compatable Device as of December 31, 2011	Key Notes for Changes from Last Report	Engine Control Systems Purifilter (off-road) (ECS #11-661-843)	Caterpillar DPF (specific 1996-2005 OFF-RD)	Engine Compatible with ECS Combifilter (2007 or older OFF-ROAD)	~~Cleaire Allmetal (1996-2010 in tracked and rubber tired OFF-RD)~~	Engine Compatible with HUSS FS-MK (most pre-2007 ON-RD and most pre-2010 OFF-RD)	Cleaire Horizon (most pre-2007 ON-RD; limited 2006 MY and pre-1994 and older if they have OEM DOC)	Cleaire Longview (1993-2006 ON-RD)		Cleaire Vista (on-road)	Cleaire Longmile (on-road)	Cleaire Lonestar (off-road)	Cleaire Phoenix (off-road)	DCL MINE-X (off-road)
International	2009	TBD	not enough data	ON-ROAD	no signature or date on waiver form	waiver requested, no reason circled; -form indicateds: "EGR Installed, On-Road"; also provided vehicle spec sheet with EGR spec indicated.	not enough data	not enough data	not enough data			not enough data	na	na	~~na~~	not enough data	not enough data	not enough data		not enough data	not enough data	not enough data	not enough data	not enough data
Pete	2004	TBD	not enough data	ON-ROAD	not enough data	not enough data	not enough data	not enough data	not enough data			not enough data	na	na	~~na~~	not enough data	not enough data	not enough data		not enough data	not enough data	not enough data	not enough data	not enough data
Pete	2004	TBD	not enough data	ON-ROAD	not enough data	not enough data	not enough data	not enough data	not enough data			not enough data	na	na	~~na~~	not enough data	not enough data	not enough data		not enough data	not enough data	not enough data	not enough data	not enough data
Pete	2005	TBD	not enough data	ON-ROAD	not enough data	not enough data	not enough data	not enough data	not enough data			not enough data	na	na	~~na~~	not enough data	not enough data	not enough data		not enough data	not enough data	not enough data	not enough data	not enough data
Chevrolet	2006	TBD	not enough data	ON-ROAD								not enough data	na	na	~~na~~	not enough data	not enough data	not enough data		not enough data	not enough data	not enough data	not enough data	not enough data
Ford	2000	1316787F	incorrect EFN; can not evaluate	ON-ROAD								incorrect EFN; can not evaluate	na	na	~~na~~	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Ford	2000	1339308F	incorrect EFN; can not evaluate	ON-ROAD								incorrect EFN; can not evaluate	na	na	~~na~~	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Ford	2000	TBD	not enough data	ON-ROAD								not enough data	na	na	~~na~~	not enough data	not enough data	not enough data		not enough data	not enough data	not enough data	not enough data	not enough data
ABI			not enough data	OFF								not enough data	not enough data	not enough data	~~not enough data~~	not enough data	na	na		not enough data	not enough data	not enough data	not enough data	not enough data
Caterpillar	2008	1024NA061	incorrect EFN; can not evaluate	OFF								incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar	2008	1024NA061	incorrect EFN; can not evaluate	OFF								incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar	2008	PKZ-NRCI-08-04	incorrect EFN; can not evaluate	OFF								incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar			not enough data	OFF								not enough data	not enough data	not enough data	~~not enough data~~	not enough data	na	na		not enough data	not enough data	not enough data	not enough data	not enough data
Caterpillar			not enough data	OFF								not enough data	not enough data	not enough data	~~not enough data~~	not enough data	na	na		not enough data	not enough data	not enough data	not enough data	not enough data
Caterpillar			not enough data	OFF								not enough data	not enough data	not enough data	~~not enough data~~	not enough data	na	na		not enough data	not enough data	not enough data	not enough data	not enough data
Caterpillar			not enough data	OFF								not enough data	not enough data	not enough data	~~not enough data~~	not enough data	na	na		not enough data	not enough data	not enough data	not enough data	not enough data
Caterpillar			not enough data	OFF								not enough data	not enough data	not enough data	~~not enough data~~	not enough data	na	na		not enough data	not enough data	not enough data	not enough data	not enough data
Coleman	1990	TBD	not enough data	OFF								not enough data	not enough data	not enough data	~~not enough data~~	not enough data	na	na		not enough data	not enough data	not enough data	not enough data	not enough data
Eagle Picher	1998	VDJU69	incorrect EFN; can not evaluate	OFF								incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Hyster	1995	1024NA063	incorrect EFN; can not evaluate	OFF								incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Hyster			not enough data	OFF	not enough data	not enough data	not enough data	not enough data	not enough data			not enough data	not enough data	not enough data	~~not enough data~~	not enough data	na	na		not enough data	not enough data	not enough data	not enough data	not enough data
Kawasaki			not enough data	OFF	not enough data	not enough data	not enough data	not enough data	not enough data			not enough data	not enough data	not enough data	~~not enough data~~	not enough data	na	na		not enough data	not enough data	not enough data	not enough data	not enough data
Vermeer	2004	6068TF250	seems like a generator from deere?	OFF									No	no	~~no~~	??	na	na		no	no	No	No	No
Wacker	1999	JOZ1.1U6D2RA	portable engine - any devices for them?	OFF									??	no	~~no~~	??	na	na				No	No	No
Wacker	2000	Y3ZXX01.1WNA	portable engine - any devices for them?	OFF									??	no	~~no~~	??	na	na				No	No	No
Wacker	2000	YSZXS01.1WNA	portable engine - any devices for them?	OFF									??	no	~~no~~	??	na	na				No	No	No
Wacker	2002	2LBDL.916F69	portable engine - any devices for them?	OFF									??	no	~~no~~	??	na	na				No	No	No
Wacker	2002	2LBDL.916F69	portable engine - any devices for them?	OFF									??	no	~~no~~	??	na	na				No	No	No
Wacker	2002	2LBDL.916F69	portable engine - any devices for them?	OFF									??	no	~~no~~	??	na	na				No	No	No
			not enough data	OFF																				
			not enough data	OFF																				
			not enough data	OFF																				
			not enough data	OFF																				
			not enough data	OFF																				
			not enough data	OFF																				
			not enough data	OFF																				
			not enough data	OFF																				
Caterpillar	1979	1263NA023	incorrect EF - but device not likely due to MY	OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";						incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar	1983	1263NA020	incorrect EF - but device not likely due to MY	OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicateds: "Unable to Install"; DEE & ECS letters indicates line-of-sight" safety issue for any device.						incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar	1988	1263NA028	incorrect EF - but device not likely due to MY	OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";						incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar	1988	1263NA038	incorrect EF - but device not likely due to MY	OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicateds: "Unable to Install"; Ironman letter indicates Tier 0 engine and no devices						incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar	1990	1347NA017	incorrect EF	OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";						incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar	1991	1347NA011	incorrect EF	OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicateds: "Unable to Install"; DEE & ECS letters indicates line-of-sight" safety issue for any device.						incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar	1994	1263NA034	incorrect EF	OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicateds: "Unable to Install"; Ironman letter indicates Tier 0 engine and no devices						incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar	1995	1263NA	incorrect EF	OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicateds: "Unable to Install"; DEE letter indicates line-of-sight" safety issue for any device.						incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar	1995	TBD	not enough data	OFF	no signature or date on waiver form	waiver requested, Reason for Waiver is shown as "NONE" ????						not enough data	not enough data	not enough data	~~not enough data~~	not enough data	na	na		not enough data	not enough data	not enough data	not enough data	not enough data
Caterpillar	2007	C13.CAPTV	incorrect EFN; can not evaluate	OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";						incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Caterpillar	2007	C13.CAPTV	incorrect EFN; can not evaluate	OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";						incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	~~incorrect EFN; can not evaluate~~	incorrect EFN; can not evaluate	na	na		incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate	incorrect EFN; can not evaluate
Gehl (Deere?)	2006	6JDXL06.8082	LSD added this to DB on 1/19/11; Per EFN, MFR should be Deere	OFF	no date on waiver form	waiver requested based on 2/1/09 date; used ARB Verification Database printout to prove case		HUSS FS-MK #DE-06-007-02 ECS # 08-661-379	HUSS FS-MK #DE-06-007-04; ECS # 10-661-420	HUSS FS-MK #DE-06-007-07; ECS #11-661-843		YES	NO			YES	na	na						
Volvo	2009	9VPXL12.8BCA	LSD added this to DB on 1/19/11	OFF	WAIVER REQUEST DATE May 5, 2010	waiver requested based on 2/1/09 date; used ARB Verification Database printout to prove case		excluded from HUSS (MY); ECS either (MY)	excluded from HUSS; also 2009 not covered by most recent ECS	still excluded from HUSS; also 2009 not covered by most recent ECS	Still could not locate a compatible device	NO	NO	NO		NO						NO	NO	NO
Kabota	2002	2KBXL02.2FCD	LSD added this to DB on 1/19/11; LSD changed first letter of EFN from "Y" to "2"	OFF	WAIVER REQUEST DATE May 5, 2010	waiver requested based on 2/1/09 date; used ARB Verification Database printout to prove case		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07		NO				YES								
Deutz	2003	3DZXL02.7014	LSD added this to DB on 1/19/11	OFF	WAIVER REQUEST DATE May 5, 2010	waiver requested based on 2/1/09 date; used ARB Verification Database printout to prove case		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04;	HUSS FS-MK #DE-06-007-07		NO				YES								
John Deere	2005	5JDXL04.45057	LSD added this to DB on 1/19/11 [RAY - I think the EFN is a typo and the EFN should be 5JDXL04.5075 - if so, then the ECS is approved for it	OFF	WAIVER REQUEST DATE May 5, 2010	waiver requested based on 2/1/09 date; used ARB Verification Database printout to prove case.		HUSS FS-MK #DE-06-007-02 ECS # 08-661-379	HUSS FS-MK #DE-06-007-04; ECS # 10-661-420	HUSS FS-MK #DE-06-007-07		NO				YES								
Hutz	2005	4HZXL.347V30	LSD added this to DB on 1/19/11 -fishy EFN	OFF	WAIVER REQUEST DATE May 5, 2010	waiver requested based on 2/1/09 date; used ARB Verification Database printout to prove case		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04;	HUSS FS-MK #DE-06-007-07		NO				YES								
Deutz	2000	YDZXL07.1005	LSD added this to DB on 1/19/11 [RAY - I think the EFN is a typo and the EFN should be 5DZXL07.1005; if so, then the ECS is approved for it	OFF	WAIVER REQUEST DATE May 5, 2010	This is a SPARE - will not be used more than 20 days. OK		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04; ECS # 10-661-420	HUSS FS-MK #DE-06-007-07; ECS #11-661-843		YES				YES								
Deutz	2007	7DZXK06.5074	LSD added this to DB on 1/19/11	OFF	WAIVER REQUEST DATE May 5, 2010	waiver requested based on 2/1/09 date; used ARB Verification Database printout to prove case		HUSS not OK (MY);	EFN is excluded from HUSS	still excluded from HUSS; excluded from ECS.	Still could not locate a compatible device	NO	No			NO							NO	
Caterpillar	2008	8CPXL07.2ESL	LSD changed the EFN from 8CPXL7.2ESL to 8CPXL07.2ESL	OFF	WAIVER REQUEST DATE May 5, 2010	waiver requested based on 2/1/09 date; used ARB Verification Database printout to prove case		HUSS not OK (MY);	HUSS FS-MK #DE-06-007-04; ECS # 10-661-420	HUSS FS-MK #DE-06-007-07; ECS #11-661-843		YES	No	no		YES								
Bauer	2004	4CPXL15.8EXK	Need to check this EFN - no longer matches HUSS or other systems - I think the "X" should be an "S"	OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	no device - due to bad EFN		NO	No	no	~~no~~	NO	na	na		na	na	No	NO	Maybe, if X is really an S or R, then YES
Bobcat	2006	6TBXJ03.3AAD	3rd waiver package indicates that this unit has a HUSS FS80mkm-12 - see flag	OFF	na	na	HUSS FS80mkm-12 - per waiver package info	has device	has device	has device			No	no	~~no~~	YES	na	na		na	na	No	No	no
Case	2005	5X9XL0239AAB	CNH Engine corp	OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07		NO	No	no	~~no~~	YES	na	na		na	na	No	YES	YES
Caterpillar	1996	TCP14.RZDBRJ		OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicateds: "Unable to Install"; DEE & ECS letters indicates line-of-sight" safety issue for any device.		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ESW Canada ThermaCat - DE #09-010-02		NO	No	no	~~YES~~	YES	na	na		na	na	No	No	YES
Caterpillar	1997	VCP10.RZDARF		OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07		NO	No	no	~~no~~	YES	na	na		na	na	No	No	no
Caterpillar	1997	VCP10.RZDARG		OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ESW Canada ThermaCat - DE #09-010-02		NO	YES	no	~~YES~~	YES	na	na		na	na	No	YES	YES
Caterpillar	1997	VCP10.RZDARG		OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ESW Canada ThermaCat - DE #09-010-02		NO	YES	no	~~YES~~	YES	na	na		na	na	No	YES	YES
Caterpillar	1998	WCPXL10.3ERK		OFF	no signature or date on waiver form	Waiver request form dated 5/12/10 indicates a DPF is installed.	Waiver Request dated 5/12/20 indicates a DPF is installed.	HUSS FS-MK #DE-06-007-02	has device	has device			YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	1998	WCPXL10.5MRF		OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07		NO	No	no	~~no~~	YES	na	na		na	na	No	No	no
Caterpillar	1998	WCPXL10.5MRF		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07		NO	No	no	~~no~~	YES	na	na		na	na	No	No	no
Caterpillar	1999	XCPXL10.5MRF		OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07		NO	No	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2000	XcPXL03.9AK1	should there be a C after the X? recheck EFN	OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	no device - due to bad EFN		NO	No	no	~~no~~	NO	na	na		na	na	No	No	no
Caterpillar	2000	YCPXL10.5MRG		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ESW Canada ThermaCat - DE #09-010-02		NO	YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2000	YCPXL14.6MRJ		OFF	no signature or date on waiver form	waiver requested, no reason circled; -has letter from Ironman indicating they don't offer a device for this unit due to PM level		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07		NO	No	no	~~no~~	YES	na	na		na	na	No	No	no
Caterpillar	2000	YMVXL06.4AAB	Need to check this EFN - no longer matches HUSS or other systems	OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	no device - due to bad EFN		NO	No	no	~~no~~	NO	na	na		na	na	No	No	no
Caterpillar	2000	YXPKXL03.9AKI		OFF	5/13/2009	Waiver request form dated 5/12/10 indicates a DPF is installed.	Waiver Request dated 5/12/20 indicates a DPF is installed.	HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	has device			No	no	~~no~~	YES	na	na		na	na	No	No	no
Caterpillar	2001	1CPXL10.3ESK		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843		YES	YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2001	1CPXL10.5MRF		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07		NO	if end in MRD or G, then YES, else NO	no	~~no~~	YES	na	na		na	na	No	No	no
Caterpillar	2001	1CPXL10.5MRG		OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843		YES	YES	no	~~YES~~	YES	na	na		na	na	No	YES	YES
Caterpillar	2001	1XPKXL03.9AKI		OFF	5/15/2009	Waiver request form dated 5/12/10 indicates a DPF is installed.	Waiver Request dated 5/12/20 indicates a DPF is installed.	HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	has device			No	no	~~no~~	YES	na	na		na	na	No	No	no
Caterpillar	2002	2CPXL07.2HSX		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	No	YES	YES
Caterpillar	2003	352XL15.7EXA	Need to check this EFN - no longer matches HUSS or other systems	OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	no device - due to bad EFN		NO	No	no	~~no~~	YES	na	na		na	na	No	No	no
Caterpillar	2003	3CPXL07.2HSL		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	No	YES	YES
Caterpillar	2003	3CPXL10.3ESK		OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2003	3CPXL10.3ESK		OFF	no signature or date on waiver form	waiver requested, no reason circled; -form indicates: "Motorgraders are exempt";		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2003	3CPXL10.3ESK		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2003	3CPXL10.3ESK		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2003	3CPXL10.3ESK		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2003	3CPXL10.3ESK		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2003	3LPXL07.2HSK	the "L" is probably a "C", but otherwise, this is not a good EFN:	OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843 - IF EFN is changed as noted to left			YES	no	~~no~~	YES	na	na		na	na	No	YES	no
Caterpillar	2003	3MVXL06.4DDD		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	No	no	~~no~~	YES	na	na		na	na	No	YES	YES
Caterpillar	2003	3PKXL04.4RK1		OFF	6/9/2009 [NOTE: there was no singnature or date on waiver form copy]	Waiver request form dated 5/12/10 indicates a DPF is on order.		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843		YES	No	no	~~no~~	YES	na	na		na	na	No	YES	no
Caterpillar	2004	2PKXL03.0UCI	the 2 is probably a 4 and the U is probably a V; Need to check this EFN - no longer matches HUSS or other systems	OFF	6/11/2009			HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	no device - due to bad EFN			No	no	~~no~~	YES	na	na		na	na	No	No	no
Caterpillar	2004	4CPXL07.2HSK		OFF	no signature or date on waiver form	waiver requested, no reason circled; -has letter from Ironman indicating unit is too small for any Ironman device and would pose potenital line of site issues due to its config. -Also has letter from HUSS indicating non-feadible installation and safety concerns.		HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	No	no	~~YES~~	YES	na	na		na	na	No	YES	YES
Caterpillar	2004	4CPXL07.2HSL		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2004	4CPXL08.8HSL		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	No	YES	YES
Caterpillar	2004	4CPXL08.8HSL		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	No	YES	YES
Caterpillar	2004	4CPXL10.3ESK		OFF	5/15/2009	Waiver request form dated 5/12/10 indicates a DPF is installed. NOTE: this is a motor grader	Waiver Request dated 5/12/20 indicates a DPF is installed.	HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	has device			YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2004	4CPXL10.3ESK		OFF	no signature or date on waiver form	Waiver request form dated 5/12/10 indicates a DPF is installed.	Waiver Request dated 5/12/20 indicates a DPF is installed.	HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	has device			YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2004	4CPXL10.3ESK		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2004	4CPXL10.3ESK		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	YES	no	~~YES~~	YES	na	na		na	na	YES	YES	YES
Caterpillar	2004	4CPXL14.6ESK		OFF				HUSS FS-MK #DE-06-007-02	HUSS FS-MK #DE-06-007-04	HUSS FS-MK #DE-06-007-07; ECS #11-661-843: ESW Canada ThermaCat - DE #09-010-02		YES	No	no	~~YES~~	YES	na	na		na	na	No	No	YES