LAX MASTER PLAN

COMMUNITY BENEFITS AGREEMENT (CBA)

2019 ANNUAL PROGRESS REPORT

LAWA
LOS ANGELES WORLD AIRPORTS

PUBLISHED JUNE 2020

Cover Photo By:
Nancy Price, LAWA

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Prepared by

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Environmental Programs Group

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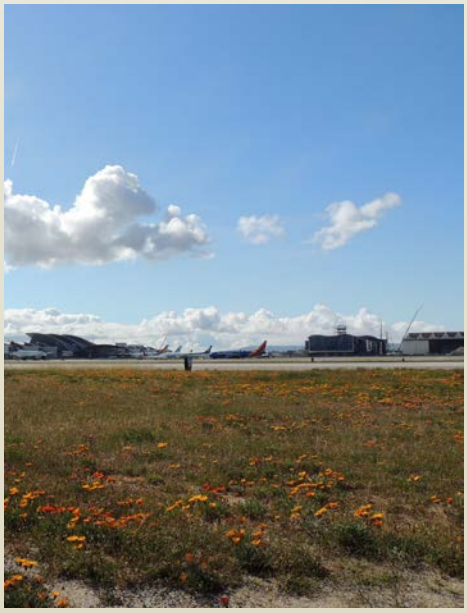

Disclaimer: LAWA obtained data from a variety of sources to generate this report. The reporting team did not have access to each individual primary document and thus was not able to verify all data sets fully against the source documents.

LAX Master Plan CBA 2019 Annual Progress Report

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1.0 Executive Summary

On December 6, 2004, the Los Angeles World Airports' Board of Airport Commissioners (BOAC) approved an agreement with the LAX Coalition for Economic, Environmental and Educational Justice (Coalition). The agreement will expire upon the conclusion of the LAX Master Plan Program or, no later than December 31, 2020.

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

Section XVI "Miscellaneous" of the Community Benefits Agreement (CBA) requires LAWA to prepare annual reports on the implementation of the CBA and the progress of the LAX Master Plan Program. LAWA is to provide the annual reports to Coalition representatives and make them available for at least one month on the LAWA website. This document is the fifteenth annual report on the progress of the CBA. LAWA has provided this document to Coalition representatives and is available on the LAWA website at https://www.lawa.org/en/lawa-our-lax/studies-and-reports.

2.0 Introduction/Background

The "Community Benefits Agreement" is comprised of several documents:

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

2. **Community Benefits Agreement.** The CBA is an attachment to the Cooperation Agreement that details the various proposals of mitigations and benefits. 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

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

Economic Development Benefits

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

Community Environmental/Health Studies

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- Application of Green Building Principles
- Diversion of Construction Traffic from Residential Streets

Settlement Agreement with Inglewood Unified School District. The "Settlement Agreement Los Angeles International Airport Master Plan" with Inglewood Unified School District ("IUSD Settlement Agreement") calls for LAWA to (a) fund certain mitigation measures for the Inglewood Unified School District for noise abatement, (b) 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, and (c) work collaboratively with the Inglewood Unified School District to support a variety of community programs, such as job training and academic programs.

Settlement Agreement with Lennox School District. The "Settlement Agreement Los Angeles International Airport Master Plan" with Lennox School District ("Lennox Settlement Agreement") calls for LAWA to (a) fund certain mitigation measures for the Lennox School District for noise abatement, (b) 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, and (c) work collaboratively with the Lennox School District to support a variety of community programs, such as job training and academic programs.

As described in the Cooperation Agreement and the CBA, 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. The CBA and the IUSD and Lennox School Settlement Agreements will expire upon the conclusion of the LAX Master Plan Program or, no later than December 31, 2020.

The primary purpose of this report is to document and report on the status of current and recently completed commitments set forth in the CBA. This report covers the period January 1, 2019 through December 31, 2019.

3.0 Community Benefits Agreement Progress Update

Section III. Residential Noise Mitigation

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

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

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

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

Status → Implemented; continuing to monitor and report:
In late 2019, the FAA awarded $4.4 million in Airport Improvement Program (AIP) grant funds to the City of Inglewood and $2.4 million in AIP grant funds to the County of Los Angeles for the sound insulation of residential dwellings. The BOAC approved the $9.275 million LAWA grant funds for the City of Inglewood in December 2019, and the City Council approved the grant on January 24, 2020. LAWA did not provide a new grant to the County of Los Angeles in 2019 as they still had unused LAWA funds.

Section III.B Acceleration of Noise-Mitigation Programs for City[2]

Completed. See Appendix A.

Section III.C Acceleration of Noise-Mitigation

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 → No Change
Places of Worship are not included in the FAA-approved LAX Part 150 Noise Compatibility Program and are therefore not currently eligible for FAA or LAWA funding. No discussions on this measure occurred in 2019 between LAWA and the Coalition.

[2] *"City" refers to the City of Los Angeles.*

Section III.D End of Block Soundproofing

Completed. See Appendix A.

Section III.E Suspension of Avigation Easement

Completed. See Appendix A.

Section III.F Compatibility with Local Building Codes

Completed. See Appendix A.

Section III.G Limitations on Nighttime Departures

Completed. See Appendix A.

Section IV. Job Training

Completed. See Appendix A.

Section V. First Source Hiring Program

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.

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 → Implemented; continuing to monitor and report:
The First Source Hiring Program (FSHP) provides residents from the communities immediately surrounding the airport and those most impacted by airport operations – South Los Angeles, El Segundo, Hawthorne, Inglewood, and Lennox, access to airport jobs. FSHP focuses much of its outreach in these areas.

FSHP works closely with local Community Organizations such as Work Source Centers, One-Stop Centers, and faith-based organizations to promote airport jobs for LAX employers. FSHP provides training to these organizations on how to apply for jobs at LAX and what is needed to obtain a job with LAX employers. FSHP also promotes jobs through its website platform at www.jobsatlax.org.

Job Openings	*4,559*
Registered Job Seekers	*12,124*
Website Visits	*185,554*
LAX Employers	*219*
Community Partners[3]	*123*

For more information on the FSHP, please email the Business, Jobs and Social Responsibility Division (BJSR) at businessandjobs@lawa.org. You may also visit the Jobs@LAX website at www.jobsatlax.org.

[3] *First Source Hiring Program outreach efforts to local community based organizations*

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

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 → Implemented; continuing to monitor and report:
These provisions apply to LAWA contracts. Effective July 1, 2019, the Living Wage Ordinance (LWO) cash wage increased to $15.25 and the health benefits increased to $5.34. If an airport employer does not provide health benefits, then the differential of $5.34 must be added to the base hourly rate (total $20.59). Contractors must provide at least 12 compensated days off per year for sick leave, vacation or personal necessity, and at least 10 days of uncompensated time. The LWO is applicable to airport contractors, public lessees/licensees, City financial assistance recipients, and their subcontractors.

Section VII. Air Quality Study

Completed. See Appendix A.

Section VIII. Health Study

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

Status → Substitute Program Approved:
In 2015, the FAA notified LAWA that airport revenue may not be used to provide funding for CBA Section VIII. Health Study. Section V.A.5. of the Cooperation Agreement requires LAWA to develop substitute programs or activities designed to achieve equivalent levels of mitigation and/or benefit through an equivalent expenditure of airport revenue.

In lieu of LAWA conducting the CBA Health Study, LAWA developed an incentive program in 2018 for the distribution of $500,000 to accelerate the deployment of zero emission (ZE) or near-zero emission (NZE) vehicles at LAX. The Board of Airport Commissioners (BOAC) approved the incentive program on December 6, 2018 to assist LAX operators of heavy-duty vehicles to exceed the requirements of the LAX Alternative Fuel Vehicle (AFV) Requirement Program by replacing older heavy-duty petroleum-derived gasoline or diesel fueled vehicles that are the largest contributor of smog and unhealthful air quality in the greater Los Angeles region, with zero or near-zero emission vehicles.

In February 2019, LAWA selected eight LAX operators to receive incentive funds to replace 24 conventionally fueled or diesel operated heavy-duty vehicles with NZE vehicles. Vehicle types to be replaced included aircraft catering trucks, long distance service shuttles, passenger vans, delivery trucks, and rental car shuttles. LAWA has finalized sub agreements with applicants, and will distribute funds as vehicles are placed into service at LAX.

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

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 → In Progress:
LAWA allocated $300,000 of the environmental analysis contract for the Landside Access Modernization Program (LAMP) for the Community Based Studies set forth in CBA Section IX. With input from the Coalition, the Community Based Studies focused on how LAWA's investment in the LAMP facilities could generate jobs and provide other benefits to communities in the Project Impact Area.

In 2019, LAWA reviewed the Draft Study, and determined that the Draft is outdated and does not reflect LAWA's current capital investments and approaches to community inclusion. Since the initiation of the study, LAWA and the Capital Program's investment in workforce and business programs has evolved significantly. LAWA's approach to integrate inclusivity requirements into contracts, the creation of the HireLAX Apprenticeship Readiness Program, and the enhancement of the FSHP, among other programs, are reflections of that evolution. In addition, LAWA has established a new Business Jobs and Social Responsibility Division that has conducted its own research and studies and is devoted to community inclusivity.

Section X. Air Quality

Section X.A. Electrification of Passenger Gates

Completed. See Appendix A.

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 follows:

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

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

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

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

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

Status → In Progress:
LAWA completed an update to the 2013 Gate Electrification Feasibility Study in December 2018. The study identified the remaining cargo, maintenance, remain-over-night, and hangar aircraft parking positions to be electrified for the purposes of developing a workplan to complete electrification at LAX. Electrification of aircraft parking positions at the Imperial Terminal/South Pads and the Imperial Cargo Center projects are included in LAWA's capital improvement program.,

- *Imperial Terminal & South Pads and Imperial Cargo Complex – The design was completed and a request for bid was expected to be released in 2020.*

In 2019, Federal Express continued the electrification design of the JAL1 parking pad which are scheduled to be completed in 2020.

Section X.C. Electrification of LAX Hangars

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

Status → In Progress:
LAWA completed an update to the 2013 Gate Electrification Feasibility Study in December 2018. The study identified the remaining cargo, maintenance, remain-over-night, and hangar aircraft parking positions to be electrified for the purposes of developing a workplan to complete electrification at LAX. Please see Section X.B, above for more information.

Section X.D. FAA Prohibition

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

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

Section X.E. Reporting

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

Status → Implemented; continuing to monitor and report:
LAWA has provided a status of the electrification program in each of the annual CBA reports. Please see Sections X.A., X.B., and X.C. for more information.

Section X.F. Construction Equipment

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

Status → Implemented; continuing to monitor and report:
LAWA retained an Independent Third Party Monitor to track compliance with the requirements of CBA Section X.F.

The following sections provide an update of activities and findings of the Independent Third Party Monitor as it relates to diesel construction equipment used on the Midfield Satellite Concourse – North (MSC-North), WAMA Delta Hangar, and WAMA Delta Ground Service Equipment (GSE) Facility projects:

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

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

Status → Implemented; continuing to monitor and report:
The Independent Third Party Monitor reviewed documentation submitted by MSC-North, WAMA Delta Hangar, and WAMA Delta GSE Facility contractors for each piece of diesel equipment utilized or planned for possible utilization on these projects relative to compliance with CBA Section X.F.1. The Independent Third Party Monitor also conducted periodic site visits to verify compliance. The Independent Third Party Monitor assessed approximately 1,532 pieces of diesel equipment to determine compatibility with CARB-verified or EPA-certified diesel emission control devices.

The Independent Third Party Monitor made the following findings with respect to this Section:

- *MSC-North project - There were a total of 481 on-road trucks associated with the project. LAWA disapproved thirty (30) vehicles for failure to comply with CBA requirements. There were a total of 531 pieces of off-road diesel construction equipment on the project. LAWA disapproved thirty-six (36) pieces of off-road construction equipment for failure to comply with CBA requirements. Four hundred eighty-seven (487) were certified by the US EPA as compliant with Tier 4 or Tier 4-Interim Emissions Standards – this equipment is configured with a factory-installed VDECS. One hundred six (106) pieces of equipment were equipped with small*

displacement engines and were determined to not have a VDECS available at the time construction commenced.

- *WAMA Delta Hangar project – There were seven on-road trucks associated with the WAMA Delta Hangar project. All on-road vehicles met or exceeded the CBA requirements. There were a total of 337 pieces of off-road diesel construction equipment on the project. Three hundred thirty (330) met the CBA requirements and were certified by the US EPA as compliant with Tier 4 or Tier 4-Interim Emissions Standards.*

- *WAMA Delta GSE Facility project - There was a total of 60 pieces of off-road diesel construction equipment on the project. Fifty-nine (59) met the CBA requirements and were certified by the US EPA as compliant with Tier 4 or Tier 4-Interim Emissions Standards.*

Section 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 → Not applicable at this time:
The Independent Third Party Monitor did not identify any Demonstration Project opportunities in 2019.

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 → Implemented; continuing to monitor and report:
LAWA's Environmental Monitor, in coordination with the Independent Third Party Monitor, assessed each piece of diesel construction equipment with a VDECS and made the following findings:

- *MSC-North project - approximately 938 vehicles and equipment were equipped with diesel emission control systems that met or exceeded the CARB Level 3 standard of 85 percent or greater reduction in diesel particulate matter.*

- *WAMA Delta Hangar project - approximately 337 vehicles and equipment were equipped with diesel emission control systems that met or exceeded the CARB Level 3 standard of 85 percent or greater reduction in diesel particulate matter.*

- *WAMA Delta GSE Facility project - approximately 59 vehicles and equipment were equipped with diesel emission control systems that met or exceeded the CARB Level 3 standard of 85 percent or greater reduction in diesel particulate matter.*

- *The Third Party Monitor verified with CARB that the Level 3 devices utilized on the MSC-North, WAMA Delta Hangar, and WAMA Delta GSE Facility projects 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 required 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 → Implemented; continuing to monitor and report:
The Third Party Monitor reviewed each piece of diesel construction equipment proposed for use on the MSC-North, WAMA Delta Hangar, and WAMA Delta GSE Facility projects 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 results were documented and compared with exemptions granted by LAWA, as follows:

- *LAWA did not grant any on-road vehicle or off-road construction equipment exemptions on the MSC-North, WAMA Delta Hangar, and WAMA Delta GSE Facility projects.*

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

Completed; no longer applicable. See Appendix A.

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 → Implemented; continuing to monitor and report:
The Independent 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. LAWA did not issue any written violations pertaining to excessive equipment idling on any construction firm in 2019. On infrequent occasions, LAWA instructed contractors to turn off the engines of vehicles deemed to be idling beyond the period of time stipulated in CARB regulations. Formal enforcement actions were not deemed necessary by LAWA.

Section X.F.7 – Enforcement by LAWA

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

Status → Implemented; continuing to monitor and report:
LAWA informed the Independent Third Party Monitor that no formal enforcement actions were taken relative to the requirements set forth in CBA Section X.F.

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 → Implemented; continuing to monitor and report:
LAWA retained an Independent Third Party Monitor. The findings of the Independent Third Party Monitor are reported in this document and in Appendix C.

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 → Implemented; continuing to monitor and report:
The LAWA Environmental Monitor, in coordination with the Independent Third Party Monitor reviewed each piece of diesel construction equipment proposed for use on the MSC-North, WAMA Delta Hangar, and WAMA Delta GSE Facility projects for compatibility with newly verified Level 2 and 3 VDECS. It is important to note that a high percentage of equipment utilized on LAX Master Plan Projects is factory-equipped with diesel emission control systems that satisfy CBA requirements in accordance with CBA Section X.F.1.

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:
LAWA's BOAC approved the LAX Electric Ground Support Equipment Incentive Program in July 2019 to offset exhaust emissions from off-road engines used in ground support equipment (GSE), especially diesel engines (GSE Incentive Program). To reduce emissions from conventionally-fueled off-road equipment and assist GSE owners operating at LAX transition to zero-emission GSE, LAWA established a $500,000 incentive program whose goal is to remove older GSE at LAX and replace it with zero-emission electric GSE (eGSE). There are currently more than 2,700 pieces of off-road airport GSE at LAX registered to 27 operators, including eight airlines, a number of ground service provider companies, cargo transporters, and parcel handlers.

Section X.H. Ground Service Equipment Inventory

Completed. See Appendix A.

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 → Implemented; continuing to monitor and report:
In November 2019, BOAC adopted an update to the GSE Emissions Reduction Policy. The updated Policy set more stringent emissions targets.

In 2019, 90 percent of the LAX GSE Operators had already achieved or exceeded the December 31, 2021 GSE emission target of 2.65 g/bhp-hr for their fleets. Airport-wide emissions totaled 1.56 g/bhp-hr.

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.

      Completed. See Appendix A.

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

Status → Implemented; continuing to monitor and report:
For 2019, LAWA continued its one-on-one outreach to educate and assist operators to comply with the reporting and vehicle requirements. In February 2019, LAWA developed a web-based tool to help operators find compliant vehicles and incentives to offset the cost of new vehicle purchases.

For Reporting Year 2019, 325 operators (or approximately 91 percent of all LAX operators) complied with the reporting requirement with 100 percent of vehicles compliant, either through operating a compliant vehicle or transitioning to a compliant vehicle based on a LAWA-approved compliance plan date.

Section X.K. Particulate Matter (PM 2.5)

Completed. See Appendix A.

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. In any project-related review under CEQA or NEPA for a project implementing any component of the LAX Master Plan Program, LAWA shall identify and analyze all potentially significant environmental impacts associated with rock crushing operations and construction material stockpiles. In implementation of any component of the LAX Master Plan Program, LAWA shall adopt and implement mitigation measures to eliminate any significant adverse environmental impacts related to rock crushing or construction material stockpiles and related construction activities.

Status → Implemented; continuing to monitor and report:
LAWA did not have any rock crushing operations within the MSC-North site or at any other construction sites at LAX in 2019. LAWA maintained soil stockpiles in the northwest portion of the airport, in an area well removed from any residential development that was previously used for soil stockpiling. A combination of natural vegetation growth and previous application of soil sealant at inactive portions of the stockpiles, and spraying water for dust control in active portions of the stockpile (i.e., areas where soils were removed or added depending on grading activities associated with completion of the passenger tunnels and utilities/baggage tunnels for the MSC-North project) served to minimize dust generation. LAWA did not conduct any additional CEQA or NEPA review of LAX Master Plan Program projects in 2019; therefore, no additional action was required on this measure.

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 → Implemented; continuing to monitor and report:
Subject requirement was included in construction specifications for the MSC-North project, and the prime contractor extended that requirement to all subcontracts. Additionally, the prime contractor's air quality compliance monitor is onsite full-time and checks for excessive idling. LAWA did not issue any written violations pertaining to excessive equipment idling on any contractor on the MSC-North project. On infrequent occasions, vehicles deemed to be idling beyond the period of time stipulated in CARB regulations were instructed to turn off their engines.

The WAMA Delta Hangar project is subject to the requirements of the MMRP adopted for the WAMA project, which includes the requirement to prohibit idling or queuing of diesel-fueled vehicles and equipment in excess of five minutes. LAWA did not issue any written violations pertaining to excessive equipment idling on the Delta Hangar project in 2019.

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 → Implemented; continuing to monitor and report:
LAWA has a liquefied natural gas (LNG)/compressed natural gas (CNG) facility located on the west side of the airport to service LAWA vehicles. Clean Energy operates two public CNG fueling stations near LAX at 10400 Aviation Blvd and 9131 Aviation Boulevard. Both of these fueling stations dispense Renewable Natural Gas. In 2019, Clean Energy closed its station at 9601 Aviation, as it was located in path of the new Metro Rail extension right-of-way. The station at 10400 Aviation Boulevard was upgraded to absorb the higher volumes due to the station closure at 9601 Aviation. The station at 9131 Aviation Boulevard required no upgrades as it had sufficient capacity to provide for increased demand. Clean Energy was also looking at locations to build a new (replacement) station.

In 2019, there were a total of 168 EV chargers at LAX, and LAWA purchased eighty (80) electric sedans to replace the existing natural gas fleet vehicles.

Section X.O. Hydrogen Fuel Cell Infrastructure

Completed. See Appendix A.

Section X.P. Cleaner Burning Jet Fuels

Completed. See Appendix A.

Section XI. Green Building Principles

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 → Implemented; continuing to monitor and report:
In addition to LAWA following all applicable City regulations for energy efficiency, sustainability, and green building design, LAWA's Sustainable Design and Construction Policy and Requirements mandates that applicable new building construction and renovation projects be designed to achieve LEED Silver certification or higher. The MSC-North project is pursuing LEED-Silver certification.

Section XII. Traffic

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….

   Status → Implemented; continuing to monitor and report:
   Designated routes for construction-related trucks, vehicles and equipment are specified in LAWA construction contracts, including LAX Master Plan projects undergoing construction in 2019. The designated routes avoid the roadway segments identified in this measure. LAWA inspectors and monitors checked that trucks used the designated routes.

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

      Status → Implemented; continuing to monitor and report:
      LAWA developed and maintains a website at https://www.lawa.org/en/connectinglax/lax-construction-hotline to provide construction information for the public. The general, program-wide construction hotline number to report incidences of non-compliance is (310) 649-LAWA (5292). There were no reported incidents of LAX construction trucks not complying with the designated truck route requirements. Please see Appendix B for a summary of calls in 2019 to the LAX construction hotline.

2. Lennox/405 Interchange.

   Completed; no longer applicable. See Appendix A.

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

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

Status → Implemented; continuing to monitor and report:
LAWA replaced the Minority/Women/Other Business Enterprise (M/W/OBE) program in 2012. Under the SBE Program, LAWA sets a specific, mandatory percentage of small business subcontracting on construction, professional and non-professional projects valued in excess of $150,000; there is a penalty for failure to meet the pledges.

LAWA's Procurement Services Division (PSD), and Business, Jobs and Social Responsibility (BJSR) Division, jointly conduct a monthly workshop, "Doing Business with LAWA." In 2019, approximately 142 business representatives attended the monthly workshops. In addition, both divisions provide outreach activities to small business/local businesses and disadvantaged businesses and participate in various organizations' outreach programs.
Procurement Services Division ensures that LAWA's contracts, including its Request for Proposal (RFP) and Request for Bid (RFB) provide specific provisions and assurances of the federal regulations for the Disadvantaged Business Enterprise (DBE) Program and Airport Concession Business Enterprise (ACDBE) Program.

LAWA's overall objective of DBE and ACDBE programs is to provide equal access to opportunities and achieve a level playing field for DBE and ACDBE participations that could realistically be expected in the absence of discrimination. This objective also applies to LAWA's SBE program.

LAWA implemented the Build LAX Academy, which has a focus on improving access to capital. The Business, Jobs and Social Responsibility Division in conjunction with the Contractor Development and Bonding Program and other industry partners has conducted trainings on financial literacy that covers bonding, loans, lines of credit, insurance and other criteria relevant to the LAX construction and procurement environment.

LAWA through the Business, Jobs and Social Responsibility Division (BJSR) has done dozens of outreach events addressing key areas such as financing, bonding, insurance, certifications, matchmaking to Prime Contractors and other capacity building programs. LAWA's partners have included Chambers of Commerce, Veteran Business Groups, City Council Districts, the Small Business Administration (SBA), Small Business Development Center (SBDC), and other disadvantaged advocacy groups.

Section XIV. Community Preparedness for Airport-Related Emergency

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 → Implemented; continuing to monitor and report:
Throughout 2019, LAWA continued to assist its partner agencies and airport stakeholders in the coordination and dissemination of appropriate information-related active incidents at LAX. LAWA conducted outreach to both public sector, private sector and non-governmental organization (NGO) partners (such as the Red Cross) was prevalent in 2019 and included local area hospitals, air carriers, and City, County and Federal partners.

In February and September of 2019, LAWA conducted seminars on passenger accountability and patient tracking, and in April of 2019, LAWA included the Passenger Accountability Group in the tri-annual AirEx. Approximately 200 people from 20 partners in the public and private sectors participated, and approximately 250 observers were invited to view the response and recovery aspects of an aircraft disaster resulting in a mass casualty and mass fatality incident. In May of 2019, LAWA Emergency Management launched a required computer based Emergency Management Training Program for all 57,000+ LAWA badge holders.

Section XV. Designated Airport Fund

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 → Implemented; not applicable at this time. Continuing to monitor and report:
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 for the Job Training and Air Quality Funds to the extent allowed.

Section XVI. Miscellaneous

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

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

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

D. Special Arbitrator…

E. General LAWA Enforcement Responsibility…

Status → Implemented; continuing to monitor and report:
LAWA hosts periodic implementation meetings with the Coalition. LAWA management-level staff attends each meeting. LAWA prepares annual reports on the implementation of the CBA and the progress of the LAX Master Plan Program. The annual reports are posted on LAWA's website at https://www.lawa.org/en/lawa-our-lax/studies-and-reports.

4.0 Lennox School District – Sound Attenuation Measure

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.

Status → Implemented and completed in 2019:
In 2019, Lennox completed sound attenuation work at Jefferson Elementary School LAWA scheduled an audit in 2020 to officially reconcile and close out the Lennox School District Sound Insulation Program.

5.0 Inglewood Unified School District – Sound Attenuation Measure

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 → Implemented; continuing to monitor and report:
In October 2019, BOAC approved a funding allocation of $30 million for IUSD's Second Work Plan covering Woodworth-Monroe TK-8 Academy, Morningside High School and Oak Elementary School. IUSD received the first $10 million dollar installment in November 2019.

IUSD completed the noise sound insulation at Payne Elementary School in August 2019. Woodworth-Monroe TK-8 Academy was 90 percent completed, and was estimated to be completed in February 2020. IUSD initiated sound insulation construction on Morningside High School in September 2019, and on Oak Street Elementary in November 2019.

In October 2019, LAWA submitted a Passenger Facility Charge (PFC) application to the FAA for approval to sound insulate Inglewood High School, which is bisected by the 2020 Noise Exposure Map (NEM). LAWA anticipates FAA's response by May 2020.

6.0 Summary

During 2019, LAWA continued to implement, monitor and report on applicable provisions from the Community Benefits Agreement.

APPENDIX A

COMPLETED AND NO LONGER APPLICABLE MEASURES

Section III. Residential Noise Mitigation

Section III.B Acceleration of Noise-Mitigation Programs for City[1]

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

Status → Completed:
LAWA spent approximately $160 million on the City of Los Angeles' Sound Insulation Program. Under this Program, the City of Los Angeles sound insulated over 7,300 dwelling units in the communities of South Los Angeles, Playa del Rey and Westchester. The City of Los Angeles completed and closed its Program in 2014.

Section III.D End of Block Soundproofing

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

City of Los Angeles Status → Completed:
The FAA approved 759 homes for inclusion in the end-of-block/block rounding portion of the City of Los Angeles' Sound Insulation Program. Of the 759 eligible homes, 514 participated in the Program and were sound insulated. The City of Los Angeles completed and closed the Program in 2014.

Other Jurisdictions Status → Completed:
In 2016, the FAA approved the 2020 Noise Exposure Map (NEM) and the City of Inglewood and the County of Los Angeles' end-of-block maps for inclusion in these jurisdictions' sound insulation programs. The City of Inglewood and County of Los Angeles are in the process of implementing the end-of-block sound insulation programs. Thus LAWA's role in fulfilling this commitment has been completed.

City of El Segundo Status → Program Terminated:
The City of El Segundo suspended its Residential Sound Insulation Program in 2016, and then terminated/closed the Program in July 2018.

[1] "City" refers to the City of Los Angeles.

Section III.E Suspension of Avigation Easement

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

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

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

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

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

Status → Completed:
LAWA did not acquire any avigation easements in 2019, in the County of Los Angeles or the City of Inglewood

Section III.F Compatibility with Local Building Codes

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 → Completed:
No action is required on this provision, as LAWA does not impose regulations or standards related to property conditions that are more stringent than those enforced by the local government jurisdiction.

Section III.G Limitations on Nighttime Departures

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 → Completed:
LAWA began the Part 161 Study in June 2005 to study possible imposition of a nighttime runway use restriction at LAX. In 2014, the FAA rejected LAWA's application for a runway use restriction at LAX. See the 2014 CBA Annual Report for a more information on the Part 161 Study. All materials related to the Study and LAWA's application can be found at http://www.lawa.org/LAXPart161.aspx?id=7203.

Although the Part 161 Study itself is completed, LAWA still maintains the Record of Eastbound Departures and nonconforming East Departures Annual Complaint Reports. These reports are posted on LAWA's website at http://www.lawa.org/LAXNoiseEDR.aspx.

LAWA maintains a community response program for the public to report flights and their related locations. LAWA maintains records of all individual reports and prepares monthly and annual summary reports. All reports are available on the LAWA website at http://www.lawa.org/LAXNoiseEDR.aspx.

Section IV. Job Training

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 → Completed; Not FAA approved:
The FAA did not approve the proposed job training program set forth in CBA Section IV. Instead, LAWA uses its relationships with various agencies such as Work Source Centers and the Los Angeles Community College District to provide relevant job training.

Section VII. Air Quality Study

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 → Completed:
LAWA completed the LAX Air Quality and Source Apportionment Study in 2013. The study and informational materials are posted at https://www.lawa.org/en/lawa-environment/lax/lax-air-quality-and-source-apportionment-study.

Section X. Air Quality

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:

   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.

   a. 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.

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

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

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

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

Status → Completed:
All passenger contact gates are electrified with 400 hertz ground power.

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 than that which would be produced by the use of ULSD.

Status → No longer applicable:
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, and there have been no shortages of ULSD in Southern California.

Section X.H. Ground Service Equipment Inventory

1. Scope of GSE Inventory. LAWA shall prepare a study ("GSE Inventory") detailing all GSE operated On-Site. The GSE Inventory shall include, but not be limited to, an inventory of the number, type, sizes, model year, usage history, and identify of operator for all GSE operated On-Site at the time of the GSE Inventory…
2. Determination of 1997 GSE Fleet for Nonparticipating GSE Operators. The GSE Inventory shall include a determination of the number and types of On-Site GSE that were operated On-Site in 1997 by each Nonparticipating GSE Operator…

Status → Completed:
LAWA completed the study in 2007 and completed an update of the inventory and study in 2014.

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 → Completed:
LAWA submitted a draft scope of work for the Heavy-Duty Vehicle Study to the Coalition in 2005. In 2016 and 2017, LAWA re-evaluated the heavy-duty vehicles used in operations at LAX as part of the analysis undertaken to update the LAX Alternative Fuel Vehicle Requirement. At the November 6, 2017 CBA coordination meeting, the Coalition representative said that LAWA's commitment to the Heavy-Duty Vehicle Study had been fulfilled, and no further action was needed.

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.

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

Status → Completed:
In 2008, LAWA initiated the environmental analysis of the Crossfield Taxiway Project and published a Draft Environmental Impact Report (EIR) on September 25, 2008. The Draft EIR included an assessment of PM2.5 impacts in its air quality analysis.

Section X.O. Hydrogen Fuel Cell Infrastructure

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

Status → Completed:
LAWA investigated the use of hydrogen fuel cells for the Central Utility Plant Replacement Project EIR published in 2009. LAWA determined that the use of hydrogen fuel cells was not feasible due to space constraints and energy inefficiency.

Section X.P. Cleaner Burning Jet Fuels

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

Status → Completed; continuing to support:
In 2019, LAWA continued to support the use of cleaner burning jet fuels by working with its airline and tenant stakeholders, as well as airport industry organizations and air quality agencies. Van Nuys Airport (VNY) hosted "Business Jets Fuel Green: A Step Toward Sustainability," a daylong event devoted to the use and awareness of Sustainable Aviation Jet Fuel (SAJF), fuel that come from renewable and sustainable sources. VNY was the first general aviation airport in the U.S. to offer SAJF on a trial basis, serving as a model for other general aviation airports. For the event, the VNY Fixed Based Operators (FBOs) purchased 4,000 gallons of SAJF, demonstrating the business aviation industry's commitment to the development and adoption of SAJF. The introduction of SAJF at VNY is the latest step in a series of sustainable practices that has earned VNY a reputation as one of America's greenest general aviation airports.

LAWA staff participated in a panel discussion at the Climate Week New York Annual Conference regarding the subject of sustainable aviation fuel (SAF). This session allowed participants to present views and initiatives linked to aspects of culture, business and policy in sustainable SAF development.

United Airlines received 3.2 million gallons of blended SAF (70 percent traditional fuel/30 percent neat SAF) in 2019 for use by commercial aircraft leaving LAX. This biofuel was dropped into the fuel storage tanks at LAXFuel. In addition, United Airlines renewed its contract with World Energy agreeing to purchase up to 10 million gallons of SAF over the next two years.

Section XII. Traffic

A. Construction Traffic

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 → Completed; no longer applicable:
The Lennox Boulevard/I-405 interchange and associated mitigations are not being considered within the context of an overall landside improvement plan for LAX.

APPENDIX B

SUMMARY OF CALLS IN 2019 TO LAX

CONSTRUCTION HOTLINE

Summary of Messages in 2019 to LAX Construction Hotline

Overview: Los Angeles World Airports (LAWA) received a total of 740 messages including 430 e-mails and 310 phone messages on the LAX Construction Hotline in 2019. The vast majority of the calls were not construction-related complaints and concerns that LAWA could take immediate action to address and resolve. Those types of "non-construction related" calls generally included, but were not limited to, the following:

- Messages regarding the availability of all or certain food and beverage establishments within terminals undergoing construction activities
- Messages asking for walking directions from one particular terminal to another, and the approximate amount of time it would take to walk the route (i.e., would they be in time to catch their scheduled connecting flight)
- Messages inquiring about construction-related employment or offering construction products and services
- Messages regarding malfunctioning equipment within terminals unrelated to construction
- Messages inquiring about lost articles
- Messages regarding traffic congestion in and around LAX unrelated to construction
- Messages expressing general concerns about LAX overall, including as compared to other specific airports
- Messages, both positive and negative, regarding personal interactions with airport personnel
- Messages about initial implementation of the LAXit program

Messages received on the LAX Construction Hotline that were considered to be "construction-related" generally included, but were not limited to, the following:

- Messages regarding whether specific construction activities would delay their flight or would require additional time to get to their terminal/gate or the nearby parking structure.
- Contractors working on current projects at LAX requesting information related to accessing the worksite
- Inquiries related to the issuance of construction notifications
- Messages with other specific concerns directly related to construction, including, but not limited to, dust from an LAX project construction site located near existing residential development.

The following provides a breakdown of calls received on the LAX Construction Hotline in 2019:

Month	# of Messages Received	Construction Related	Non-Construction Related
January	46	6	40
February	41	5	36
March	61	3	58
April	71	13	58
May	73	15	58
June	77	13	64
July	69	14	55
August	69	6	63
September	47	8	39
October	62	6	56
November	69	1	68
December	55	0	55
Total	740	90	650

LAWA responded to all messages where the person left contact information, regardless of whether the message was construction related or non-construction related.

APPENDIX C

THIRD PARTY MONITOR SEMI-ANNUAL REPORTS DATED SEPTEMBER 16, 2019 AND FEBRUARY 24, 2020

LAX Master Plan Projects Semiannual Report
Independent Third Party Monitor

Prepared by:

Clean Fuel Connection, Inc.

September 16, 2019

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Cover Photo – MSC North
Photo Credit - Ray Gorski

SECTION 1 - INTRODUCTION

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

This Semiannual Report covers the period commencing January 1, 2019 and ending June 30, 2019. During this period, two (2) LAX Master Plan projects had ongoing construction activities and one additional construction project was initiated. Continuing projects include the Midfield Satellite Concourse North (MSC) and the West Aircraft Maintenance Area (WAMA) Delta Hangar. The new project, which commenced in early 2019, is the WAMA Delta Ground Support Equipment (GSE) facility. This is a separate building adjacent to the WAMA Delta Hangar that will be used to maintain and domicile ground support equipment.

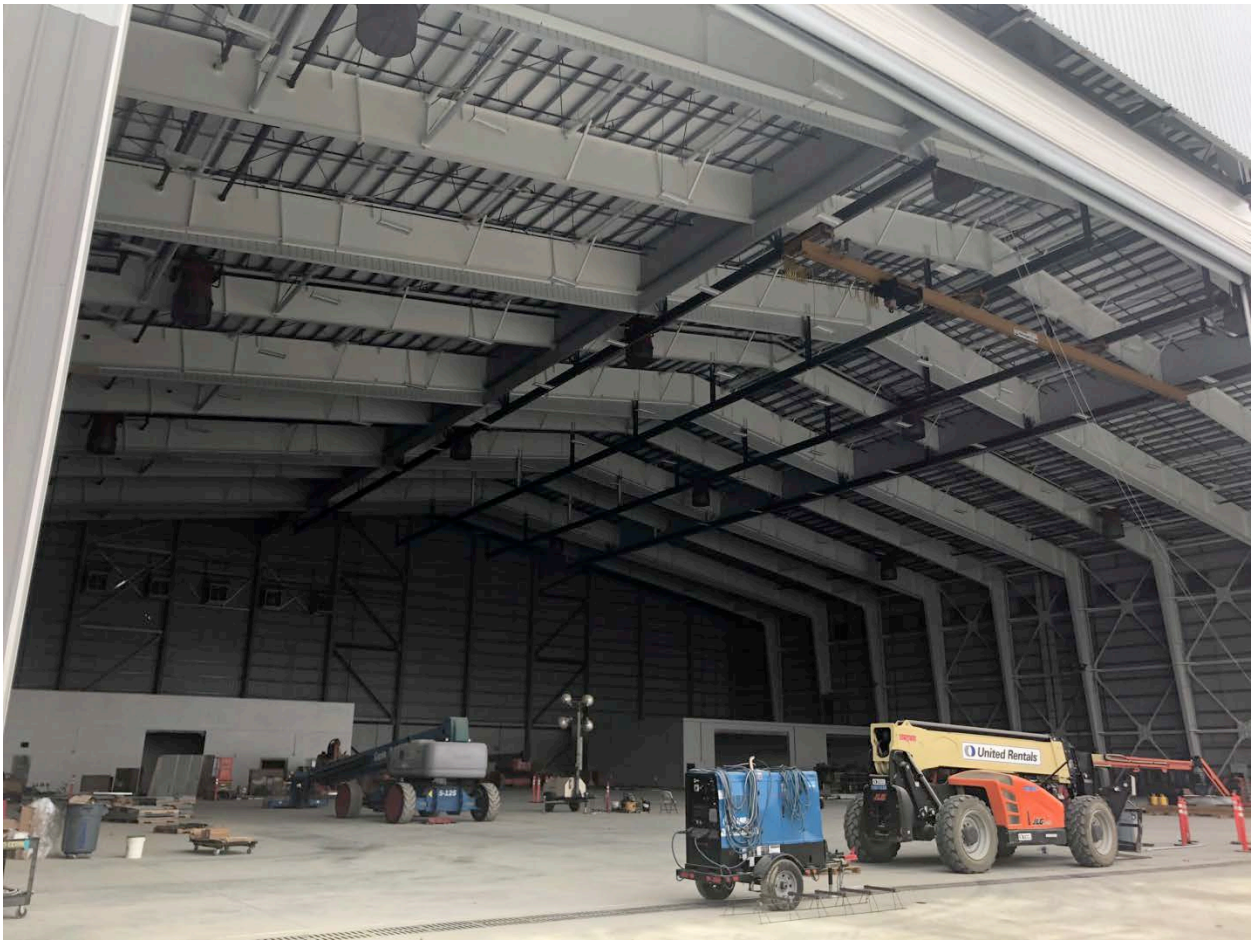
The MSC project includes a new passenger concourse facility approved as part of the LAX Master Plan. The MSC facility is located in the central area of the airfield, west of Tom Bradley International Terminal (TBIT). The MSC Program also includes a Central Terminal Processor, conveyance systems for passengers and baggage, and new taxiways/taxilanes and airport aprons. The construction contractor is Turner/PCL, a Joint Venture in association with Corgan/Gensler. Figure 1-1 shows the construction progress made on the MSC North Project:

Figure 1-1 – Midfield Satellite Concourse North Project Progress

Due to the size and scale of the MSC Program, LAWA is developing the MSC in independent phases. Phase 1 ("MSC North Project") of the MSC Program is the construction of the northern portion of the multi-story MSC facility and associated improvements.

The Delta Hangar Project is constructing a new aircraft maintenance facility within the West Aircraft Maintenance Area. Construction progress as of June 2019 on the WAMA Delta Hangar is shown below in Figure 1-2:

Figure 1-2 – WAMA Delta Hangar Project Construction Status



The WAMA Delta Ground Support Equipment (GSE) building is located adjacent to the Delta Hangar. This Semiannual Report will discuss adherence to the CBA Section X.F. requirements during MSC-North, WAMA Delta Hangar, and WAMA Delta GSE Facility construction. Figure 1-3 shows construction progress on the WAMA Delta GSE building:

Figure 1-3 –WAMA Delta GSE Facility Project Construction Status

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

- **Development of an equipment database to include all known equipment utilized in each Master Plan project**. This database documents the technical specifications of each piece of on and off-road construction equipment. The database documents each piece of equipment relative to compatibility with diesel emission control devices, the emission control device used or planned for use on each piece of construction equipment, or whether the equipment was determined to be incompatible with any available emission control system. The database also documents all equipment operating under an approved Los Angeles World Airports (LAWA) exemption, including but not limited to "20-day" exemptions, driver-visibility safety exemptions, or special circumstance exemptions;

- **Field verification of the equipment database and reconciliation with LAWA's environmental monitor vehicle records**. The construction contractors provide LAWA's environmental monitor with airfield equipment lists on a periodic basis (typically monthly). The Third Party Monitor reviews all available vehicle records for the purpose of verifying compliance with 20-day exemption obligations as well as reconciling LAWA's environmental monitor records with the Third Party Monitor equipment database;
- **Examination and verification of requests for exemptions from installation of Best Available Control Technology (BACT).** As discussed in Section 2 of this report, CFCI independently reviews each piece of construction equipment proposed for use on a LAX Master Plan project to determine compatibility with a commercially available California Air Resources Board (CARB) or U.S. Environmental Protection Agency (EPA) verified Diesel Emission Control System (VDECS). The results of this independent assessment are documented in each Semiannual Report as well as the equipment database;
- **Examination of fuel purchase records to verify that low sulfur diesel is being used**. This task has been substantially reduced in scope due to enactment of state law that allows only ultra-low sulfur diesel (ULSD) to be sold for on and off-road vehicles in California;
- **Monitoring of installed emission control devices on construction equipment**. This includes physical inspections of diesel construction equipment retrofitted with a VDECS to ensure emission control devices are properly installed and functioning;
- **On-airfield monitoring of construction equipment operations enforcement**. This includes, but is not limited to, observation of construction operations to determine compliance with equipment idling restrictions, fugitive dust emissions mitigation requirements, as well as identification of construction equipment in an apparent state of disrepair due to the presence of visible smoke;
- **Annual reassessment of available Emission Control Systems**. On an annual basis, the Third Party Monitor conducts a comprehensive evaluation of available CARB and EPA-verified emission control systems. The purpose of this reassessment is to ensure LAWA incorporates the any newly designated best available control strategies into construction bid documents prior to bidding of new construction phases of the LAX Master Plan Program. The process of emission control technology review also includes any new, relevant requirements

- promulgated by CARB or EPA. This Semiannual Report includes the results of the Annual Emission Control System Reassessment.

The CFCI project staff is comprised of the following individuals:

- Enid Joffe, founder and owner of Clean Fuel Connection, Inc.;
- Ray Gorski, lead air quality engineer and principal field engineer;
- Lauren Dunlap, air quality engineer and principal analyst in determining compatibility of emission control devices and calculations of emission reductions for VDECS installed on Master Plan project equipment. In addition, Lauren quantifies air quality benefits associated with onsite concrete crushing and batch plant concrete production.

SECTION 2 - TASK-BY-TASK STATUS REPORT

The following section documents CFCI's work during the past reporting period on each of the specific tasks in the Third Party Monitor Scope of Work.

TASK 1: BEST AVAILABLE EMISSIONS CONTROL DEVICES REQUIRED

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

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

[1] 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 results and findings of the Third Party Monitor as they relate to Tasks 1.1 and 1.2 for the period commencing in January 1, 2019 through June 30, 2019.

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

Key elements of the monitoring process include:

- *Review of available documentation* – The principal source of technical information for each vehicle proposed for operation on the MSC project are the equipment reports submitted by the construction contractors for review by LAWA's environmental monitor and environmental management staff. These reports document whether or not a compatible verified diesel emission control system (VDECS) is available for a given piece of diesel equipment;
- *Incorporation of all available data into an Equipment Database* – All relevant information derived from review of the equipment reports or field inspections is documented in the equipment database. This database is the principal tool for performing independent verification and validation of the information contained in the equipment reports reviewed and approved by LAWA;
- *Identification and documentation of missing, inconsistent, or inaccurate data* – The database notes which pieces of information are either missing or whose accuracy is suspect;
- *Request for Additional Information and/or Clarification* – Missing data or data that require validation are compiled, and a request for clarification is issued by the Independent Third Party Monitor to LAWA's environmental monitor staff;
- *Field Inspections* – In specific cases, the Independent Third Party Monitor will request permission to conduct a field inspection of the specific piece of equipment under scrutiny;

- *Task 1.2 Independent Verification and Validation* – For each piece of diesel construction equipment included in the database, an independent determination of whether or not a compatible VDECS device is available is conducted;
- *Documentation of Analysis Results* – For each piece of diesel equipment assessed, the availability and compatibility of a VDECS is recorded in the database;
- *Data Reconciliation* – The Third Party Monitor reconciles information contained in the database with the reports maintained by LAWA's environmental monitor and the construction manager's staff.

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

- *Equipment ID Number* – Most equipment operating on an LAX Master Plan construction project is marked with a unique identifying number by the equipment owner. It has been the practice of the Independent Third Party Monitor and LAWA's environmental monitor staff to use this unique ID when describing, discussing or documenting a specific piece of equipment. All equipment is tracked and monitored relative to this ID number;
- *Owner* – the owner of the piece of diesel equipment, including prime contractor and name of subcontractor or equipment rental company;
- *Equipment Category* – A brief description for the type of diesel equipment, such as "articulated dump truck";
- *Equipment Manufacturer* – The manufacturer of the piece of equipment, usually the equipment chassis. In most cases the manufacturer of the chassis is different from the engine manufacturer;
- *Equipment Model Year* – The year of manufacture of the equipment or vehicle, usually referring to the chassis and vehicle body. It should be noted that it is common for the equipment chassis or body and diesel engine to be different model years;

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

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

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

- Whether that piece of equipment has or is currently operated on a Master Plan project. For equipment that has been removed, the date of removal is recorded if known. This portion of the database is currently undergoing reconciliation with the results of the airfield equipment inventory.

- For equipment operating under a 20-day exemption, the date the equipment was placed on the airfield and the date removed. For more discussion on 20-day exemption status, please refer to the Task 4 Section of this report;

- Each piece of equipment's compatibility with both off-road and on-road Verified Diesel Emission Control Systems available at the time the equipment was originally submitted by the owner for review by environmental monitor staff.

During the period ending June 30, 2019, a total of 101 pieces of construction equipment associated with the MSC-North project was assessed; a total of 62 pieces of equipment associated with the WAMA Delta Hangar project; and 52 pieces of equipment associated with the WAMA Delta GSE Facility. The equipment information described herein is based on the equipment lists provided by LAWA environmental management. It is important to note that specific pieces of construction equipment used on the WAMA Delta Hangar have also been used during the reporting period on the WAMA Delta GSE Facility construction. To determine adherence to CBA requirements, construction equipment is tracked on a "per project" basis. Thus, the equipment totals for each project should not be summed to report an overall equipment total as double counting could occur.

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

The primary objective of this Task is to independently verify and validate the findings of LAWA's environmental monitor and contractor staff as it relates to the availability and compatibility of diesel emission control systems for diesel equipment operating on a Master Plan project. Using the methodology described under Task 1.1, CFCI staff regularly coordinates with LAWA's environmental

monitor, requesting and receiving access to files and records for diesel equipment operating or proposed for operation on a Master Plan project.

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

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

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

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

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

Tier 4 Standards - Tier 4 emission standards, which were phased in over the period of 2008 - 2015, require that emissions of PM and NO_x be reduced by approximately 90% compared to Tier 3 emission levels. These emission reductions are achieved through the use of control technologies—including advanced diesel emission control systems - similar to those required by the 2007-2010 standards for on-road engines. For the purpose of conformance to CBA requirements, equipment and vehicles equipped with an engine certified as "Tier 4 interim" or "Tier 4" final satisfies the diesel particulate matter

emission reduction CBA requirements. Tier 4 engines are equipped with diesel PM emission control systems that meet or exceed the performance of a Level 3 BACT system. Tier 4 engines also achieve NO_x emissions approximately 90% lower as compared to Tier 3 engines.

Task 1.2 Results

Each piece of diesel equipment submitted to LAWA's environmental monitor for review was independently assessed by the Third Party Monitor to determine its compatibility with a CARB and/or EPA-verified diesel emission control system. The following sections discuss conformance with Task 1.2 for the MSC-North, WAMA Delta Hangar, and WAMA GSE Facility projects for the six-month period ending June 30, 2019.

1.2.1 Midfield Satellite Concourse North – On-Road Vehicles – Construction activities on the MSC-North project have advanced to the stage where significant grading operations have been concluded. This limits the number of on-road trucks required to support the MSC-North project.

During the reporting period, a total of 16 on-road vehicles were identified as supporting the project. Note that additional light and medium duty vehicles such as pickup trucks, are present; however, only heavy-duty vehicles with a gross vehicle weight rating of 14,001 pounds or greater are included in the CBA conformance assessment.

Table 1.2.1-1, below, lists the on-road vehicles reviewed under this Semiannual Report:

Table 1.2.1-1: MSC North On-Road Vehicles

Contractor/Equipment Owner	Identification No.	Description	Year
PDQ	47734N2	Water Truck	2018
King Equipment	10706F2	Flat Dump	2017
King Equipment	83792A2	5-Yard Dump Truck	2015
King Equipment	40957B2	Flat Dump A/C	2015
King Equipment	40956B2	Flat Dump A/C	2016
King Equipment	16540A2	5-Yard Dump Truck	2016
King Equipment	85275V1	Water Truck	2015
King Equipment	03485P1	Truck	2014
King Equipment	03457P1	Truck	2014
King Equipment	03488P1	Truck	2014
PDQ	70939T1	Water Truck	2015

TBD	9F67763	Penhall Dump Truck	2019
Contractor/Equipment Owner	**Identification No.**	**Description**	**Year**
Alameda Construction	9C33501	Water Truck	2017
Global Haul Trucks	67200T1	Truck	2015
Global Haul Trucks	WP49928	Haul Truck	2012
Alameda Construction	XP04090	Haul Truck	2017

On-road heavy-duty trucks model year 2010 and newer are equipped with both a diesel particulate filter to reduce diesel particulate matter (PM_{10} and $PM_{2.5}$) and a selective catalytic reduction (SRC) device or other emissions control technology that reduces NO_x emissions. The 2010 and newer heavy-duty vehicles are also certified to the 2010 NO_x standard of 0.2 grams per brake horsepower-hour (g/bhp-hr) or cleaner.

As shown in Table 1.2.1-1, all of the on-road trucks that supported MSC-North construction during the reporting period ending June 30, 2019 are model year 2012 or newer and equipped with a verified diesel emission control device. As such, the MSC-North on-road vehicles comply with the CBA Best Available Control Technology (BACT) requirement.

1.2.2 Midfield Satellite Concourse North – Off-Road Equipment - During the reporting period, a total of 88 pieces of off-road construction equipment were evaluated. Of this number, applications for ten (10) pieces of construction equipment proposed for use on MSC-North were rejected. The reasons for rejection include missing equipment documentation or mismatched equipment data, such as the engine family number included in the Air Resources Board DOORS database not matching the engine family number on the CARB Executive Order provided to LAWA.

The remaining 78 pieces of off-road construction equipment are shown in Table 1.2.2-1, below. LAWA environmental management reviews each piece of equipment and supporting documentation and makes a determination as to whether or not the proposed equipment conforms to LAWA environmental policy and the CBA requirements. The following Table lists the off-road equipment deemed compliant by LAWA:

Table 1.2.2-1: MSC North Off-Road Equipment

Contractor	Identification No.	Description	Engine Tier
Cowelco	RV7F39	Aerial Lift	T4F

Limbach	RS6S65	Tractors/Loaders/Backhoes	T4F
Contractor	Identification No.	Description	Engine Tier
Premiere	WM5N43	Skid Steer Loader	T4F
Orange County Plastering	181070	Generator - PERP	T4F
Orange County Plastering	KL7F46	Forklift	T4F
Griffith	NP8E95	Tractor/ Loader/ Backhoe	T4F
Granite	NC7U89	Tractor/ Loader/ Backhoe	T4F
Granite	GC8P99	Excavators	T4F
Granite	RX7A65	Tractor/ Loader/ Backhoe	T4F
Granite	MW8G87	Excavator	T4F
EFI/ECG	NX8W68	Excavator	T4F
TBD	AK6C45	Rough Terrain Forklift	T4F
Coastline Equipment	TA8R46	Excavator	T4F
Crown Corr	NB7N98	Aerial Lift	T4F
Crown Corr	EN9W59	Boom	T4F
SE Pipeline	JN8J59	Tractor/Loader/Backhoe	T4F
Top End Terrazzo	US5G95	Forklift	T4F
King Equipment	YJ4K93	Tractor/ Loader/ Backhoe	T4F
Helix	XX6K46	Forklift	T4F
Granite	AM9C76	Excavator	T4F
Granite	WY9N64	Forklift	T4F
Granite	GV5L64	Crawler Tractor	T4F
N/a	RC9E35	Forklift	T4F
Blois	SM4G58	Forklift	T4F
Blois	HR5E64	Skid Steer Loader	T4F
King Equipment	NC7X78	Boom Lift	T4F
United Rentals	ST9D39	Forklift	T4F
TBD	172301	PERP	T4F
Helix	RT9H44	Aerial Lift	T4F
N/a	RC9E35	Forklift	T4F
Bagatelos	VM7P76	Boom	T4F
Granite	XP7P64	Roller	T4F
Granite	LJ5L84	Roller	T4F
Top End Terrazzo	181990	Generator - PERP	T4F

Crown Corr	KJ7X63	Boom Lift	T4F
Contractor	Identification No.	Description	Engine Tier
Crown Corr	NJ4A84	Boom Lift	T4F
Crown Corr	KU7X65	Boom Lift	T4F
Orange County Plastering	YP9C69	Boom Lift	T4F
Granite	RX8U44	Excavator	T4F
Bagatelos	RE7J83	Crane	T4F
Best Contracting	CK4F43	Forklift	T4F
EFI Global	SW8R79	Skid Steer Loader	T4F
EFI Global	RG6C44	Excavator	T4F
TBD	VB9P85	Tractor/ Loader/ Backhoe	T4F
TBD	TV3D53	Tractor/ Loader/ Backhoe	T4F
Helix Electric	US6J48	Tractor/ Loader/ Backhoe	T4F
Control Air	UH3D59	Skid Steer	T4F
Granite	RL9J98	Skid Steer	T4F
Bagatelos	JV5W47	Boom Lift	T4F
United Rentals	177802	Generator	T4F
Granite	VE4G75	Rough Terrain Forklift	T4F
Granite	KX5S89	Rubber Tired Dozer	T4F
Royal	EX9D94	Tractor/ Loader/Backhoe	T4F
Conco	SS7H94	Backhoe	T4F
Alameda Construction	SL4G83	Skid Steer Loader	T4F
Alameda Construction	PX6X56	Skid Steer Loader	T4F
Granite	RS4S88	Forklift	T4F
Conco	GM9P34	Forklift	T4F
BEST Malcolm	VT7T75	Forklift	T4F
Allied Steel Co	8ELR407	Terex Crane	T4F
Griffith	RH7K87	Forklift	T4F
Helix	CB6H84	Forklift	T4F
Granite Construction	KC3W95	Roller	T4F
Granite Construction	UT7S33	Skid Steer Loader	T4F
Granite Construction	VC5J83	Skid Steer Loader	T4F
Granite Construction	EL8P54	Crawler Tractor	T4F
King Equipment	MH7P44	Boom	T4F

King Equipment	XW3X35	Forklift	T4F

Contractor	Identification No.	Description	Engine Tier
King Equipment	EN7Y94	Forklift	T4F
King Equipment	NB3H76	Forklift	T4F
King Equipment	EH3X98	Forklift	T4F
King Equipment	SH5G74	Forklift	T4F
King Equipment	CK8K93	Forklift	T4F
Griffith	PH8H34	Grader	T4F
Granite	XG3N85	Crane	T4F
Control Air	DH5M96	Tractor/Loader/Backhoe	T4F
Helix	RA8B93	Crane	T4I
Helix	TA5Y57	Forklift	T4F

The above-listed off-road equipment is summarized by emissions rating (Tier), below:

Table 1.2.2-2: Summary of MSC North Construction Equipment Breakdown by Equipment Tier

Emissions Standard/Classification	Quantity
Tier 4 Final	87
Tier 4 Interim	1
Tier 3 or Lower	0

As shown in Table 1.2.2-2, all equipment authorized by LAWA to access the air operations area is factory equipped with a Level 3 VDECS (Tier 4 Interim and Tier 4 Final) and thus represents the best available emissions control technology (BACT).

1.2.3 WAMA Delta Hangar – On-Road Vehicles - During the reporting period, seven (7) on-road vehicles were evaluated for compliance to CBA requirements. Table 1.2.3-1, below, lists the on-road vehicles reviewed under this Semiannual Report:

Table 1.2.3-1: WAMA Delta Hangar On-Road Vehicles

Contractor	Identification No.	Description	Year
Royal	A4027	Vacuum Truck	2015
Royal	A10446	Vacuum Truck	2016

Conco	8GOW568	Telebelt Truck	2018
Contractor	**Identification No.**	**Description**	**Year**
Griffith	23867P2	Vacuum Truck	2018
Conco	7XAT924	Telebelt Vehicle	2017
Crane authority	8CQH801	Terex Crane Truck	2018
Griffith	24817H2	Water Truck	2017

As shown in the above Table, all on-road vehicles have been documented to meet the requirements of CBA Section X.F.1, in that all of the vehicles are model year 2010 or newer and equipped with a factory installed VDECS. The vehicles are also certified to the 2010 NO_x standard of 0.2 g/bhp-hr.

1.2.4 WAMA Delta Hangar – Off-Road Equipment - During the reporting period, a total of 52 pieces of off-road construction equipment was evaluated. Of this number, LAWA rejected the applications for eight (8) pieces of equipment. The following Table lists the remaining 44 pieces of off-road equipment deemed compliant and reviewed under this Semiannual Report:

Table 1.2.4-1: WAMA Delta Hangar Off-Road Equipment

Contractor	Identification No.	Description	Tier
Xcel	JU9B54	Forklift	T4F
Xcel	VK3X43	Boom Lift	T4F
Xcel	CP6X83	Boom Lift	T4F
Cupertino	VL5G66	Aerial Lift	T4F
Griffith	MW4F89	Roller	T4F
Schroeder	KA7J94	Forklift	T4F
Griffith	EV5V46	Grader	T4I
Griffith	LJ5L84	Roller	T4F
Infinity	KX5Y97	Aerial Lift	T4I
Infinity	MA5Y43	Aerial Lift	T4I
Cosco	HJ4K73	Forklift	T4F
Griffith	GD6E49	Roller	T4F
Griffith	BS9V43	Crawler tractor	T4I
Griffith	JT7L83	Excavator	T4I
Royal	YK8F55	Forklift	T4F
Royal	RA3Y47	Excavator	T4F
Griffith	ES5A78	Excavator	T4F
Griffith	RH7K85	Roller	T4F
Royal	JN8J59	Backhoe	T4F

Royal	KF3M39	Forklift	T4F
Contractor	**Identification No.**	**Description**	**Tier**
Eberhard	JT6N57	Aerial Lift	T4F
Herrick	TX5P77	Forklift	T4F
Griffith	WT5G86	Backhoe	T4F
Griffith	BK6P46	Tractor/ Loader/ Backhoe	T4F
Conco	PA5X66	Roller	T4F
XCEL	NB7N98	Aerial Lift	T4F
Griffith	MF9R74	Forklift	T4I
Conco	VH6A77	Loader	T4F
Eberhard	UV6A88	Aerial Lift	T4F
Griffith	ES5A78	Excavator	T4F
Royal	AM6L45	Excavator	T4F
Eberhard	JD9G56	Boom Lift	T4F
Eberhard	CS4T58	Boom Lift	T4F
Eberhard	PU4K83	Aerial Lift	T4I
Eberhard	KA6N36	Aerial Lift	T4I
Conco	XU7E64	Loader	T4F
Conco	VU6R46	Excavator	T4I
Griffith	HM9D78	Crawler/ Tractor	T4I
Griffith	PE9G39	Loader	T4F
Griffith	DT7R84	Forklift	T4F
Griffith	GP3K74	Loader	T4F
Conco	XX5S58	Loader	T4F
Conco	PV6A67	Loader	T4F
Griffith	SN5U55	Tractor/Backhoe Loader	T4F

The above-listed off-road equipment is summarized by emissions rating (Tier), below:

Table 1.2.4-2: Summary of WAMA Delta Hangar Construction Equipment Breakdown by Equipment Tier

Emissions Standard/Classification	Quantity
Tier 4 Final	34
Tier 4 Interim	10
Tier 3 or Lower	0

As shown in Table 1.2.4-2, all of the off-road construction equipment allowed to operate on the WAMA Delta Hangar project is factory equipped with a Level 3 VDECS (Tier 4 Interim and Tier 4 Final) and thus represents the best available emissions control technology (BACT).

1.2.5 WAMA Delta GSE Facility – On-Road Vehicles - During the reporting period, seven (7) on-road vehicles were evaluated for compliance to CBA requirements. Table 1.2.5-1, below, lists the on-road vehicles reviewed under this Semiannual Report:

Table 1.2.5-1: WAMA Delta GSE Facility On-Road Vehicles

Contractor	Identification No.	Description	Year
Merli	XP37446	Vacuum Truck	2013
Merli	7UCE009	Concrete Pump	2016
Merli	24817H2	Truck	2017

As shown in the above Table, all on-road vehicles have been documented to meet the requirements of CBA Section X.F.1, in that all of the vehicles are model year 2010 or newer and equipped with a factory installed VDECS. The vehicles are also certified to the 2010 NO_x standard of 0.2 g/bhp-hr.

1.2.6 WAMA Delta GSE Facility – Off-Road Equipment - During the reporting period, a total of 49 pieces of off-road construction equipment was evaluated. Of this number, LAWA rejected the applications for three (3) pieces of equipment. The following Table lists the remaining 46 pieces of off-road equipment deemed compliant and reviewed under this Semiannual Report:

Table 1.2.6-1: WAMA Delta GSE Facility Off-Road Equipment

Contractor	Identification No.	Description	Tier
	FB4D85	Rough Terrain Forklift	T4F
United Rentals	AW3V96	Roller	T4F
MBI	BA5P47	Tractor/ Loader/ Backhoe	T4F
MBI	GM6G34	Tractor/ Loader/ Backhoe	T4F
PDQ	HA9H59	Forklift	T4F
	XW7F66	Skid Steer Loader	T4F
Granstrom	RG9Y43	Tractor/ Loader/ Backhoe	T4F
Savala	GK7G85	Tractor/ Loader/ Backhoe	T4F
United Rentals	CC4W73	Skid Steer Loader	T4F
PDQ	RS4S88	Forklift	T4F

Griffith	WT5G86	Backhoe	T4F
Griffith	BK6P46	Tractor/ Loader/ Backhoe	T4F
	KK4E98	Roller	T4F
	RH7K85	Roller	T4F
Contractor	**Identification No.**	**Description**	**Tier**
	HN4B79	Excavator	T4I
	XP4V86	Forklift	T4I
	JF4D34	Drill Rig (Mobile)	T4F
HB Crane	BS4R33	Crane	T4F
	DK7L74	Forklift	T4F
	WK8Y55	Loader	T4F
	UM9M97	Forklift	T4F
	NF5T49	Pavers	T4F
	RW6P36	Pavers	T4F
	FB4Y74	Paving Equipment	T4F
	AF6P96	Rubber Tired Loader	T4F
	AM7M45	Skid Steer Loader	T4F
	AT5A96	Grader	T4F
	GG9W87	Grader	T4F
	VF7B36	Roller	T4F
	SA3J97	Roller	T4I
	PM7D55	Tractor/ Loader/ Backhoe	T4F
	SN5U55	Tractor/ Loader/ Backhoe	T4F
	SG9S73	Skip Loader	T4F
	MA5K55	Tractor/ Loader/ Backhoe	T4F
	TT5J38	Grader	T4F
	XY6R78	Roller	T4F
	FB4C55	Roller	T4F
	JC6E64	Tractor/ Loader/ Backhoe	T4F
	GH4N53	Tractor/ Loader/ Backhoe	T4F
	FF3G85	Loader	T4F
	LJ4N86	Excavator	T4F
	HA3Y47	Loader	T4F
SRD	XS5R39	Backhoe	T4F
SRD	EF7W95	Excavator	T4F
SRD	GP3K74	Loader	T4F
SRD	JE9R75	Loader	T4F

The above-listed off-road equipment is summarized by emissions rating (Tier), below:

Table 1.2.6-2: Summary of WAMA Delta GSE Construction Equipment Breakdown by Equipment Tier

Emissions Standard/Classification	Quantity
Tier 4 Final	43
Tier 4 Interim	3
Tier 3 or Lower	0

As shown in Table 1.2.6-2, all of the off-road construction equipment allowed to operate on the WAMA Delta GSE Facility project is factory equipped with a Level 3 VDECS (Tier 4 Interim and Tier 4 Final) and thus represents the best available emissions control technology (BACT).

TASK 2: DEMONSTRATION PROJECTS

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

- Task 2.1 – The Third Party Monitor shall perform a technical evaluation of the proposed demonstration technology and provide written findings to the Coalition Representative and LAWA. The Third Party Monitor shall also assist with the implementation of a Demonstration Project, including identifying suitable emission control devices and Demonstration Project funding sources;
- Task 2.2 – Upon acceptance by LAWA, the Third Party Monitor shall monitor, document, and report independently from LAWA, compliance of the demonstration equipment with all defined Demonstration Project requirements, including but not limited to the pollution reduction requirements specified in Section X.F.3 of the CBA.

No demonstration projects were conducted during the six-month period of January 1, 2019 through June 30, 2019.

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[2] in diameter (PM_{10}), and fine particulate, which is on the order of 2.5 microns in diameter ($PM_{2.5}$). A secondary objective of this requirement is to reduce oxides of nitrogen emissions (NO_x), which are ozone precursors. This section also states that under no circumstance shall an emission reduction device or strategy used on the LAX Master Plan Program construction site increase the emission of any pollutant above that which is the standard for that engine.

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

- Task 3.1 - Contractor shall monitor, document, and report independently from LAWA, compliance of each piece of diesel construction equipment used pursuant to CBA X.F.1 as it relates to meeting or exceeding Level 2 diesel emission reductions for a similar sized engine;
- Task 3.2 – Contractor shall monitor, document, and report independently from LAWA, compliance of each piece of diesel construction equipment used pursuant to CBA X.F.1 to ensure its emission reduction device or strategy does not result in an increase of any pollutant above that which is standard for that engine;
- Task 3.3 – Contractor shall monitor, document and report on emission reductions of NO_x, reactive organic gases (ROG), PM and carbon monoxide (CO) achieved through the use of best available control technology.

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

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

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

Not all equipment proposed for operation on the MSC-North, WAMA Delta Hangar, and WAMA GSE Facility projects is necessarily used – contractors provide a list of potential needs prior to the start of construction activities. Typically, a subset of this proposed equipment is actually used in construction activities. Also, not all equipment resides on the airfield during the entire project duration; equipment is moved on and off the airfield as construction demands dictate.

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

The U.S. EPA and ARB verification procedures are designed to ensure that no measurable increase on other pollutant emissions results from installation of the approved VDECS. One issue that should be noted is that the ARB verification procedures include a nitrogen dioxide ($NO_{2)}$ limit requirement. Specifically, NO_2 may not increase more than 20 percent as a result of the installation and operation of the device[3]. All Tier 4i, Tier 4F, and 2007 EPA-compliant equipment and vehicles assessed under Task 1 for the MSC project comply with the CARB NO_2 limit requirements.

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

A quantification of air quality benefits achieved through the use of best available control technology is not feasible at this time. Equipment operating on the airfield in support of the MSC, WAMA Delta Hangar, and WAMA GSE Facility projects that are equipped with engines certified at the Tier 4 Final and Tier 4 interim levels have particulate matter (PM) that comply with CBA obligations, and also emit oxides of nitrogen (NO_x) emission levels that are substantially lower than those required under the CBA.

However, because these vehicles are designed and manufactured to meet more stringent emission standards, they are not "retrofitted" per se with Best Available Control Technologies (BACT) within the context of the CBA. "Tier 4" vehicles - in their baseline configuration - meet CBA requirements. Thus, because Tier 4 vehicles achieve CBA-mandated emission levels in their baseline configuration, there is no other vehicle configuration to compare them to. As a result, Tier 4 diesel equipment is not shown as offering an emissions benefit as a result of imposition of a CBA requirement. The equipment is inherently low emitting and represents the "state of the art" for off-road equipment emissions.

[3] Title 13 CCR section 2706(a)

TASK 4: EXEMPTIONS GRANTED

4.1 MSC North Project - Zero (0) on-road and off-road exemptions were granted by LAWA on the MSC North project. All vehicles and equipment approved by LAWA are equipped with a CBA-compliant diesel emission control device.

4.2 WAMA Delta Hangar Project - Zero (0) on-road and off-road exemptions were granted by LAWA on the WAMA Delta Hangar project. All vehicles and equipment approved by LAWA are equipped with a CBA-compliant diesel emission control device.

4.3 WAMA Delta GSE Facility Project - Zero (0) on-road and off-road exemptions were granted by LAWA on the WAMA Delta GSE Facility project. All vehicles and equipment approved by LAWA are equipped with a CBA-compliant diesel emission control device.

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 to 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 15-ppm or lower. Verification will be based on CARB certification or equivalent.

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

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

TASK 6: OPERATIONAL REQUIREMENTS

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

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

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

- Task 6.1 – The Independent Third Party Monitor shall establish processes and procedures for determining whether a construction firm is complying with the operational requirements specified by LAWA. For the purpose of this task, Operational Requirements include, but are not limited to, engine idling and engine maintenance requirements;
- Task 6.2 – The Independent Third Party Monitor shall monitor, document, and independently report to LAWA and the Coalition Representative on operational requirements issued and

enforced by LAWA as they relate to limitations on idling and engine maintenance, at a minimum. Idling and engine maintenance records for construction equipment related to the LAX Master Plan Program will be provided to the Contractor by LAWA.

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

Process for Determining Compliance with Operational Requirements

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

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

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

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

Vehicle and Equipment Idling – The Environmental Requirements for the MSC, WAMA Delta Hangar, and WAMA GSE Facility projects prohibit construction vehicles and equipment from excessive idling in accordance with the restrictions defined in the CARB Vehicle Idling Rules.

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;
- 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 LAWA's construction contractor/ environmental monitor Status Meetings – in which reiteration of LAWA idling restrictions were reviewed.

LAWA's environmental monitor confirmed that excessive idling had a lower incidence rate when compared to other LAX Master Plan projects. During the period of January 1, 2019 through June 30, 2019, LAWA issued zero (0) notices of excessive idling. This included both on-road vehicles as well as off-road construction equipment.

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

LAWA's environmental monitor and the Third Party Monitor also conduct regular visual inspections of diesel equipment operating on LAX Master Plan projects, looking for excessive exhaust soot or other indications that the equipment is in a state of disrepair. During the reporting period, no vehicles or equipment were determined by LAWA to be emitting excessive smoke. This is due in large part to the high percentage of Tier 4 equipment being utilized on the MSC, WAMA Delta Hangar, and WAMA GSE Facility projects.

TASK 7: ENFORCEMENT BY LAWA

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

During the period of January 1, 2019 through June 30, 2019, LAWA's environmental monitor noted good compliance with environmental policies. This was conveyed in writing to the independent third party monitor.

No enforcement actions were taken by LAWA for excessive vehicle and equipment idling. LAWA submitted documentation to the third party monitor stating that an idling restriction reminder is included in all construction meetings with the contractors – this occurs at a minimum on a weekly basis.

No enforcement actions were required for excessive noise. Additionally no enforcement actions were required for fugitive dust emissions. LAWA submitted documentation of regular watering and sweeping activity as a mitigation strategy for fugitive dust emissions. No South Coast AQMD Notices of Violation (NOV) were issued during the reporting period for dust violations.

TASK 8: REASSESSMENTS OF EMISSION CONTROL DEVICES

The Community Benefits Agreement Section X.F.9 requires that a reassessment of best available emission control devices be conducted on an annual basis, or more frequently if warranted. The purpose is to ensure that bid documents take into account advances in emission control devices prior to bidding new construction phases of the LAX Master Plan Program. This reassessment was conducted for all verified devices as of for the annual period commencing January 1, 2019 to June 30, 2019.

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

During the period of January 1, 2019 through June 30, 2019, the US EPA or CARB verified no additional diesel emission control systems. Given that new on-road and off-road vehicles and equipment are now manufactured with factory installed emissions control systems, including Tier 4 off-road equipment, there is a limited market for new VDECS for vehicle retrofits.

Task 9: Implementation of Public Complaint Registration Process

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

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

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

- No fugitive dust complaints were recorded, and LAWA, the South Coast AQMD, or any other environmental regulatory authority took no enforcement actions during that period;
- No excessive noise complaints were lodged during the reporting period.

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

- Dissemination and strict enforcement of the environmental requirements of the CBA by LAWA's environmental monitor and inspectors;
- Construction activities associated with the MSC, WAMA Delta Hangar, and WAMA GSE projects primarily take place largely in the geographic center of the LAX airfield. Sensitive receptors, such as the communities of El Segundo, are to a large extent buffered by the South Airfield runways. A similar situation exists on the northern area, where the North Airfield runways provide a buffer. This serves as a barrier to common construction nuisances such as noise curfew violations.

SECTION 3 - RESULTS AND CONCLUSIONS

The following is a summary of Third Party Monitor independent monitoring results and findings for the six-month period commencing January 1, 2019 and ending June 30, 2019:

- Monitoring and documentation of diesel equipment utilized or proposed for utilization on the MSC North, WAMA Delta Hangar, and WAMA Delta GSE Facility projects - as documented in the above Sections of this report, 100% of the on-road vehicles and off-road construction equipment was equipped with a factory installed diesel emission control device;
- A review and documentation of all exemptions granted by LAWA that allow a piece of diesel construction equipment to operate on LAX construction projects without a best available control technology retrofit. This includes equipment that was deemed incompatible with a verified VDECS, or granted a "20-day" exemption on the basis of infrequent equipment use. No CBA exemptions were required during this reporting period;
- During the reporting period, no Notices of Violation (NOV) were levied by the South Coast Air Quality Management District for fugitive dust emissions associated with earth moving operations or dirt or aggregate transport. No dust complaints were received by LAWA from the public, and LAWA project management did not observe any excessive fugitive dust emissions. LAWA reported that sweeping and watering activities were observed on a regular basis;
- No excessive noise complaints were received during the reporting period from the public;
- In accordance with CBA requirements, CFCI conducted a reassessment of available CARB and EPA-verified diesel emission control systems. This reassessment is conducted on an annual basis. The intent is that LAWA use these findings to designate newly verified devices as best available control devices and incorporate the requirement to use these devices into construction bid documents for new construction phases of the LAX Master Plan Program. These findings, however, are not to be applied retroactively to Master Plan projects already in the construction phase.

  As a result of this reassessment, it was determined that no new verified diesel emission control systems have been verified for either on-road vehicles or off-road equipment during the reporting period.

Overall, diesel equipment used on construction activities during the specified time period was found to be in full compliance with all provisions of the CBA Section X.F. As discussed in previous sections, 100% of on-road and off-road construction vehicles and equipment supporting MSC North, WAMA Delta Hangar, and WAMA Delta GSE Facility project construction were found to be compliant with the CBA.

The next Semiannual Report will cover the period commencing July 1, 2019 and ending December 31, 2019.

LAX Master Plan Projects Semiannual Report
Independent Third Party Monitor

Prepared by:

Clean Fuel Connection, Inc.

February 24, 2020

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Cover Photo – WAMA Delta Hangar
Photo Credit - Ray Gorski

SECTION 1 - INTRODUCTION

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

This Semiannual Report covers the period commencing July 1, 2019 and ending December 31, 2019. During this period, three (3) LAX Master Plan projects had ongoing construction activities. These include the Midfield Satellite Concourse (MSC) North, the West Aircraft Maintenance Area (WAMA) Delta Hangar, and the WAMA Delta Ground Support Equipment (GSE) Facility. The WAMA GSE Facility is a separate building adjacent to the WAMA Delta Hangar that will be used to maintain and domicile ground support equipment. The MSC project includes a new passenger concourse facility approved as part of the LAX Master Plan. The MSC facility is located in the central area of the airfield, west of Tom Bradley International Terminal (TBIT). The MSC Program also includes a Central Terminal Processor, conveyance systems for passengers and baggage, and new taxiways/taxilanes and airport aprons. The construction contractor is Turner/PCL, a Joint Venture in association with Corgan/Gensler. Figure 1-1 shows the construction progress made on the MSC North Project:

Figure 1-1 – Midfield Satellite Concourse North Project Progress

Due to the size and scale of the MSC Program, LAWA is developing the MSC in independent phases. Phase 1 ("MSC North Project", herein referred to as MSC North) of the MSC Program is the construction of the northern portion of the multi-story MSC facility and associated improvements.

The Delta Hangar Project is constructing a new aircraft maintenance facility within the West Aircraft Maintenance Area. Construction progress as of December 2019 on the WAMA Delta Hangar is shown below in Figure 1-2:

Figure 1-2 – WAMA Delta Hangar Project Construction Status

The WAMA Delta Ground Support Equipment (GSE) building is located adjacent to the Delta Hangar. This Semiannual Report will discuss adherence to the CBA Section X.F. requirements during MSC North, WAMA Delta Hangar, and WAMA Delta GSE Facility construction. Figure 1-3 shows construction progress on the WAMA Delta GSE Facility building:

Figure 1-3 –WAMA Delta GSE Facility Project Construction Status

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

- **Development of an equipment database to include all known equipment utilized in each Master Plan project**. This database documents the technical specifications of each piece of on and off-road construction equipment. The database documents each piece of equipment relative to compatibility with diesel emission control devices, the emission control device used or planned for use on each piece of construction equipment, or whether the equipment was determined to be incompatible with any available emission control system. The database also documents all equipment operating under an approved Los Angeles World Airports (LAWA) exemption, including but not limited to "20-day" exemptions, driver-visibility safety exemptions, or special circumstance exemptions;
- **Field verification of the equipment database and reconciliation with LAWA's environmental monitor vehicle records**. The construction contractors provide LAWA's environmental monitor with airfield equipment lists on a periodic basis (typically monthly). The Third Party Monitor

reviews all available vehicle records for the purpose of verifying compliance with 20-day exemption obligations as well as reconciling LAWA's environmental monitor records with the Third Party Monitor equipment database;

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

The CFCI project staff is comprised of the following individuals:

- Enid Joffe, founder and owner of Clean Fuel Connection, Inc.;
- Ray Gorski, lead air quality engineer and principal field engineer;

- Lauren Dunlap, air quality engineer and principal analyst in determining compatibility of emission control devices and calculations of emission reductions for VDECS installed on Master Plan project equipment. In addition, Lauren quantifies air quality benefits associated with onsite concrete crushing and batch plant concrete production.

SECTION 2 - TASK-BY-TASK STATUS REPORT

The following section documents CFCI's work during the past reporting period on each of the specific tasks in the Third Party Monitor Scope of Work.

TASK 1: BEST AVAILABLE EMISSIONS CONTROL DEVICES REQUIRED

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

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

[1] 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 results and findings of the Third Party Monitor as they relate to Tasks 1.1 and 1.2 for the period commencing in July 1, 2019 through December 31, 2019.

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

Key elements of the monitoring process include:

- *Review of available documentation* – The principal source of technical information for each vehicle proposed for operation on the MSC project are the equipment reports submitted by the construction contractors for review by LAWA's environmental monitor and environmental management staff. These reports document whether or not a compatible verified diesel emission control system (VDECS) is available for a given piece of diesel equipment;
- *Incorporation of all available data into an Equipment Database* – All relevant information derived from review of the equipment reports or field inspections is documented in the equipment database. This database is the principal tool for performing independent verification and validation of the information contained in the equipment reports reviewed and approved by LAWA;
- *Identification and documentation of missing, inconsistent, or inaccurate data* – The database notes which pieces of information are either missing or whose accuracy is suspect;
- *Request for Additional Information and/or Clarification* – Missing data or data that require validation are compiled, and a request for clarification is issued by the Independent Third Party Monitor to LAWA's environmental monitor staff;
- *Field Inspections* – In specific cases, the Independent Third Party Monitor will request permission to conduct a field inspection of the specific piece of equipment under scrutiny;

- *Task 1.2 Independent Verification and Validation* – For each piece of diesel construction equipment included in the database, an independent determination of whether or not a compatible VDECS device is available is conducted;
- *Documentation of Analysis Results* – For each piece of diesel equipment assessed, the availability and compatibility of a VDECS is recorded in the database;
- *Data Reconciliation* – The Third Party Monitor reconciles information contained in the database with the reports maintained by LAWA's environmental monitor and the construction manager's staff.

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

- *Equipment ID Number* – Most equipment operating on an LAX Master Plan construction project is marked with a unique identifying number by the equipment owner. It has been the practice of the Independent Third Party Monitor and LAWA's environmental monitor staff to use this unique ID when describing, discussing or documenting a specific piece of equipment. All equipment is tracked and monitored relative to this ID number;
- *Owner* – the owner of the piece of diesel equipment, including prime contractor and name of subcontractor or equipment rental company;
- *Equipment Category* – A brief description for the type of diesel equipment, such as "articulated dump truck";
- *Equipment Manufacturer* – The manufacturer of the piece of equipment, usually the equipment chassis. In most cases the manufacturer of the chassis is different from the engine manufacturer;
- *Equipment Model Year* – The year of manufacture of the equipment or vehicle, usually referring to the chassis and vehicle body. It should be noted that it is common for the equipment chassis or body and diesel engine to be different model years;
- *Equipment Model Number* – The number or other descriptive terminology used by the equipment manufacturer in marketing the vehicle, oftentimes used to differentiate similar products;

- *Equipment Serial Number* – This differs from the Equipment ID number described above. The equipment serial number is the vehicle chassis or body identification number assigned by the equipment manufacturer;
- *Engine Manufacturer* – The manufacturer of the main diesel engine used in the equipment. In some cases, most notably off-road heavy-duty scrapers and on-road street sweepers, the equipment has two diesel engines. The first and second engines are designated #1 and #2, respectively, in the database;
- *Engine Model* – The number or other descriptive terminology used by the manufacturer in engine marketing, used to differentiate similar products;
- *Engine Model Year* – The year of manufacture of the diesel engine, diesel emission control devices are often verified for a specific engine model year;
- *Engine Serial Number* – A unique identification number or alphanumeric code assigned by the engine manufacturer;
- *Engine Displacement* – The total volumetric size of the engine's combustion cylinders, usually described as "cubic inches" or "liters". Displacement expressed in cubic inches is calculated by multiplying the number of cylinders by the piston area (square inches) and by the length of the piston stroke (inches). The commonly used metric designation of "liters" is the total engine displaced volume measured in cubic centimeters (1 liter = 1,000 cubic centimeters);
- *Engine Horsepower* – The rated horsepower of the engine by the engine manufacturer;
- *Engine Family* – Engine Family is a descriptive designation given by CARB to a diesel engine upon certification. It is a code, similar to an automobile Vehicle Identification Number, that identifies the engine model year, engine manufacturer, the engine's displacement, on-road or off-road applicability, emissions equipment included during certification testing. This piece of data, along with engine manufacturer and engine model year, is essential to determine conclusively if a VDECS is compatible with the engine undergoing assessment. With practice, one can quickly ascertain a substantial amount of information about an engine by deciphering the engine family designation;
- *Engine #2 Data* – Similar to the above for Engine #1, data are documented for the second diesel engine on a piece of equipment. In the case of heavy-duty earth moving scrapers, the two engines

are front and rear; in the case of street sweepers, the second engine is an auxiliary engine that operates the vehicle's rotary brooms and vacuum system.

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

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

During the period ending December 31, 2019, a total of 81 pieces of construction equipment associated with the MSC North project was assessed; a total of 46 pieces of equipment associated with the WAMA Delta Hangar project; and 15 pieces of equipment associated with the WAMA Delta GSE Facility. The equipment information described herein is based on the equipment lists provided by LAWA environmental management. It is important to note that specific pieces of construction equipment used on the WAMA Delta Hangar have also been used during the reporting period on the WAMA Delta GSE Facility construction. To determine adherence to CBA requirements, construction equipment is tracked on a "per project" basis. Thus, the equipment totals for each project should not be summed to report an overall equipment total as double counting could occur.

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

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

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

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

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

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

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

Tier 4 Standards - Tier 4 emission standards, which were phased in over the period of 2008 - 2015, require that emissions of PM and NO_x be reduced by approximately 90% compared to Tier 3 emission levels. These emission reductions are achieved through the use of control technologies—including advanced diesel emission control systems - similar to those required by the 2007-2010 standards for on-road engines. For the purpose of conformance to CBA requirements, equipment and vehicles equipped with an engine certified as "Tier 4 interim" or "Tier 4" final satisfies the diesel particulate matter emission reduction CBA requirements. Tier 4 engines are equipped with diesel PM emission control systems that meet or exceed

the performance of a Level 3 BACT system. Tier 4 engines also achieve NO_x emissions approximately 90% lower as compared to Tier 3 engines.

Task 1.2 Results

Each piece of diesel equipment submitted to LAWA's environmental monitor for review was independently assessed by the Third Party Monitor to determine its compatibility with a CARB and/or EPA-verified diesel emission control system. The following sections discuss conformance with Task 1.2 for the MSC North, WAMA Delta Hangar, and WAMA GSE Facility projects for the six-month period ending December 31, 2019.

1.2.1 Midfield Satellite Concourse North – Construction activities on the MSC North project have advanced to the stage where significant grading operations have been concluded. This limits the number of on-road trucks and off-road construction equipment required to support the MSC North project.

During the reporting period, a total of 81 pieces of equipment were evaluated. This includes five (5) on-road vehicles and 76 pieces of off-road construction equipment. Only heavy-duty vehicles with a gross vehicle weight rating (GVWR) of 14,001 pounds or greater are included in the CBA conformance assessment. Additional light and medium duty vehicles, such as pickup trucks, etc. support the MSC North project. These vehicles have a GVWR less than 14,000 pounds and are not included in this Semiannual Report.

On-road heavy-duty trucks model year 2010 and newer are equipped with both a diesel particulate filter to reduce diesel particulate matter (PM_{10} and $PM_{2.5}$) and a selective catalytic reduction (SRC) device or other emissions control technology that reduces NO_x emissions. The 2010 and newer heavy-duty vehicles are also certified to the 2010 NO_x standard of 0.2 grams per brake horsepower-hour (g/bhp-hr) or cleaner. All of the on-road trucks that supported MSC North construction during the reporting period ending December 31, 2019 are model year 2010 or newer and equipped with a verified diesel emission control device. As such, the MSC North on-road vehicles comply with the CBA Best Available Control Technology (BACT) requirement.

During the reporting period, a total of 76 pieces of off-road construction equipment were evaluated. Of this number, applications for four (4) pieces of construction equipment proposed for use on MSC North were rejected. The reasons for rejection include missing equipment documentation or mismatched

equipment data, such as the engine family number included in the Air Resources Board DOORS database not matching the engine family number on the CARB Executive Order provided to LAWA.

The remaining 72 pieces of off-road construction equipment are shown in Table 1.2.1-1, below. LAWA environmental management reviews each piece of equipment and supporting documentation and makes a determination as to whether or not the proposed equipment conforms to LAWA environmental policy and the CBA requirements.

Table 1.2.1-1: MSC North Heavy-Duty Equipment Approved for Airfield Use

EIN or License Number	Contractor	Equipment Type	Engine Model Year	Engine Tier
DF9P63	TBD	Skid Steer Loader	2019	T4F
PH9Y43	TBD	Skid Steer Loader	2019	T4F
TY3F37	Orange County Plastering	Boom Lift	2017	T4F
CT8P85	Thyssenkrupp	Forklift	2017	T4F
FA4T83	Crown Corr	Boom Lift	2015	T4F
DK6D74	Granite	Excavator	2018	T4F
UM4L64	Granite	Excavator	2017	T4F
YE6W97	Granite	Excavator	2019	T4F
RT7D38	Granite	Excavator	2018	T4F
FG6W77	Granite	Roller	2017	T4F
YE9C39	Granite	Excavator	2015	T4F
KD7N78	Premiere Eng. & Grading	Excavator	2015	T4F
YM5F49	Premiere Eng. & Grading	Roller	2018	T4F
LL7V95	Premiere Eng. & Grading	Tractor/ Loader/ Backhoe	2018	T4F
BL4U76	Griffith	Roller	2018	T4F
LV7C53	Griffith	Paving equipment	2016	T4F
47733N2	Griffith	Water Truck	2010+	On-Road
WK8M97	Griffith	Tractor/ Loader/ Backhoe	2015	T4F
FG6W77	Griffith	Roller	2017	T4F
XM9D76	Griffith	surfacing equipment	2015	T4F
TU5S95	Muhlhauser Steel	Crane	2016	T4F
TU5S95	Muhlhauser Steel	Crane	2016	T4F
179960	Helix Electric	Generator-PERP	2017	T4F
YA9S39	CAE	Skid Steer Loader	2017	T4F

EIN or License Number	Contractor	Equipment Type	Engine Model Year	Engine Tier
NC9M85	Helix Electric	Aerial Lifts	2017	T4F
BJ4A87	TBD	Aerial Lifts	2018	T4F
YH3E39	Crown Corr	Forklift	2017	T4F
182467	Helix Electric	generator- PERP	2018	T4F
8HMY567	McDonough Elevators	Crane	2010+	On-Road
RW4P49	Granite	Excavator	2018	T4F
TY6M83	Conco	Tractor/ Loader/ Backhoe	2013	T4F
BJ7L76	Granite	Tractor/ Loader/ Backhoe	2018	T4F
KH6J93	Granite	Excavator	2018	T4F
BV7C44	Granite	Tractor/ Loader/ Backhoe	2015	T4F
LF5U94	Granite	Excavator	2013	T4F
BA3W83	Bagatelos	Boom Lift	2019	T4F
8ELR407	Allied Steel	Crane	2010+	On-Road
7STJ416	Allied Steel	Crane	2010+	On-Road
SH7B64	SE Pipeline	Excavator	2019	T4F
JN5T77	Crown Corr	Boom	2019	T4F
RY8G68	Griffith	Paver	2017	T4F
DT6T33	Griffith	Roller	2017	T4F
BW6E85	Griffith	Excavator	2018	T4F
UU9H77	Limbach	Excavator	2015	T4F
AR6Y94	TAFT	Tractor/ Loader/ Backhoe	2016	T4F
SS8S34	Royal Electric Corp.	Tractor/ Loader/ Backhoe	2015	T4F
WE6B89	Royal Electric Corp.	Backhoe	2015	T4F
AG9M85	Royal Electric Corp.	Backhoe	2015	T4F
HJ8V95	Royal Electric Corp.	Excavator	2014	T4F
FS5N76	Royal Electric Corp.	Excavator	2014	T4F
YV8N45	Royal Electric Corp.	Skid Steer Loader	2016	T4F
VB3S34	Royal Electric Corp.	Tractor/ Loader/ Backhoe	2016	T4F
RK4T76	Royal Electric Corp.	Skid Steer Loader	2015	T4F
KX5W73	Royal Electric Corp.	Skid Steer Loader	2016	T4F
VE7F53	Royal Electric Corp.	Tractor/ Loader/ Backhoe	2015	T4F
NH8L34	Royal Electric Corp.	Skid Steer Loader	2018	T4F
TC4B55	Royal Electric Corp.	Excavator	2017	T4F

EIN or License Number	Contractor	Equipment Type	Engine Model Year	Engine Tier
AF4S45	Royal Electric Corp.	Skid Steer Loader	2017	T4F
UC8L66	Royal Electric Corp.	Skid Steer Loader	2017	T4F
FU9C79	Royal Electric Corp.	Skid Steer Loader	2017	T4F
HG5L63	Griffith	Tube roller/ finisher	2018	T4F
FV7R65	Griffith	Drill Rig	2017	T4F
MD6F68	Griffith	Tractor/ Loader/ Backhoe	2013	T4F
XY6R78	Griffith	Roller	2018	T4F
FB4C55	Griffith	Roller	2018	T4F
NF5T49	Griffith	Paver	2016	T4F
GY4C87	Griffith	Roller	2019	T4F
EP3V87	Griffith	Tractor/ Loader/ Backhoe	2015	T4F
VJ8U64	Bagatelos	Crane	2015	T4F
FR6H98	Bagatelos	Aerial Lift	2016	T4F
8CZJ180	Helix	On-Road Crane	2010+	On-Road
LF5U94	Granite	Excavator	2013	T4F
PD9D59	Granite	Tractors/Loaders/Backhoes	2017	T4F
BE4R56	Granite	Tractors/Loaders/Backhoes	2018	T4F
GC3C75	Helix Electric	Forklift	2018	T4F
PA6F34	Helix Electric	Forklift	2019	T4F
JD9G56	Control Air	Boom Lift	2018	T4F

Table 1.2.2-2: Summary of MSC North Construction Equipment Breakdown by Equipment Tier

Emissions Standard/Classification	Quantity
Tier 4 Final	76
Tier 4 Interim	0
On-Road 2010 or Newer	5

As shown in Table 1.2.2-2, all equipment authorized by LAWA to access the air operations area is factory equipped with a Level 3 VDECS (Tier 4 Interim and Tier 4 Final) and thus represents the best available emissions control technology (BACT).

1.2.2 WAMA Delta Hangar – During the reporting period ending December 31, 2019, 46 pieces of equipment were evaluated. This includes one (1) on-road vehicle and 45 off-road construction equipment that were evaluated for compliance to CBA requirements.

Six (6) pieces of off-road equipment were rejected by LAWA due to either failure to comply with CBA emissions requirements or inconsistencies with the paperwork submitted for review. Table 1.2.2-1, below, lists the on-road vehicles reviewed under this Semiannual Report:

Table 1.2.2-1: WAMA Delta Hangar Construction Vehicles & Equipment Approved for Use

EIN or License Number	Contractor	Equipment Type	Engine Model Year	Tier
XP5M85	Xcel	Forklift	2019	T4F
LM7U39	NuStart	Aerial Lift	2015	T4F
VH6T98	Griffith	Excavator	2016	T4F
GL6A97	Cupertino	Aerial Lift	2015	T4F
BV7C44	Griffith	Tractor/ Loader/ Backhoe	2015	T4F
XS3M65	Griffith	Grader	2017	T4F
14292F2	Griffith	Dump Truck	2010+	On-Road
WT3U33	Griffith	Tractor/ Loader/ Backhoe	2017	T4F
UD7H86	Adart	Boom Lift	2018	T4F
PD3D38	Adart	Boom Lift	2012	T4I
RY8G68	Griffith	Paver	2017	T4F
MF3W43	Eberhard	Aerial lift	2012	T4I
RB5V49	Griffith	Excavator	2018	T4F
PJ6E87	Griffith	Excavator	2019	T4F
175945	Sunbelt	Generator	2016	T4F
169199	Sunbelt	Generator	2013	T4I
182022	Sunbelt	Generator	2018	T4F
MD8B96	Griffith	Grader	2007	T4F
FP8L55	Herrick	Aerial lift	2013	T4I
TG5F54	Griffith	Loader	2013	T4F
AA4T36	Griffith	Roller	2018	T4F
UK7A84	Schroeder	Forklift	2019	T4F
TF3C83	Assa Abloy	Forklift	2014	T4I
WM9S54	Royal	Forklift	2017	T4F
XT9U87	Assa Abloy	Boom Lift	2014	T4F
DT9F78	Griffith	Tractor/ Loader/ Backhoe	2018	T4F
GY4C87	Griffith	Roller	2019	T4F
TV8C35	Griffith	Excavator	2016	T4F

EIN or License Number	Contractor	Equipment Type	Engine Model Year	Tier
GC9Y35	Griffith	Roller	2019	T4F
ET9G87	Griffith	Excavator	2018	T4F
VY7M94	McKeon Door	Forklift	2016	T4F
TJ3H99	NAC	Aerial Lift	2012	T4I
HU9F48	NAC	Aerial Lift	2015	T4F
FU4T46	Conco	Excavator	2016	T4F
MX7T85	Griffith	Excavator	2018	T4F
FS8R59	Griffith	Grader	2011	T4I
HJ9E96	Griffith	Tractor/ Loader/ Backhoe	2016	T4F
DM6K98	GGG	Excavator	2017	T4F
MD9C93	Cosco	Aerial Lift	2019	T4F
GL6P35	Cosco	Boom Lift	2018	T4F

As shown in the above Table, the on-road vehicle was documented by LAWA to meet the requirements of CBA Section X.F.1, in that all of the vehicles are model year 2010 or newer and equipped with a factory installed VDECS. The vehicles are also certified to the 2010 NO_x standard of 0.2 g/bhp-hr. All 39 pieces of off-road equipment shown in the above Table are certified to either Tier 4 Interim or Tier 4 Final emissions standards. Tier 4-certified vehicles are equipped with emission control systems that meet or exceed the requirements of the CBA for both diesel particulate matter and oxides of nitrogen (NO_x) emissions.

Table 1.2.2-2: Summary of WAMA Delta Hangar Construction Equipment Breakdown by Equipment Tier

Emissions Standard/Classification	Quantity
Tier 4 Final	32
Tier 4 Interim	7
2010 or Newer On-Road	1

1.2.3 WAMA Delta GSE Facility – During the reporting period, fifteen (15) pieces of construction equipment were evaluated. This includes one (1) on-road vehicle and fourteen (14) off-road equipment. Each was evaluated for compliance to CBA requirements. Five (5) pieces of off-road construction equipment were rejected by LAWA due to either failure to meet the CBA emissions requirements or inconsistencies in the paperwork submitted during equipment evaluation.

Table 1.2.3-1, below, lists the on-road vehicles and off-road equipment granted airfield access:

Table 1.2.3-1: WAMA Delta GSE Facility Construction Equipment Approved for Use

EIN or License Number	Equipment Type	Engine Model Year	Tier
UU9H77	Excavator	2014	T4F
WX6B47	Roller	2017	T4F
174345	Generator- PERP	2014	T4F
RT7P49	Forklift	2016	T4F
NR5R73	Aerial Lift	2017	T4F
HX6U43	Tractor/ Loader/ Backhoe	2013	T4F
8CQH801	On-Road Crane	2010+	On-Road
174341	Portable Generator-PERP	2014	T4F
XY5A44	Aerial Lift	2015	T4F
XK6D44	Forklift	2017	T4F
CK4L68	Tractor/ Loader/ Backhoe	2019	T4F

As shown in the above Table, the single on-road vehicle was documented to meet the requirements of CBA Section X.F.1, in that it is a model year 2010 or newer vehicle equipped with a factory installed VDECS. The vehicles are also certified to the 2010 NO_x standard of 0.2 g/bhp-hr. The remaining ten (10) pieces of off-road equipment are certified to Tier 4 Final emission standards and meet all CBA requirements for reductions of diesel particulate matter and NO_x.

Table 1.2.3-2: Summary of WAMA Delta GSE Construction Equipment Breakdown by Equipment Tier

Emissions Standard/Classification	Quantity
Tier 4 Final	10
Tier 4 Interim	0
2010 or Newer On-Road	1

TASK 2: DEMONSTRATION PROJECTS

Section X.F.2 of the CBA states that LAWA may allow construction-related diesel equipment to be outfitted with new emission control systems that are not CARB verified or EPA certified for use for on-road or off-road vehicles or engines. Such projects will be designated by LAWA as "Demonstration Projects". The

roles and responsibilities of the Independent Third Party Monitor as they relate to Demonstration Projects is set forth in Task 2 of the contract and includes the following two primary subtasks:

- Task 2.1 – The Third Party Monitor shall perform a technical evaluation of the proposed demonstration technology and provide written findings to the Coalition Representative and LAWA. The Third Party Monitor shall also assist with the implementation of a Demonstration Project, including identifying suitable emission control devices and Demonstration Project funding sources;
- Task 2.2 – Upon acceptance by LAWA, the Third Party Monitor shall monitor, document, and report independently from LAWA, compliance of the demonstration equipment with all defined Demonstration Project requirements, including but not limited to the pollution reduction requirements specified in Section X.F.3 of the CBA.

No demonstration projects were conducted during the six-month period of July 1, 2019 through December 31, 2019.

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[2] in diameter (PM_{10}), and fine particulate, which is on the order of 2.5 microns in diameter ($PM_{2.5}$). A secondary objective of this requirement is to reduce oxides of nitrogen emissions (NO_x), which are ozone precursors. This section also states that under no circumstance shall an emission reduction device or strategy used on the LAX Master Plan Program construction site increase the emission of any pollutant above that which is the standard for that engine.

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

- Task 3.1 - Contractor shall monitor, document, and report independently from LAWA, compliance of each piece of diesel construction equipment used pursuant to CBA X.F.1 as it relates to meeting or exceeding Level 2 diesel emission reductions for a similar sized engine;

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

- 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, reactive organic gases (ROG), PM and carbon monoxide (CO) achieved through the use of best available control technology.

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

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

Not all equipment proposed for operation on the MSC North, WAMA Delta Hangar, and WAMA GSE Facility projects is necessarily used – contractors provide a list of potential needs prior to the start of construction activities. Typically, a subset of this proposed equipment is actually used in construction activities. Also, not all equipment resides on the airfield during the entire project duration; equipment is moved on and off the airfield as construction demands dictate.

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

The U.S. EPA and ARB verification procedures are designed to ensure that no measurable increase on other pollutant emissions results from installation of the approved VDECS. One issue that should be noted is that the ARB verification procedures include a nitrogen dioxide (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[3]. All Tier 4i, Tier 4F, and 2007 EPA-compliant equipment and vehicles assessed under Task 1 for the MSC project comply with the CARB NO_2 limit requirements.

[3] Title 13 CCR section 2706(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.

A quantification of air quality benefits achieved through the use of best available control technology is not feasible at this time. Equipment operating on the airfield in support of the MSC, WAMA Delta Hangar, and WAMA GSE Facility projects that are equipped with engines certified at the Tier 4 Final and Tier 4 interim levels have particulate matter (PM) that comply with CBA obligations, and also emit oxides of nitrogen (NO_x) emission levels that are substantially lower than those required under the CBA.

However, because these vehicles are designed and manufactured to meet more stringent emission standards, they are not "retrofitted" per se with Best Available Control Technologies (BACT) within the context of the CBA. "Tier 4" vehicles - in their baseline configuration - meet CBA requirements. Thus, because Tier 4 vehicles achieve CBA-mandated emission levels in their baseline configuration, there is no other vehicle configuration to compare them to. As a result, Tier 4 diesel equipment is not shown as offering an emissions benefit as a result of imposition of a CBA requirement. The equipment is inherently low emitting and represents the "state of the art" for off-road equipment emissions.

TASK 4: EXEMPTIONS GRANTED

4.1 MSC North Project - Zero (0) on-road and off-road exemptions were granted by LAWA on the MSC North project. All vehicles and equipment approved by LAWA are equipped with a CBA-compliant diesel emission control device.

4.2 WAMA Delta Hangar Project - Zero (0) on-road and off-road exemptions were granted by LAWA on the WAMA Delta Hangar project. All vehicles and equipment approved by LAWA are equipped with a CBA-compliant diesel emission control device.

4.3 WAMA Delta GSE Facility Project - Zero (0) on-road and off-road exemptions were granted by LAWA on the WAMA Delta GSE Facility project. All vehicles and equipment approved by LAWA are equipped with a CBA-compliant diesel emission control device.

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 to 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 15-ppm or lower. Verification will be based on CARB certification or equivalent.

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

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

TASK 6: OPERATIONAL REQUIREMENTS

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

The environmental requirements mandated by LAWA state that *"Contractor shall prohibit construction diesel vehicles or equipment from idling in excess of the idling restrictions as defined in the CARB Vehicle*

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

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

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

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

Process for Determining Compliance with Operational Requirements

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

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

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

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

Vehicle and Equipment Idling – The Environmental Requirements for the MSC, WAMA Delta Hangar, and WAMA GSE Facility projects prohibit construction vehicles and equipment from excessive idling in accordance with the restrictions defined in the CARB Vehicle Idling Rules.

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;
- 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 LAWA's construction contractor/ environmental monitor Status Meetings – in which reiteration of LAWA idling restrictions were reviewed.

LAWA's environmental monitor confirmed that excessive idling had a lower incidence rate when compared to other LAX Master Plan projects. During the period of July 1, 2019 through December 31, 2019, LAWA issued zero (0) notices of excessive idling. This included both on-road vehicles as well as off-road construction equipment.

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

LAWA's environmental monitor and the Third Party Monitor also conduct regular visual inspections of diesel equipment operating on LAX Master Plan projects, looking for excessive exhaust soot or other indications that the equipment is in a state of disrepair. During the reporting period, no vehicles or equipment were determined by LAWA to be emitting excessive smoke. This is due in large part to the high percentage of Tier 4 equipment being utilized on the MSC, WAMA Delta Hangar, and WAMA GSE Facility projects.

TASK 7: ENFORCEMENT BY LAWA

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

During the period of July 1, 2019 through December 31, 2019, LAWA's environmental monitor noted good compliance with environmental policies. This was conveyed in writing to the independent third party monitor.

No enforcement actions were taken by LAWA for excessive vehicle and equipment idling. LAWA submitted documentation to the third party monitor stating that an idling restriction reminder is included in all construction meetings with the contractors – this occurs at a minimum on a weekly basis.

No enforcement actions were required for excessive noise. Additionally no enforcement actions were required for fugitive dust emissions. LAWA submitted documentation of regular watering and sweeping activity as a mitigation strategy for fugitive dust emissions. No South Coast AQMD Notices of Violation (NOV) were issued during the reporting period for dust violations.

TASK 8: REASSESSMENTS OF EMISSION CONTROL DEVICES

The Community Benefits Agreement Section X.F.9 requires that a reassessment of best available emission control devices be conducted on an annual basis, or more frequently if warranted. The purpose is to

ensure that bid documents take into account advances in emission control devices prior to bidding new construction phases of the LAX Master Plan Program. This reassessment was conducted for all verified devices as of for the annual period commencing July 1, 2019 to December 31, 2019.

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

During the period of July 1, 2019 through December 31, 2019, the US EPA or CARB verified no additional diesel emission control systems. Given that new on-road and off-road vehicles and equipment are now manufactured with factory installed emissions control systems, including Tier 4 off-road equipment, there is a limited market for new VDECS for vehicle retrofits.

Task 9: Implementation of Public Complaint Registration Process

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

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

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

- No fugitive dust complaints were recorded, and LAWA, the South Coast AQMD, or any other environmental regulatory authority took no enforcement actions during that period;
- No excessive noise complaints were lodged during the reporting period.

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

- Dissemination and strict enforcement of the environmental requirements of the CBA by LAWA's environmental monitor and inspectors;
- Construction activities associated with the MSC, WAMA Delta Hangar, and WAMA GSE projects primarily take place largely in the geographic center of the LAX airfield. Sensitive receptors, such as the communities of El Segundo, are to a large extent buffered by the South Airfield runways. A similar situation exists on the northern area, where the North Airfield runways provide a buffer. This serves as a barrier to common construction nuisances such as noise curfew violations.

SECTION 3 - RESULTS AND CONCLUSIONS

The following is a summary of Third Party Monitor independent monitoring results and findings for the six-month period commencing July 1, 2019 and ending December 31, 2019:

- Monitoring and documentation of diesel equipment utilized or proposed for utilization on the MSC North, WAMA Delta Hangar, and WAMA Delta GSE Facility projects - as documented in the above Sections of this report, 100% of the on-road vehicles and off-road construction equipment was equipped with a factory installed diesel emission control device;
- A review and documentation of all exemptions granted by LAWA that allow a piece of diesel construction equipment to operate on LAX construction projects without a best available control technology retrofit. This includes equipment that was deemed incompatible with a verified VDECS, or granted a "20-day" exemption on the basis of infrequent equipment use. No CBA exemptions were required during this reporting period;
- During the reporting period, no Notices of Violation (NOV) were levied by the South Coast Air Quality Management District for fugitive dust emissions associated with earth moving operations or dirt or aggregate transport. No dust complaints were received by LAWA from the public, and LAWA project management did not observe any excessive fugitive dust emissions. LAWA reported that sweeping and watering activities were observed on a regular basis;
- No excessive noise complaints were received during the reporting period from the public;
- In accordance with CBA requirements, CFCI conducted a reassessment of available CARB and EPA-verified diesel emission control systems. This reassessment is conducted on an annual basis. The intent is that LAWA use these findings to designate newly verified devices as best available control devices and incorporate the requirement to use these devices into construction bid documents for new construction phases of the LAX Master Plan Program. These findings, however, are not to be applied retroactively to Master Plan projects already in the construction phase.

  As a result of this reassessment, it was determined that no new verified diesel emission control systems have been verified for either on-road vehicles or off-road equipment during the reporting period.

Overall, diesel equipment used on construction activities during the specified time period was found to be in full compliance with all provisions of the CBA Section X.F. As discussed in previous sections, 100% of on-road and off-road construction vehicles and equipment supporting MSC North, WAMA Delta Hangar, and WAMA Delta GSE Facility project construction were found to be compliant with the CBA.

The next Semiannual Report will cover the period commencing January 1, 2020 and ending June 30, 2020.