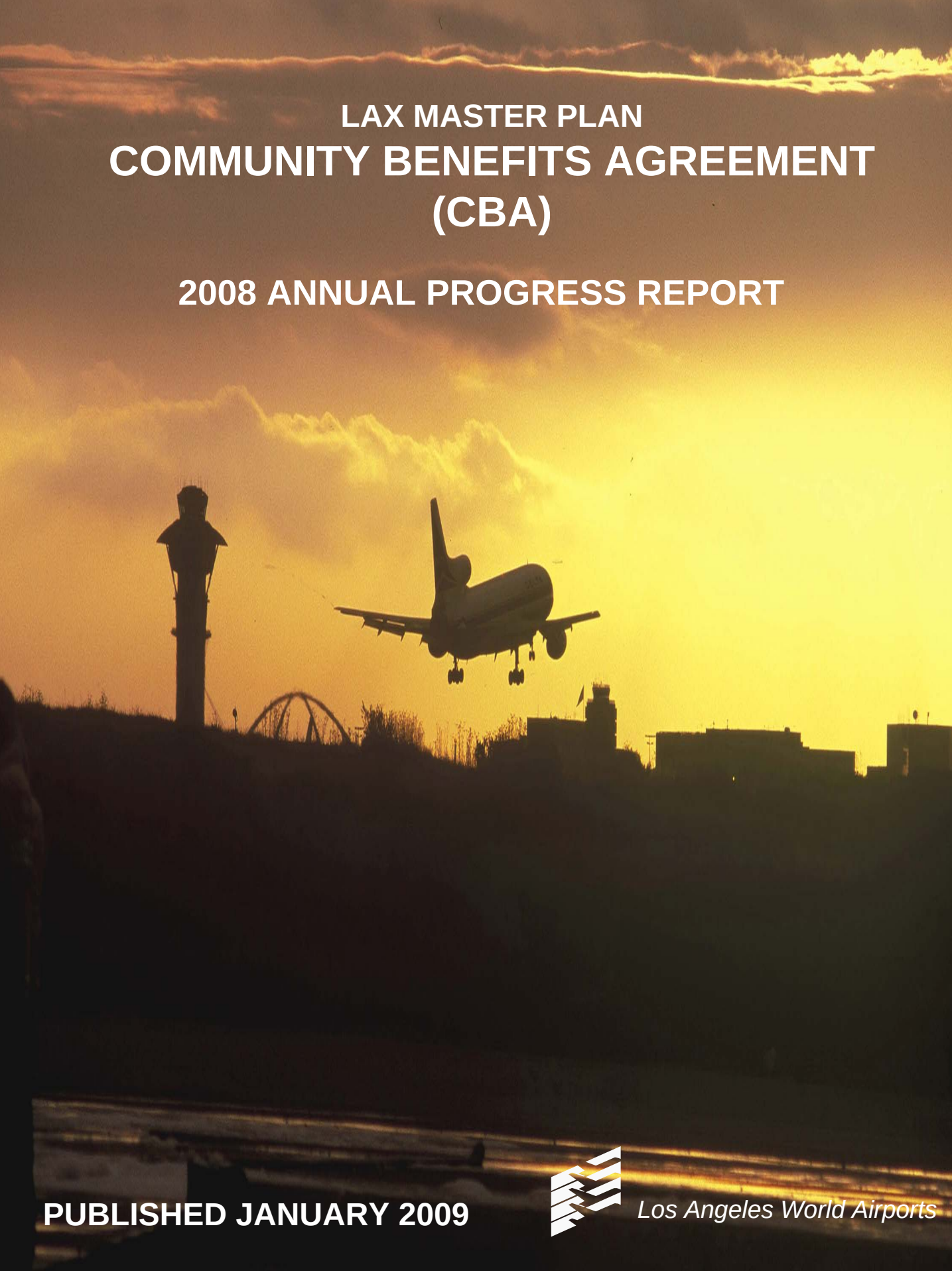

LAX MASTER PLAN

COMMUNITY BENEFITS AGREEMENT (CBA)

2008 ANNUAL PROGRESS REPORT

PUBLISHED JANUARY 2009

Los Angeles World Airports

LAX MASTER PLAN

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Prepared by

Los Angeles World Airports

LAX Master Plan Program
CBA Annual Progress Report
December 2008

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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. This agreement is the first of its kind to be negotiated with a government entity. Los Angeles World Airports (LAWA) - the City agency that owns and operates LAX and three other Southern California airports – and Coalition members worked to resolve the Coalition's legal and policy concerns about the LAX Master Plan through cooperation and settlement, rather than through litigation.

The LAX Coalition for Economic, Environmental and Educational Justice includes approximately 22 community, educational, religious, environmental, and labor organizations. In particular, it represents the interests of low-income and minority populations located near LAX. In related actions, the BOAC approved settlement agreements with the Lennox and Inglewood School Districts to provide noise abatement improvements at specific schools within each of the two school districts that are located in areas subject to high noise levels from aircraft operations at LAX. The Lennox and Inglewood School Districts are members of the LAX Coalition. As a part of its action approving the agreements, the BOAC also certified the Final Environmental Impact Report (FEIR), including three addenda for the LAX Master Plan Program.

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 and the City of Los Angeles. Implementation of the specified elements of the agreement is tied to approvals of the LAX Master Plan by the City Council and the Federal Aviation Administration (FAA). The agreement precludes LAWA from making expenditures or taking actions prohibited by the FAA or any other regulatory authority. The Cooperation Agreement prohibits the use of Los Angeles City's General Fund or any other City-controlled source of funds to meet any of LAWA's obligations under the agreement.

In accordance to 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 third annual report on the progress of the Agreement. This document has been provided to the Coalition Representative and is available at LAWA website www.laxmasterplan.org.

2.0 Introduction/Background

LAWA worked in partnership with the LAX Coalition to develop a program to ensure that communities impacted by the LAX Master Plan Program also receive benefits as a result of the implementation of the Program.

The Coalition, which includes community groups, environmental organizations and labor unions, had expressed legal and policy concerns regarding the proposed LAX Master Plan Program. LAWA and the Coalition agreed that it was in their mutual interest to resolve concerns through cooperation and settlement, rather than through litigation. Over a period of 10 months, LAWA and the Coalition met regularly to resolve these concerns and negotiate a community benefits agreement.

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 details the various proposals of mitigation and benefits, and is an attachment to the Cooperation Agreement. The various proposals include:

   Noise Mitigation

   - Increased Funding for Airport Noise Mitigation Program
   - End-of-Block Soundproofing
   - Suspension of Avigation Easement
   - Limitations on Nighttime Departures

   Economic Development Benefits

   - Job Training Program
   - Work Experience Programs
   - First Source Hiring Program
   - Small Business Attraction and Retention Program
   - Living Wage, Worker Retention, and Contractor Responsibility

   Community Environmental/Health Studies

   - LAX Air Quality and Source Apportionment Study
   - Health Study of Upper Respiratory System and Hearing Loss Impacts
   - Environmental Justice Community-Based Research Studies

Air Quality/Emission Reductions and Control

- Electrification of Passenger Gates
- Electrification of Cargo Operations Areas
- Electrification of Hangars
- Emission Reductions from Ground Service Equipment
- Emission Reductions from On-Road Trucks, Buses, and Shuttles
- Conversion of On-site Trucks, Shuttles, and Buses to Alternative Fuel
- Limits on Diesel Idling
- Assessment and Mitigation of Particulate Matter
- Provision of Alternative Fuel
- Hydrogen Fuel Cell Infrastructure at LAX

Environmental Mitigations/Commitments for Construction

- Construction-Related Diesel Emission Reduction Requirements
- Rock Crushing Operations/Materials Stockpiles Away from Residential Areas
- Application of Green Building Principles
- Diversion of Construction Traffic from Residential Streets

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. 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 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.** Likewise, 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. 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 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.

It is estimated that the combined value of these community benefits efforts is approximately $500 million.

LAWA commits to taking all action required by the Agreements and will not take any action regarding the LAX Master Plan Program that conflicts with the terms of the Agreements.

With these Agreements, LAWA confirms its partnership and commitment to the community and ensures continued dialogue and community participation throughout the implementation of the LAX Master Plan Program.

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;
- $4.275 million per year for the County of LA 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 → Completed:
The allocation of funds in 2008 is as follows:

Calendar Year 2008	
County of Los Angeles	*$ 7.71 million*
City of El Segundo	*$ 5.58 million*
City of Inglewood	*$ 9.21 million*
Total	*$22.50 million*

Projected for Calendar Year 2009	
County of Los Angeles	*$ 7.71 million*
City of El Segundo	*$ 5.58 million*
City of Inglewood	*$ 9.21 million*
Total	*$22.50 million*

III.B Acceleration of Noise-Mitigation Programs for City

The Agreement states:

"Within eight (8) 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:
While 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, the program is substantially complete. LAWA has to-date spent

approximately $130 million on the implementation of this program. ***Reference Appendix A for complete Program Update.***

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 is continuing with Coalition Representatives on the definition of places of worship. Coordination with the Coalition on this provision will be 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 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 → In Progress:
LAWA is committed to providing end-of-block soundproofing to all eligible property owners and the estimated completion date for this is 2010. There are approximately 1,100 dwelling units added under this program. Program eligibility notification letters to owners of these units continue to be sent out at this time

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, 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 Coalitions 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 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 easement (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 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 since these requirements are not part of LAWA's noise mitigation programs. It is the permitting agencies', such as the City of Los Angeles Building and Safety Department, role to enforce building codes, not LAWA.

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:
In June 2005, LAWA initiated a Part 161 Study at LAX intended to restrict departures between the hours of midnight and 6:30 a.m. over the communities to the east of LAX, when LAX is operating under normal weather conditions (when LAX is either in over-ocean operations or remains in westerly operations). The scheduled completion date for required analyses of the Proposed Restrictions is Summer 2009. Applications and reports for submittal to FAA are scheduled for December 2009. Public outreach efforts will continue through June 2010.

While much progress has been made towards completion of the LAX Part 161 Study, the project had been put on-hold until LAWA finalizes the baseline and projected fleet mix forecasts for the LAX Specific Plan Amendment Study. The new design day fleet mix forecast has been approved and LAWA's consulting teams are converting the forecast into an "average day" to perform the required modeling. LAWA has established a website for the study at www.laxpart161.com, which is accessible via LAWA's website, www.lawa.org.

Regarding provisions III.G. 2 and 3, LAWA continues to maintain a record of all nighttime eastbound departures during Over-Ocean Operations and Westerly Operations on LAWA's website and operates a community response program through which the public may report nighttime flights in the areas east of LAX.

The LAX Rules and Regulations include noise abatement policies that have been developed with cooperation from the FAA to address various types of aircraft noise impact on surrounding communities. These include programs such as Preferential Runway Use, Over-Ocean Operations, Early Turn Notification, Maintenance Restrictions, and Helicopter Operations.

The LAX Preferential Runway Use Policy essentially states that the outer runways, which are closer to neighboring communities, are preferred for use by arrivals and the inner runways (closer to the terminals) are preferred for use by departures, which are usually louder than arrivals. This policy is implemented by the FAA who determines the runway and operational needs of the airport. During the noise-sensitive hours of 10 p.m. to 7 a.m., the FAA Air Traffic Control is to maximize the use of the inner runways and taxiways for all operations.

The Over-Ocean Operations Procedure involves a change in aircraft arrival routes that moves them from low approaches over communities to the east of LAX to low approaches over the ocean from the west. The procedure is implemented by the FAA on a daily basis from midnight to 6:30 a.m., weather and safety permitting. This provides some noise relief to those close-in communities to the east, such as the City of Inglewood, South Los Angeles, and the Lennox community. Periods of deviations from Over-Ocean Operations are reported in the monthly LAX Airport Noise Community Response Report, which is posted on LAWA's website.

The Early Turn Notification Program involves full-time monitoring of all LAX departures to the west to determine if any aircraft turned north or south before reaching the shoreline (without specific instructions from the FAA Air Traffic Control), thereby flying over residential communities such as Playa del Rey and Westchester to the north and the City of El Segundo to the south. Staff issues notification letters to those operators, requesting an explanation as to why the incident occurred and what actions will be taken to correct the problem for future departures.

The Maintenance Restrictions prohibit the run-up of mounted aircraft engines for maintenance or testing between 11 p.m. and 6 a.m. daily, except as waived by the Executive Director or a duly authorized representative of the airport. This greatly reduces the noise impact on close-in communities during the nighttime hours.

The LAX Noise Management Program also includes the In-Flight Monitoring Program whereby operations are reviewed on a monthly basis for compliance with specific arrival and departure procedures pertaining to described minimum altitudes and location. Included are procedures such as the Go-Arounds, Loop Departures, Short Turn Arrivals, Monterey Park Over Flights, Palos Verdes Peninsula Over Flights, and East Departures during Over-Ocean or Westerly Operations.

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:
Notwithstanding the FAA's position, by leveraging its relationships with Job Training Program (JTP) companies, LAWA initiated its JTP in January 2007. LAWA successfully partnered with agencies funded through other means to provide the job training. These companies are willing to work with LAWA to provide training based on the needs of our employers.

Collaboratively, LAWA was able to work with Loyola Marymount University (LMU) and LAWA's Landside Operations to train 150 shuttle bus drivers for Servisair. They were given courses in anger management, customer service, and cultural diversity. These drivers were also given training which allowed them to become ADA certified. LAWA has been able to successfully refer over 50 individuals to construction training. As a result, over two dozen have received their Pre-Apprenticeship Construction Training Certificate. Through LAWA's other training partnerships, many other local residents have completed training in customer service, sales retail, and auto mechanics.

LAWA works in partnership with the Los Angeles Community College District. Because of our relationship, LAWA has been able to train 20-25 high school and college interns two years in a row through Los Angeles City College. They have been given courses in life and work skills, customer service, time management, and work ethics.

Through the first source hiring program survey, LAWA employers were surveyed about their job training needs. With that information, LAWA was able to find training providers willing to provide training at the employers work site, or, alternatively, at a convenient location near LAX. Furthermore, conversations with training providers have already begun to provide training to vendors and LAWA staff as well. These new training courses will include Conversational Spanish for Concession's staff and Manager/Leadership training in the areas of communication, coaching, and interviewing with Duty Free Shops (DFS).

<u>As of 12/31/2008 with 15 training providers:</u>

JTP Referrals: 343
Completed Training: 259 (This number includes new employees as well as incumbent workers.)

Job Training goals through June 2008: 50
Job Training goals through June 2009: 275

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:
The First Source Hiring Program (FSHP) provides early access to targeted applicants for available Airport Jobs, and employers will receive prompt, cost-free referrals of qualified and trained applicants. The FSHP was adopted by the BOAC in April 2005 and its provisions are included in all LAWA contracts and agreements, where applicable. On eligible construction projects such as TBIT Renovation, LAWA has been working with Coalition Representatives to implement the LAX Project Labor Agreement in a manner that, to the extent possible, enhances employment opportunities for underemployed individuals residing in the Project Impact Area and the City, especially minorities and women.

The FAA approved implementation of this program in October 2006. LAWA commenced phased implementation of the FSHP in December 2006 with one company participating, Hudson News, and it has now grown to over 60 companies.

Within Fiscal Year 2007-2008 LAWA has made huge strides to assist residents of the local community. LAWA staff has attended over 65 job fairs and spoken at numerous career days on elementary and high school campuses. The Gateways Internship

Program is in full swing and employed 25 local high school students for the summer. We currently have 25 college students working with both LAWA divisions and LAWA employers at LAX, Van Nuys, and Ontario Airports.

LAWA participated in 65 job fairs conducted by our community based partners, faith based partners, educational partners, and local government partners. The FSHP conducted six successful job fairs leading to placements for local residents. Two especially successful events that the BJRD conducted are highlighted below.

> *On Thursday, May 24, 2008, LAWA conducted a Targeted Recruitment Fair for Duty Free Shops North America (DFS) at the Proud Bird Restaurant that focused on Asian Languages. DFS was looking for job applicants that spoke Cantonese, Japanese, Korean, or Mandarin which are very difficult to find but the company highly seeks. The BJRD quickly coordinated the event and was able to secure over 25 candidates for the company to interview. They were very pleased with the candidate pool and made 13 job offers that day. Another Targeted Recruitment Fair will be held to find candidates who primarily speak Cantonese and Mandarin.*
>
> *A Targeted Recruitment Fair for HMS Host was held at the Proud Bird Grand Ballroom on Tuesday, April 29, 2008. Representatives from HMS Host met with LAWA on March 26, 2008, to discuss hosting a targeted recruitment event to fill approximately 100 positions in the various restaurants operated by HMS Host.*
>
> *The event produced the following results:*

Total in attendance:	***223*** *(119 pre-registered/104 walk-ins)*
Total Interviewed:	***207***
Job Offers:	
Pending security clearance:	*131*
Processed but awaiting ID:	*(15)*
Processed but need drug testing:	*(15)*
TOTAL HIRES:	***101***

> *HMS Host expressed their gratitude for a successful event that exceeded their expectations. They commented on the professionalism of the candidates as well as the structure and flow of the event. The 131 provisional hires surpassed their single-day record for job offers at any previous job fair they attended. They have since asked the FSHP to assist them in their search for college interns as well as middle and senior management personnel.*

The First Source Hiring Program has been working closely with both the Work Source and One-Stop Centers that serve the airport area and beyond. We also participate in the Mayor's South Los Angles Initiative to hire those residents that experience disproportionate levels of poverty and unemployment compared to the general population. Many of these residents live in the designated Project Impact Area.

LAWA experienced a downturn in air traffic as a direct result of increased fuel costs. Subsequently, many LAWA employers chose to either reduce employee hours or curtail

new hiring rather layoff employees. We anticipate conditions to change in 2009 for the better and expect increased hiring activity among a cross section of LAWA employers. We continue to work with other LAWA Employers providing direct referrals and/or resumes for their consideration.

As of 12/31/2008 with 56 program partner companies:

FSHP Referrals: 2,015 (Referred to approximately 702 positions with 60 LAWA employers)
Hires: 423 (Number of confirmed hired, actual number may be higher)

Hiring goals through June 2008: 250
Hiring goals through June 2009: 675

The First Source Hiring Program (FSHP) recently completed a survey of LAWA employers and Work Source Centers to ascertain the future employment needs LAWA employers. A comprehensive report detailing the survey findings will be released shortly.

Another RFP was released to Assess, Filter, Refer and Track candidates for employment. We have selected a contractor pending final administrative review who will develop a technological interface for job seekers and employers that will streamline the hiring process.

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:
LAWA commenced an Air Quality and Source Apportionment Study (AQSAS) to assess air quality in areas adjacent to LAX. This AQSAS will be the most comprehensive air monitoring, modeling, and data analysis program to be undertaken by LAWA for one of its facilities, or for that fact, by any airport authority nationwide.

This study will include the installation-monitoring stations in selected areas to discreetly collect and measure a large variety of both criteria and toxic air pollutants on site at LAX and at sites in the communities surrounding LAX. This study is planned to be conducted in three phases. The first phase commenced in March 2008. The second phase included a Technology and Methodology Feasibility Demonstration Project (Demonstration Project) where data was collected continuously at five on-airport sites during June, July, and August 2008 to assess the feasibility of the approach and methodology for Phase III. The results of the Demonstration Project will be used to validate the scientific approach of the long-term study. Criteria pollutants to be measured include nitrogen dioxide, carbon monoxide, particulate matter, and sulfur dioxide. Toxic air pollutants to be measured include many species of volatile organic compounds, semi-volatile organic compounds, trace metals, and other inorganic compounds.

The Study's scope or Work Plan was developed by a Technical Working Group (TWG) that is 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, Desert Research Institute, University of Southern California, research experts in the fields of receptor modeling and air pollutant monitoring, and representatives from community organizations.

The TWG recently determined that in order to assess viability of the third phase of the study, additional analysis of the data collected during the Demonstration Project needs to be done before a detailed work scope for Phase III can be formulated. It is anticipated that Phase III would be initiated in 2010. The TWG will continue to participate on this study by reviewing all stages of the AQSAS to ensure that the study follows reliable methods to produce useful results.

Several meetings were held in 2008 to communicate the status, progress and results of the study to a larger Briefing Group consisting of a diverse panel of environmental and public health regulatory agencies, as well as Federal, State and Local elected officials. LAWA will continue to hold these Briefings during the long-term study. LAWA will also

initiate and schedule public meetings at appropriate points throughout the long-term study.

In September 2008, a website was created to make project information available to the public. The website includes background information on the study, the schedule and photographs of the Demonstration Project, and handout materials and presentations. The website will continue to be updated as project information becomes available. The website address is: http://www.lawa.org/welcomeLAX.cfm?id=1066
The website can also be reached by going to http://www.lawa.org, About LAWA, Environment, LAX, LAX Air Quality and Source Apportionment Study.

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 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 2008 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 → In Progress:
LAWA has completed the first phase of the feasibility assessment and in the process of evaluating the electrification program at the Passenger Loading Areas. The first phase found that centralized 400 hertz power, or equivalent, is available for aircraft use at all gates (100%). In addition, over 55 percent of the gates also have available pre-conditioned air.

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 has completed the first phase of the feasibility assessment and is in the process of reviewing this assessment and evaluating the electrification program for cargo operations at individual locations.

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 limited to, inventory utilization, operations, technological trends, and capital and maintenance costs…"

Status → In Progress:
LAWA has completed the first phase of the feasibility assessment and is in the process of reviewing this assessment and evaluating the electrification program at these hangars.

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 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:
Currently part of the CBA annual report.

Section X.F. Construction Equipment

"1. 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 was to monitor, document, and report on a semi-annual basis to LAWA and the Coalition 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. ***(Reference Appendix B for Independent Third Party Monitor Final Report)***

The following is the final update of activities and findings reported by the Independent Third Party Monitor as it relates to diesel construction equipment utilized on the South Airfield Improvement Project (SAIP).

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 Contractor for each piece of diesel equipment utilized on the SAIP or proposed for use on the SAIP relative to compatibility with Best Available Emissions Control Devices. Approximately 315 pieces of diesel equipment were assessed 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 final findings for this Section are as follows:

- *During SAIP major construction, approximately 20 percent of all diesel equipment operating or identified for potential operation was equipped with a diesel engine compatible with a Level 3 (85 percent particulate matter reduction) off-road Verified Diesel Emission Control System (VDECS). Diesel equipment determined to be compatible with a Level 3 VDECS was required to be retrofitted with prior to commencing work.*
- *Off-road diesel equipment operating on the SAIP 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 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 → Complete:
The Independent Third Party Monitor assisted LAWA and the LAX Coalition in identifying potential opportunities to conduct a Demonstration Project in accordance with Section X.F.2. The SAIP was successful in demonstrating the feasibility and effectiveness of using an on-road verified Level 3 device in an off-road application. This successful demonstration has allowed the device manufacturer to seek off-road verified status for this device from CARB. It was also the intent of LAWA to participate in CARB's off-road VDECS demonstration program entitled "Showcase"; however, due to the necessity for strict airfield security at LAX, CARB ultimately determined that the SAIP was incompatible with the accessibility requirements of the Showcase Program.

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 → Complete:
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:

During SAIP construction, twelve (12) pieces of diesel construction equipment were equipped with VDECS. The specific device was the Engine Control Systems (ESC) Purifilter, verified at Level 3 (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 SAIP 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 → Complete:
The Third Party Monitor reviewed each piece of diesel construction equipment proposed for use on the SAIP 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. Final 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 SAIP 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 in which it appeared a CARB verified diesel emission control system was compatible with a piece of equipment that had received a previous exemption from LAWA. Each case was subsequently investigated to determine why an exemption had been granted. Specific types and models of off-road construction equipment, including rubber tire loaders and motor graders, received an exemption from installing a VDECS due to safety concerns. It was determined that the VDECS would impair the equipment operator's field of vision. Thus, these vehicle classes 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;*
- *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 → Complete:
The Third Party Monitor independently reviewed and documented fuel purchase records for diesel fuel used on the SAIP. Final 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 the period of SAIP construction. No substitution of any fuel in lieu of 15 ppm ULSD occurred during SAIP construction;*
- *The Third Party Monitor reviewed all fuel purchase records as provided by LAWA on behalf of the construction firms operating equipment on the SAIP. All fuel purchased was independently verified to be ULSD; 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 SAIP 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 → Complete:
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. Final 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 several occasions, however, vehicles deemed to be idling beyond the period of time stipulated in CARB regulations were instructed to turn off their engines. In these cases, the equipment operators involved were unaware of the idling restrictions as opposed to a deliberate intent to violate idling restrictions; thus formal enforcement actions were not deemed necessary;*
- *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 reviewed each maintenance plan submitted.*

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 → Complete:
The Third Party Monitor independently reviewed each enforcement action taken by LAWA. The Third Party Monitor maintained a database of enforcement actions, documenting the date of enforcement, entity the action was taken against, and the disposition/resolution of each enforcement action. All enforcement actions taken by LAWA are documented in the Independent Third Party Monitor Final Report: ***(Reference Appendix B for Independent Third Party Monitor Final Report)***

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 as well as the attached 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 → Complete:

The Independent Third Party reviewed each piece of diesel construction equipment proposed for use on the SAIP for compatibility with newly verified Level 3 VDECS. While it was understood that the requirement to utilize a new VDECS could not be applied retroactively for equipment operating on the SAIP, 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:
See Section X.I. regarding status of GSE Policy.

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 → Complete:
*The study has been completed and **thei**r results were issued to the Coalition in May of 2007.*

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 is in the process of finalizing a GSE conversion policy and associated incentive program which will ultimately be included in the Air Carrier Operating Permits (ACOPs). LAWA is currently preparing to meet with the stakeholders prior to the policy's inclusion in the ACOPs.

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 Coalition in July 2005. LAWA is currently coordinating with the Coalition regarding the work scope.

Also, LAWA has developed Alternative Fuels Conversion Policy that applies to all on-road vehicles weighing 8,500 lbs gross or larger. This policy is currently in effect and requires the conversion of car rental shuttles, trucks, and other large vehicles in use at LAX. It is LAWA's intent to make this policy applicable to all four airports.

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 → In Progress:
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. This requirement will be implemented in conjunction with all future projects to be completed under the LAX Master Plan. 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 South Airfield Improvement Project and the rock-crushing plant for the SAIP project complied with this requirement. This request will be 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 → Complete:
Subject requirement was included in construction specifications for the South Airfield Improvement Project 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 → Complete:
LAWA has this infrastructure developed.

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 → In Progress:
LAWA is currently evaluating the placement of a fuel cell system.

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 pollutants emissions from jet engines."

Status → In Progress:
LAWA continues to monitor and support 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 that are attached as ***Appendix C****.*

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 L.A. Department of Transportation, designates routes for construction traffic on a project by project basis. LAWA developed a website to provide construction information for the general public, including a phone number to report incidences of non-compliance on the South Airfield Improvement Project and this site will be used for all future LAX Master Plan construction.

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 Project Impact Area small businesses and minority-owned business enterprises and women-owned business enterprises (MBE/WBE)…..

Status → In Progress:
LAWA's Business and Job Resources Division (BJRD) and Procurement Division are currently working closely with the Mayor's Office, CDD, and other business advocacy groups to enhance MBE/WBE participation on all LAWA projects. The Small Business Program provides an entry point through which local business enterprises can obtain information on future airport business contracting opportunities and on a wide array of business assistance services, networking activities, workshops, and referrals. LAWA has established a facility near the Airport, on Century Boulevard, with enough square footage to house staff; consultants; and a Surety Bond Liaison. LAWA will serve as a clearinghouse for information in its three core program areas: business outreach, employment outreach, and educational outreach.

LAWA is currently:

- *Developing a marketing strategy to communicate the outreach services to its stakeholders*
  - *Communicating to our stakeholders the services we provide (business, employment, educational, bonding and technical and referral)*
  - *Developing collateral material for dissemination to businesses at Trade Shows and Industry and Community Events*
  - *Creating an active centralized database of businesses that can be accessed to solicit qualified companies for work at the airport*

- *Conducting monthly "How to do Business with LAWA" seminars to inform businesses about LAWA's administrative requirements*

- *Developing an interactive web presence designed to be a "One Stop Shop" for the business community*
  - *List current and future contracting opportunities*
  - *Provide a calendar of workshops, events, pre-bid meetings etc. on-line*
  - *Fill out certification materials on-line*
  - *Provide business referral information on-line*
  - *Provide Prime and Sub-Contractor's a resource to identify local companies for potential partnership opportunities*

- *Coordinating outreach services internally with LAWA Divisions in order to assist in identifying potential contracting opportunities in the planning stage of LAWA projects to increase the diversity in contracting at LAWA*

- *Continuing to develop strong working relationships with partners such as the Mayor's Office of Economic Development, local, ethnic and national business organizations and local chambers of commerce and other governmental agencies and corporate partners to leverage our resources to assist LAWA in stimulating the local economy.*

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:
LAWA continues to coordinate with local law enforcement agencies, emergency response groups, and local communities. LAWA's Executive Director is a member of the newly formed advisory team for the Los Angeles Mayor's newly Homeland Security Advisors Group. This group of diverse leaders will improve the City of Los Angeles' counter-terrorism intelligence coordination and disaster preparedness training and response capabilities. The advisory team will be organized into working groups and tasked with five major missions: Counter-terrorism measures; Private sector outreach and involvement; Governmental outreach and involvement; Evacuation planning; and Emergency Preparedness.

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 ensure 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 held regularly 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 $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 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 noise mitigation at Inglewood and Lennox Unified School Districts.

LAWA is working with Lennox Unified School District to identify noise impacted schools in order to obtain Secretary of Transportation authorization as required under Section 1 of Act attached as ***Appendix D.***

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 $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 noise mitigation at Inglewood and Lennox Unified School Districts.

6.0 Summary

To date, LAWA continues to implement applicable provisions from the Community Benefits Agreement. Construction-related provisions were included in the first LAX Master Plan project, the SAIP, using contract specifications and are 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 2008

LAX Residential Soundproofing Program

Background

Los Angeles World Airport's (LAWA) Residential Soundproofing Program (RSP) was established in early 1997 to implement the Airport's noise mitigation measures 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 is an increase from the original 8,200 units. At the beginning of 2008 we received approval from the BOAC to include properties at the "end of the block ". The total number of additional units was 1,200. For the most part, these 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.

It is estimated that the program will be substantially completed by 2009/2010 at a cost of about $160 million. Two soundproofing demonstration model homes continue to be available to interested homeowners, by appointment only, one in Playa del Rey, and another within Council District 8. This Soundproofing Program is fully funded by Passenger Facility Charges (PFCs).

Program Status

There are approximately 9,400 dwelling units eligible for the program. As of November 28, 2008, the total number of units signed into the program is 7,352 (this number changes daily as participations and/or declines/delays are recorded on the database). So far, 321 units have been placed on a delayed or declined status by their property owners. 1,727 units have yet to reply to our mailings or sign up for the program.

Through November 6,312 units have been soundproofed or are in the process of completing the soundproofing installation. To date, there have been 118 construction contracts awarded totaling approximately $125 million.

Project Budget: $160 million **Project Completion Date:** 2010

Project Spent to date: $125 million **Project Percent complete:** 82%

PROJECT COMPLETION PLAN

Step one. The design/acoustic consultant's contract to complete the design on the remaining approximately 1,000 dwelling units was amended and approved by the BOAC in March 2007 and will expire in February 2010.

Step two. Mid 2009; notify non-participants of the imminent program completion. Re-notify non-participating homeowners via a second 'return receipt requested" letter that their property could be deemed land use compatible unless they agree to participate by a set date, late 2009.

Van Nuys Residential Soundproofing Program

Background

The Soundproofing Section also developed and began implementation of a noise mitigation program for the affected residences near Van Nuys Airport. The Van Nuys program covers 1,100 residential units. It is estimated that this program will be substantially completed by early 2007 at a cost of about $15 million. The program, launched in May 2000, covers residential units located within City Council Districts 6 and 12. This program is on schedule and approximately $8 million from airport revenues has been expended so far.

Program Status

The total number of eligible dwelling units is approximately 1,100. Participation agreements covering 776 residential units have already been signed and design of the required acoustical modifications for these units is continuing. Construction has been completed on 718 units.

Project Budget: $15 million **Project Completion Date:** 2010
Project Spent to date: $9 Million **Project Percent Complete:** 70%

PROJECT COMPLETION PLAN

Same as above.

Land Use Mitigation Program

The Residential Soundproofing Division also administers LAWA's Land Use Mitigation Program, including oversight of eligible jurisdictions' noise mitigation programs and funding for the cities of Inglewood, Ontario, El Segundo and Los Angeles County.

LAWA continues to provide funding to the participating jurisdictions at or above the levels set in the Community Benefits Agreement.

In calendar year 2008, the following funding amounts were released to the respective jurisdictions:

City of Inglewood	$12,500,000
City of El Segundo	$ 5,587,500
County of Los Angeles	$ 7,500,000

APPENDIX B

Third Party Monitor Final Report date October 2008

Los Angeles International Airport

South Airfield Improvement Program (SAIP)

Independent Third Party Monitor Final Report

Clean Fuel Connection, Inc.

October 1, 2008

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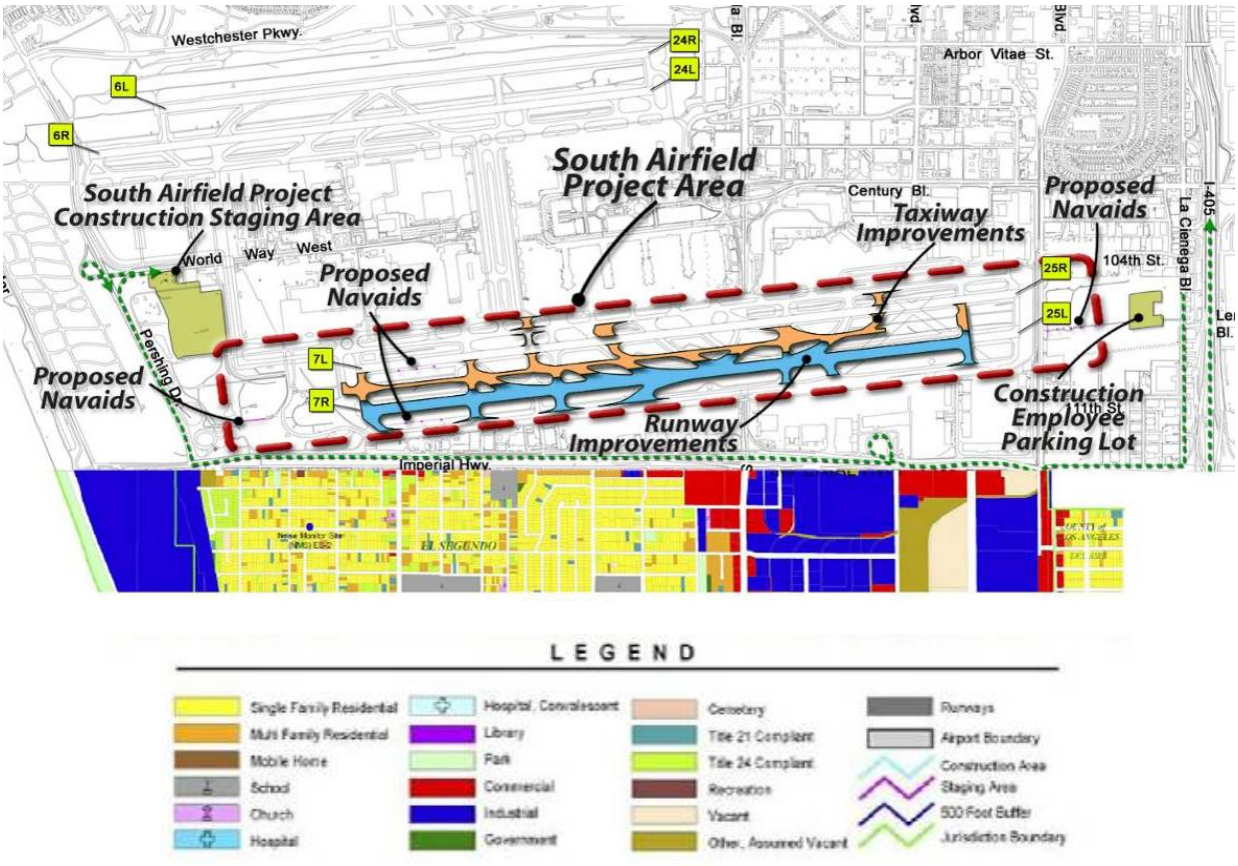
APPENDICES

SECTION 1 EXECUTIVE SUMMARY

The South Airfield Improvement Project (SAIP) consists of moving Runway 7R/25L at Los Angeles International Airport (LAX) approximately 55 feet south of the existing runway center line and constructing a new parallel taxiway between the south airfield runways. Relocation of navigational and visual aids, various site improvements, including drainage, utilities, lighting, signage, and grading are also part of the project. As shown in Figure 1, the project is located within the South Runway Complex of LAX. The South Runway Complex is located south of the Central Terminal Area, north of the cargo and other facilities along Imperial Highway, east of Pershing Drive, and west of La Cienega Boulevard. On the south side on Imperial Highway is the City of El Segundo, with relatively dense residential and light commercial development in the immediate vicinity.

Figure 1: South Airfield Improvement Project at LAX



The SAIP was developed to address the safety concerns raised by the potential for runway incursions associated with the original design of the South Runway Complex. Construction on

the project was phased such that the runway would be relocated first, followed by the construction of the parallel center taxiway. Runway 7R/25L construction, using at times two 10-hour shifts, and working Monday through Saturday, began March 1, 2006. Runway closure occurred on July 29, 2006, and the new runway opened April 2, 2007. Thus, demolition and removal or the existing runway, relocation, and construction of the new runway occurred within an eight-month period.

Center taxiway construction commenced coincident with Runway 25L completion; the center taxiway was completed on June 24, 2008. With the opening of the new center taxiway between runways 25R and 25L, the SAIP was complete.

As part of the LAX Master Plan approval process, LAWA agreed to additional environmental mitigation requirements for LAX Master Plan construction projects by entering into a Community Benefits Agreement (CBA)[1] with the LAX Coalition for Economic, Environmental, and Educational Justice. One SAIP air quality impact mitigation strategies was retention of an Independent Third Party Monitor to ensure the stringent environmental requirements delineated in the MMRP/CBA/Settlement and the Environmental Requirements under the technical specification were met throughout the entire construction phase. The Independent Third Party Monitor was responsible for monitoring construction activities and for providing independent verification and documentation of compliance with the air quality provisions of the specifications. Clean Fuel Connection Inc. (CFCI) was selected to serve as the Independent Third Party Monitor. In this capacity, CFCI is responsible for monitoring, documenting, and reporting environmental compliance for LAX Master Plan construction projects.

The role of Independent Third Party Monitor is set forth in the Community Benefits Agreement entered into by LAWA and the LAX Coalition. Section X.F.8 of the CBA defines the primary responsibilities of the Third Party Monitor as follows:

"Compliance with the requirements of this Section X.F shall be monitored by an Independent Third Party Monitor….The Independent Third Party Monitor shall report to LAWA and the Coalition Representative semiannually. Reports shall include, but not be limited to, devices installed on LAX Master Plan Program construction-related diesel equipment, summary of exemptions granted and any reports of violations"

[1] Key stakeholders in the Community Benefits Agreement consist of members of the LAX Coalition for Economic, Environmental and Educational Justice. This Coalition includes the Inglewood Unified School District and Lennox School District (which have independent Settlement Agreements) as well as a number of Community, Labor, and Environmental organizations.

The purpose of this Final Report is to: a) document the work of the Independent Third Party Monitor as it relates to each responsibility delineated in the CBA and contractual Scope of Work over the entire SAIP construction project; and b) summarize our findings, conclusions, and importantly, lessons learned that can be applied to future LAX Master Plan construction projects. This report was prepared in conformance to the reporting requirements set forth in Section X.F.8 of the CBA. This is the third Semiannual Report and Final Report for the SAIP. The first and second Semiannual Reports were submitted in April 2007 and December 2007, respectively.

CFCI was specifically responsible for monitoring, documenting, and reporting on implementation of Section X.F of the CBA. Our efforts over the course of the past two years included the following principal tasks:

- Creation of a database of all known equipment utilized in the South Airfield Improvement Program and the available verified emission control devices;
- Field verification of the equipment database and reconciliation to LAWA environmental staff vehicle records;
- Evaluation of available diesel emission control devices and applicability to the SAIP;
- Examination and verification of requests for exemptions from installation of Best Available Control Technology (BACT);
- Examination of fuel records to verify that low sulfur diesel is being used;
- Participation in CARB and AQMD discussions of a heavy duty off-road vehicle emissions device demonstration program;
- Evaluation of newly Verified Diesel Emission Control Devices for applicability to SAIP equipment;
- Monitoring of installed emission control devices on SAIP construction equipment;
- Quantification of emission reductions;

- On-airfield equipment verification and monitoring of SAIP construction equipment operations enforcement.

In addition to monitoring implementation of Section X.F. of the CBA, CFCI also monitored compliance with the broader environmental requirements stipulated in Section 21 of the Special Provisions Conformed Set[2]. As the Third Party Monitor, CFCI's role was to observe, document, and report on the operations of the construction-related diesel equipment on the SAIP program. Our role was not enforcement of the provisions of the CBA, but rather independent verification and documentation of compliance.

In performing the duties of the Third Party Monitor, CFCI's efforts in monitoring, documenting, and reporting on the status of CBA Section X.F implementation included:

- Physical inventories of diesel equipment operating on the SAIP or located in contractor equipment maintenance and staging areas. These inventories were conducted bimonthly;

- Expansion of the database to include all known equipment utilized in the SAIP, including equipment operating under a 20-day exemption and equipment granted immediate short term airfield access for reasons of expediency;

- Field verification of the equipment database and reconciliation with LAWA project management vehicle records;

- Annual reassessment of available emission control devices in accordance with CBA Section X.F.9, and evaluation of available diesel emission control devices compatible with diesel equipment operating on the SAIP;

- Examination and verification of requests for exemptions from installation of Best Available Control Technology (BACT);

- Examination of fuel purchase records to verify that low sulfur diesel is being used;

[2] Special Provisions Conformed Set, LAX Runway 25L and Center Taxiway Improvements, August 23, 2005.

- Monitoring of installed emission control devices on SAIP construction equipment, including teleconferences with the device manufacturer relative to device durability and contractor maintenance procedures;

- Quantification of emission reductions attributable to the use of diesel emission control devices;

- Quantification of emissions avoidance by using onsite concrete aggregate production in lieu of runway debris export and concrete import;

- On-airfield monitoring of SAIP construction equipment operations enforcement, including equipment idling restrictions, fugitive dust emissions, and equipment in an apparent state of disrepair.

Third Party Monitoring Implementation Methodology: The implementation methodology employed for conducting Third Party Monitor tasks can be briefly summarized as follows:

- *Fully Understand Program Requirements and Customer Expectations* – In the course of implementing our work scope as the Independent Third Party Monitor, CFCI coordinated with the Chief Airports Engineer, contracts manager, and project environmental staff relative to program requirements and performance expectations;

- *Define Roles and Responsibilities* - The CFCI staff endeavored to clearly define its role as "monitor, document and report" as an independent third party, with sensitivity to ensuring that our efforts did not disrupt or unduly impede SAIP construction activities;

- *Establish an Appropriate On-Site Presence* – CFCI established a consistent onsite presence at the SAIP construction site to coordinate with members of the environmental compliance staff and monitor equipment with installed emission control devices, while ensuring that our work did not interfere with any SAIP construction operations and that CFCI team members follow all required safety and security precautions;

- *Ensure Monitoring Processes, Tracking Tools, and Documentation Procedures are In Place* – CFCI created independent databases of diesel equipment, exemptions, fuel receipts, verified emission control devices, and enforcement actions/public complaints. This information was periodically reconciled with the records maintained by the LAWA SAIP construction manager.

Environmental Benefits: The environmental mitigation strategies required during SAIP construction yielded significant, quantifiable emission reductions, including criteria air pollutants and greenhouse gases. The following Table E-1 illustrates the magnitude of emissions avoided during SAIP construction:

Table E-1: Quantified Emission Reductions Resulting from Implementation of SAIP Air Pollution Mitigation Strategies

Strategy / Performance Measure (Pounds of Pollution Reduced)	PM_{10}	$PM_{2.5}$[(a)]	CO	CO_2	ROG	NO_x	SO_2
Emission Control Technology							
Diesel Engine Retrofits	1,542	1,418	12,022	N/A	3,530	N/A	N/A
Comments	12 engines were retrofitted with Engine Control Systems Purifilter™ verified diesel emission control system (VDECS) by both CARB and U.S. EPA; these emission reductions were determined based on estimated of hours of equipment operation.						
ULSD Fuel	Since ULSD was required to be used prior to the regulation's effective date, which was June 1, 2006 in Southern California, emission benefits accrued from March 1 through May 31, since non-ULSD fuel would have otherwise been used.						
Operational Requirements							
Engine Idling Restrictions	8.7	8.2	(b)	87,142	148	1,002	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.						
Required Engine Maintenance	405	373	651	0	2,373	1,996	0
Comments	Emissions avoided due to identification and prompt repair of malfunctioning equipment.						
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.						
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	Avoided 128,766 miles & 10,731 car trips.						
Comments	By using a parking shuttle, emissions were avoided from individual cars of about 40-50 employees (the distance was 6 miles roundtrip 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	3,453	1,857	25,656	9,571,650	2,070	93,250	104
Comments	Emissions avoided from recycling used construction material and providing onsite material storage instead of hauling material to a landfill 40 miles away.						
Total (lbs)	**5,409**	**3,656**	**38,329**	**9,658,792**	**8,121**	**96,248**	**104**

Strategy / Performance Measure (Pounds of Pollution Reduced)	PM_{10}	$PM_{2.5}$[(a)]	CO	CO_2	ROG	NO_x	SO_2
Total (tons)	**2.7**	**1.8**	**19.2**	**4,829**	**4.1**	**48.1**	**0.052**

SECTION 2 INTRODUCTION

Clean Fuel Connection Inc. (CFCI) has served as the Independent Third Party Monitor (Third Party Monitor) for Los Angeles World Airports (LAWA) since August 2006. In this capacity, CFCI is responsible for monitoring, documenting, and reporting environmental compliance for LAX Master Plan construction projects. The first Master Plan construction project was the South Airfield Improvement Program (SAIP). This project involved the relocation of runway 25L and construction of a new center taxiway at Los Angeles International Airport (LAX).

The role of Independent Third Party Monitor was established as part of the Community Benefits Agreement (CBA) entered into by LAWA and the LAX Coalition. Section X.F.8 of the CBA defines the primary responsibilities of the Third Party Monitor as follows:

"Compliance with the requirements of this Section X.F shall be monitored by an Independent Third Party Monitor….The Independent Third Party Monitor shall report to LAWA and the Coalition Representative semiannually. Reports shall include, but not be limited to, devices installed on LAX Master Plan Program construction-related diesel equipment, summary of exemptions granted and any reports of violations"

The purpose of this Final Report is to: a) document the work of the Independent Third Party Monitor as it relates to each responsibility delineated in the CBA and contractual Scope of Work over the entire SAIP construction project; and b) summarize our findings, conclusions, and importantly, lessons learned that can be applied to future LAX Master Plan construction projects. This report was prepared in conformance to the reporting requirements set forth in Section X.F.8 of the CBA. This is the third Semiannual Report and Final Report for the SAIP. The first and second Semiannual Reports were submitted in April 2007 and December 2007, respectively.

CFCI was specifically responsible for monitoring, documenting, and reporting on implementation of Section X.F of the CBA. Our efforts over the course of the past two years included the following principal tasks:

- Creation of a database of all known equipment utilized in the South Airfield Improvement Program and the available verified emission control devices;

- Field verification of the equipment database and reconciliation to LAWA environmental staff vehicle records;
- Evaluation of available diesel emission control devices and applicability to the SAIP;
- Examination and verification of requests for exemptions from installation of Best Available Control Technology (BACT);
- Examination of fuel records to verify that low sulfur diesel is being used;
- Participation in CARB and AQMD discussions of a heavy duty off-road vehicle emissions device demonstration program;
- Evaluation of newly Verified Diesel Emission Control Devices for applicability to SAIP equipment;
- Monitoring of installed emission control devices on SAIP construction equipment;
- Quantification of emission reductions;
- On-airfield equipment verification and monitoring of SAIP construction equipment operations enforcement.

In addition to monitoring implementation of Section X.F. of the CBA, CFCI also monitored compliance with the broader environmental requirements stipulated in Section 21 of the Special Provisions Conformed Set[3]. As the Third Party Monitor, CFCI's role was to observe, document, and report on the operations of the construction-related diesel equipment on the SAIP program. Our role was not enforcement of the provisions of the CBA, but rather independent verification and documentation of compliance.

In performing the duties of the Third Party Monitor, CFCI's efforts in monitoring, documenting, and reporting on the status of CBA Section X.F implementation included:

- Physical inventories of diesel equipment operating on the SAIP or located in contractor equipment maintenance and staging areas. These inventories were conducted bimonthly;

[3] Special Provisions Conformed Set, LAX Runway 25L and Center Taxiway Improvements, August 23, 2005.

- Expansion of the database to include all known equipment utilized in the SAIP, including equipment operating under a 20-day exemption and equipment granted immediate short term airfield access for reasons of expediency;

- Field verification of the equipment database and reconciliation with LAWA project management vehicle records;

- Annual reassessment of available emission control devices in accordance with CBA Section X.F.9, and evaluation of available diesel emission control devices compatible with diesel equipment operating on the SAIP;

- Examination and verification of requests for exemptions from installation of Best Available Control Technology (BACT);

- Examination of fuel purchase records to verify that low sulfur diesel is being used;

- Monitoring of installed emission control devices on SAIP construction equipment, including teleconferences with the device manufacturer relative to device durability and contractor maintenance procedures;

- Quantification of emission reductions attributable to the use of diesel emission control devices;

- Quantification of emissions avoidance by using onsite concrete aggregate production in lieu of runway debris export and concrete import;

- On-airfield monitoring of SAIP construction equipment operations enforcement, including equipment idling restrictions, fugitive dust emissions, and equipment in an apparent state of disrepair.

The primary project staff who conducted independent third party monitoring of the SAIP project included the following individuals:

- *Enid Joffe*, founder and co-owner of Clean Fuel Connection, Inc., a licensed contracting and environmental consulting company providing independent engineering and regulatory compliance assessments to both government agencies and the private sector;

- *Ray Gorski*, air quality engineer on the SAIP project 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 SAIP equipment;

- *Stefanie Ly*, administrative analyst for CFCI responsible for project monitoring and electronic database development and maintenance.

The implementation methodology employed for conducting Third Party Monitor tasks can be briefly summarized as follows:

- *Fully Understand Program Requirements and Customer Expectations* – In the course of implementing our work scope as the Independent Third Party Monitor, CFCI coordinated with the Chief Airports Engineer, contracts manager, and project environmental staff relative to program requirements and performance expectations;

- *Define Roles and Responsibilities* - The CFCI staff endeavored to clearly define its role as "monitor, document and report" as an independent third party, with sensitivity to ensuring that our efforts did not disrupt or unduly impede SAIP construction activities;

- *Establish an Appropriate On-Site Presence* – CFCI established a consistent onsite presence at the SAIP construction site to coordinate with members of the environmental compliance staff and monitor equipment with installed emission control devices, while ensuring that our work did not interfere with any SAIP construction operations and that CFCI team members follow all required safety and security precautions;

- *Ensure Monitoring Processes, Tracking Tools, and Documentation Procedures are In Place* – CFCI created independent databases of diesel equipment, exemptions, fuel receipts, verified emission control devices, and enforcement actions/public complaints. This information was periodically reconciled with the records maintained by the LAWA SAIP construction manager;

- *Update Available Technology Database* — CFCI monitored developments in diesel emission control technologies, including newly verified devices or de-listed devices. In conformance with CBA Section X.F.9.a., CFCI conducted a reassessment of available diesel emission control devices – this information is included in the Task 8 section of this Final Report.

Finally, CFCI compiled a list of “lessons learned” as it relates to the responsibilities of the Third Party Monitor. This information will prove beneficial as LAWA initiates activities for the next Master Plan project.

SECTION 3 TASK-BY-TASK SUMMARY REPORTS

The following Summary Reports document the findings of the Independent Third Party Monitor on the SAIP Master Plan Project as it pertains to the Third Party Monitor's obligations in monitoring, documenting, and reporting compliance with the Community Benefits Agreement.

Task 1: Best Available Emissions Control Devices Required

Section X.F.1 of the Community Benefits Agreement 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[4] 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 diesel equipment with Best Available Control Technology (BACT) devices to all diesel equipment and vehicles, 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 pertains to non-mobile diesel sources, such as portable generators, air compressors, light towers, etc. 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 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:

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

- 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 final results and findings of the Independent Third Party Monitor as it relates to Tasks 1.1 and 1.2.

Task 1.1 – Monitoring Process, Database Development, and Documentation

In our capacity as Independent Third Party Monitor, CFCI developed and implemented a structured process for monitoring and documenting diesel equipment both proposed for use and actually utilized on the South Airfield Improvement Project. The monitoring process employed can be summarized as follows:

- *Review of available documentation* – The principal source of technical information for each vehicle proposed for operation on the SAIP are the equipment reports submitted by the construction contractor for review by LAWA project management environmental staff. These reports document key information relevant to each piece of equipment, including the technical specifications from which the Independent Third Party Monitor database information is substantially derived. Most importantly, 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 Master Equipment List (Database)* – As more fully described below, all relevant information derived from review of the equipment reports or field inspections is documented in a master 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 equipment reports at times include data that are either inconsistent with other information provided or potentially incorrect. In certain cases, substantive data elements are missing. In these cases, the database notes which pieces of information are either missing or whose accuracy is suspect. Approximately 40% of the diesel equipment reviewed by the Independent Third Party Monitor has missing or incomplete Engine Family Designations. Although this is deemed an essential data element, secondary evaluation techniques where in most cases employed to work around missing data; please refer to Section 1.2, below;

- *Request for Additional Information and/or Clarification* – Once the missing data or data that requires validation are compiled, a request for clarification is issued by the Independent Third Party Monitor to LAWA project management staff. Most often, the requested information resides with the equipment owner; thus, LAWA project

management staff act as an intermediary between the Third Party Monitor and the equipment owner. This "arms length" approach is in keeping with the role of the Third Party Monitor to "monitor, document, and report". From a practical aspect, having LAWA project management staff act as the official liaison maintains the established organizational reporting structure and eliminates the potential that the construction contractor could interpret a data request as contractual direction;

- *Field Inspection* – In some cases, a specific piece of data is deemed essential for the purpose of determining compatibility with a VDECS device or in the conduct of an emissions analysis. In these cases, the Independent Third Party Monitor will request permission to conduct a field inspection of the specific piece of equipment under scrutiny. In most cases, these field inspections were conducted during the equipment's down time, the operator's lunch break or before or after the work shift. In limited cases, vehicles have been requested to cease operations momentarily during their workday to allow the Third Party Monitor to record needed information. Equipment inspections for data gathering purposes have included verification and recording of engine type and model year and whether or not a VDECS sensor suite and driver notification system had in fact been installed. Equipment inspections for reasons other than to populate the Third Party Monitor database occur on a regular basis, related primarily to equipment Operational Requirements as discussed in Task 6 of this report;

- *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. This assessment is performed in accordance with the procedure described in Task 1.2;

- *Documentation of Analysis Results* – For each piece of diesel equipment assessed, the availability and compatibility of a VDECS is recorded in the database. In some cases, a specific equipment type has been exempted by LAWA from the requirement to be retrofitted; these exemptions by LAWA are also recorded in the database;

- *Data Reconciliation* – Periodically, the Independent Third Party Monitor conducts a data reconciliation of information contained in the database with the reports maintained by LAWA project management and the construction manager's staff. This helps ensure

that the Third Party Monitor's records are up to date and that a piece of equipment doesn't "slip through" without being evaluated.

- *Reporting* – On a Semiannual Basis, the Independent Third Party Monitor provides a written report of their findings as it relates to compliance with CBA Section X.F requirements. This report is the third and final report for the South Airfield Improvement Program.

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 the SAIP. Thus, to ensure completeness, the database incorporates the following data fields:

- *Date of Equipment Report Approval* – Each piece of diesel equipment for potential use on the SAIP was submitted by the construction contractor for review by LAWA project management and the construction manager's staff. The date the review process was completed and the equipment approved for airfield operation was recorded in the database;

- *Equipment ID Number* – Most equipment operating on the SAIP was marked with a unique identifying number by the equipment owner. It is 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 was tracked and monitored relative to this ID number;

- *Owner* – the owner of the piece of diesel equipment, such as prime contractor Tutor-Saliba;

- *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 #1 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 were designated #1 and #2, respectively, in the database;

- *Engine #1 Model* – The number or other descriptive terminology used by the manufacturer in engine marketing, used to differentiate similar products;

- *Engine #1 Model Year* – The year of manufacture of the diesel engine. Diesel emission control devices are often verified only for specific engine model years;

- *Engine #1 Serial Number* – A unique identification number or alphanumeric code assigned by the engine manufacturer;

- *Engine #1 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 #1 Horsepower* – The rated horsepower of the engine by the engine manufacturer;

- *Engine #1 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, and 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 the SAIP. For equipment that has been removed, the date of removal is recorded, if known;
- 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. It should be noted that this database also includes devices that have been recently verified by CARB and devices recently granted a conditional verification by CARB. Please refer to the Task 8, "Reassessments" Section of this report for a thorough discussion of equipment compatibility with these additional devices.

Figure 1.1-1, below, provides a sample screen of the diesel equipment master database:

Figure 1.1-1: Master Equipment Database Screenshot

Equipment Number	Equipment Category	Engine 1 Manufacturer	Engine 1 Model	Engine 1 Model Year	Engine 1 Serial Number	Engine 1 Horsepower	Engine 1 Family
E00484	Backhoe	Caterpillar	3114 DIT	1995	97Z02126	110	TBD
E01138	Water Truck	Cummins	N14	1997	11842755	410	VCE855EJDARB
E01139	Water Truck	Cummins	N14	1997	11842764	410	VCE855EJDARB
E00337	Dozer	Caterpillar	3306 DIT	1995	08Z82166	179	TBD
E00492	Rubber Tire Loader	Caterpillar	3406	1994	11N12004	296	TBD
E00497	Rubber Tire Loader	Caterpillar	3306	1993	13Z28520	235	TBD
E00137	Scraper	Caterpillar	3208 DIT	1995	98Z08913	187	TBD
E00138	Scraper	Caterpillar	3116	1996	98Z19842	175	TCP6.6RZDBRB
E00139	Scraper	Caterpillar	3116	1995	TBD	187	TBD
E00140	Scraper	Caterpillar	3116	1994	TBD	187	TBD
E00331	Dozer	Caterpillar	3204 DINA	1990	45V88586	64	TBD
E00349	Dozer	Caterpillar	3408	1993	48W45507	401	TBD
E00499	Rubber Tire Loader	Caterpillar	3408	1986	46W36260	458	TBD
E00519	Motor Grader	Caterpillar	3176	2005	3PD16097	260	5CPXL10.3ESK
E00944	RT Crane	Cummins	CT8.3	1990	4442827	TBD	TBD
E01137	Water Truck	DDC	Series 60 11.1L	1999	6R0483664	350	XDDXH11.1EHL
E00647	Compactor	Perkins	3056	2005	CPT17733	TBD	5PKXL06.0VK1
E00648	Compactor	Perkins	3056	2005	CPT20165	TBD	5PKXL06.0VK1
B04018	Flat Bed Dump	Cummins	B5.9-190	1997	56384724	190	VCE359D6DABW
E02485	Forklift	Caterpillar	3054	1997	TBD	75	PK3.9R6DARE
E02486	Forklift	Caterpillar	3054	1997	5HK33816	75	PK3.9R6DARE
E00475	Track Loader	Caterpillar	3406	1982	70V11040	TBD	TBD
E00341	Dozer	Caterpillar	3064	1994	5XK01100	73	TBD
E00343	Dozer	Caterpillar	3406	1995	8YX00873	TBD	TBD
E00639	Compactor	Deutz	BF4L913C	1997	8428525	TBD	TBD
E00640	Compactor	Deutz	BF4L913C	1997	8834191	TBD	TBD
E05317	Lube Truck	Caterpillar	3126	1998	7AS28466	350	WCPXH0442HRK
E05319	Flat Bed Dump	Caterpillar	C10	1999	3CS01366	276	XCPH0629ERK
E05320	Flat Bed Dump	Caterpillar	C10	1999	3CS01344	276	XCPH0629ERK
EWD85	Welder	Cummins	B3.3	2004	68015372	56	3CEXL03.3AAA
E03000	Air Sweeper	Isuzu	4HK1TC	2005	TBD	TBD	5SZXH05.23AB
E03002	Air Sweeper	Cummins	ISB 200	2005	TBD	TBD	5CE10359BAG
E01143	Water Truck	Cummins	N14	1997	11842628	410	VCE855EJDARB
E01144	Water Truck	Cummins	N14	1997	11842760	410	VCE855EJDARB
E03412	Rubber Tire Loader	Caterpillar	3306	1997	6NG00155	362	VCP10.RZDARG
E03413	Rubber Tire Loader	Caterpillar	3306	1997	08Z96401	362	VCP10.RZDARG
E00522	Motor Grader	Caterpillar	3306	1995	08Z94691	150	TBD
E01240	School Bus	DDC	4087-7100	1982	N/A	165	TBD
E01145	Water Truck	Caterpillar	C7	2006	WAX17419	175	TBD
E03001	Air Sweeper	Isuzu	4HK1TC	2005	TBD	56	5KBXL02.0FAD
E03003	Air Sweeper	Cummins	ISB 200	2005	TBD	99	5CE10359BAG

A total of 315 pieces of diesel equipment were assessed and documented in the Equipment Database. To allow quick visual recognition of important information in the database, key elements were color coded. For example, the horizontal shading in the above figure indicates this piece of diesel equipment was actually used in SAIP construction. Light shading and the designation "TBD" highlights missing information; as noted above, in many cases this missing information was subsequently determined using secondary evaluation techniques discussed below in Section 1.2. A complete summary of the Equipment Database is included in Appendix A of this report.

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

Under this Task, the process described in Task 1.1 was applied to each piece of diesel equipment either operating or proposed for operation on the SAIP. The primary objective was

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 the SAIP.

Each piece of diesel equipment proposed for operation on the SAIP underwent an evaluation by LAWA and LAWA contractor staff to determine whether or not a diesel emission control system was compatible with that equipment. This assessment is contained in an Equipment Report retained by LAWA project management staff. A separate report is prepared for each piece of equipment and typically contains the following information:

Equipment Technical Specifications – The report included a technical description of the piece of diesel equipment. This was the primary source of information used in compiling the Third Party Monitor Equipment Database. As previously stated, it was not uncommon for certain data to be missing from the report; the Third Party Monitor endeavored to fill in the missing information to the maximum extent possible.

Assessment of Equipment Compatibility with a Verified Diesel Emission Control System – Each report included a section documenting the diesel equipment's compatibility with verified diesel emission control systems. This assessment was performed for each level of CARB verification:

- Level 1: $\geq$ 25% reduction in particulate matter;
- Level 2: $\geq$ 50% reduction in particulate matter;
- Level 3: $\geq$ 85% reduction in particulate matter.

Each report also included a section documenting compliance with Rules issued by the South Coast Air Quality Management District (AQMD), and a description of equipment maintenance requirements in support of CBA Section X.F.6, Operational Requirements.

Independent Review of Equipment Documentation: The Third Party Monitor reviewed each Equipment Report in an effort to independently verify the information contained therein and validate the report's conclusion relative to applicability of a VDECS system for that piece of equipment. The first order of business in conducting the independent review was to determine if the technical description of each piece of equipment was complete, and if not, request the additional information.

Appendix A, the Equipment Database documents all available information for each piece of diesel equipment. As shown in Appendix A, some data fields have missing information,

designated by “TBD” (to be determined). A database segment is reproduced in Table 1.2-1, below:

Table 1.2-1: Example of Missing Data

Equipment Number	Equipment Category	Equipment Manufacturer	Engine 1 Model	Engine 1 Model Year	Engine 1 Horsepower	Engine 1 Family
E00484	Backhoe	Caterpillar	3114 DIT	1995	TBD	TBD

As shown, the engine horsepower for this Caterpillar backhoe was not included in the Equipment Report provided to the Third Party Monitor. More importantly, the engine family designation was not provided. This is significant, since the compatibility of VDECS systems is most often determined by matching the engine family designation to a list of allowable engines published by CARB. While significant, in most cases missing information, including engine family, did not unduly hamper the ability of the Third Party Monitor to perform an independent assessment.

To resolve the missing information, in this example engine horsepower, the Third Party Monitor researched this equipment and engine on the Caterpillar website. According to the website, the CAT 3114 DIT (direct injection turbocharged) engine used in this model of backhoe has the following specifications:

Engine Model - Cat 3114 DIT

- Gross Power (Caterpillar) 82 kW 110 hp
- SAE J1995 81 kW 109 hp
- Net Power (Caterpillar) 76 kW 102 hp
- SAE J1349 75 kW 101 hp
- ISO 9249 76 kW 102 hp

Thus, it was relatively straightforward for the Independent Third Party Monitor to fill in a substantial amount of data that was missing from the Equipment Reports.

In other cases, data included in the Equipment Reports appeared either inconsistent with that equipment or incorrect. Table 1.2-2 illustrates examples of equipment with inconsistent/incorrect data:

Table 1.2-2: Examples of Inconsistent Data

Equipment ID	Vehicle Type	Issue
E00137	Scraper	Unclear if engine is CAT 3116 or 3208
E00139	Scraper	Specified engine is CAT 3116; Emissions data is for 3208 DIT
E00140	Scraper	Specified engine is CAT 3116; Emissions data is for 3208 DIT
E02486	Forklift	Duplicate entry with E01286
E00341	Dozer	Possible incorrect engine model designation
E05319	Flat Bed Dump	Possible incorrect engine family
E05329	Flat Bed Dump	Possible incorrect engine family
EWD85	Welder	Engine family does not appear to match engine model year
E03002	Air Sweeper	Possible incorrect engine family
E03003	Air Sweeper	Possible incorrect engine family
E02396	Generator Set	Engine model year inconsistent with Engine Family
E01286	Forklift	Duplicate entry with E02486
E03408	Skip Loader	Possible inconsistency between engine model year and family
E03409	Skip Loader	Possible inconsistency between engine model year and family
B20009	Slipform Paver	Same engine serial number as B24106
B24106	Truck Drive-over	Same engine serial number as B20009
B15201	Air Compressor	Duplicate serial number with 15401
E00734	Excavator	Information package is missing from binder in Mitigation Compliance Division's Office
B15401	Reclaimer/Stabilizer	Duplicate serial number with 15201

In the majority of cases in which data were judged to be inconsistent or incorrect, the Third Party Monitor was able to seek clarification and receive corrected data from LAWA project management staff. In many cases, the inconsistent data is "second order", meaning that it makes the vehicle characterization more complete, but is not essential information.

In some cases, however, resolution of inconsistent or incorrect data was deemed essential. For example, it is often critical to obtain correct engine family designations in order to conclusively verify compatibility of the diesel equipment with a VDECS. In cases in which essential data

were deemed inconsistent, the Third Party Monitor requested clarification from LAWA project management staff; in a number of cases clarification or corrected information was provided in a timely manner. In specific cases, the requested data was not available. In these cases, the Third Party Monitor attempted to independently correct the data.

An example of independent data correction is as follows:

Table 1.2-3: Example of Independent Data Correction

Equipment Number	Equipment Category	Equipment Manufacturer	Engine 1 Model	Engine 1 Model Year	Engine 1 Horsepower	Engine 1 Family
E05320	Flat Bed Dump	Freightliner	C10	1999	276	XCPH0629ERK

The engine family designation included in Table 1.2-3 was taken directly from the Equipment Report. Multiple pieces of equipment had this engine family designation recorded. According to the Equipment Report reviewed, this engine family was not found to correspond to an available VDECS device.

However, it is clear upon inspection that this engine family designation is not correct. Model year 1999 on-road Caterpillar diesel engines have 12-digit engine family designations. The designation listed in the above Table is only 11-digits, a strong indicator that the designation is incorrect.

The Third Party Monitor researched 1999 Caterpillar C10 engine families. It strongly appears that the recorded designation, "XCPH0629ERK", should correctly be "XCP(**X**)H0629ERK. This engine family corresponds to a 1999 Caterpillar C10 on-road diesel engine.

Although no VDECS match is recorded in the approved Equipment Report for this piece of equipment, the Third Party Monitor determined that two-(2) Level 3 CARB verified VDECS are compatible with this piece of equipment[5]. The **Cleaire Horizon**[6] diesel particulate filter is approved by CARB for use on this engine family and is verified to reduce particulate matter emissions by greater than 85%.

[5] http://www.arb.ca.gov/diesel/verdev/level3/level3.htm
[6] www.arb.ca.gov/diesel/verdev/level3/eo_de05010_01.pdf

The Best Available Control Technology (BACT) for this vehicle was found to be the **Cleaire Longview**[7] device, which in addition to an 85% particulate matter reduction achieves a 25% reduction in oxides of nitrogen (NO_x) emissions.

In several cases, engine family information was not due to the age of the equipment or equipment records that were lost or otherwise not available. In cases where no engine family information was available, the Third Party Monitor looked to other known information about the equipment, including engine model year, displacement, and horsepower. These "secondary data" were then used to determine if there was a high probability of a VDECS being compatible with the diesel equipment.

In many cases, the secondary data were used to demonstrate that a VDECS was *not* compatible. For example, heavy-duty off-road construction equipment were assessed for their compatibility with the ECS Combifilter, the only Level 3 off-road verified device available at the time when most of the SAIP equipment was submitted to LAWA for review and approval. The ECS Combifilter is compatible with select off-road diesel engines manufactured from model year 1996 through 2004. Thus, equipment with missing engine family designations, but equipped with engines manufactured prior to model year 1996 or after model year 2004, are not compatible as they fall outside the allowable engine years for this device.

Sometimes, other essential information besides engine family was not provided. The Third Party Monitor was successful in specific cases to determine compatibility with a VDECS by assessing the equipment's particulate matter emission factor. CARB often specifies a horsepower range and maximum allowable particulate matter emission factor when verifying a diesel emission control system. The Third Party Monitor was able to determine the particulate matter emission factor for a less-than-fully-specified piece of diesel equipment, and based on this factor, either eliminate the VDECS as a viable option or determine that the device was a possible match.

Thus, with the exception of only a few pieces of diesel equipment, the Third Party Monitor was able to conclusively determine whether or not a compatible VDECS was available. These techniques were also applied during Task 8, "Reassessments of Emission Control Devices", included in this report.

[7] www.arb.ca.gov/diesel/verdev/eode0400402.pdf

Up to this point in the performance of Task 1.2, the Independent Third Party Monitor endeavored to:

1. Identify missing data in the equipment technical description and to "fill in the blanks" to the maximum extent possible for each piece of diesel equipment;
2. Identify and correct data that appeared inconsistent or inaccurate.

These preliminary tasks were the precursor to conducting the main objective of Task 1.2, which was to independently verify and validate LAWA's findings as to whether a verified diesel emission control system is or is not compatible for each piece of diesel equipment proposed for use on the SAIP.

Independent Review of Verified Diesel Emission Control Systems Availability and Compatibility

As stated previously, each Equipment Report reviewed and assessed by the Third Party Monitor included a detailed assessment of the availability and compatibility of Level 1, 2 and 3 VDECS technologies. To determine whether or not a given piece of diesel equipment has a compatible VDECS, the following information is needed:

- Engine manufacturer;
- Engine model year;
- Engine displacement;
- Engine family designation;
- Knowledge of engine configuration;
- Knowledge of equipment duty-cycle.

This information is then compared to the Executive Orders (EO) issued by CARB or the EPA for verified or certified diesel emission control devices. An EO for a VDECS normally consists of two parts; the Executive Order Letter of Verification, which delineates the specific requirements and conditions for device compatibility, and an Attachment, which include the listing of compatible engines, listed as a function of engine manufacturer, model year, displacement, and engine family designation.

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. further 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"*.

These provisions were interpreted to mean that *only CARB-verified devices available at the commencement of SAIP construction activities are to be considered when assessing compliance with CBA Section X.F.1.*

For each piece of diesel equipment proposed for use on the SAIP, the reviewer must first understand the type of equipment proposed, the equipment configuration and duty-cycle, and the specifications of the equipment's engine. The reviewer then reviews EOs for available Level 1, 2, and 3 VDECS to determine if there is a "match".

If a match is found, a secondary evaluation is performed to determine if there are any operational or safety considerations that must be taken into account. "Operational considerations" includes items such as the availability of adequate time, facilities, and/or other logistical accommodations to allow VDECS regeneration. "Safety Considerations" include issues related to driver visibility with an installed device.

Findings of the Independent Third Party Monitor:

The Independent Third Party Monitor reviewed 255 pieces of diesel equipment for which Equipment Reports were provided. An additional 60 pieces did not have an accompanying Equipment Report - these diesel equipment were independently assessed by the Third Party Monitor using the secondary evaluation techniques described above.

In the majority of cases, the Third Party Monitor results agreed with those submitted to and reviewed by LAWA staff. The following paragraphs will address those cases in which the results of the Third Party Monitor were substantially different to those documented by LAWA.

On-Road Water Trucks: Two on-road water trucks were identified by the Third Party Monitor as being compatible with VDECS that were not identified during the LAWA review and approval process. Water truck E001138 (shaded data) operated on the SAIP; the second vehicle

E01139 had been submitted for potential operation on the SAIP but was never deployed on the airfield.

Table 1.2-4: Equipment Identified to be Compatible with On-Road VDECS

Equipment Number	Equipment Category	Equipment Manufacturer	Engine 1 Manufacturer	Engine Model	Engine Model Year	Engine 1 Family
E01138	Water Truck	Ford/Cummins	Cummins	N14	1997	VCE855EJDARB
E01139	Water Truck	Ford/Cummins	Cummins	N14	1997	VCE855EJDARB

These vehicles are designated as "on-road" vehicles, as they are licensed through the California Department of Motor Vehicles and are legal for operation on public roadways. The vehicles shown above appear to be compatible with the following Level 3 CARB-verified VDECS:

Table 1.2-5: Compatible On-Road VDECS

Cleaire Horizon	DPF	85%	N/A	1994-2005 on-road; 15 ppm sulfur diesel; CARB diesel. Conditionally verified for off-road engines.
Cleaire Longview	Lean NOx Catalyst and DPF	85%	25%	1993-2003 model year on-road; 15 ppm sulfur diesel.
Engine Control System Purifilter[8]	DPF	85%	N/A	1994-2003 on-road; 15 ppm sulfur diesel.

Based upon an independent review of the Equipment Reports associated with these vehicles, it appears on-road VDECS were not considered by LAWA a viable option. Only "off-road" verified devices were apparently reviewed by LAWA contractor staff for compatibility. This finding was subsequently confirmed by LAWA.

This difference in assessment results between LAWA and the Third Party Monitor highlights the issue of "on-road vehicles operating in an off-road environment". CARB typically verifies VDECS for either "on-road" or "off-road" applications. "Off-road" verifications require that the VDECS system be demonstrated under a rigorous duty-cycle to simulate the stresses placed on the device in a construction site environment. It is important to reiterate that CBA Section X.F.1 allows technologies verified for on-road engines to be applied to off-road equipment. Thus, there is no prohibition in the CBA from using CARB verified on-road devices in an off-road application.

[8] www.arb.ca.gov/diesel/verdev/ltrs/executiveorderde04002.pdf

The issue of on-road vehicles operating in an off-road environment was posed to CARB staff. The stated position of CARB is that in most cases, it is allowable to use an on-road VDECS in a licensed on-road vehicle, even if the vehicle spends a portion of its operation in an off-road environment. LAWA took a more conservative approach, and granted exemptions to on-road vehicles equipped with engines that were shown to be incompatible with a verified off-road VDECS.

The following cases are similar to the above, that is, on-road vehicles operating in an off-road application for a portion of their duty cycle. As in the case cited above, only off-road verified devices were researched by LAWA to ascertain VDECS compatibility.

Table 1.2-6: Vehicles for which On-Road VDECS are Available

Equipment Number	Equipment Category	Engine Manufacturer	Engine Model	Model Year	Level 3 On-Road VDECS
E01137	Water Truck	DDC	Series 60 11.1L	1999	Cleaire Longview & Horizon
B04018	Flat Bed Dump	Cummins	B5.9-190	1997	Cleaire Longview & Horizon
E05317	Lube Truck	Caterpillar	3126	1998	Cleaire Longview & Horizon
E05319	Flat Bed Dump	Caterpillar	C10	1999	Cleaire Longview & Horizon
E05320	Flat Bed Dump	Caterpillar	C10	1999	Cleaire Longview & Horizon
E03000	Air Sweeper	Isuzu	4HK1TC	2005	Cleaire Horizon
E03002	Air Sweeper	Cummins	ISB 200	2005	Cleaire Horizon
E01143	Water Truck	Cummins	N14	1997	Cleaire Longview & Horizon; ECS Purifilter
E01144	Water Truck	Cummins	N14	1997	Cleaire Longview & Horizon; ECS Purifilter
E03003	Air Sweeper	Cummins	ISB 200	2005	Cleaire Horizon
E02135	Boom Truck	IHC	BH210	1997	International DPX Catalyzed Soot Filter[9]
B06017	Mechanic's Truck	Cummins	ISB185	2000	Cleaire Longview & Horizon

The equipment in the shaded areas of the above Table actually operated on the airfield during SAIP construction. Non-shaded rows indicate that the vehicle was proposed for potential use during construction activities but was ultimately not utilized.

[9] www.arb.ca.gov/diesel/verdev/level3/eode05005.pdf

Another area in which the findings of the Third Party Monitor differed from LAWA was with regard to motor graders. The independent finding of the Third Party Monitor was that these vehicles were compatible with the Level 3 off-road ECS Combifilter VDECS. Subsequent discussions with LAWA construction manager staff revealed that this class of equipment was granted an exemption from the retrofit requirement due to safety concerns. In the opinion of LAWA, driver visibility could potentially be impacted due to the size and proposed location of the VDECS device.

Figure 1.2-1: Caterpillar Motor Grader of the Type Used During SAIP Construction

Motor graders proposed and ultimately used during SAIP construction are listed in Table 1.2-7. The shaded Table rows indicate equipment operated on the SAIP:

Table 1.2-7: Motor Graders Proposed and Utilized During SAIP Construction

Equipment Number	Equipment Category	Engine Manufacturer	Engine Model	Model Year	Engine Horsepower	Compatible with ESC Combifilter
E00514	Motor Grader	Caterpillar	3306	1996	225	YES
E00518	Motor Grader	Caterpillar	3306	2001	225	YES
E00520	Motor Grader	Caterpillar	3306	1996	225	YES
E00521	Motor Grader	Caterpillar	3306	2000	225	YES

One additional piece of off-road construction equipment was found to be compatible with a Level 1 (≥ 25% particulate matter reduction) off-road VDECS, as follows:

Table 1.2-8: Equipment Compatible with Level 1 VDECS

Equipment Number	Equipment Category	Engine Manufacturer	Engine Model	Model Year	Engine Horsepower	Compatible Level 1 VDECS
E03411	Rubber Tire Loader	Caterpillar	3406	2002	270	Donaldson DCM 6000[10]

[10] www.arb.ca.gov/diesel/verdev/ltrs/donaldsonoffroad050203.pdf

It should be noted, however, that the Level 1 device shown in Table 1.2-8 fails to meet the particulate matter reduction standard stipulated in CBA Section X.F.3, "Emission Reduction Standards". This Section states *"Any emission control device used pursuant to Section X.F.1 shall achieve emission reduction no less than what could be achieved by a Level 2 diesel emission control strategy…"* Level 2 verification is a 50% or greater reduction in diesel exhaust particulate matter.

It is noteworthy that the above CBA citation appears to contradict CBA Section X.F.4, which states that the requirement to retrofit equipment with a verified diesel emission control system is inapplicable 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 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".*

In any case, this specific piece of off-road construction equipment was also exempted by LAWA due to safety concerns related to impairment of operator visibility.

Off-Road Diesel Equipment Retrofitted with BACT Devices

At the time of commencement of SAIP construction activities, one (1) diesel emission control device was verified by CARB for off-road use. This device is the Engine Control systems (ECS) Combifilter, an actively regenerated device verified by CARB at Level 3, which equates to a reduction in particulate matter of greater than 85%. The ECS Combifilter Off-Road Level 3 VDECS EO is shown below in Figure 1.2-2.

Figure 1.2-2: Executive Order/Verification Letter & Attachment Listing Compatible Engine Families – ECS Combifilter

State of California
AIR RESOURCES BOARD
EXECUTIVE ORDER DE-04-012

Pursuant to the authority vested in the Air Resources Board (ARB) by Health and Safety Code, Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Section 39515 and 39616 and Executive Order G-02-003;

Relating to Exemptions under Section 27156 of the Vehicle Code, and Verification under Sections 2700 through 2710 of Title 13 of the California Code of Regulations Lubrizol Engine Control Systems (ECS)Unikat Combifilter

ARB has reviewed ECS's request for verification of the Unikat Combifilter (Combifilter). Based on an evaluation of the data provided, and pursuant to the terms and conditions specified below, the Executive Officer of ARB hereby finds that the Combifilter reduces emissions of diesel particulate matter (PM) consistent with a Level 3 device (greater than or equal to 85 percent reductions) (Title 13 California Code of Regulations ("CCR") Sections 2702 (f) and (g) and Section 2708). Accordingly, the Executive Officer determines that the system merits verification and, subject to the terms and conditions specified below, classifies the Combifilter as a Level 3 system for off-road construction, material handling, and cargo handling applications and engine families listed in Attachment 1.

The aforementioned verification is subject to the following terms and conditions:

- The engines are model years 1996 through 2004 having the engine family names listed in Attachment 1;
- The engine must be in their original certified configuration;
- The engine must not have a pre-existing original equipment manufacturer oxidation catalyst;
- The engine must not have a pre-existing diesel particulate filter;
- The engine must be certified in California for off-road applications;
- The engine must be used for construction, material handling, and cargo handling purposes;
- The engine must be certified at a particulate matter emission level equal to or less than 0.43 grams per brake horsepower-hour (0.58 grams per kilowatt-hour);
- The engine must be able to return to regeneration control panel after operating for 8-10 hours;
- The engine does not employ exhaust gas recirculation;
- The engine must be four-stroke;
- The engine can be turbocharged or naturally-aspirated;
- The engine can be mechanically or electronically controlled;
- The engine should be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer;
- Lube oil, or other oil, should not be mixed with the fuel;
- The engine must be operated on diesel fuel (e.g. not biodiesel blends or alternative diesel fuels) with a sulfur content of no more than 500 parts per million by weight.

Each EO/Verification Letter typically includes an Attachment designating compatible engines, an in the following example:

Attachment 1: Combifilter Engine Family List

MY 1996 Manufacturer	**Engine Family**	**Displacement (L)**
Case	TX9505R6DTRA	8.3
Case	TX9505R6DTRB	8.3
Case	TX9505R6DTRC	8.3
Caterpillar	TCP10.RZDBRF	10.5
Caterpillar	TCP10.RZDBRD	10.5
Caterpillar	TCP7.2RZDBRK	7.2
Caterpillar	TCP7.2RZDBRB	7.2
Caterpillar	TCP10.RZDBRB	10.4
Caterpillar	TCP10.RZDBRC	10.4
Caterpillar	TCP12.RZDBRM	12

Twelve pieces of off-road construction equipment were independently determined to be compatible with the ECS Combifilter. The twelve pieces of equipment are listed in Table 1.2-9, below:

Table 1.2-9: Equipment Compatible with Level 3 Off-Road VDECS

Equipment Number	Equipment Category	Engine 1 Manufacturer	Engine Model	Engine Model Year	Engine Horsepower
E00233	Articulated Dump	Volvo	TD122KFE	1997	398
E00234	Articulated Dump	Volvo	TD122KFE	1998	398
E00235	Articulated Dump	Volvo	TD122KFE	1998	398
E00236	Articulated Dump	Volvo	TD122KFE	1999	398
E00237	Articulated Dump	Volvo	TD122KFE	1999	398
E00238	Articulated Dump	Volvo	TBD	TBD	398
E00138	Scraper	Caterpillar	3116	1996	175
E03412	Rubber Tire Loader	Caterpillar	3306	1997	362
E00651	Compactor	Caterpillar	3176	2004	225
E00732	Backhoe/Excavator	Caterpillar	3176	1997	362
E00733	Backhoe/Excavator	Caterpillar	3306	1996	362
E00736	Excavator	Caterpillar	C9	2001	257

However, as described in the ECS Combifilter Executive Order, Figure 1.2-1, above, verification of this device is contingent upon the device undergoing regeneration approximately every eight hours. “Regeneration” is a process in which diesel particulate (soot) is filtered from the exhaust stream and collected in the device. The soot-loaded filter center body is then heated to temperatures necessary to burn the collected particulate into trace amounts of inert ash, thereby renewing or regenerating the filter center body.

For the ECS Combifilter, regeneration entails plugging the device into a control panel and electrically heating the filter, raising the device’s internal temperature to a level where particulate is vaporized:

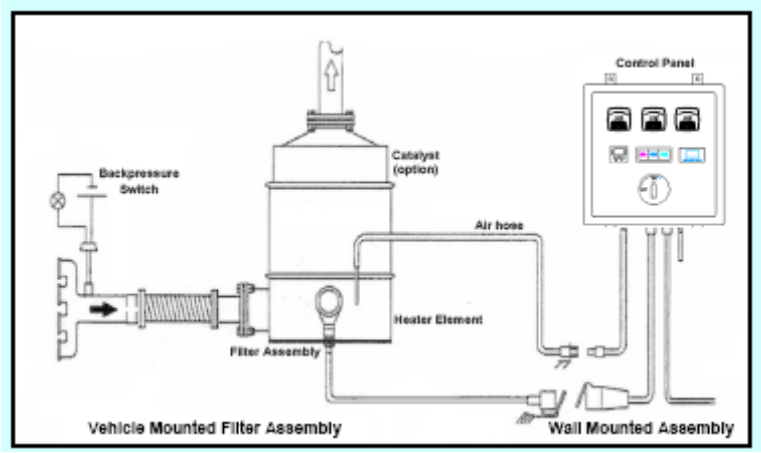


Figure 1.2-3: ECS Combifilter On-Board Regeneration System

The amount of time necessary to allow regeneration for this system is a function of the engine displacement and power rating and the particulate levels emitted. The ECS Combifilter Model "V" and "K" typically require an eight (8) hour regeneration period. The Model "S" system requires approximately 60 to 90 minutes for regeneration.

Due to the construction schedule requirements associated with the SAIP, most notably the requirement to operate two 10-hour daily shifts, LAWA determined that it would be logistically impractical to electrically regenerate a large number of off-road equipment VDECS. Issues of power requirements and an appropriate airfield location further contributed to the decision that use of the Combifilter was impractical on the SAIP.

In lieu of granting exemptions, LAWA required the construction contractor Tutor-Saliba to demonstrate the ECS Purifilter VDECS on the equipment determined to be compatible with the ECS Combifilter. The Purifilter is a passively-regenerated device verified at Level 3 for on-road applications. As previously stated, CBA Section X.F.1 expressly allows on-road VDECS to be used in off-road applications. As this system continuously regenerates, there is no requirement to plug the device into an electrical power source.

The twelve pieces of off-road construction equipment listed in Table 1.2-9 were retrofitted with the ECS Purifilter Level 3 on-road device instead of the ECS Combifilter off-road device. The installed configuration of this device in SAIP construction equipment is shown in Figure 1.2-4, below:

Figure 1.2-4: Examples of Diesel Equipment Retrofitted with ECS Purifilter Device

Additional discussion of the demonstration of on-road ECS Purifilters on equipment operating on the SAIP is included in Task 2, "Demonstration Projects', and Task 6, "Operational Requirements", included in this report. The emission reductions resulting from the use of retrofitted diesel equipment over the entire SAIP construction period was quantified and is included in the Task 3 discussion section of this report.

Airfield Monitoring & Equipment Inventories

Physical equipment inventories were conducted on an approximately bimonthly basis during SAIP construction. Each inventory was conducted using the following procedure:

- CFCI staff records equipment numbers or other designation for equipment operating in construction activity on the SAIP. CFCI also inventoried equipment located in contractor storage, maintenance, and repair areas on the airfield;
- CFCI would compile the list of equipment resulting from the physical inventory. This was then formally documented, recording the date the inventory was completed, etc.;
- The equipment list compiled during inventory was compared to the master database maintained by CFCI. The database was annotated to record equipment that was operating as of the date of inventory;
- Discrepancies between the inventory results and master database were noted; i.e., equipment that was operating on the airfield but not previously recorded in the database;
- The list of discrepancies was reconciled against the equipment files maintained by LAWA project management;
- Equipment operating or located on the airfield that did not have a corresponding file was brought to the attention of LAWA project management. This information was also documented in activity reports submitted by CFCI to LAWA;
- CFCI further discussed the status of the errant diesel equipment with LAWA project management to discern whether the equipment had been granted a 20-day exemption, categorical exemption, of allowed airfield access on a critical need basis;
- The final status of each piece of equipment was documented.

Four (4) pieces of off-road construction equipment compatible with the ECS Combifilter but not retrofitted with this or any other diesel emission control device where identified during the conduct of airfield equipment inventories. The specific pieces of equipment are listed in Table 1.2-10:

Table 1.2-10: Equipment Compatible with ECS Combifilter but Not Retrofitted

Equipment Number	Equipment Owner	Equipment Category	Manufacturer	Model Year
13203	RL Brosamer	Wheel Loader	Linkbelt	2002
B20007	RL Brosamer	Slipform Paver	Gunnert/Zimmermen	1999
15603	RL Brosamer	Air Compressor	LeRoi	1997
17204	RL Brosamer	Generator Set	Caterpillar	1999

CFCI notified LAWA project management of the results of the physical equipment inventory and our findings as it pertained to the equipment listed above. LAWA took the following actions:

- The slipform paver, equipment number B20007, underwent an engine replacement. The original 1999 Caterpillar 3306B engine was replaced with a model year 2005 Caterpillar C9 diesel engine. It was independently verified that the new engine is not compatible with the ECS Combifilter VDECS. Also, the master database was updated to reflect the engine re-power;

- Equipment numbers 13203, 15603, and 17204 were removed from the SAIP. The Third Party Monitor was provided notification of this enforcement action by LAWA Management.

Finally, a subset of undocumented equipment was found residing on the airfield that has a moderate to high potential of being compatible with the ECS Combifilter, as shown in Table 1.2-11 below:

Table 1.2-11 – Undocumented Equipment that May be Compatible with ECS Combifilter

Equipment Number	Equipment Owner	Equipment Category
14-012	RL Brosamer	Wheel Loader
13-610	RL Brosamer	Wheel Loader
E03417	Tutor Saliba	Loader
14-009	RL Brosamer	Loader
E00649	Tutor Saliba	Compactor
E00735	Tutor Saliba	Excavator
14-303	RL Brosamer	Excavator

E03425	Tutor Saliba	Loader
14-006	RL Brosamer	Loader
R307	Pavement Recycling	Compactor
17-106	RL Brosamer	60 KW Genset
EWD92	TBD	Welder
15-611	RL Brosamer	Air Compressor
17-303	RL Brosamer	Caterpillar Genset

It is important to note that a majority of the undocumented equipment was located in contractor storage and maintenance yards on the airfield and not operating on the SAIP per se. The Third Party Monitor was informed that discussions between LAWA project management and the SAIP construction contractors concluded that the contractors were using their SAIP equipment storage and maintenance facilities as holding or staging sites for future LAWA and non-LAWA construction projects.

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.

One Demonstration Project was conducted on the SAIP, the demonstration of the Engine Control Systems (ECS) Purifilter Level 3 on-road VDECS in an off-road construction application. This demonstration was highly successful from the standpoint that:

- The ECS Purifilter was capable of achieving Level 3 particulate matter emissions reductions, i.e., greater than 85% control effectiveness;

- There were no catastrophic device failures during operation;

- The Purifilter demonstrated sufficient robustness for off-road applications;

- The device manufacturer is currently undergoing off-road CARB verification of the ECS Purifilter; thus, this device will be available for off-road equipment retrofit in future LAX Master Plan projects.

There were several "lessons learned" from the SAIP demonstration. ECS, the manufacturer of the Purifilter device, conducted periodic onsite inspections of the devices installed on SAIP

equipment. The Third Party Monitor held teleconferences with representatives of ECS to discuss device maintenance practices implemented by the construction contractor, issues with device operation, and other "lessons learned" from this demonstration project. The following paragraphs summarize the results of the ECS Purifilter demonstration:

- ECS noted that strict LAX security procedures at times limited their ability to conduct regular maintenance inspections of the devices. In the most extreme case, security checkpoint access took in excess of four (4) hours for the onsite ECS representative;

- ECS expressed reservations as to the device maintenance schedule implemented by Tutor-Saliba, owner of the equipment retrofitted with the Purifilter VDECS. ESC records indicate that the devices did not receive cleaning as often as ESC would have expected them to; however, no failures due to lack of maintenance occurred. Devices were replaced, however, due to damage incurred during removal and replacement. The internal silicon carbide structure of the device was shown to be capable of withstanding construction related vibration and shock; however, the devices cannot withstand being dropped, as this fractures the internal structure and constricts exhaust flow through the device. Figure 2-1 shows Volvo articulated dump truck E00246 undergoing diesel particulate filter maintenance. The ECS Purifilter device has been removed and will be replaced with cleaned units:

Figure 2-1: ECS Purifilter VDECS Removed for Maintenance

- ECS indicated that Tutor-Saliba made a unilateral decision to weld the ECS Purifilter devices into the equipment exhaust stack; this proved to be a maintenance issue as the welds suffered recurring cracks. Tutor-Saliba subsequently abandoned this installation method and adopted a stainless steel clamp system for device installation. No additional cracking was observed once the new installation procedure was implemented. All devices were retrofitted with the stainless steel clamps, as shown in the following photo:

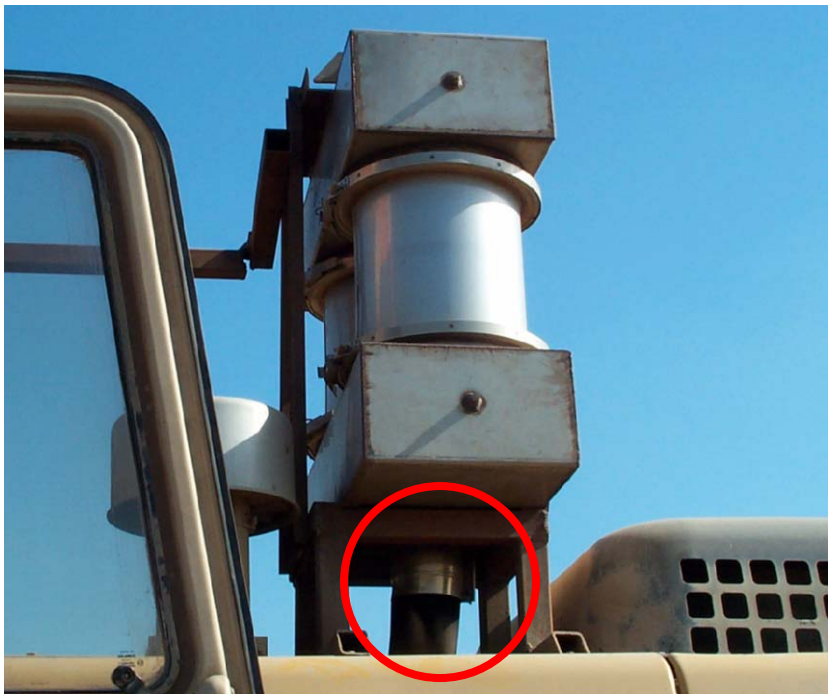


Figure 2-2: Stainless Steel Clamps Replace Welded Exhaust Installation Method

- As preliminarily addressed in the prior Semiannual Report, backpressure monitoring sensors experienced cracking of the copper tubing and softening of the brass fittings due to high heat loads and were subsequently replaced with stainless steel tubing and fittings;

- ECS recommended that the devices undergo cleaning a minimum of every six months or when the back pressure monitoring light indicates a cleaning is required. Based upon observations of the Third Party Monitor, it appears that backpressure monitoring systems were removed from some equipment. This is further discussed in Section 6, Operational Requirements;

- ECS provided device monitoring and data logging systems for the Purifilter which were not installed;

- ECS recorded engine hours of operation for each piece of equipment and intended to use this information to seek CARB verification of the Purifilter for off-road use. ESC made the decision to not use data from this demonstration, as data logging devices were not installed and there where inconsistencies in device monitoring and maintenance procedures;

- ECS believes that the demonstration yielded significant beneficial information, especially as it pertains to the installation procedures, mounting, and required level of robustness for their on-road system operating in an off-road environment.

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[11] 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 CBA 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;

- 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.

The following are the results and findings of the Third Party Monitor as it relates to Tasks 3.1, 3.2 and 3.3:

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

As summarized Task 1, the Third Party Monitor compiled a database inventory of SAIP equipment (Appendix A). This database was continually updated with new information collected

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

from the construction contractor (Tutor-Saliba) or visual inspection by CFCI. As part of this inventory, the Task 1 effort included an equipment-by-equipment review for applicability of approved BACT devices. Specifically, the equipment listed in this master database was compared against all available VDECS, with first priority given to Level 3 diesel emission reductions.

As discussed, Twelve (12) units were determined to be eligible for VDECS retrofit. These units were all equipped with the same VDECS, the Engine Control Systems (ECS) Purifilter. This is an ARB-approved level 3 device[12] providing a minimum 85 percent PM emission reduction per the ARB verification protocol. Further, the U.S. EPA issued a verification[13] letter on November 5, 2003 that confirms that the Purifilter provides the following emission reduction efficiencies:

- 90 percent PM reductions;
- 85 percent ROG reductions;
- 75 percent CO reductions;
- There are no NO_x reductions from this device.

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 to exceed that which is 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[14]. The verification letter available as of February 13, 2007 from CARB's VDECS verification database indicates that the "ARB staff evaluation of the ECS Purifilter, found that "Engine Control Systems was unable to demonstrate the low load Purifilter™ system compliance with the 20 percent NO_2 limit …" The Third Party Monitor contacted CARB staff who indicated that this information is out of date, and that any systems that remain on the website as of early February 2007 do indeed comply with the NO_2 increase

[12] http://www.arb.ca.gov/diesel/verdev/ltrs/executiveorderde04001.pdf or http://www.arb.ca.gov/diesel/verdev/ltrs/executiveorderde04002.pdf
[13] http://enginecontrolsystems.com/pdf/verif_letter-ecs1.pdf
[14] Title 13 CCR section 2706(a)

limit. Thus, the ECS Purifilter used on the SAIP demonstration complies with all CARB Level 3 requirements.

The CARB limits on other air pollutants is stipulated as follows, as excerpted from *http://www.arb.ca.gov/diesel/verdev/proceduredec04.pdf*:

(b) Limits on Other Pollutants.

(1) Limits on non-methane hydrocarbon (NMHC) and NOx. In order for a diesel emission control strategy to be verified, the applicant must comply with one of the following:

(A) The diesel emission control strategy must not increase the emissions of either NMHC or NOx by more than ten percent of the baseline emissions level as reported under section 2708 (a), or

(B) For strategies verified prior to July 1, 2006, the applicant must provide sufficient evidence to demonstrate that the sum of NMHC and NOx emissions with the strategy implemented does not exceed the baseline emission level sum of NMHC and NOx as reported under Section 2708 (a); or

(C) For strategies verified on or after July 1, 2006, the applicant must provide atmospheric modeling data which indicates that widespread use of the strategy will not result in an increase in exposure of the public to ozone. The atmospheric model employed must be approved in advance by the Executive Officer.

(2) Limit on CO.

(A) On-road and Off-road (including portable) Engines. In order for a diesel emission control strategy to be verified, the diesel emission control strategy must not increase the emissions of CO greater than the current CO emission standards for new diesel engines adopted by the Air Resources Board and in effect at the time of verification.

(B) Stationary Engines. In order for a diesel emission control strategy to be verified, the diesel emission control strategy must either:

1. Meet the applicable CO standard for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression-Ignition Engine Standards (title 13, CCR, section 2423). If no standards have been established for an off-road engine of the same model year and maximum rated power as the stationary diesel-fueled CI engine, then the stationary diesel-fueled CI engine shall meet the Tier 1 standard in title 13, CCR, section 2423 for an off-road engine of the same maximum rated power, irrespective of the stationary diesel-fueled CI engine's model; Or

2. Not increase the emissions of CO by more than 10 percent of the baseline emissions level as reported under Section 2708(a).

(3) Limit on Ammonia (NH3). In order for a diesel emission control strategy to be verified, the diesel emission control strategy must not increase the emissions of ammonia to a level greater than 25 parts per million by volume on average over any test cycle used to support emission reduction claims.

(A) Emissions of ammonia are to be quantified with a method subject to approval by the Executive Officer which employs Fourier Transform Infrared (FTIR) spectroscopy. The applicant may request the Executive Officer to approve an alternative method in place of the required method. In reviewing this request, the Executive Officer may consider all relevant information including, but not limited to, consistency with the method required by U.S. EPA and the body of existing data generated using the alternative method.

(B) If an applicant does not expect its diesel emission control strategy to increase emissions of ammonia, the applicant may request that the Executive Officer waive the requirement to conduct testing for ammonia emissions. In reviewing the request, the Executive Officer may consider all relevant information including, but not limited to, the principles of operation of the diesel emission control strategy, the existence of a mechanism for ammonia formation, and published emissions data from similar technologies.

(C) The strategy must be in compliance with applicable federal, state, and local government requirements relating to ammonia emissions, which may be more stringent than the limit presented here.

(4) Other Pollutants. In order for a diesel emission control strategy to be verified, the diesel emission control strategy must not increase the emissions of other pollutants by more than ten percent of the baseline emission level as reported under Section 2708(a).

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

CFCI evaluated the emission reduction benefits of the following efforts implemented at the South Airfield Improvement Project:

- The use of ultra low-sulfur diesel fuel;
- The application of best available control technology (BACT) on eligible SAIP equipment;
- On-site concrete recycling, which eliminated the need to truck the original runway material to the landfill 40 miles away;
- On-site clean soil storage, which eliminates the need to truck excavated soil to a landfill or other disposal site 40 miles away. This practice also eliminates truck trips to transport new landscaping soil to LAX, as this stored soil will be used onsite for a future project;
- The implementation and enforcement of idle limits for both on- and off-road vehicles operating on the SAIP;
- Avoided emissions from prompt repair of malfunctioning equipment (i.e., equipment with visible smoke).

Consideration of Fine Particulate ($PM_{2.5}$)

According to the California Air Resources Board (ARB), 98 percent of the particles emitted from diesel engines are PM_{10} (particles that are less than or equal to 10 microns in diameter) and 94 percent are fine particles (less than 2.5 microns), or $PM_{2.5}$[15]. The product of these is the percent of PM_{10} that is $PM_{2.5}$, or 92 percent. Throughout this report, application of this factor allows estimation of the $PM_{2.5}$ reductions as a percentage of the PM_{10} reductions, i.e., 92 percent of PM_{10} reductions are also $PM_{2.5}$ reductions.

Ultra Low-Sulfur Fuel Use

South Coast Air Quality Management District (AQMD) Rule 431.2 – Sulfur Content of Liquid Fuels requires all diesel fuel sold in the South Coast Air Basin after June 1, 2006 to contain no more than 15 ppm sulfur by weight. As supported by review of fuel purchase receipts as well as analytic derivations performed by CFCI, greater than 422,570 gallons of ULSD were consumed during SAIP construction activities for the period commencing May 2006 through December 2007[16]. According to ARB, the use of ULSD reduces NO_x, PM and HC emissions from diesel engines. Correction factors that were developed for use in the CARB's Carl Moyer Program (CMP)[17] are presented below, and provide an excellent indication of the emission reduction benefits of pre-2007 MY equipment that operates using ULSD.

Table 3-1: (Table B-24 from 2005 Carl Moyer Program Guidelines)
Fuel Correction Factors for On-Road Diesel Engines

Model Year	NO_x	PM_{10}	HC
Pre- 2007	0.93	0.72	0.72
2007+	0.93	0.80	0.72

Table 3-2: (Table B-25 from 2005 Carl Moyer Program Guidelines)
Fuel Correction Factors for Off-Road Diesel Engines

Model Year	NO_x	PM_{10}
Pre-Tier 1	0.930	0.720
Tier 1+	0.948	0.800

[15] "Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant", Appendix III, Part A, Exposure Assessment, as approved by the Scientific Review Panel on April 22, 1998. http://www.arb.ca.gov/toxics/id/summary/diesel_a.pdf

[16] ULSD fuel receipts were not tracked beyond December 2007, since all diesel fuel sold at that time met, and continues to meet, the ULSD specification.

[17] http://www.arb.ca.gov/msprog/moyer/moyer.htm

The above correction factors are simple multipliers. For example, if an on-road diesel engine is known to emit 10 grams of NO_x on a previous diesel fuel formulation, then that same engine would emit 9.3 grams on ULSD. In addition, the AQMD-published control factors[18] for use in its emissions inventory indicate that Rule 431.2 provides a 92 percent reduction in sulfur oxides (SO_x). Table 3-3 summarizes the percent emission reductions that result from the use of ULSD:

Table 3-3: Percent Reduction for ULSD

Model Year	PM_{10}	$PM_{2.5}$	NO_x	HC	SO_x	CO	CO_2
Pre-2007On-Road	28	25.7	7	28	92	n/a	n/a
2007+ On-Road	20	18.4	7	28	92	n/a	n/a
Pre-Tier 1	28	26	7	n/a	92	n/a	n/a
Tier 1+	20	18.4	5.2	n/a	92	n/a	n/a

All $PM_{2.5}$ estimates are based on applying the $PM_{2.5}$ fraction to the known PM_{10} baseline. The $PM_{2.5}$ emissions are a subset of the PM_{10} emissions. "n/a" = Not Applicable.

The construction contractor used ULSD for the entire term of the project, including the month of May, which was one month in advance of regulation enactment. During the month of May 2006, approximately 4,925 gallons of ULSD were purchased for use in SAIP equipment. For all equipment operating during this time, the emissions were reduced by the percent reductions show above in Table 3-3.

Verified Diesel Emission Control System (VDECS) Emissions Benefits

Twelve (12) pieces of equipment used on the SAIP were determined to be eligible and were retrofit with the Engine Control Systems (ECS) Purifilter verified diesel emission control system (VDECS). The total cost of the 12 VDECS, including spare filter sets was $246,767.50. This is an ARB-approved Level 3 device[19] providing a minimum 85 percent PM emission reduction per the ARB verification protocol. Further, the U.S. EPA issued a verification[20] letter on November 5, 2003 that confirms that the Purifilter provides the following emission reduction efficiencies:

[18] http://www.aqmd.gov/aqmp/07aqmp/modified/Appendix_III.pdf (Table 2-1)
[19] http://www.arb.ca.gov/diesel/verdev/ltrs/executiveorderde04001.pdf or http://www.arb.ca.gov/diesel/verdev/ltrs/executiveorderde04002.pdf
[20] http://enginecontrolsystems.com/pdf/verif_letter-ecs1.pdf

- 90 percent PM reductions;
- 85 percent ROG reductions;
- 75 percent CO reductions;
- There are no NO_x reductions from this device.

The estimated emission reductions for this equipment are provided below in Table 3-4. Please note that these reductions are based on available equipment data, and also rely on assumptions that were necessary in cases where requested data were not available. One example is "hours of operation". Instead of using actual hour-meter data from the equipment, CFCI applied the typical work schedule of each unit since project commencement to determine activity (hours of operation).

Table 3-4: Emission Reduction Estimates from VDECS Equipment (total pounds) (From July 28, 2006 through June 30, 2008[21])

Equipment Number	Equipment Category	PM_{10}	$PM_{2.5}$	NO_x	ROG	SO_x	CO	CO_2
E00138	Scraper	72.00	66.24	0.00	40.90	0.00	375.00	0.00
E00233	Articulated Dump	166.25	152.95	0.00	377.70	0.00	1154.48	0.00
E00234	Articulated Dump	166.25	152.95	0.00	377.70	0.00	1154.48	0.00
E00235	Articulated Dump	166.25	152.95	0.00	377.70	0.00	1154.48	0.00
E00236	Articulated Dump	164.84	151.65	0.00	374.50	0.00	1144.69	0.00
E00237	Articulated Dump	164.84	151.65	0.00	374.50	0.00	1144.69	0.00
E00238	Articulated Dump	164.84	151.65	0.00	374.50	0.00	1144.69	0.00
E00651	Compactor	9.96	9.17	0.00	90.55	0.00	140.48	0.00
E00732	Backhoe/ Excavator	59.54	54.78	0.00	608.76	0.00	1516.16	0.00
E00733	Backhoe/ Excavator	293.24	269.78	0.00	333.11	0.00	2036.38	0.00

[21] Not all equipment was operational throughout this time period; some units were removed from service at earlier dates.

E03412	Rubber Tire Loader	96.73	89.00	0.00	164.83	0.00	895.69	0.00
E00736	Excavator	17.03	15.67	0.00	34.79	0.00	160.51	0.00
	Total:	**1,542**	**1,418**	**0.00**	**3,530**	**0.00**	**12,022**	**0.00**

Note: $PM_{2.5}$ is a subset of PM_{10}; these reductions are not intended to be summed.

The emission reductions estimated above in Table 3.4 are compared below to other on-road vehicles to better illustrate the positive benefit of the VDECS retrofits.

Compared to the Pollution from Light-Duty Passenger Cars

- The toxic PM reduced from the 12 retrofitted units is the equivalent of eliminating over 21 million passenger car miles traveled. This is the equivalent of nearly 45 round trips to the moon[22];
- The toxic PM reduced from the 12 retrofitted units is the equivalent of eliminating over 3.7 million average passenger car trips;
- The TOG[23] reduced from the 12 retrofitted units is the equivalent of eliminating over 5.3 million passenger car miles traveled, or almost 1 million average passenger car trips;
- The CO reduced from the 12 retrofitted units is the equivalent of eliminating over 1.7 million passenger car miles traveled, or over 300,000 average passenger car trips.

Compared to the Pollution from Heavy-Duty Trucks

- The toxic PM reduced from the 12 retrofitted units is the equivalent of eliminating over 855,000 heavy-duty truck miles traveled, or over 23,000 average heavy-duty truck trips;
- The TOG reduced from the 12 retrofitted units is the equivalent of eliminating over 1.2 million heavy-duty truck miles traveled, or over 34,000 average heavy-duty truck trips;
- The CO reduced from the 12 retrofitted units is the equivalent of eliminating over 1 million heavy-duty truck miles traveled, or almost 30,000 average heavy-duty truck trips.

[22] The distance between Earth and the Moon is 238,854 miles.
[23] TOG = Total Organic Gases. TOG = RG * 1.1951

The Third Party Monitor submitted a detailed report to LAWA on January 22, 2007 entitled "South Airfield Improvement Project Emission Reduction Estimates and Calculation Methodology". This report has been updated and is provided in Appendix B. A section at the end of Appendix B is called "For Further Consideration". Item 3 of that section, suggested that it might be worthwhile to compare the fleet composition of the SAIP construction fleet to that of ARB's statewide fleet used in their Off- Road emissions inventory model to determine if the Contractor may have assigned newer equipment models to the SAIP, thereby providing additional emission reductions to the project beyond those from the twelve units equipped with VDECS. In our January 8th project review meeting, LAWA directed CFCI to pursue this analysis, the results of which are provided below:

The fleet analysis was conducted for both the master list of equipment submitted by Tutor-Saliba of all potential project equipment, as well as the CFCI list that tracks all equipment actually used on the SAIP (which is a smaller subset of the master list). The analysis compared both of the equipment groups to ARB's Off-Road emissions inventory model's assumptions regarding the average horsepower (hp) and engine model year for all off-road engines above 25 hp.

Preliminary results indicate that the average age of the overall fleet for both the master and SAIP subset fleets is MY 1996, which is also the average MY for the Off-Road model. These results indicate that the Tutor-Saliba fleet generally reflects the average construction equipment fleet statewide, and no effort was likely made, either way, to guide the selection of vehicles for the SAIP based on emissions.

It should be noted that the CFCI database used for this analysis is missing the horsepower for some of the equipment. It would be worthwhile to re-run this analysis should a complete database be achieved for horsepower and model year.

On-Site Material Recycling

The construction contractor set up a concrete crushing/recycling system on-site at the SAIP to facilitate disposal of the old runway material, which was crushed and recycled and used in construction of the new runway. The alternative to this approach would have been to haul the old runway material to a landfill. Emission reductions were estimated by comparing the material-hauling truck emissions to the emissions of the on-site generator used to power the

crushing equipment. The key parameters used to determine the emissions and fuel consumption benefits of the on-site material recycling are summarized below:

- 193,000 cubic yards of material was recycled on-site;
- Each truck that would have been used to haul the material to a landfill holds 12 cubic yards;
- Each round trip to the landfill would have been 80 miles;
- Truck emissions for landfill hauling were calculated based on a 1999 MY heavy heavy-duty truck; emission factors selected from CARB's 2005 CMP Guidelines, Table B-5;
- A 1982 MY, 475 horsepower genset, with CARB's default load factor (CMP Table B-13) and emission factors (CMP Table B-12) was used to power the on-site crushing equipment. Genset emissions were calculated as an offset to the truck trip reduction emissions savings; The on-site crusher operated 10 hours per day, six days per week, for 30 weeks;
- In addition to exhaust PM emissions avoided by not making trips to the landfill, there is also a significant amount of re-entrained road dust (dirt already on a paved road/shoulder that is sent airborne by passing vehicles). The default re-entrained road dust factor is 0.184 grams per mile for a heavy-duty truck on a paved road surface[24].

It is noteworthy that the California Environmental Quality Act (CEQA) provides emission factors for truck loading and dumping. Since the material is moved to the recycling equipment from the old runway location anyway, CFCI believes that there is roughly a similar amount of fugitive dust from the movement of the raw material to the recycler as there would have been had the material been loaded at the site, and later dumped at the landfill. An exception to this is the re-entrained road dust emissions that would have been generated from the 80-mile truck trips. This re-entrained road dust was included in CFCI's assessment of avoided emissions. Table 3-5 provides emission reduction estimates from on-site concrete recycling, as compared to hauling the raw material to a landfill that is located 40 miles away:

[24] "Methods for Determining the Cost-Effectiveness of Air Quality Projects", Table B-1, California Air Resources Board, May 2005.

Table 3-5: Emission Reduction Estimates from On-Site Material Recycling (From September 1, 2006 through March 30, 2007)

Pollutant	Emissions Reduced (pounds)	Emissions Reduced (tons)
Oxides of Nitrogen (NO_x)	41,575	20.79
Reactive Organic Gases (ROG)	571	0.29
Sulfur Oxides (SO_x)	51	0.03
PM_{10} from Exhaust	834	0.42
PM_{10} from Tire Wear	102	0.05
PM_{10} from Brake Wear	80	0.04
$PM_{2.5}$ from Exhaust (92% of the PM_{10} above is $PM_{2.5}$)	767[25]	0.38
Re-Entrained Road Dust	522	0.26

Onsite Soil Stockpiling

LAWA has established an area to store excavated soil that would otherwise be trucked off-site to a landfill or other use. LAWA's intention is to use this clean soil in a future onsite project. To estimate the emissions saved from the truck trips that would have been needed to transport this soil, it was assumed that the soil would otherwise travel to the same landfill discussed above (40 miles each way). The key parameters used to determine the emissions and fuel consumption benefits of the on-site soil storage are summarized below:

- 200,000 cubic yards of soil was stored on-site;
- Each truck that would have been used to haul the soil to a landfill holds 12 cubic yards;
- Each round trip to the soil disposal site would have been 80 miles;
- Truck emissions for landfill hauling were calculated based on a 1999 MY heavy heavy-duty truck; emission factors selected from CARB's 2005 CMP Guidelines, Table B-5;
- In addition to exhaust PM emissions avoided by not making trips to the soil storage site, there is also a significant amount of re-entrained road dust (dirt already on a paved

[25] This value is a subset of Exhaust PM_{10}, and is not intended to be summed.

road/shoulder that is sent airborne by passing vehicles). The default re-entrained road dust factor is 0.184 grams per mile for a heavy-duty truck on a paved road surface[26].

Table 3-6 provides emission reduction estimates from on-site soil storage, as compared to hauling the soil to an off-site disposal site that is located 40 miles away.

Table 3-6: Emission Reduction Estimates from On-Site Soil Storage

Pollutant	Emissions Reduced (pounds)	Emissions Reduced (tons)
Greenhouse Gases (CO_2)	5,581,137	2,790.57
Oxides of Nitrogen (NO_x)	51,675	25.84
Carbon Monoxide (CO)	14,960	7.48
Reactive Organic Gases (ROG)	1,499	0.75
Sulfur Oxides	53	0.03
PM_{10} from Exhaust	1,185	0.59
PM_{10} from Tire Wear	106	0.05
PM_{10} from Brake Wear	83	0.04
$PM_{2.5}$ from Exhaust (92% of the PM_{10} above is $PM_{2.5}$)	1,090	0.54
Re-Entrained Road Dust	541	0.27

Emission Reductions Attributable to Idling Reductions

There are two major equipment categories that were subject to LAWA's idle reduction requirements: (1) "On-road"[27] and off-road diesel construction equipment operating on the airfield, and (2) delivery truck (i.e., dirt hauler, etc.) staging and queuing. Since detailed minute-by-minute operational data are not available for the SAIP, a conservative estimate for the emission reductions and fuel savings is presented below based on the following discussion and assumptions.

[26] "Methods for Determining the Cost-Effectiveness of Air Quality Projects", Table B-1, California Air Resources Board, May 2005.

[27] This is on-road equipment that is operating in the off-road applications at the SAIP.

As background, CFCI field staff did not observe any instances of excessive airfield construction equipment idling, in fact, the equipment is working practically nonstop. The one time period where idle reduction requirements did have a measurable affect on emissions reductions was during lunch breaks. Common practice at other job sites is to leave equipment running during the 30-minute lunch break, but at the SAIP job site, CFCI conducted inspections confirming that equipment on the airfield really was turned off during lunch breaks. As such, CFCI concluded it is a reasonable assumption that a limited number of off-road construction equipment did avoid emissions by turning off their engines during breaks.

Idle reduction emission factors used for this analysis are based on Table B-9 from the 2005 CMP Guidelines for on-road heavy-duty vehicles, and CARB's Technical Support Document for its Proposed Regulation for In-use Off-Road Diesel Vehicles. Specifically, CFCI used the following factors:

- For an assumed 2003 MY on-road truck (operating in on- or off-road applications): CO_2 = 9,140 g/hr; NO_x = 187 g/hr; ROG = 27.24 g/hr and PM_{10} =1.65 g/hr[28]. Gallons per hour consumption assumed[29] to be 1.0;

- Off-Road engines emit 9,960 g/hr CO_2 and consume 0.5 gallons per hour[30].

On-Airfield Equipment Idle Reduction

To estimate the emissions benefit of this idle reduction, CFCI estimated that six pieces of "on-road diesel equipment operating in an off-road environment" were not allowed to idle an additional 30 minutes each workday. This takes into account the water trucks and street sweepers, mechanics' trucks, lube trucks, etc., and equates to three hours of on-road vehicle idle reduction each day, or at 15 hours per week, 525 hours for an average of 35 weeks.

CFCI also estimates that a minimum of 20 pieces of heavy-duty off-road equipment were not allowed to idle an additional 30 minutes each day – this accounts for the articulated dump trucks, dozers, loaders, etc. This equates to ten hours of idle reduction each day, or at 50 hours per week, 1,000 hours for an average of 35 weeks.

[28] 2005 Carl Moyer Program Guidelines, Table B-9.

[29] Known assumption that is also used by ARB in their sleeper truck idle reduction ATCM.

[30] This estimate based on CARB's proposed In-Use Off-Road Diesel Engine Regulation: http://www.arb.ca.gov/regact/2007/ordiesl07/TSD.pdf

Delivery Truck Idle Reduction

Significant idle enforcement also occurred with dirt haulers and delivery trucks. Due to construction requirements and heightened security, long queues of double dirt haulers, dump trucks, etc. existed most days. These vehicles would often form queues greater than a dozen trucks in length – sometimes 20 or more would be lined up. For the purpose of this assessment, CFCI isolated the portion of all delivery trucks that did not get immediate access to the airfield and were required to wait with their engines off. Two values are needed – the average number of trucks staged to the "waiting area" each day and the average time waiting with their engine "off", which would have been "on" if the idle reduction regulation was not enforced. The following assumptions were made for this estimate:

- Average number of truck deliveries each day diverted to holding area: 20
- Average wait in queue: 15 minutes

This equates to 5 hours per day of on-road class 8 truck idle reduction each day, or 25 hours per week. During the 35-week period of primary project activity, this equals 875 on-road truck idling that was avoided.

Summary of Quantified Emission Reductions

Table 3-7 illustrates the complete spectrum of emission reductions attributable to air pollution mitigation strategies used during SAIP construction:

Table 3-7: Quantified Emission Reductions Resulting from SAIP Air Pollution Mitigation

Strategy / Performance Measure (Pounds of Pollution Reduced)	PM_{10}	$PM_{2.5}$[(a)]	CO	CO_2	ROG	NO_x	SO_2
Emission Control Technology							
Diesel Engine Retrofits	1,542	1,418	12,022	N/A	3,530	N/A	N/A
Comments	12 engines were retrofitted with Engine Control Systems Purifilter™ verified diesel emission control system (VDECS) by both CARB and U.S. EPA; these emission reductions were determined based on estimated of hours of equipment operation.						
ULSD Fuel	Since ULSD was required to be used prior to the regulation's effective date, which was June 1, 2006 in Southern California, emission benefits accrued from March 1 through May 31, since non-ULSD fuel would have otherwise been used.						
Operational Requirements							
Engine Idling Restrictions	8.7	8.2	(b)	87,142	148	1,002	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.						
Required Engine Maintenance	405	373	651	0	2,373	1,996	0
Comments	Emissions avoided due to identification and prompt repair of malfunctioning equipment.						
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.						
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	Avoided 128,766 miles & 10,731 car trips.						
Comments	By using a parking shuttle, emissions were avoided from individual cars of about 40-50 employees (the distance was 6 miles roundtrip 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	3,453	1,857	25,656	9,571,650	2,070	93,250	104
Comments	Emissions avoided from recycling used construction material and providing onsite material storage instead of hauling material to a landfill 40 miles away.						
Total (lbs)	**5,409**	**3,656**	**38,329**	**9,658,792**	**8,121**	**96,248**	**104**
Total (tons)	**2.7**	**1.8**	**19.2**	**4,829**	**4.1**	**48.1**	**0.052**

Task 4: Exemptions

Task 1 of the Third Party Monitor Scope of Work focused 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 SAIP. 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 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 six 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. "Time critical" exemptions;

5. "Categorical exemptions" granted to classes of diesel equipment based on LAWA's knowledge that at the commencement of construction activities no off-road VDECS was available compatible with that class of equipment;

6. "On-Road" vehicle exemptions.

Exemptions Granted Due to Unavailability of a Compatible VDECS

The Task 1 Section of this report discusses the process and findings of the Independent Third Party Monitor as they relate to the availability of VDECS for each piece of construction-related equipment proposed for use on the SAIP. The provisions of the CBA have been interpreted to only require VDECS commercially available at the time of commencement of SAIP construction, which limits the off-road verified devices to a single unit, the ECS Combifilter. As the Combifilter was deemed logistically incompatible with SAIP construction activities, equipment determined to be compatible with the Combifilter were instead retrofitted with the on-road verified Purifilter device.

Appendix A of this Report documents the findings of the Third Party Monitor as it relates to compatibility of a verified diesel emission control device with each piece of diesel equipment proposed for use on the SAIP.

Incompatibility Exemptions

Task 1 of this report also documents vehicles granted exemption by LAWA for which a VDECS is available but deemed physically incompatible with the type of equipment. For example, all motor graders were exempted due to safety concerns. Due to the mounting location of the VDECS, it was determined that the device may obscure the equipment operator's field of vision. Equipment granted an exemption by LAWA due to safety concerns is listed in Table 4-1, below:

Table 4-1: Motor Graders Granted Exempt Status

Equipment Number	Equipment Category	Engine Manufacturer	Engine Model	Model Year	Engine Horsepower
E00514	Motor Grader	Caterpillar	3306	1996	225
E00518	Motor Grader	Caterpillar	3306	2001	225
E00520	Motor Grader	Caterpillar	3306	1996	225
E00521	Motor Grader	Caterpillar	3306	2000	225

"20-Day" Exemptions

In accordance with CBA Section X.F.4 (ii), construction-related diesel equipment used on a LAX Master Plan construction site fewer than 20 calendar days per calendar year can be exempted from the requirement to install a best available diesel emission control system. Section X.F.4 further requires that all exemptions granted under this provision be approved by LAWA and reported to the Coalition Representative as they occur.

The following equipment was granted a 20-day exemption by LAWA during SAIP construction – the Table is the actual record recorded by LAWA construction management staff:

Table 4-2: Equipment Operating Under 20-Day Exemption – LAWA Records

EQUIPMENT ID	EQUIPMENT TYPE	MAKE	DATE IN	DATE OUT
TSC	DOUBLE ROLLER COMPACTOR		6/15/2006	7/3/2006
BR-832	DUMP TRUCK O/O	KENWORTH	7/18/2006	OK to stay
	DUMP TRUCK O/O	PETERBILT	8/22/2006	OK to stay
BR-194	LOADER	CAT	8/22/2006	9/8/2006
n/a	DOZER D4G	CAT	9/12/2006	
	EXCAVATOR	LA LONDE	8/20/2006	9/6/2006
	MOTOR GRADER	LA LONDE	8/20/2006	9/6/2006
218031			9/12/2006	
13-101			9/12/2006	
14-409			9/12/2006	
17-110			9/12/2006	
17-745			9/12/2006	
24-104			9/12/2006	
39-201			9/12/2006	
49-010			9/12/2006	
8-101			9/12/2006	
BMU WATER TRUCK	WATER TRUCK		9/12/2006	
CORE CUT	CONCRETE SAW		9/12/2006	
CORE CUT	CONCRETE SAW		9/12/2006	
DEERE 310 SG			9/12/2006	
E00956	LINK BELT CRANE		9/12/2006	
E01146			9/12/2006	
E01147	WATER TRUCK		9/12/2006	
E02310			9/12/2006	
E04437			9/12/2006	
EA 1304			9/12/2006	
n/a	SCREEN	EXTEC S3	9/12/2006	
n/a	SCREEN	EXTEC	9/12/2006	

During onsite equipment inventory inspections, two pieces of equipment were identified by the Third Party Monitor as not having a corresponding Equipment Record. These two vehicle were granted 20-day exemption status by LAWA, as shown in Table 4-3:

Table 4-3: Additional Equipment Granted 20-day Exemption Status

Equipment ID/Type	Date In	Date Out
Concrete Pumping Truck	July 1, 2007	July 13, 2007
Caterpillar D10 Dozer	October 20, 2007	October 31, 2007

"Time Critical" Exemptions

In specific cases, equipment was moved onto the airfield to perform construction operations that were either "unplanned" or deemed "time critical" by LAWA project management. Specific examples include the following:

- Additional equipment was brought onsite for a short period of time, less than 20 days, when a hidden condition was discovered. A section of an older, previous unknown runway was uncovered and its removal was necessary prior to continuation of new runway reconstruction;

- During runway construction, one or more unidentified pieces of equipment suffered mechanical failures that rendered them inoperable. In the ensuing period between equipment repair and return to service, substitute equipment was brought onsite to perform critical construction tasks. The repairs required less than 20 days; following return to service of the primary equipment, the substitute equipment was removed from the SAIP;

- LAWA also approved a concrete pumping truck to enter the SAIP construction site during the week of February 5, 2007. The vehicle is manufactured by Putzmeister and is a specialized concrete truck used in support of related construction on the Sepulveda tunnel . The vehicle was onsite one (1) day.

In the cases cited above, the normal review and approval process was deemed unworkable due to time constraints and an expedited approval was granted by LAWA project management. This was deemed appropriate by LAWA since in no case did the additional equipment operate on the airfield for a period greater than 20 days.

Categorical Exemptions

Similar to on-road vehicle exemptions, LAWA also granted the construction contractors "categorical exemptions" for certain types of off-road construction equipment. Categorical exemptions are specific to those classes of diesel construction equipment that have been repeatedly shown to be incompatible with the ECS Combifilter emission control device. By granting a categorical exemption, LAWA removed the burden on the contractor to document the system incompatibility.

Four classes of off-road equipment received categorical exemptions, as the ESC Combifilter was repeatedly shown to be incompatible with this equipment. These classes of equipment include man-lifts, small "bobcat' type dozers, light towers, small air compressors, welders, generators, and forklifts. Examples are shown below in Figure 4-1.

Light Towers **Gensets** **Air Compressors** **Bobcats**

Figure 4-1: Classes of Diesel Equipment Granted Categorical Exemptions

On-Road Vehicles

As discussed in preceding paragraphs, LAWA made a decision that on-road VDECS were not appropriate for off-road applications, even if the equipment is an on-road vehicle operating in a limited off-road capacity. Thus, LAWA granted a Categorical Exemption to on-road trucks operating on the SAIP. This includes the following vehicles (Table 4-4)

Table 4-4 – On-Road Vehicles were Categorically Exempted

Equipment Number	Equipment Owner	Equipment Category
E01140	Tutor Saliba	Water Truck
E05101	Tutor Saliba	Mechanic's Truck
58-101	RL Brosamer	Sweeper
B06018	RL Brosamer	Lube Truck
4-038	RL Brosamer	Roll-Off
4-019	RL Brosamer	Roll-Off
5-109	RL Brosamer	Water Truck
6-011	RL Brosamer	Mechanic's Truck
2-041	RL Brosamer	Mechanic's Truck
8-101	RL Brosamer	Water Truck
9-103	RL Brosamer	Crane

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.

As discussed in the prior Semiannual Report, the construction prime contractor Tutor-Saliba Corporation originally planned to install a 10,000 gallon ULSD storage tank on the airfield. This plan was ultimately deemed infeasible due to concerns raised by the Airport Fire Department. Therefore, heavy diesel construction equipment was fueled onsite using mobile refueling vehicles. On-road diesel equipment was either fueled onsite using the mobile refueling trucks or refueled offsite at commercial fuel stations.

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. 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.

To independently verify the sulfur content of the diesel fuel used by equipment operating on the SAIP, CFCI requested and obtained fuel purchase records from the contractor and has examined the fuel receipts to ensure that only ULSD was 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 and incorporated as an element of the construction contract[31] amplify and provide additional specificity as it relates to engine idling restrictions and required engine maintenance. Specifically, Section 21-5.4-B of the referenced provisions states 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"*.

With respect to engine maintenance requirements, Section 21-5.5-D states that *"Contractor shall require that all construction equipment be properly maintained in accordance with the manufacturer's specifications and schedules. All maintenance and repair records shall be made available upon request by the Engineer".*

Monitoring, documenting, and reporting of Operational Requirements was conducted in accordance with the following two contract 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;

[31] LAX Runway 25L and Center Taxiway Improvements, Special Provisions Conformed Set, August 23, 2005

- 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 paragraphs describe the results of the independent monitoring of Operational Requirements by the Third Party Monitor.

Vehicle and Equipment Idling

The Environmental Requirements for the Runway 25L and Center Taxiway projects prohibit construction vehicles and equipment from excessive idling in accordance with the restrictions defined in the CARB Vehicle Idling Rule[32]. 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. At the time the law was initially imposed, it only applied to commercial vehicles that are or must be licensed for operation on the highway. CARB has subsequently expanded the idling rule enforcement to off-road vehicles.

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

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

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

- 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 pertained only to "on-road" vehicles during the period of SAIP construction, it is important to note that the language in the Section 21 Environmental Requirements, specifically Section 25-5.4, extended the CARB idling restrictions to off-road vehicles and equipment operating in conjunction with SAIP construction. Thus, LAWA's enforcement of idling restrictions exceeded 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 6-1;

- 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.

Thus, information regarding idling restriction policies and procedures was visible to the vehicle drivers and broadly disseminated by LAWA project management staff to the construction contractor and its subcontractors.

Figure 6-1: Diesel Vehicle Idling Regulations are Posted at Construction Site Entrances

While it is clear that adequate "notice" was provided regarding idling restrictions, the important issue is whether or not excessive idling was curtailed and violations enforced. Two methods were used by the Third Party Monitor in this regard; firstly, documentation of idling violations enforced by LAWA were reviewed bi-monthly; secondly, the Third Party Monitor conducted independent site inspections and literally listened for idling trucks that were not engaged in work activities. This "eyes and ears" approach was performed in cooperation with LAWA project management staff. It was not uncommon to have an idling vehicle identified and within minutes an appropriate LAWA project management representative onsite to instruct the driver to turn off their vehicle. LAWA project personnel then informed the driver as to the idling restrictions imposed on the SAIP.

It is important to state that as the construction activities progressed, the vast majority of drivers and equipment operators did abide by the idling restrictions imposed on the SAIP. Due to the nature of this construction project, however, subcontractors were utilized on a frequent basis, especially in the area of dirt hauling operations. On several occasions, a new double dirt hauler driver was found idling in the staging queue. On these occasions, the driver was asked to turn off their engine. Upon compliance, the driver was informed of the idling restrictions by a LAWA representative. In most cases, the driver was not formally cited and no formal violation was

recorded for a “first offense”. If the driver continued to violate idling restriction, the driver would be formally cited for violating this operational requirement and fined.

No fines were levied for idling violations by LAWA. The preferred practice implemented by LAWA project management was to remedy the infraction immediately upon observation and issue a warning. No documented “repeat offenders” were uncovered by the Third Party Monitor.

It is important to note that the necessity for tight airport security did increase allowable vehicle idling. Vehicles entering the airfield operations area (AOA) were required to form a queue and undergo airport security screening. These vehicles in the primary queue were not required to shut down their engines, as they are moving forward at regular intervals. Upon reaching the security check point, the drivers are required to exit the cab and raise their engine hoods. While the driver’s credentials are being scrutinized, the vehicle is also undergoing a visual inspection. This added inspection created a delay for each vehicle entering the airfield operations area; at times more than a dozen vehicles were in this primary queue. Figure 6-2 shows vehicles idling in queue; Figure 6-3 shows a vehicle undergoing a visual inspection prior to entering the AOA:

Figure 6 -2: Vehicles Queuing Prior to Entering the Airfield Construction Site

Figure 6-3: Vehicles Undergoing Security Inspection Prior to Entering Airfield

Vehicles that were in the staging area, but are not in the primary queue to enter the airfield, were required to turn off their engines. This location is adjacent to the security gate between the main construction trailer parking area and the entrance. Most idling restriction enforcement occurred in this area, where LAWA construction manager staff and the Third Party Monitor checked for vehicles with their engines running.

Airfield side idling of diesel construction equipment is also monitored. On multiple occasions, the Third Party Monitor asked LAWA project management to investigate equipment that appeared to be idling in excess of the ten-minute time limit. In certain cases, the operator claimed the idling was essential to the task at hand; in some cases, maintenance was being performed on the equipment that required the engine to continue running. In another case, the vehicle engine was driving an auxiliary system and thus required the engine to remain running.

The most significant contributor to excessive engine idling, but one that cannot be enforced, is the new South Airfield security checkpoint that began operation in July 2007. This security checkpoint requires vehicles to queue with their engines running. When they reach the checkpoint, the driver must wait for the gate to open, enter the middle “dead man zone”, at which time the gate closes. Vehicle inspections then commence, which can take on the order of

several minutes. When the inspection has been completed, the second gate opens and the vehicle can enter the airfield construction area. Relative to the previous security procedures, which themselves resulted in long vehicle queues, the new airfield access post procedures have added several additional idling minutes for each vehicle accessing the air field.

Equipment Maintenance Records – The Environmental Requirements Section 25-5.5-D 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 requested access to the construction contractor's (Tutor-Saliba) equipment maintenance records at multiple times during SAIP construction. A partial dataset of the information requested was provided.

However, a highly effective method to determine if equipment utilized on the SAIP was being maintained was to conduct onsite visual inspections of equipment in operation. Excessive exhaust smoke is a strong indication the machine is in need of maintenance or more extensive repairs.

As an example, during a routine onsite inspection on October 26, 2006, a piece of equipment was seen emitting higher than normal exhaust smoke. The equipment ID was recorded and the equipment photographed.

Figure 6-4: Caterpillar Loader E00492 Emitting High Levels of Exhaust Soot

Figure 6-4, above, shows the offending equipment in operation. The equipment, a Caterpillar loader with equipment ID E0042 owned by the prime construction contractor, Tutor-Saliba, was subsequently reported to LAWA project management, who in turn contacted Tutor-Saliba with the request that the vehicle be removed from service and repaired. This request was complied with that day.

Figure 6-5 shows the same piece of equipment following engine repair. This vehicle was observed in operation for several minutes under full load operation – no excessive levels of exhaust soot were subsequently observed.

Figure 6-5: Caterpillar Loader E00492 Following Engine Repair – Note Significantly Reduced Levels of Exhaust Soot

A similar case was encountered on January 26, 2007. During an onsite inspection to document maintenance of VDECS devices, a piece of equipment was noticed from a distance to be emitting excessive exhaust soot. Figure 6-6, below, captured the event:

Figure 6-6: Caterpillar D9N – Equipment Number E00349 – January 26, 2007

The photograph in 6 -7, below, shows a closer view of the equipment:

Figure 6 -7: CAT Dozer E00349 – Vehicle Reported as Emitting Excessive Soot

This apparent violation of the equipment maintenance provision was reported to LAWA project management. A follow-up inspection was conducted by the Third Party Monitor and it was determined the equipment had been adequately repaired.

Monitoring and Documentation of Verified Diesel Emission Control Systems

In addition to engine maintenance, the Third Party Monitor conducted independent monitoring of the verified diesel emission control devices installed on SAIP equipment. These devices are documented in Tasks 1 and 3 of this report. The following are findings resulting from the VDECS inspections.

The excavator shown in Figure 6-8, below, was inspected early in the Runway 25L reconstruction phase. As shown in the photograph, the equipment exhaust is retrofitted with an ECS Purifilter diesel emission control device.

Figure 6-8: Caterpillar Excavator E00732 Equipped with ECS Purifilter VDECS

Upon inspection, however, it was readily apparent that the device was not hooked up and had been operating for some period in that condition. This can be seen from the soot residue on the device, shown in Figure 6-9:

Figure 6-9: E00732 Was Found to have VDECS Not Hooked Up

The Third Party Monitor notified LAWA project management, who contacted the equipment owner requesting an explanation as to why the VDECS was not in working order. Apparently, the device had suffered a clamp failure that went unnoticed by the equipment operator. The device was subsequently repaired and put back into service.

Another aspect of onsite VDECS inspections is to ensure the onboard monitoring systems are functional. These systems monitor exhaust backpressure and temperature. Increasing exhaust backpressure is an indication that the device is accumulating soot internally. This is expected after extended periods of operation; the ECS Purifilter typically accumulates sufficient amounts of "white ash" in about six months to necessitate cleaning. Rising backpressure can also be an indication that the device is not properly regenerating.

Excessive soot or ash accumulation restricts the engine's exhaust flow and reduces the engine's operating efficiency. High backpressure also places additional stress on the engine's turbocharger and can result in premature component failure. Thus, monitoring of exhaust backpressure is important to not only ensure the device is regenerating properly, but to also ensure the VDECS isn't damaging the equipment's diesel engine.

Figures 6-10 and 6-11, below, show Caterpillar compactor E00651 equipped with the ECS Purifilter emission control device. This photograph was taken during an inspection on November 20, 2006 conducted specifically to monitor and document the status of each VDECS' sensors and onboard monitoring system.

Figure 6-10: Caterpillar Compactor E00651 Undergoing Third Party Monitor Inspection

Figure 6-11: CAT Compactor E00651 is Equipped with an ESC Purifilter VDECS

Upon inspection, it was immediately noted that the backpressure monitoring sensor was not hooked up. This is shown below in Figure 6-12, below. The Third Party Monitor notified LAWA project management staff, who in turn notified the equipment owner, Tutor-Saliba.

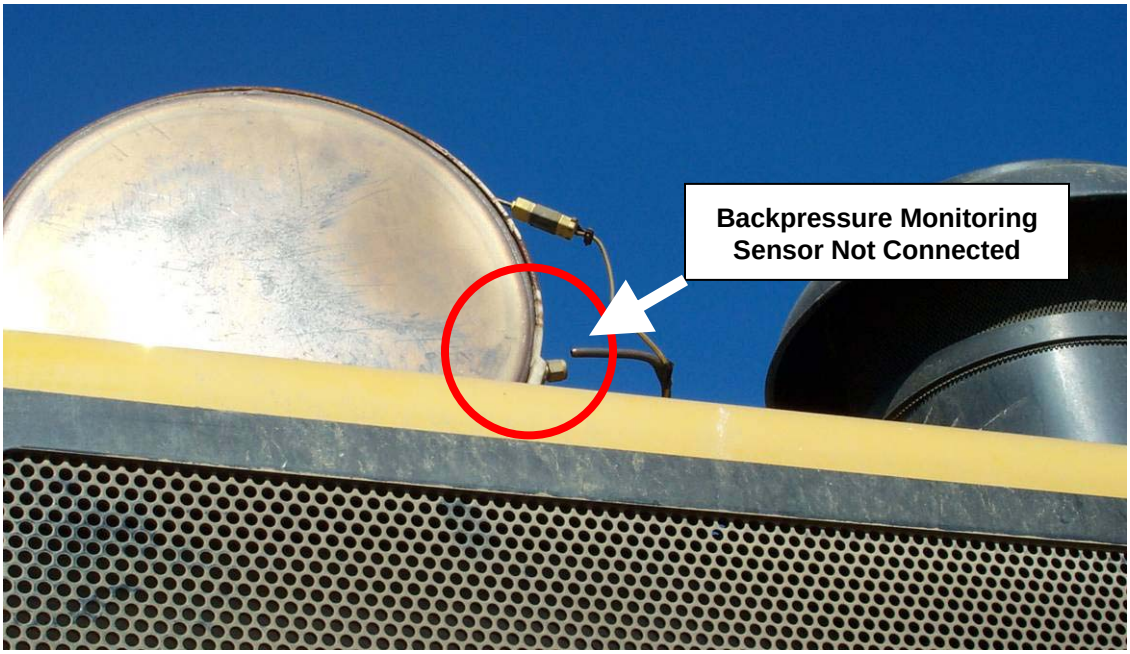


Figure 6-12: CAT E00651 - Backpressure Monitoring Sensor Disconnected

A follow-up inspection was scheduled for exactly one month later to give the construction contract sufficient time to implement repairs. However, during the second inspection conducted on December 20, 2006, it was documented that the repair had not been made. This prompted additional dialog between LAWA project management staff and Tutor-Saliba.

Tutor-Saliba contacted ECS, the device manufacturer, regarding the failure of the backpressure monitoring sensor. Tutor-Saliba met with ECS on January 15, 2007. During the discussion, Tutor-Saliba discussed the possibility of replacing the existing copper backpressure sensor tubing with stainless steel tubing. It appears that the copper tubing is experiencing heat hardening as a result of frequent heating and cooling, leading to eventual cracking and failure. The use of stainless steel fittings on the device in place of the current brass fittings was also discussed, as the brass fittings were softening due to the high heat. ECS agreed to take these issues to their engineering department for consideration. During a third inspection conducted on January 26, 2007, it was documented that the device had been repaired and appeared to be in good working order.

The excavator shown in Figure 6-4, below, was inspected multiple times over the period from July through October 2007. While operating properly, the temperature and backpressure sensors are not installed on this unit. The Third Party Monitor has notified LAWA project management.

Figure 6-4: E00733 Was Found to have VDECS Sensors Not Hooked Up

Figure 6.-13: Caterpillar Excavator with Functioning VDECS

As shown in Figure 6-13, however, the absence of backpressure and temperature sensors does not necessarily indicate the diesel emission control device is not functioning properly. As shown in the above photograph, no visible soot is emitted from the vehicle.

Monitoring and Documentation of Fugitive Dust Emissions

Although not directly associated with CBA Section X.F., the Third Party Monitor was asked to independently monitor the broader scope of environmental requirements specified in the Environmental Requirements contract provisions. This added monitoring does not impose any additional workload per se, as it is conducted while onsite performing Tasks in accordance with CBA Section X.F. The primary method of fugitive dust suppression is by frequent watering of haul roads and loose dirt associated with earth moving operations. The construction haul roads are to be wetted in accordance with Environmental Requirements Section 21-5.2. Water is specified as the preferred wetting agent for haul roads.

During onsite inspections, the Third Party Monitor observed frequent wetting of haul roads. This significantly suppresses dust emission from vehicles and equipment using these roads. Figures

6-14 shows an articulated dump truck on the center taxiway construction haul road that has undergone frequent watering:

Figure 6-14: Haul Roads are Kept Wet to Reduce Fugitive Dust Emissions

Figure 6-15 shows a double dirt hauler on a Runway 25L construction haul road that was kept sufficiently wet to reduce fugitive dust emissions:

Figure 6-15: Vigilant Watering of Haul Roads Reduces Fugitive Dust Emissions

On occasion, however, the third Party Monitor observed visible dust emissions of the level that would trigger a Notice of Violation by the South Coast Air Quality Management District (AQMD). On these occasions, the Third Party Monitor notified LAWA project management, who in turn notified the construction contractor to apply additional water to the soil. Figures 6-16 and 6-17, below, show excessive fugitive dust being generated during a dirt loading operation. Note that it is difficult to see the excess dust in the photograph due to the lighting conditions at the time the picture was taken:

Figure 6-16 Excessive Dust Emissions Created During Loading Operations

Figure 6-17 Excessive Dust Emissions Created During Loading Operations

Areas that are potential sources of fugitive dust other than haul roads were treated with an environmentally-friendly soil stabilizer. The soil stabilizer used on the SAIP is called TerraLOC, which is sprayed on the disturbed soil surface and dries to form a crust. This crust prevents fine soil particles from becoming airborne in windy conditions or if driven on occasionally by vehicles or equipment. Figure 6-18 shows the manufacturer's label for the TerraLOC soil stabilizer. Figure 6-19 shows the onsite inventory at the airfield construction site.

Figure 6-18: Soil Stabilizer is used to Reduce Fugitive Dust Emissions

Figure 6-19: Soil Stabilizer Storage Onsite at LAX

Task 7: Enforcement by LAWA

Task 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". CFCI requested and received from LAWA staff information on enforcement actions initiated by LAWA. In addition, apparent violations of the CBA and Section 21 Environmental Requirements were identified by CFCI and referred to LAWA for further investigation and enforcement as warranted.

One (1) enforcement action was taken by the South Coast AQMD during SAIP construction. This enforcement action took place on January 31, 2007. The South Coast AQMD cited Tutor-Saliba Corporation, SAIP prime construction contractor, under AQMD Rule 403, "Fugitive Dust". The construction contractor had not properly maintained the construction site entrance/exit, and allowed excess dirt to accumulate on the road surface at the exit onto World Way West. Under AQMD Rule 403, "track out" is defined as "any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions". The Notice of Violation (NOV) issued by the South Coast AQMD is shown in Figure 7-1, below:

Notice Number	**P45937**	Violation Date	**1/31/2007**	Issue Date	**1/31/2007**	Notice Type	**NOV**

Facility ID	104913
Company Name	TUTOR-SALIBA CORPORATION
Address	7800 WORLD WAY WEST LOS ANGELES, CA 90045
Violation Description	ALLOWING TRACK OUT TO EXTEND GREATER THAN 25 FT. FROM AN ACTIVE OPERATION LOCATED AT 7800 WORLD WAY IN L.A.
Equipment Description	
Follow Up Status	In Compliance
Disposition	
Disposition Date	

Rule No.	Rule Description
403	Fugitive Dust

Figure 7-1: Notice of Violation by the South Coast AQMD against Tutor-Saliba Corporation

According to the South Coast AQMD, follow-up visitations by AQMD Inspectors determined that the construction contractor was in compliance with the provisions of Rule 403. Subsequent to this NOV, Tutor-Saliba paved the construction site lot and entrance and exit roads; this significantly reduced the amount of track out onto World Way West.

Table 7-1 lists enforcement actions taken over the period of SAIP construction along with each action's resolution:

Table 7-1: Community Benefits Agreement Enforcement Actions Taken by LAWA

DATE	COMPANY	ISSUE
05/11/06	R&L Brosamer	R&L Brosamer brought an unauthorized loader onto the AOA. This piece of equipment had not gone through the mandatory review process to ascertain whether or not it was a candidate for installation of a Verified Diesel Emission Control System (VDECS) device. R&L Brosamer removed this piece of equipment and replaced it with a new Volvo loader.
05/12/06	Tutor-Saliba	Tutor-Saliba was notified that seven (7) pieces of construction equipment proposed for use on the SAIP required installation of a Level 3 off-road VDECS device. In lieu of retrofitting the proposed equipment, Tutor-Saliba elected to substitute Volvo articulated dump trucks; two (2) of these vehicles were subsequently retrofitted with the Engine Control Systems (ECS) Level 3 Purifilter VDECS device. This device is verified for on-road vehicles and is being demonstrated in an off-road application.
05/12/06	R&L Brosamer	R&L Brosamer was notified that eight (8) pieces of diesel equipment proposed for use on the SAIP required installation of a VDECS. R&L Brosamer elected to withdraw this equipment.
05/26/06	Tutor-Saliba	Tutor Saliba was notified that eleven (11) pieces of diesel construction equipment were compatible with the Engine Control Systems (ECS) Level 3 Combifilter VDECS. Due to logistics issues, LAWA authorized the installation of the ECS Level 3 Purifilter; this is an on-road VDECS system being demonstrated in an off-road application. The vehicles included: two (2) backhoe excavators; four (4) articulated dump trucks, one (1) compactor; two (2) motor graders; one (1) rubber tire loader; and one (1) Caterpillar scraper.
06/15/06	Tutor-Saliba	Tutor-Saliba was notified that the deadline for retrofitting vehicles proposed for use on the SAIP had been reached. Tutor-Saliba removed these vehicles for retrofit with a VDECS system.
06/15/06	Pavement Recycling Systems	Pavement Recycling Systems (PRS) was notified that Lime Slaker 3026 required a VDECS; in lieu of retrofitting this vehicle, PRS performed an engine swap from vehicle number 3027 into 3026. An exempt engine was subsequently installed into vehicle number 3027.
06/30/06	Tutor-Saliba	Tutor-Saliba was notified on May 26th that excavator E00732 required a VDECS installed. This piece of equipment was removed from the SAIP and retrofitted with an ECS Level 3 Purifilter system as of June 30th.
07/18/06	Independent Owner-Operator	An unauthorized subcontracted dump truck was found working on the SAIP. In lieu of removal, the vehicle was granted a 20-day exemption.

08/02/06	Tutor-Saliba	Tutor-Saliba was notified on May 26th that excavator E00736 required a VDECS installed. This piece of equipment was removed from the SAIP and retrofitted with an ECS Level 3 Purifilter system as of August 2nd.
08/29/06	Public Complaint	Excessive noise reported at 6:30 am. Complaint deemed valid as noise abatement protocol is to not conduct breaking operations prior to 7:00 am on weekdays.
08/30/06	Public Complaint	Same report w/in 12 hr period.
09/06/06		Violation of traffic "blackout" period resulted in a monetary fine.
09/19/06	La Londe	Two (2) pieces of diesel off-road construction equipment completed their 20-day exemption period. This included one (1) motor grader and one (1) excavator. The contractor did not seek any further exemptions; thus, this equipment was removed from the SAIP and is not eligible to be utilized on the SAIP for the balance of a one year period.
09/25/06	Tutor-Saliba	CFCI staff notified LAWA project management that an excavator equipped with a level 3 ECS Purifilter had experience a failure of the exhaust pipe that connects to the VDECS. Tutor-Saliba was notified that the vehicle required repair on September 25th.
09/25/06	Tutor-Saliba	A Komatsu 1100LC excavator was observed omitting excessive black smoke. Tutor-Saliba was notified and the vehicle was removed from service for approximately one week during which time the engine underwent maintenance. The vehicle has subsequently been returned to service and observed by LAWA staff during operation. The vehicle no longer emits visible smoke.
09/28/06	Tutor-Saliba	The excavator cited for repair to its VDECS was repaired and returned to operational status as of September 28th.
10/03/06	Tutor-Saliba	Three (3) pieces of diesel equipment were removed from the SAIP at the expiration of their 20-day exemption. This includes one Caterpillar DG4 dozer (small dozer); one skip loader, and one backhoe.
10/16/06		Dust complaint by Swiss Port cargo. It was determined that a saw cutting machine had a leaking vacuum bag house. This was corrected by repairing the vacuum system.
10/25/06		Loader E00492 was observed emitting excessive smoke. This loader was repaired, but was undergoing additional maintenance as of November 10th.
11/01/06		Complaint lodged regarding aggregate trucks dropping gravel in the Pershing Drive bicycle lane. A street sweeper was deployed to clean up the gravel.
11/07/06		China Air complained of dirt apparently resulting from vehicle track-out. "Track out" occurs when dirt stuck in the tires of a vehicle is deposited on the road surface when the vehicle transitions from the construction site to the paved surface. Most of the dirt usually falls off within the first several hundred feet. The track out dirt was mitigated with more frequent street sweeping.
11/08/06	Public Complaint	An anonymous caller to the South Coast Air Quality Management District (AQMD) called regarding excessive dust from the rock crusher stock pile. The AQMD did not make an onsite inspection, but did call a LAWA environmental engineer. A follow up investigation was conducted by LAWA project management.

12/05/06	Public Complaint	Trucks were attempting deliveries during the 7:00 am and 9:00 am no-delivery period. Prior warnings were issued. No additional calls were placed to the Complaint Hotline.
12/06/06	Public Complaint	Trucks were attempting deliveries during the 7:00 am and 9:00 am no-delivery period. Prior warnings were issued. No additional calls were placed to the Complaint Hotline
01/11/07	Public Complaint	Noise Complaint – A member of the public complained of loud music emanating from the airfield. The origin point of the noise was the private jet fixed base operation and not SAIP construction activity.
01/12/07	Public Complaint	Noise Complaint – A member of the public complained of vehicle "backup beeper" noise between the hours of midnight and 5:00 am. These vehicles were found to be operating at a cargo terminal and were not related to SAIP construction.
01/31/07	Tutor-Saliba	The South Coast Air Quality Management District issued a Notice of Violation under AQMD Rule 403, "Fugitive Dust", on January 31, 2007. The contractor was found to have allowed an accumulation of dirt from construction vehicles to accumulate on World Way West. Contractor failed to remove dirt using street sweeping. Follow up inspections determined that contactor was in compliance with Rule 403.
07/10/07	Independent Trucking Company	An unidentified independent trucking company was cited by LAWA for violating the 7:00 am – 9:00 am delivery blackout period. This company had received a previous warning regarding allowable delivery times. LAWA levied a fine in the amount of $1,000.
07/13/07	Tutor-Saliba	Tutor-Saliba was notified of excess dust emissions emanating from the construction vehicle queuing area. A water truck was dispatched to suppress the excess dust emissions. No fine was levied.
09/24/07	Tutor-Saliba	The Third Party Monitor informed LAWA project management of excessive dust emissions. Tutor-Saliba was then notified by LAWA project management of the excessive dust emissions on the center taxiway haul road. A water truck was dispatched to suppress the excess dust emissions. No additional formal action was taken or fine levied.
10/5/07	Tutor-Saliba	LAWA received complaints from community residents of excessive dust emanating from the construction site. The construction site was experiencing higher than normal wind velocities. Tutor-Saliba was notified of the dust complaints and dispatched one (1) water truck to suppress the dust.
10/5/07	Tutor-Saliba	LAWA received a second dust complaint from a member of the community. LAWA informed Tutor-Saliba of the complaint. One (1) water truck was dispatched by Tutor-Saliba to suppress the excessive dust emissions. LAWA deemed this response inadequate and notified Tutor-Saliba that additional water suppression was needed. No additional enforcement action

		was taken by LAWA.
10/8/07	Tutor-Saliba	LAWA Project Management notified the construction contractor that a piece of construction equipment operating on the SAIP was emitting visible smoke. The equipment number for this vehicle is TBD. The contractor was told to repair the equipment or remove if from the SAIP. The vehicle was subsequently repaired and returned to service. A follow up inspection by LAWA determined that the piece of equipment was emitting less smoke; however, that additional observations were warranted to ensure the equipment had been adequately repaired.
10/15/07	Tutor-Saliba	LAWA project management observed a Caterpillar D10 bulldozer operating on the SAIP; it was determined that this equipment had not submitted documentation seeking a BACT exemption. It was determined by LAWA that the equipment would be granted a 20-day exemption. No fine was levied.
10/26/07	Tutor-Saliba	LAWA Project Management, on behalf of the Third Party Monitor, notified contractor of excessive dust emissions emanating from construction operations. A front loader was loading loose soil into a dump truck, creating dust emissions. A water truck was dispatched to suppress the dust – no further action was taken by LAWA and no fine was levied.

As discussed in Task 6, above, vehicle idling violations were the most common, and pervasive, violation of CBA and LAWA Environmental Requirements. This was primarily attributable to drivers who did not frequent the SAIP on a regular basis and were unfamiliar with the idling rules. Completion of major construction on Runway 25L resulted in fewer trucks accessing the airfield, with a commensurate reduction in vehicle idling violations.

Noise complaints received from the public were minimal and significantly lower than originally anticipated. In discussing this with LAWA project management, it appears that the reduction in aircraft takeoff noise by shutting down Runway 25L substantially offset the additional noise generated during concrete breaking, at least from the perspective of the adjacent communities. Following completion of Runway 25L relocation, major construction activities moved further away from Imperial Highway and borderline with the City of El Segundo, further mitigating perceived construction noise. It was noted that due to construction schedule requirements, some taxiway concrete breaking activities were initiated as early as 2:00 am; however, no noise complaints were lodged. Also, at the public meeting held on October 25, 2007, the only noise issues raised by community members were related to aircraft departures. No issues or objections regarding SAIP construction activities were raised.

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.

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 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 the EPA…"*

Table 8-1 lists the diesel emission control devices currently verified by CARB. "PLUS Systems" (+) indicate 2009 $N0_2$ compliance, as discussed under the Task 3 Section of this Report.

Table 8-1: CARB Verified Diesel Emission Control Systems

PM Level	Product Name	PLUS	Technology Type	PM Reduction	NOx Reduction	Applicability
LEVEL 3	Caterpillar		DPF	85%	N/A	Conditionally verified for 1996-2008 model years; off-road, rubber tired; CARB diesel; biodiesel.*
	Cleaire Horizon	+	DPF	85%	N/A	Most on-road diesel engines through 2006 model year; Certain MY 2006 and 1993 or older engines with OEM diesel oxidation catalysts; CARB diesel; biodiesel.* Conditionally verified for off-road engines.
	Cleaire Longview		Lean NOx Catalyst and DPF	85%	25%	1993-2003 model year on-road; CARB diesel; biodiesel.* .
	CleanAIR Systems PERMIT	+	DPF	85%	N/A	Stationary emergency and prime generators; CARB diesel; biodiesel.*.
	DCL International Inc.		DPF	85%	N/A	Conditionally verified for 1996-2008 model year, rubber tired off-road; CARB diesel; biodiesel.*

	DCL International Inc.	+	DPF	85%	N/A	Stationary prime and emergency standby generators; Tier 1, 2, or 3 off-road engines certified to ≤ 0.15 g/bhp-hr PM; CARB diesel; biodiesel.*
	Donaldson DPM		DPF	85%	N/A.	1993-2006 on-road; CARB diesel; biodiesel.*
	EGR Technologies LLC/CleanAIR Systems		EGR/DPF	85%	50%	Conditional verification for stationary prime and emergency standby generator sets and pumps ≤ 600 hp and ≤ 0.4 g/bhp-hr PM. Biodiesel.*
	Engine Control System Purifilter (Low Load)	+	DPF	85%	N/A	1994-2004 on-road;CARB diesel; biodiesel.*
	Engine Control System Purifilter (High Load)	+	DPF	85%	N/A	1993-2006 CA certified engines; Specific 1994-2006 Federally certified engines; on-road; CARB diesel; biodiesel.*
	Engine Control System Combifilter	+	DPF	85%	N/A	2007 or older off-road; CARB diesel; biodiesel.*
	HUSS Umwelttechnik FS-MK	+	DPF	85%	N/A	Most on-road diesel engines through 2006 MY and most off-road through 2008 MY; CARB diesel; biodiesel. *
	International Truck and Engine Corporation DPX		DPF	85%	N/A.	1994-2003 on-road Navistar (International); CARB diesel; biodiesel.*
	Johnson Matthey CRT		DPF	85%	N/A.	Stationary emergency and prime generators. Conditionally verified for stationary pumps. CARB diesel; biodiesel.*
	Johnson Matthey Reformulated CRT		DPF	85%	N/A.	1994 - 2006 on-road; CARB diesel; biodiesel.*
	Johnson Matthey EGRT	+	EGR/DPF	85%	40%	2000 International DT-466, 2000 Cummins ISM 2001 Cummins ISB, 1998-2002 Cummins ISC, 2001 Cummins ISL, 2001 MY DDC - 50, and 2001 DDC - 60. on-road; CARB diesel.
	MIRATECH Corporation combiKat	+	DPF	85%	N/A	Stationary emergency and prime generators with a PM emission rate of 0.2 g/bhp-hr or less.
	Rypos, Inc. HDPF/C™	+	Hybrid DPF	85%	N/A	1996-2007 stationary emergency standby generators and pumps with a PM emission rate of 0.2 g/bhp-hr or less and certified to Tier 1, Tier 2, or Tier 3 off-road diesel engine standards; CARB diesel; biodiesel.*
	Süd-Chemie Inc EnviCat-DPF™	+	DPF	85%	N/A	Stationary prime and emergency standby generators and pumps; CARB diesel; biodiesel.*
	Thermo King eDPF	+	DPF	85%	N/A	2006-2008 Thermo King auxiliary

						power units; CARB diesel.
LEVEL 2	Donaldson	+	Flow Through Filter	50%	N/A	1991-2002 on-road; CARB diesel; biodiesel.*
	Engine Control System AZ Purimuffler/Purifier	+	DOC + Alt Fuel	50%	20%	1996-2002 off-road; PuriNOx
	Environmental Solutions Worldwide Particulate Reactor™		DOC	50%	N/A	Select model years 1991-1997. Biodiesel.*
	Lubrizol PuriNOx	+	Emulsified Fuel	50%	15%	1988-2003 on-road.
	Proventia FTF ™	+	FTF	50%	N/A	Most Thermo King trailer TRUs using 1985 through 2002 model year engines; CARB diesel; biodiesel.*
	Rypos ADPF	+	DPF	50%	N/A	1996-2006 stationary engines; CARB diesel.
	Thermo King PDPF™	+	FTF	50%	N/A	1985-2002 transport refrigeration unit engines; 15 ppm sulfur diesel.
LEVEL 1	Donaldson DCM 6000	+	DOC	25%	N/A	1988-1990 on-road; CARB diesel; biodiesel.*
	Donaldson 6000 + Spiracle	+	DOC + crankcase filter	25%	N/A	1988-2002 on-road; CARB diesel; biodiesel.*
	Donaldson DCM 6100 + Spiracle	+	DOC + crankcase filter	25%	N/A	1991-2002; CARB diesel; biodiesel.*
	Donaldson DCM 6100	+	DOC	25%	N/A	1994-2002; CARB diesel; biodiesel.*
	Donaldson 6000 + Spiracle (off-road)	+	DOC + crankcase filter	25%	N/A	Off-road port equipment; CARB diesel; biodiesel.*
	Engine Control System AZ Purifier & Purifmuffler	+	DOC	25%	N/A	1991-2003 Cummins and Navistar on-road; 1973-1993 DDC 2 stroke; 1991-2002 HHD certain model Cummins and DDC; CARB diesel; biodiesel.*
	Engine Control System AZ Purifier & Purifmuffler	+	DOC	25%	N/A	1996-2002 off-road; CARB diesel; biodiesel.*
	Extengine	+	DOC + SCR	25%	80%	1991-1995 Cummins 5.9 liter off-road; CARB diesel.
	Paceco Corporation		DPF	25%	N/A	Pre-1996 model year or Tier 1, 2, or 3 certified off-road diesel engines on rubber-tired gantry cranes; biodiesel. *
	Vycon REGEN System	+	Energy Storage System	25%	30%	Pre-1996 model year or Tier 1, 2, or 3 certified off-road diesel engines on rubber-tired gantry cranes; biodiesel. *

Since the start of construction activities on the South Airfield Improvement Program, significant activity has occurred in the field of diesel emission controls. In the time since equipment reports were originally submitted for LAWA review and approval, one new diesel emission control system has earned CARB Level 3 verification for both on and off-road diesel vehicles and equipment, and one system has earned Level 3 on-road verification and conditional off-road verification. These devices have significant levels of compatibility with both on and off-road diesel equipment operating on the SAIP.

Compatibility of the HUSS MK with Equipment Operating on the SAIP

The HUSS Umwelttechnik FS-MK diesel particulate filter[33] is a Level 3 diesel emission control system verified for use with all on-road and off-road diesel engines through the 2006 model year, except those equipped with either diesel oxidation catalysts or exhaust gas recirculation systems. The FS-MK series of filters use a silicon carbide wall-flow filter with a fuel burner for regeneration to achieve a greater than 85 percent reduction in particulate matter emissions. The specific conditions for which the FS-MK has been approved is included in the two (2) Executive Orders issued by CARB for on-road and off-road engines, respectively. This system was verified on November 13, 2006. The following are links to the CARB Executive Orders:

- On-Road Engine Executive Order: www.arb.ca.gov/diesel/verdev/level3/eo_de06006.pdf;
- Off-Road Engine Executive Order: www.arb.ca.gov/diesel/verdev/level3/eo_de06007.pdf.

CARB typically publishes a list of engine families that are compatible with a VDECS device. The compatibility of this system to both on-road and off-road diesel engines is so broad that for the HUSS system, CARB instead published a list of engine families that are *excluded* from using this device.

The HUSS MK-System diesel exhaust particulate filter is equipped with a "fuel burner" regeneration system. The device is constructed of a stainless steel cylindrical shock-proof casing enclosing the silicon carbide monolith particulate filter. During engine operation, the exhaust gases are fed through the filter medium. There, more than 99% of particulate matter (based on particle mass) is retained in the filter core.

[33] www.huss-umwelt.com/en/index.html

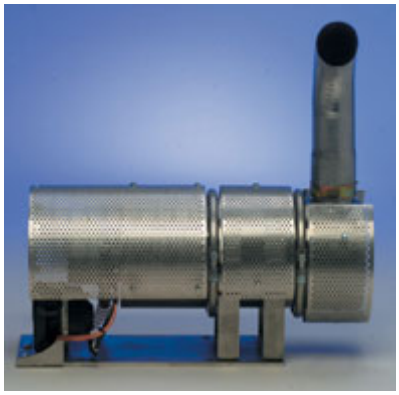


Figure 8-1: HUSS MK-System Level 3 Diesel Particulate Filter

Over a period of several hours of engine operation, particulate matter accumulates inside the filter housing. As the filter becomes loaded with particulate, the exhaust back pressure increases. If allowed to continue, the increasing exhaust back pressure would negatively impact the efficient operation of the diesel engine. Therefore, the trapped particulate must be regenerated. The HUSS MK particulate filter is regenerated by means of the fuel burner. The oxygen required is supplied via an integral blower. A small quantity of diesel fuel from the vehicle's fuel tank, typically on the order of 0.02 to 0.2 gallon, is used as the fuel for the regeneration system. The ensuing combustion vaporizes diesel soot particles, converting the toxic air contaminant into carbon monoxide (CO)[34], carbon dioxide (CO_2) and water vapor.

The regeneration process typically requires approximately 20 to 30 minutes, at which time the particulate filter is free from accumulated soot and ready for continued operation. Monitoring of exhaust system backpressure is performed using a graphic display mounted in the equipment cab and visible to the equipment operator. As the VDECS accumulates trapped particulate, the graphic display indicates when regeneration will be required. Regeneration is then initiated by pressing a button located in the operator cab. Activation of the regeneration system requires the equipment to be turned off, although the operator may remain inside the equipment cab.

[34] CARB verification ensures that the increase in CO does not exceed engine CO emission standards.

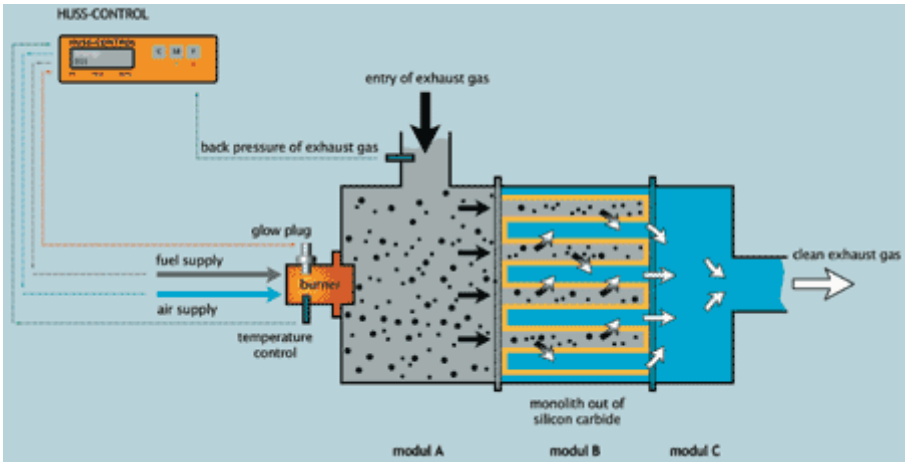


Figure 8-2: HUSS MK-System Schematic

The operational requirements and conditions, as well as specific engine exclusions, were compared to each piece of diesel equipment contained in the most current Third Party Monitor vehicle inventory. As anticipated, this device has extensive applicability and compatibility with the types of diesel equipment used on the SAIP. Table 8-1 compares the ECS Combifilter and HUSS MK-System as it relates to compatibility with equipment currently operating on the SAIP:

Of the diesel equipment assessed, the HUSS MK-System is compatible with the majority of the equipment, with the exception of model year 2006 or newer on-road diesel trucks. Also, it is indeterminate if smaller, stationary diesel equipment such as light towers and air compressors is compatible with the HUSS System.

Compatibility of the Cleaire Horizon™ Off-Road System with Equipment Operating on the SAIP

The model year 2006 on-road vehicles are compatible, however, with the Level 3 verified Cleaire Horizon diesel emission control system.

The Cleaire Horizon™ is designed to provide diesel particulate (PM) reductions for in-use diesel engines in challenging applications and duty cycles associated with off-road use. This device incorporates an active on-board regeneration system that uses electricity, through an integrated heating element, to “cook off” the captured diesel particulate while the vehicle or equipment is parked overnight. The Horizon utilizes a controller that monitors system parameters and controls the automatic electric regeneration process. The controller also stores monitored parameters in memory for later data retrieval and analysis.

The device is constructed of stainless steel and uses a silicon carbide diesel filter. A photograph of the Cleaire Horizon™ is shown below:

Figure 8-3: Cleaire Horizon™ Conditionally Verified Level 3 Particulate Filter with On-Board Electric Regeneration

The Third Party Monitor also conducted a reassessment of all equipment currently operating on the SAIP as it relates to compatibility with the Cleaire Horizon™ conditionally verified off-road diesel emission control system. The complete listing of equipment compatibility is included in Appendix A of this report.

The result of the Task 8 reassessment is very promising – the vast majority of both on and off-road equipment of the type utilized on LAX Master Plan Construction Projects is compatible with a commercially available Level 3 diesel emission control system. Thus, the next LAX Master Plan Project should benefit significantly from the availability of these new systems, leading to substantial reductions in diesel particulate matter emissions related to construction activities.

Task 9: Development and Implementation of Public Complaint Registration Process

Task 9 of the Third Party Monitor Scope of Work required the contractor to develop and implement a public complaint registration process. The components of this Task included the following:

- 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.

The SAIP, objectively, has had very few public complaints. During the period from May, 2006 through June, 2008, approximately nine (9) total public complaints were received and acted upon by LAWA project management. Of these, at least two (2) complaints were for excessive noise that was ultimately determined not to emanate from the SAIP. The SAIP complaint history is shown in Table 9-1, below:

Table 9-1: Public Complaints Received by LAWA

DATE	COMPANY	ISSUE
08/29/06	Public Complaint	Excessive noise reported at 6:30 am. Complaint deemed valid as noise abatement protocol is to not conduct breaking operations prior to 7:00 am on weekdays.
08/30/06	Public Complaint	Same report within 12 hour period.

11/08/06	Public Complaint	An anonymous caller to the South Coast Air Quality Management District (AQMD) called regarding excessive dust from the rock crusher stock pile. The AQMD did not make an onsite inspection, but did call a LAWA environmental engineer. A follow up investigation was conducted by LAWA project management.
12/05/06	Public Complaint	Trucks were attempting deliveries during the 7:00 am and 9:00 am no-delivery period. Prior warnings were issued. No additional calls were placed to the Complaint Hotline.
12/06/06	Public Complaint	Trucks were attempting deliveries during the 7:00 am and 9:00 am no-delivery period. Prior warnings were issued. No additional calls were placed to the Complaint Hotline
01/11/07	Public Complaint	Noise Complaint – A member of the public complained of loud music emanating from the airfield. The origin point of the noise was the private jet fixed base operation and not SAIP construction activity.
01/12/07	Public Complaint	Noise Complaint – A member of the public complained of vehicle "backup beeper" noise between the hours of midnight and 5:00 am. These vehicles were found to be operating at a cargo terminal and were not related to SAIP construction.
10/5/07	Tutor-Saliba	LAWA received complaints from community residents of excessive dust emanating from the construction site. The construction site was experiencing higher than normal wind velocities. Tutor-Saliba was notified of the dust complaints and dispatched one (1) water truck to suppress the dust.
10/5/07	Tutor-Saliba	LAWA received a second dust complaint from a member of the community. LAWA informed Tutor-Saliba of the complaint. One (1) water truck was dispatched by Tutor-Saliba to suppress the excessive dust emissions. LAWA deemed this response inadequate and notified Tutor-Saliba that additional water suppression was needed. No additional enforcement action was taken by LAWA.

SECTION 4 RESULTS AND CONCLUSIONS

The following is a summary of Third Party Monitor results and findings based on the past 22 months of independent monitoring and documentation:

- All diesel equipment proposed for use and actually utilized during SAIP construction activities was independently assessed to determine compatibility with a CARB-verified diesel emission control system. A total of sixteen (16) pieces of equipment were determined to be compatible; of these, twelve (12) were retrofitted with diesel emission control systems. The off-road VDECS determined to be compatible with the identified equipment did not meet the operational needs of LAWA; thus, the SAIP demonstrated an on-road verified diesel emission control system in lieu of the off-road device. It is significant that this device performed very well in an off-road application. The result is that the ECS Purifiler is now undergoing CARB verification as an off-road compatible Level 3 device;

- The Third Party Monitor recorded and documented diesel equipment located on the SAIP during physical equipment inventories conducted at approximately two-month intervals. Approximately 61 pieces of diesel equipment inventoried over the course of SAIP construction did not have supporting paperwork – the Third Party Monitor notified LAWA of this procedural issue and monitored LAWA management follow-up with the construction companies. In several cases, equipment that did not have supporting paperwork was removed from the airfield;

- On-Road vehicles and smaller diesel equipment, including light towers, portable generators, air compressors, welders, etc. were granted categorically-exempt status by LAWA, as these types of equipment had been shown to be incompatible with the ECS Combifilter diesel emission control device. This accounts for approximately 34 vehicles and equipment;

- A subset of approximately 14 pieces of equipment were potentially compatible with a BACT device; however, insufficient documentation did not allow a conclusive finding. The Third Party Monitor requested that documentation for this equipment be provided.

- CFCI verified the use of ultra low sulfur diesel in all vehicles and conducted reviews of fuel purchase receipts. CFCI has performed a calculation to estimate the total amount of

ULSD dispensed using mobile refueling trucks to date; this amount is estimated to exceed 422,570 gallons. It is important to reiterate that only ULSD fuel is legal for sale in California for both on-road and off-road vehicle applications;

- Monitoring of diesel emission control devices installed on construction equipment occurred continuously over the 22 month construction period. As documented in the above Sections of this report, all devices demonstrated on the SAIP were sufficiently maintained such that no device failures were recorded during operation. The Third Party Monitor did record specific cases in which a device was not properly instrumented; in each case this information was conveyed to LAWA project management;

- All enforcement actions taken by LAWA were reviewed by the Third Party Monitor. All public complaints received were also reviewed. Overall, the number of enforcement actions taken and complaints received was extremely low. On one occasion, the SAIP construction contractor Tutor-Saliba was cited by the South Coast Air Quality Management District for a fugitive dust violation related to vehicle dirt track-out. Subsequent inspections determined that the contractor was in compliance with AQMD Rule 403 requirements.

- A review of recently verified diesel emission control systems suggests that the next LAX Master Plan Project will have extensive diesel particulate mitigation. When assessing compatibility of these newly verified devices against the Master Equipment Database, the "match" rate approaches 100%. Additional devices currently undergoing verification through the CARB protocol will offer additional choices for particulate matter reduction; several devices will also mitigate NO_x emissions.

Overall, the SAIP runway relocation and center taxiway construction project was completed with relatively few issues and a high degree of emphasis on environmental impact mitigation. CFCI enjoyed a good working relationship with the LAWA project management and environmental management staff, and no access barriers or limitations encountered while conducting third party monitoring. The experience gained by all parties on this first LAX Master Plan Project will serve as an excellent point of departure for the next major construction program.

APPENDIX C

Airport Sustainable Planning, Design, and Construction Guidelines

REFERENCE

LAWA Website:
http://www.lawa.org/welcomeLAWA.aspx?id=1036
for a copy of the document

APPENDIX D

Public Law 110-337 to Expand Passenger Facility Fee Eligibility

Public Law 110–337
110th Congress

An Act

To amend title 49, United States Code, to expand passenger facility fee eligibility for certain noise compatibility projects.

Oct. 2, 2008
[S. 996]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. EXPANDED PASSENGER FACILITY FEE ELIGIBILITY FOR NOISE COMPATIBILITY PROJECTS.

Section 40117(b) of title 49, United States Code, is amended by adding at the end the following:

"(7) NOISE MITIGATION FOR CERTAIN SCHOOLS.—

"(A) IN GENERAL.—In addition to the uses specified in paragraphs (1), (4), and (6), the Secretary may authorize a passenger facility fee imposed under paragraph (1) or (4) at a large hub airport that is the subject of an amended judgment and final order in condemnation filed on January 7, 1980, by the Superior Court of the State of California for the county of Los Angeles, to be used for a project to carry out noise mitigation for a building, or for the replacement of a relocatable building with a permanent building, in the noise impacted area surrounding the airport at which such building is used primarily for educational purposes, notwithstanding the air easement granted or any terms to the contrary in such judgment and final order, if—

"(i) the Secretary determines that the building is adversely affected by airport noise;

"(ii) the building is owned or chartered by the school district that was the plaintiff in case number 986,442 or 986,446, which was resolved by such judgment and final order;

"(iii) the project is for a school identified in 1 of the settlement agreements effective February 16, 2005, between the airport and each of the school districts;

"(iv) in the case of a project to replace a relocatable building with a permanent building, the eligible project costs are limited to the actual structural construction costs necessary to mitigate aircraft noise in instructional classrooms to an interior noise level meeting current standards of the Federal Aviation Administration; and

"(v) the project otherwise meets the requirements of this section for authorization of a passenger facility fee.

"(B) ELIGIBLE PROJECT COSTS.—In subparagraph (A)(iv), the term 'eligible project costs' means the difference between the cost of standard school construction and the cost of construction necessary to mitigate classroom noise to the standards of the Federal Aviation Administration.".

Approved October 2, 2008.

LEGISLATIVE HISTORY—S. 996:

CONGRESSIONAL RECORD, Vol. 154 (2008):
Feb. 28, considered and passed Senate.
Sept. 17, considered and passed House.

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