6. OTHER ENVIRONMENTAL CONSIDERATIONS

6.1 Significant Unavoidable Impacts

Section 15126.2(b) of the State CEQA Guidelines requires that an EIR describe significant environmental impacts that cannot be avoided, including impacts that can be mitigated but not reduced to a level that is less than significant. Chapter 4 of this EIR provides detailed analyses of the environmental topics identified in the Initial Study, prepared in April 2017, as having the potential to result in significant impacts with the implementation of the proposed project. The following identifies the impact that cannot be mitigated to a level that is less significant (although with implementation of a mitigation measure the impact would be reduced).

- Cultural Resources
  - Demolition of the former Continental Airlines (CAL) General Office (GO) Building which is individually eligible for listing in the California Register of Historical Resources and as a Los Angeles Historic-Cultural Monument. The CAL GO Building is also a contributor to the potential Continental Airlines Historic District which is eligible for listing in the California Register and as a City of Los Angeles Historic-Cultural Monument.

Section 4.2 identifies a mitigation measure that would address this impact, but would not reduce it to a level that is less than significant. No additional feasible mitigation measures are available that would avoid this impact or reduce it to a level that is less than significant.

In addition to identifying the significant unavoidable impacts of the proposed project, Section 15126.2(b) of the State CEQA Guidelines also recommends that an EIR describe the reasons why the project is being proposed, notwithstanding the significant unavoidable impacts associated with the project. As discussed in Chapter 2, *Project Description*, the specific objectives of the proposed project are to:

- Provide a new fully functional SAAP on World Way West to replace SAAP 5 and SAAP 21, which were taken out of service by recent construction projects on the west side of LAX;
- Allow for a new SAAP at a location that is generally central to the western portion of the AOA to provide a more direct path of travel to the north and south airfields, as well as airside access to the terminal area;
- Locate and design a new SAAP to provide access that connects with the existing AOA vehicle service road system in a manner that supports safe and efficient vehicle movement within the AOA, consistent with the mission of LAX Airfield Operations;
- Provide a state-of-the-art SAAP to serve as a prototype for any future SAAPs and/or improvements to existing SAAPs at LAX;
- Effectively reuse the project site - which currently contains a building that is uninhabitable due to age (does not comply with current building codes), disrepair, and the presence of hazardous material - for an AOA-related use that fulfills LAWA's strategic goal of innovating to enhance security, efficiency, and effectiveness; and
- Redevelop the project site in a manner that is consistent with LAWA's Design and Construction Handbook, specifically the definition of sustainability as the "triple bottom line" consisting of social, economic, and environmental considerations.

6.2 Significant Irreversible Environmental Changes

According to the State CEQA Guidelines, an EIR is required to evaluate significant irreversible environmental changes that would be caused by implementation of the proposed project. Specifically, as stated in Section 15126.2(c) of the State CEQA Guidelines:

> "Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."

The project site is already dedicated to airport uses. However, construction of the proposed project would involve the consumption of building materials during construction, such as aggregate (sand and gravel), metals (e.g., steel, copper, lead), and petrochemical construction materials (e.g., plastics). This would represent the loss of non-renewable resources, which are generally not retrievable. Aggregate resources are locally constrained, but regionally available. Their use would not have a project-specific adverse effect upon the availability of these resources.

Construction and operation of the proposed project would require energy resources such as electricity, diesel, and various transportation-related fuels. This would represent the loss of non-renewable resources, which are generally not retrievable. See Section 6.5 below for a discussion of energy impacts and conservation.

As described in Chapter 2, *Project Description*, the proposed new SAAP would be designed and constructed in accordance with the Los Angeles Green Building Code (LAGBC), which is based on the California Green Building Code (CALGreen), and would achieve, at a minimum, LAGBC Tier 1 conformance through environmentally-sensitive features.[131,132] Certain measures of note that would reduce the use of non-renewable resources include: efficient lighting fixtures and controls with occupancy sensors to reduce energy consumption during off-peak hours; the SAAP's heating, ventilation, and air conditioning controls would be designed to reset temperatures to maximum efficiency without sacrificing occupant comfort; where possible, the facility would incorporate coated glass that minimizes heat gain as well as building materials and furnishings made of recycled content; the restrooms in the new SAAP would be designed with low- or ultra-low-flow systems; and recycled water would be used for construction-related dust control and construction equipment washing when feasible. Therefore, the use of non-renewable resources from construction and operation of the proposed project would not result in significant irreversible changes to the environment.

6.3 Growth Inducing Impacts

Section 15126.2(d) of the State CEQA Guidelines requires an EIR to discuss the ways the proposed project could foster economic or population growth or the construction of additional housing, directly or indirectly, in the surrounding environment. Growth-inducing impacts include the removal of obstacles to population growth and the development and construction of new service facilities that could significantly affect the environment individually or cumulatively. In addition, growth must not be assumed as beneficial, detrimental, or of little significance to the environment.

6.3.1 Project Characteristics

The proposed project is to construct a new SAAP to provide a fully functional, secured access point onto the AOA on the west side of LAX. As discussed in Chapter 2, *Project Description*, a new SAAP is needed on the west side to replace SAAP 5 which was displaced by the Midfield Satellite Concourse (MSC) North Project, and SAAP 21 which was taken out of service by Phase 2 of the West Aircraft Maintenance Area (WAMA) Project. The proposed project would not affect the number of passengers served by the airport or the number or type of aircraft operations.

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131 City of Los Angeles, Los Angeles Municipal Code, Chapter IX, Article 9, *Green Building Code*, as amended.

132 24 California Code of Regulations, Part 11, California Building Standards Commission*, 2016 California Green Building Standards Code (CALGreen)*.

6.3.2 Economic Growth

Construction activity associated with the proposed project would directly and indirectly foster economic growth over the one to two year construction period in terms of spending by workers and the provision of goods and services in support of construction; however, the construction employment would be temporary and transitory in nature, drawing from primarily from an existing local labor pool (i.e., construction workers already living in the greater Los Angeles area transitioning from one construction project to another) and the number of construction workers would be relatively low (approximately 40).

The project would not increase existing passenger capacity or the number of aircraft operations at LAX. Operation of the proposed project would not induce economic growth beyond that projected to occur with natural growth in activity levels at LAX that will occur irrespective of the project.

6.3.3 Removal of an Obstacle to Growth

As described in Chapter 2, *Project Description*, the proposed project would not increase existing passenger capacity or the number of aircraft operations at LAX. In addition, the proposed project would not provide new access to an area that is undeveloped since the project site is located within an area of the airport that is in active use. Existing adjacent uses include: the LAX Fuel Farm and LAWA administrative offices/vehicle parking to the north and northwest, respectively; a remain overnight (RON) aircraft parking area to the east; the American Airlines (AA) Operations Support Facility (OSF), AA Engineering Building, United Airlines Maintenance Hangar, and Los Angeles Fire Department (LAFD) Fire Station 80/Aircraft Rescue and Firefighting Facility (ARFF) to the south; and the former CAL Training Building (vacant) to the west.

6.4 Less Than Significant Effects

This EIR concludes that impacts from implementation of the proposed project on human remains and tribal cultural resources would be less than significant.

In addition, an Initial Study was prepared for the proposed project and is included as Appendix A of this EIR. Based on the environmental analysis contained in the Initial Study, LAWA determined that the proposed project would result in "no impact" or a "less than significant impact" in the following subject areas:

- Aesthetics;
- Agriculture and Forestry Resources;
- Air Quality;
- Biological Resources (except for interference with wildlife movement or corridors);
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Mineral Resources;
- Noise;
- Population and Housing;
- Public Services;
- Recreation;
- Transportation/Traffic; and
- Utilities and Service Systems.

Since it was determined that the effects on these resource areas from the implementation of the proposed project would be "no impact" or "less than significant impact," these environmental topics were not evaluated further in this EIR. This methodology is consistent with Section 15063(c)(3) of the State CEQA Guidelines. Pursuant to Section 15128 of the State CEQA Guidelines, the various possible project effects found not to be significant are discussed in the Initial Study. No additional potentially significant impacts were identified during the circulation of the Notice of Preparation for public and agency comments.

6.5 Energy Impacts and Conservation

6.5.1 Introduction

CEQA Guidelines Appendix F requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing wasteful, inefficient, and unnecessary consumption of energy. It provides lists of energy impacts and conservation measures that may be applicable and relevant to particular projects.

In addition, Public Resources Code Section 21100(b)(3) states that an EIR shall include "mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy." Similarly, CEQA Guidelines Section 15126.4(a)(1)(C) states that "Energy conservation measures, as well as other appropriate mitigation measures, shall be discussed when relevant."

The following additional information is provided about the proposed project's energy consumption and energy efficiency measures.

6.5.2 Energy Demand

Short-term energy demand would result from construction of the proposed project. This would include energy demand from worker, vendor, and haul vehicle trips as well as construction equipment usage. Long-term energy demand would result from operation of the proposed project. This would include energy demand from electricity and diesel fuel usage, as well as energy demand related to the consumption of water. The proposed project would not require/use natural gas.

6.5.2.1 Construction Activities

6.5.2.1.1 Worker, Vendor, and Haul Vehicle Trips

Worker, vendor, and haul trips have been estimated based on the construction schedule assumptions used in the preparation of the project air quality and greenhouse gas (GHG) impacts analyses. Demolition and construction of the proposed project is estimated to take approximately 13 months. Vendor trips are based on construction vendor trip data provided by CalEEMod defaults.[133] Fuel consumption from worker and vendor trips were estimated by converting the total carbon dioxide (CO_2) emissions from each phase of construction to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.91 kilograms (kg) CO_2 per gallon (kg CO_2/gal) and the conversion factor for diesel is 10.15 kg CO_2/gal.[134] Worker vehicles were assumed to be fueled by gasoline and vendor/hauling vehicles were assumed to be diesel.

Calculations for total worker, vendor, and hauler fuel consumption are provided in **Table 6-1**, **Table 6-2**, and **Table 6-3**. Total gasoline consumption from worker trips is estimated to be 4,601 gallons and total diesel consumption from construction-related truck deliveries and hauls combined is estimated at 37,591 gallons.

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133 California Air Resources Board, *California Emissions Estimator Model*, *Version 2013.2.2*. Available: http://www.caleemod.com/, accessed November 12, 2015.

134 U.S. Energy Information Administration, *Voluntary Reporting of Greenhouse Gases Program*. Available: http://www.eia.gov/oiaf/1605/coefficients.html, accessed January 19, 2017.

Table 6-1
Construction Worker Gasoline Demand

Phase	Trips	Trip Length (miles)	CO_2 Worker Trips (MT)	kg CO_2/Gal	Gasoline Demand (Gal)
Demolition	653	29	7	8.91	786
Site Preparation	33	29	<1	8.91	33
Grading	675	29	7	8.91	786
Building Construction	2,513	29	24	8.91	2,694
Paving	180	29	2	8.91	190
Architectural Coating	113	29	1	8.91	112
Total			**42**	**8.91**	**4,601**

Source: CDM Smith, June 2017.

Notes:
Trips are round trips. Number of trips is a function of *Worker Trip Numbers* (daily one-way trips) and *Number of Days* (duration of each phase) listed in Section 3.0 of Appendix A-1, subsections *Trips and VMT* and *Construction Phase*, respectively. Trip lengths are twice the *Worker Trip Length* detailed in Section 3.0 of Appendix A-1, subsection *Trips and VMT*.

Abbreviations:
kg – kilogram
CO_2 – carbon dioxide
MT – metric tons
Gal – gallons

Table 6-2
Construction Off-Site Deliveries and Hauling Diesel Demand

Phase	Trips	Trip Length (miles)	CO_2 Off-Site Deliveries & Hauling (MT)	kg CO_2/Gal	Diesel Demand (Gal)
Demolition	423	70	48	10.15	4,729
Site Preparation	0	0	0	10.15	0
Grading	2,750	70	315	10.15	31,035
Building Construction	972	14	19	10.15	1,827
Paving	0	0	0	10.15	0
Architectural Coating	0	0	0	10.15	0
Total			**382**	**10.15**	**37,591**

Source: CDM Smith, June 2017.

Notes:
Trips are round trips. Number of trips for all phases (except for *Building Construction*) is half of *Hauling Trip Numbers* (which lists total one-way trips) listed in Section 3.0 of Appendix A-1, subsection *Trips and VMT*. Number of trips for the *Building Construction* phase is a function of *Vendor Trip Numbers* (daily one-way trips) and *Num[ber of] Days* (duration of each phase) listed in Section 3.0 of Appendix A-1, subsections *Trips and VMT* and *Construction Phase*, respectively. Trip Lengths are twice the *Vendor Trip Length* or *Hauling Trip Length* detailed in Section 3.0 of Appendix A-1, subsection *Trips and VMT*.

Abbreviations:
kg – kilogram
CO_2 – carbon dioxide
MT – metric tons
Gal – gallons

Table 6-3
Construction Equipment Diesel Demand

Phase	Pieces of Equipment per Phase	CO_2 Off-Road Equipment (MT)	kg CO_2/Gal	Gallons of Diesel
Demolition	6	158	10.15	15,567
Site Preparation	5	6	10.15	591
Grading	6	123	10.15	12,118
Building Construction	9	80	10.15	7,882
Paving	8	15	10.15	1,478
Architectural Coating	1	2	10.15	197
Total		**384**	**10.15**	**37,833**

Source: CDM Smith, June 2017.

Notes:
Pieces of Equipment are summed from *Amount* [Offroad Equipment] for each phase detailed in Section 3.0 of Appendix A-1, subsection *Construction Phase*.

Abbreviations:
kg – kilogram
CO_2 – carbon dioxide
MT – metric tons
Gal – gallons

6.5.2.1.2 Construction Equipment Usage

Diesel fuel consumption by construction equipment was estimated based on the construction schedule and equipment usage assumptions used in the preparation of the project air quality and GHG analyses. Fuel usage was estimated by converting the total CO_2 emissions from each construction phase using the conversion factor for CO_2 to gallons of diesel. The conversion factor for diesel is 10.15 kg/MT CO_2/gal. Construction equipment was assumed to be diesel.

Calculations for total construction equipment diesel consumption are provided in Table 6-3. Total diesel consumption, including both deliveries and hauling demand shown above (Tables 6-2) and equipment demand shown in Table 6-3, is estimated to be 75,424 gallons across all construction phases.

6.5.2.2 Operational Activities

As discussed in Chapter 2, *Project Description*, the proposed project would not increase existing passenger capacity, affect aircraft operations, or increase long-term employment opportunities at LAX. Moreover, the proposed project would not alter vehicle activity at the airport. The proposed project would affect the location and process by which vehicles accessing the AOA are screened, but would not result in an increase in the number or type of vehicles that would utilize the new facility. Existing operations at the new SAAP would be the same as at the former SAAP (SAAP 21). Moreover, as described in Section XVI of the Initial Study (provided in Appendix A of this Draft EIR), although the AOA access point would be relocated half a mile to the east of the location of the former SAAP 21, because vehicles would travel to all parts of the AOA once they have passed through the SAAP, the total vehicle miles traveled with implementation of the proposed project is not expected to change from baseline conditions at

the time of the publication of the Notice of Preparation.[135] For these reasons, operational fuel demands would be similar to baseline conditions, and were not quantified for this analysis.

However, operation of the proposed project's buildings and equipment would increase energy demand. Energy (electricity) demand associated with operation of this equipment was calculated and the results are discussed below. The energy use calculations for the proposed project are included in Appendix A-3 of the Initial Study, which itself is provided in Appendix A of this EIR. The calculations for future energy demand account for current regulatory requirements pertaining to energy efficiency and conservation.

Electricity would be required to provide energy to the proposed project for indoor and outdoor lighting, building cooling and heating, building appliances, security-related equipment, and water heating. Baseline energy demand was estimated based on existing generator size and usage. Future energy demand was estimated using a combination of energy demand at the former SAAP 21 and vendor information for the security equipment, including equipment characteristics, number of units, and assumptions regarding future usage (see Appendix A-3 of the Initial Study). The annual direct project electricity demand would be approximately 148,362 kilowatt hours per year (kWh/yr), which is an increase of 16,962 kWhr per year over baseline electricity demand. Increases in short- and long-term energy demand under the proposed project are summarized in **Table 6-4**. Similar to the manner in which construction-related GHG emissions were amortized over the project lifetime (i.e., 30 years) and then added to annual operational emissions (see Section VII.a. of the Initial Study, which is provided in Appendix A), the energy demand associated with project construction was amortized over a 30-year period so as to integrate construction-related energy demand with the annual operational energy demand.[136]

Table 6-4
Annual Increased Energy Demand by Source for Construction and Operations

Activity	Gasoline (gal/yr)	Diesel (gal/yr)	Electricity (kWh/yr)
Construction (Amortized over 30 Years)			
Worker	153	–	–
Vendor	–	61	–
Hauler	–	1,192	–
Equipment	–	1,261	–
Operations			
Direct Electricity	–	–	16,962
Total	**153**	**2,524**	**16,962**

Source: CDM Smith, June 2017.

Abbreviations:
gal/yr– gallons per year
kWh/yr – kilowatts hours per year

[135] Even though vehicles would travel half a mile farther east to reach the SAAP, under existing conditions many of those vehicles would have traveled easterly after entering SAAP 21. In these cases, the location of the proposed SAAP would not increase the total vehicle miles traveled as compared to baseline conditions, it would simply relocate the trips from airfield roads to World Way West. Moreover, because the location of the proposed SAAP is more central to the AOA than SAAP 21, travel distances by some vehicles would be reduced over baseline conditions.

[136] As described in Section VII, *Greenhouse Gas Emissions*, of the Initial Study, which is provided in Appendix A of this EIR, GHG emissions associated with construction of the proposed project were amortized over the lifetime of the proposed project, which is assumed to be 30 years.

6.5.3 Energy Conservation

The new SAAP would comply with current state water and energy efficiency standards and regulations pursuant to the California Building Code (CBC), California Green Building Standards Code (CALGreen), and LAGBC that would reduce long-term energy demand. Compliance with these requirements would reduce wasteful, inefficient, and unnecessary consumption of energy over the long-term. Specific project features that would reduce energy consumption are discussed in Chapter 2, *Project Description*, and include efficient lighting fixtures and controls with occupancy sensors to reduce energy consumption during off-peak hours; heating, ventilation, and air conditioning controls that would reset temperatures to maximum efficiency; and incorporation of coated glass that minimizes heat gain, where possible. To conserve potable water, the restrooms in the new SAAP would be designed with low-or ultra-low-flow systems, and recycled water would be used for construction-related dust control and construction equipment washing when feasible.

The following presents various regulations and programs applicable to the proposed project that would reduce energy demand associated with project construction and operation. The calculations for future energy demand with implementation of the proposed project, presented in Section 6.5.2.2 above, take into account many of the requirements listed below.

6.5.3.1 General Regulations, Plans, and Policies

6.5.3.1.1 State Regulations, Plans, and Policies

California Green Buildings Standards Code

The 2016 California Green Buildings Standards Code (CALGreen) is found in Title 24, Part 11 of the California Code of Regulations (CCR).[137] The purpose of CALGreen is to "improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices."[138] These sustainable construction standards apply to a number of categories, including energy and water efficiency. As with the Title 24 Building Energy Efficiency Standards (24 CCR Part 6), discussed in Section 6.5.3.2.1 below, CALGreen identifies mandatory building measures and voluntary measures that may be incorporated into the design of buildings. CALGreen contains requirements for exterior lighting and bicycle parking, and requires that every new building constructed in California reduce water consumption by 20 percent. CALGreen also requires that nonresidential buildings larger than 10,000 square feet be subject to mandatory inspections of energy systems (e.g., heat furnace, air conditioner, and mechanical equipment), in accordance with Section 120.8 of the Building Energy Efficiency Standards, to ensure that all are working at their maximum capacity and according to their design efficiencies.

6.5.3.1.2 Local Regulations, Plans, and Policies

Green LA

In May 2007, the City of Los Angeles introduced *Green LA – An Action Plan to Lead the Nation in Fighting Global Warming* (Green LA).[139] Aimed at reducing the City's GHG emissions by 35 percent below 1990 levels by 2030, the plan calls for an increase in the City's use of renewable energy to 35 percent by 2020 in combination with promoting water conservation, improving the transportation system, reducing waste generation, greening the ports and airports, creating more parks and open space, and greening the economic sector. Green LA identifies objectives and actions in various focus areas, including airports. The goal for Los Angeles' airports is to "green the airports," and the following actions related to energy consumption are identified: 1) fully implement the Sustainability

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137 24 California Code of Regulations, Part 11, California Building Standards Commission, *2016 California Green Building Standards Code (CALGreen)*.

138 24 California Code of Regulations, Part 11, California Building Standards Commission, *2016 California Green Building Standards Code (CALGreen)*, Section 101.2.

139 City of Los Angeles, *Green LA - An Action Plan to Lead the Nation in Fighting Global Warming*, May 2007. Available: http://environmentla.org/pdf/GreenLA_CAP_2007.pdf, accessed January 19, 2017.

Performance Improvement Management System (discussed below); 2) develop and implement policies to meet U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) green building rating standards in future construction; and 3) increase use of alternative fuel sources, increase water conservation, and reduce energy needs.[140]

Climate LA

In 2008, the City of Los Angeles followed up Green LA with an implementation plan called C*limate LA – Municipal Program Implementing the Green LA Climate Action Plan* (Climate LA).[141] A Departmental Action Plan for LAWA is included in Climate LA, which identifies goals to reduce CO_2 emissions 35 percent below 1990 levels by 2030 at LAX and the other LAWA airport (Van Nuys Airport), implement sustainability practices, and develop programs to reduce the generation of waste and pollutants. Actions are specified in a number of areas, including buildings and facilities, and construction.

Executive Directive No. 10

In July 2007, Mayor Antonio Villaraigosa issued Executive Directive No. 10 regarding environmental stewardship practices.[142] Consistent with the goal specified in Green LA to make the City of Los Angeles a worldwide leader in green buildings, Executive Directive No. 10 requires that City departments, including LAWA, create and adopt a "Statement of Sustainable Building Policies," which should encompass sustainable design, energy and atmosphere, materials, and resources, water efficiency, landscaping, and transportation resources. In addition, City departments and offices must create and adopt sustainability plans that include procedures, programs, and policies that are designed to improve internal environmental efficiency. Finally, City departments are required to submit annual sustainability reports to the Mayor for review.

City of Los Angeles Green Building Code (LAGBC)

In December 2013, the Los Angeles City Council approved Ordinance No. 182,849, which updated Chapter IX of the Los Angeles Municipal Code (LAMC) by amending certain provisions of Article 9 to incorporate by reference portions of the 2013 CALGreen Code and also added other conservation-related measures to the LAGBC for residential and non-residential development. The requirements of the adopted LAGBC, as updated (2017), apply to new building construction, building renovations, and building additions within the City of Los Angeles.[143] Key measures in the LAGBC related to energy use that apply to nonresidential buildings include a requirement that energy conservation for new buildings must meet or exceed California Energy Commission (CEC) requirements set forth in the California Building Energy Efficiency Standards.

All building projects in the City of Los Angeles are subject to the LAGBC, which is enforced by the Los Angeles Department of Building and Safety (LADBS). Given that the LAGBC has replaced LEED® in the LAMC, LAWA has based its new sustainable construction standards on the mandatory and voluntary tiers defined in the LAGBC. All building projects with an LADBS permit-valuation over $200,000 shall achieve LAGBC Tier 1 conformance, to be certified by LADBS inspector during final plan check (on the issued building permit) and validated by the LADBS inspector during final inspection (on the Certificate of Occupancy). Tier 1 refers to specific practices that are to be incorporated into projects to achieve enhanced construction levels by incorporating additional green building measures.

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140 City of Los Angeles, *Green LA - An Action Plan to Lead the Nation in Fighting Global Warming*, May 2007. Available: http://environmentla.org/pdf/GreenLA_CAP_2007.pdf, accessed January 19, 2017.

141 City of Los Angeles, *Climate LA - Municipal Program Implementing the Green LA Climate Action Plan*, 2008.

142 City of Los Angeles, Office of the Mayor, Antonio R. Villaraigosa, Mayor, *Executive Directive No. 10, Subject: Sustainable Practices in the City of Los Angeles*, July 18, 2007.

143 City of Los Angeles, Los Angeles Municipal Code, Chapter IX, Article 9, *Green Building Code*, as amended.

Sustainable City pLAn

In 2014, Mayor Eric Garcetti launched LA's first-ever Sustainable City Plan ("pLAn"). The pLAn is a comprehensive and actionable policy roadmap that prepares the City for an environmentally healthy, economically prosperous, and equitable future for all.[144] Mayor Garcetti released the pLAn in April 2015, along with a corresponding Executive Directive (Executive Directive No. 7) that incorporates the pLAn into city-wide management.[145] The framework of pLAn is organized into three sections – environment, economy, and equity – addressing a total of 14 topics, each of which sets forth a vision of things to be accomplished in the next 20 years and highlighting near- and long-term outcomes. With respect to the environment, the topics are local water, local solar, energy-efficient buildings, carbon and climate leadership, and waste and landfills. Through the pLAn, Mayor Garcetti committed the City to becoming a national leader in carbon reduction and climate action by eliminating coal from the City's energy mix, prioritizing energy efficiency, and inspiring other cities to take similar action.

LAWA Sustainability Plans and Guidelines

LAWA adopted the Sustainability Performance Improvement Management System (SPIMS) in August 2007 as a tool for identifying sustainability objectives, implementing actions to achieve the objectives, establishing targets, and continually monitoring progress. This was followed by LAWA's Sustainability Plan, developed in April 2008, which describes LAWA's sustainability practices and sets goals and actions that LAWA will undertake to implement its long-term objectives and targets.[146]

In 2008, LAWA developed S*ustainable Airport Planning, Design and Construction Guidelines for Implementation on All Airport Projects*, which were subsequently updated in 2009 and 2010.[147] These guidelines were developed to provide a comprehensive set of performance standards focusing on sustainability specifically for airport projects on a project-level basis. Based on these guidelines, LAWA implemented numerous steps to increase its sustainability practices related to daily airport operations. Among the actions that LAWA undertook was the purchase of renewably-generated Green Power from the Los Angeles Department of Water and Power (LADWP) and the reduction of electricity consumption by installing energy-efficient lighting.[148]

Subsequently, LAWA consolidated its design standards into the LAWA Design and Construction Handbook (DCH), which includes sustainable guidelines for all construction projects. These DCH Sustainability Guidelines replace the previously-adopted sustainability-related guidelines. In accordance with the DCH Sustainability Guidelines, LAWA measures its sustainable performance in accordance with social, economic, and environmental impacts. The current Sustainability Guidelines are consistent with the LAGBC, which, as noted above, requires that all building projects with an LADBS permit-valuation over $200,000 achieve LAGBC Tier 1 conformance, to be certified by an LADBS inspector during final plan check (on the issued building permit) and validated by the LADBS inspector during final inspection (on the Certificate of Occupancy).[149]

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144 City of Los Angeles, Office of the Mayor, Mayor Eric Garcetti, *Sustainable City pLAn, Transforming Los Angeles, Environment - Economy - Equity*, April 2015. Available: http://www.lamayor.org/sites/g/files/wph446/f/landing_pages/files/The%20pLAn.pdf.

145 City of Los Angeles, Office of the Mayor, Mayor Eric Garcetti, *Executive Directive No. 7, Subject: Sustainable City pLAn*, April 8, 2015. Available: https://www.lacity.org/sites/g/files/wph281/f/Executive_Directive_No._7_Sustainable_City_pLAn.pdf.

146 City of Los Angeles, Los Angeles World Airports, *Los Angeles World Airports Sustainability Plan*, April 2008. Available: http://www.laxsustainability.org/documents/Final_Sustainability_Plan.pdf, accessed January 19, 2017.

147 City of Los Angeles, Los Angeles World Airports, *Sustainable Airport Planning, Design and Construction Guidelines for Implementation on All Airport Projects*, *Version 5.0*, February 2010.

148 City of Los Angeles, Los Angeles World Airports, *Los Angeles World Airports Sustainability Report 2015*. Available: http://www.laxsustainability.org/documents/Sustainability_Report_2015.pdf, accessed August 25, 2016.

149 City of Los Angeles, Los Angeles World Airports, *2016 Design and Construction Handbook: Environmental - Sustainability*, July 2016. Available: http://www.lawa.org/uploadedFiles/LAXDev/DCH/Environmental/Sustainability%20CALGreen%20LEED.pdf.

LAWA Energy Efficiency Programs

As noted above, LAWA has developed a number of initiatives that incorporate energy efficiency practices into airport facilities and programs. Although not directly related to the proposed project, these initiatives demonstrate LAWA's commitment to energy conservation. These initiatives include, but are not limited to, the following:

- **LAWA's Clean Fleet Program.** LAWA introduced alternative fuel technology to its fleet in 1993. LAWA currently operates the nation's largest alternative-fuel airport fleet, consisting primarily of compressed natural gas (CNG), liquefied natural gas (LNG), propane, full-electric, and hybrid-electric vehicles. In the coming years, LAWA intends to replace its standard gasoline engine vehicles and some retired CNG vehicles with electric vehicles. LAWA is also embarking on a campus-wide electric vehicle (EV) infrastructure study to support greater deployment of EV vehicles.
- **Solar Feasibility Study.** In 2015, LAWA launched a solar feasibility study for LAX to identify locations for the installation of photovoltaic solar energy at LAX to replace or supplement the use of purchased electricity.[150]
- **Green Power Purchase.** As previously noted, LAWA has been purchasing green power from LADWP for several years. More specifically, LAWA voluntarily purchased 19.1 million kilowatt-hours (kWh) of green power in 2015, which equates to 10.4 percent of the total energy consumed at LAX.[151,152] As of February 8, 2017, and for several years prior, LAWA has made the "EPA Green Power Partnership, Top 30 Local Government" list.[153]
- **Lighting Retrofit Projects.** LAWA continues to replace lights and fixtures that serve terminals, streets, parking lots, and the airfield at LAX with a mix of energy efficient equipment.[154] This project will continue for several years.
- **Energy Efficiency Projects.** LAWA continues to upgrade air handling equipment and perform regular maintenance to improve energy efficiency of air handling units. LAWA replaces old computers and related equipment with Energy Star-certified office equipment.
- **The Utility Monitoring Infrastructure Project (UMIP).** LAWA is in the midst of a program to add sub-meters for utilities across the LAX campus. One of the goals of the project is to allow LAWA to monitor energy usage at each of its facilities at the building level. Currently, LAWA is able to monitor electricity and natural gas consumption via the utility providers' invoices and meters, but these meters do not always correspond to a single structure.
- **Central Utility Plant.** LAWA recently replaced the Central Utility Plant (CUP) at LAX. The new CUP, which received LEED® Gold certification, is a state-of-the-art computerized facility that provides heating and cooling for the Central Terminal Area at LAX, and includes a co-generation system that simultaneously generates electrical power and steam. This process is anticipated to reduce fuel usage by at least 30 percent compared to separate electricity and heating processes. LAWA and LADWP estimated that the plant saved approximately 4,548,729 kWh of electricity in 2015, with an associated reduction in GHG emissions.[155]

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150 City of Los Angeles, Los Angeles World Airports, *Los Angeles World Airports Sustainability Report 2015*. Available: http://www.laxsustainability.org/documents/Sustainability_Report_2015.pdf, accessed August 25, 2016.

151 City of Los Angeles, Los Angeles World Airports, *Los Angeles World Airports Sustainability Report 2015*. Available: http://www.laxsustainability.org/documents/Sustainability_Report_2015.pdf, accessed August 25, 2016.

152 LAWA also purchased green power in 2016; however, the year-end total has not yet been tabulated.

153 U.S. Environmental Protection Agency, Green Power Partnership, *Top 30 Local Government (as of February 8, 2017)*. Available: https://www.epa.gov/sites/production/files/2017-02/documents/top30localgov_feb2017.pdf.

154 City of Los Angeles, Los Angeles World Airports, *Los Angeles World Airports Sustainability Report 2015*. Available: http://www.laxsustainability.org/documents/Sustainability_Report_2015.pdf, accessed August 25, 2016.

155 City of Los Angeles, Los Angeles World Airports, *Los Angeles World Airports Sustainability Report 2015*. Available: http://www.laxsustainability.org/documents/Sustainability_Report_2015.pdf, accessed August 25, 2016.

Other Local Conservation Initiatives

LADWP provides several programs for energy customers in Los Angeles to conserve energy. These programs include, but are not limited to, a commercial lighting incentive, commercial water conservation rebate, and the Green Power for a Green L.A. program.

6.5.3.2 Electricity Efficiency

6.5.3.2.1 Electricity-Related Regulations, Plans, and Policies

Federal Regulations, Plans, and Policies

Federal Energy Policy and Conservation Acts

The Federal Energy Policy and Conservation Act of 1975, the Federal Energy Policy Act of 2005, and the Energy Independence and Security Act of 2007 require the U.S. Department of Energy (DOE) to set electrical efficiency standards of various appliances, fixtures, and equipment. This has included standards for general service lighting that will require lightbulbs to consume 60 percent less energy by 2020. This standard is leading to the phasing out of incandescent lightbulbs to be replaced by more efficient lighting.

State Regulations, Plans, and Policies

Title 24 Energy Standards

California's Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6), often referred to as Title 24 energy standards, were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. The latest amendments were made in June 2015 and went into effect on January 1, 2017. The premise for the standards is that energy efficient buildings require less electricity, natural gas, and other fuels. The standards include provisions applicable to all buildings and include mandatory requirements for efficiency and design of systems, equipment, and appliances. The standards include requirements for space conditioning (cooling and heating), water heating, and indoor and outdoor lighting systems and equipment. In addition, the standards call for further energy efficiency measures that can be provided through a choice between performance and prescriptive compliance approaches.

Renewable Portfolio Standard

Senate Bill 1078 (SB 1078; Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, the Governor signed Executive Order S-14-08, which expands the State's Renewable (Energy) Portfolio Standard (RPS) to 33 percent renewable power by 2020. On September 15, 2009, the Governor issued Executive Order S-21-09 requiring the California Air Resources Board (CARB), under its AB 32 authority, to adopt regulations to meet a 33 percent RPS target by 2020. The CARB regulations would use a phased-in or tiered requirement to increase the amount of electricity from eligible renewable sources over an eight-year period beginning in 2012. CARB adopted the regulations in September 2010.

In March 2011, the Legislature passed SB XI-2, which was signed into law by the Governor the following month. SB XI-2 requires utilities to procure renewable energy products equal to 33 percent of retail sales by December 31, 2020, and also established interim targets: 20 percent by December 31, 2013, and 25 percent by December 31, 2016. SB XI-2 also applies to publicly-owned utilities in California. SB 350 of 2015 (Chapter 547, Statutes of 2015) increased the renewable portfolio standard to 50 percent by the year 2030.

Local Regulations, Plans, and Policies

Los Angeles Department of Water and Power Plan

LADWP provides electricity to the City of Los Angeles. In 2016, LADWP adopted a new Power Integrated Resource Plan (Power IRP), a 20-year energy resource planning document.[156] This plan provides a framework for LADWP to meet the future energy needs of the City in a cost-effective, reliable, and environmentally sensitive manner. The plan includes updated renewable energy requirements, electrical load forecasts, and revenue and rate impacts. Within the Power IRP, LADWP outlines adequate electricity supply and transmission capability to meet the needs of its customers within the Los Angeles area, including LAX, through 2035. The Power IRP includes updated renewable energy requirements, electrical load forecasts, revenue and rate impacts, and the integration of public input. In addition, the IRP examines various scenarios for reducing GHG emissions through various scenarios of RPS, local solar, energy storage, and transportation electrification, along with early coal replacement and increased energy efficiency. The plan also includes a path to meet the goal of accelerating RPS to 55 percent of its total provided power by 2030, and 65 percent by 2036.

6.5.3.2.2 Electricity Supply and Infrastructure in the Project Area

Electrical power within the City of Los Angeles, including LAX, is supplied by LADWP, which serves approximately 3.8 million people. LADWP obtains electricity from various generating sources that utilize coal, nuclear, natural gas, hydroelectric, and renewable resources to generate power. Its current system capacity is 7,880 megawatts (MW). LADWP does not forecast that peak demand will reach capacity through 2040. LADWP has committed to increasing the share of renewable energy and promoting increased energy efficiency and conservation by its customers. Diversification of LADWP's energy portfolio, increasing electricity from renewable energy, and new customer energy efficiency measures will help meet all of the City's needs through LADWP's Power IRP planning horizon of 2036.

According to the most recent data available from LADWP, the utility provider for the City of Los Angeles, approximately 21 percent of its electricity purchases in 2015 were from eligible renewable sources.[157] LADWP has adopted a number of initiatives to increase its use of renewable energy resources to support the goal of reducing GHG emissions, reducing reliance on fossil fuels, and meeting state mandates requiring all utilities to provide 33 percent of their energy from renewable resources by 2020, increasing to 55 percent by 2030 and to 65 percent by 2036.[158]

Electricity is primarily used at LAX for lighting, cooling, and equipment operation in buildings, and for airfield lighting and operations. Electricity is also used indirectly in the delivery, treatment, and distribution of water used by at the Airport and the treatment of wastewater. Total electricity consumption for LAX was approximately 184,400 MWh for 2015.[159] This represents a 13.5 percent decrease compared to 2014. In 2015, LAWA completed construction of a new highly energy-efficient Central Utility Plant (CUP) to replace LAX's 50-year old CUP. The new CUP became fully operational in September 2015. The new CUP utilizes co-generation technology to produce and deliver heating and cooling. Natural gas powers two combustion turbine generators to generate electricity, which is used to power multiple chillers. A pair of steam generators captures and reuses the heat exhaust from the combustion for heating. The new CUP is 25 percent more energy efficient and more environmentally-friendly than the former facility. LAWA

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156 City of Los Angeles, Department of Water and Power, *2016 Power Integrated Resource Plan*, December 2016. Available: https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-p-doc?_adf.ctrl-state=a45al0fj4_17&_afrLoop=428720973103184, accessed June 1, 2017.

157 City of Los Angeles, Department of Water and Power, *2016 Power Integrated Resource Plan*, December 2016. Available: https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-p-doc?_adf.ctrl-state=a45al0fj4_17&_afrLoop=428720973103184, accessed June 1, 2017.

158 City of Los Angeles, Department of Water and Power, *2015 Power Integrated Resource Plan*, December 2015. Available: https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-p-doc?_adf.ctrl-state=a45al0fj4_17&_afrLoop=428720973103184, accessed January 19, 2017.

159 City of Los Angeles, Los Angeles World Airports, *Los Angeles World Airports Sustainability Report 2015*. Available: http://www.laxsustainability.org/documents/Sustainability_Report_2015.pdf, accessed August 25, 2016.

and LADWP estimated that the plant saved approximately 4,548,729 kWh/year in 2015. The new CUP is considered the first sustainable utility plant at a U.S. airport.[160]

6.5.3.2.3 Applicability to the Proposed Project

Estimated electricity demand associated with the proposed project is provided in Table 6-4. Moreover, as demonstrated in Section 6.5.3.1.2, LAWA has an ongoing commitment to increasing energy efficiency and implementing energy conservation measures to reduce wasteful, inefficient, and unnecessary consumption of energy at its airports, including electricity. The proposed project would be required to implement the applicable measures set forth in the regulations,plans, and policies described in Sections 6.5.3.1 and 6.5.3.2.1 above to reduce electricity usage. Specifically, the proposed project would achieve, at a minimum, LAGBC Tier 1 conformance through environmentally-sensitive features including, but not limited to, the types described previously. Therefore, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of electricity.

6.5.3.3 Water Efficiency

6.5.3.3.1 Water-Related Regulations, Plans, and Policies

State Regulations, Plans, and Policies

Water Supply Planning

The State of California's Urban Water Management Planning Act of 1984 requires all public water suppliers that provide municipal and industrial water to more than 3,000 customers, or supply more than 3,000 acre-feet per year (AF/Y) of water, to prepare and adopt an Urban Water Management Plan (UWMP). The UWMP must be prepared every five years and submitted to the Department of Water Resources (DWR) for review. An UWMP is intended to forecast future water demand and supply under normal and dry conditions. The Urban Water Management Planning Act has been modified several times in response to water shortages, droughts, and other factors. The Water Conservation Act of 2009 amended the Urban Water Management Planning Act to call for a statewide reduction of 20 percent in urban water use by the year 2020.

LADWP adopted a new UWMP in June 2016, which serves as a master plan for water supply and resources management consistent with the City's goals and policy objectives.[161] As indicated in the UWMP, LADWP develops long-term water projections based on growth in water use for the entire service area. The current UWMP evaluates a water system facing drought conditions and responds to policy actions, such as Mayor Eric Garcetti's Executive Directive No. 5, Emergency Drought Response, and the Sustainable City pLAn. [162,163] The UWMP promotes investment in conservation, recycling, and local source development, and calls for a 25 percent reduction in per capita water use by 2035.[164] The UWMP discusses conservation strategies to help achieve this goal. The UWMP concludes that LADWP has available supplies to meet all projected demands under three hydrologic scenarios analyzed in the UWMP.

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160 City of Los Angeles, Los Angeles World Airports, *Los Angeles World Airports Sustainability Report 2015*. Available: http://www.laxsustainability.org/documents/Sustainability_Report_2015.pdf, accessed August 25, 2016.

161 City of Los Angeles, Department of Water and Power, *Urban Water Management Plan 2015*, adopted June 7, 2016.

162 City of Los Angeles, Office of the Mayor, Mayor Eric Garcetti, *Executive Directive No. 5, Emergency Drought Response – Creating a Water Wise City*, October 14, 2014.

163 City of Los Angeles, Office of the Mayor, Mayor Eric Garcetti, *Sustainable City pLAn, Transforming Los Angeles, Environment - Economy - Equity*, April 2015. Available: http://www.lamayor.org/sites/g/files/wph446/f/landing_pages/files/The%20pLAn.pdf, accessed January 19, 2017.

164 City of Los Angeles, Department of Water and Power, *Urban Water Management Plan 2015*, adopted June 7, 2016.

Los Angeles Municipal Code

The LAMC includes several ordinances to reduce water consumption that are applicable to the proposed project. Ordinance No. 172,075 (Chapter XII, Article II, of the LAMC), adopted in 1998, requires all building owners to install low-flow water closets (with a maximum flow of 3.5 gpm) and urinals (with a maximum 1.5 gallons per flush) prior to obtaining building permits.[165]

The City adopted the Water Efficiency Requirements Ordinance (Ordinance No. 180,822) in 2009and the Green Building Ordinance (Ordinance No. 182,849) in 2013, which established more stringent requirements for water conservation including use of high efficiency fixtures whenever new fixtures are installed in new and existing buildings.[166,167] On June 6, 2016, the City adopted Ordinance No. 184,248, which establishes citywide water efficiency standards and requires implementation of water-saving systems and technologies in buildings and landscapes.[168]

6.5.3.3.2 Water Supply and Infrastructure in the Project Area

LADWP is responsible for supplying, treating, and distributing water for domestic, industrial, agricultural, and firefighting purposes within the City. The LADWP obtains its water supplies from three major sources: (1) the Owens Valley and Mono Basin via the Los Angeles Aqueduct (LAA); (2) northern California and Colorado River imports purchased from the Metropolitan Water District of Southern California (MWD); and (3) local groundwater basins. In addition, some wastewater within the LADWP service area is recycled for reuse as irrigation or industrial water, or for use in seawater intrusion barriers used to protect groundwater supplies. The average distribution of sources during 2010–2015 was 57 percent purchased from MWD, 29 percent from the LAA, 12 percent from local groundwater, and 2 percent from recycled water.[169]

LADWP has set a goal of supplying 8 percent of water demand from recycled water by 2035. In fiscal year 2014/2015, LADWP provided 35,091 AF of recycled water for municipal, industrial, and environmental uses.[170] Reclaimed water in the LAX area is provided by the West Basin Municipal Water District's (WBMWD) Edward C. Little Water Recycling Facility (ECLWRF). The ECLWRF is a tertiary treatment plant and has a capacity of 62.7 million gallons per day (mgd), approximately 70,233 AF/Y.[171] As described above, the latest LADWP UWMP concludes that LADWP has available water supplies to meet projected demands through a 25-year planning period.

6.5.3.3.3 Applicability to the Proposed Project

As discussed in *Section XVIII, Utilities and Service Systems*, of the Initial Study (included in Appendix A of this EIR), the proposed project would not result in an increase in water use. The proposed project would be required to comply with applicable measures set forth in the regulations and plans described in Sections 6.5.3.1 and 6.5.3.3.1 above to reduce water consumption. As described previously, bathrooms at the new SAAP would be designed with low- and ultra-low-flow systems. This would result in a reduction in energy demand to supply, treat, and convey water and wastewater. Additionally, recycled water would be used for construction-related dust control and construction equipment washing when feasible. Therefore, the proposed project would not result in wasteful, inefficient, or unnecessary energy use associated with increases in water demand and wastewater generation.

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165 City of Los Angeles, Ordinance No. 172,075, Chapter XII, Article II, 1998.
166 City of Los Angeles, Ordinance No. 180,822, Chapter XII, Article V, *Water Efficiency Requirements*, 2009.
167 City of Los Angeles, Ordinance No. 182,849, Chapter IX, Article 9, *California Green Building Standards Code*, 2013.
168 City of Los Angeles, Ordinance No. 184,248, Chapter IX, Articles 4 and 9, *Water Efficiency Standards*, June 6, 2016.
169 City of Los Angeles, Department of Water and Power, *Urban Water Management Plan 2015*, adopted June 7, 2016.
170 City of Los Angeles, Department of Water and Power, *LADWP Recycled Water Annual Report Fiscal Year 2015-16*, August 2016.
171 West Basin Municipal Water District, *2015 Urban Water Management Plan*, June 2016.

6.5.3.4 Transportation and Construction Equipment Fuel Efficiency

6.5.3.4.1 Fuel Efficiency-Related Regulations, Plans, and Policies

Federal Regulations, Plans, and Policies

Fuel Efficiency Standards for Passenger Cars and Light-Duty Trucks

In April 2010, the U.S. Environmental Protection Agency (USEPA) and National Highway Traffic Safety Administration (NHTSA) finalized standards for new (model year 2012 through 2016) passenger cars, light-duty trucks, and medium-duty passenger vehicles to reduce GHG emissions and improve fuel economy. If all the necessary emission reductions were made from fuel economy improvements, the standards would correspond to a combined fuel economy of 30.1 miles per gallon (mpg) in 2012 and 35.5 mpg in 2016.[172] The agencies issued a joint Final Rule for a coordinated National Program for model years 2017 to 2025 light-duty vehicles on August 28, 2012 that would correspond to a combined fuel economy of 36.6 mpg in 2017 and 54.5 mpg in 2025.[173,174]

Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

In August 2011, the USEPA and NHTSA announced a program to reduce GHG emissions and to improve fuel efficiency for medium- and heavy-duty vehicles (model years 2014 through 2018). The program was projected to result in a reduction in fuel consumption ranging from 6 percent to 23 percent in model year 2017, depending on the vehicle type.[175] It was estimated that the standards would reduce oil consumption by 530 million barrels over the life of the affected vehicles.[176] In August 2016, EPA and NHTSA finalized Phase 2 standards for medium- and heavy-duty vehicles through model year 2027, based on advanced cost-effective technologies. This project is expected to reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.[177]

Fuel Efficiency Standards for Construction Equipment

The federal government sets fuel efficiency standards for nonroad diesel engines that are used in construction equipment. The regulations, contained in 40 CFR Parts 1039, 1065, and 1068, include multiple tiers of emission standards. Most recently, EPA "adopted a comprehensive national program to reduce emissions from nonroad diesel engines by integrating engine and fuel controls as a system to gain the greatest emission reductions. To meet these

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172 U.S. Environmental Protection Agency, *Regulatory Announcement: EPA and NHTSA Finalize Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks*, April 2010. Available: https://nepis.epa.gov/Exe/tiff2png.cgi/P100AKHW.PNG?-r+75+-g+7+D%3A%5CZYFILES%5CINDEX%20DATA%5C06THRU10%5CTIFF%5C00001131%5CP100AKHW.TIF, accessed November 18, 2015.

173 U.S. Environmental Protection Agency, *Regulatory Announcement: EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Trucks*, August 2012. Available: https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF, accessed June 9, 2017.

174 The 2012 standards are currently under review by USDOT and USEPA. See U.S. Environmental Protection Agency, *EPA to Reexamine Emission Standards for Cars and Light Duty Trucks – Model Years 2022-2025*, March 15, 2017. Available: https://www.epa.gov/newsreleases/epa-reexamine-emission-standards-cars-and-light-duty-trucks-model-years-2022-2025, accessed June 9, 2017.

175 TransportPolicy.net, *U.S.: Heavy-duty: Fuel Consumption and GHG*, updated July 14, 2016. Available: http://www.transportpolicy.net/index.php?title=US:_Heavy-duty:_Fuel_Consumption_and_GHG, accessed June 9, 2017.

176 U.S. Environmental Protection Agency, *Regulatory Announcement: EPA and NHTSA Adopt First-Ever Program to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles*, August 2011. Available: https://nepis.epa.gov/Exe/ZyPDF.cgi/P100BOT1.PDF?Dockey=P100BOT1.PDF, accessed June 9, 2017.

177 U.S. Environmental Protection Agency, *Regulatory Announcement: EPA and NHTSA Adopt Standards to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles for Model Year 2018 and Beyond*, August 2016. Available: https://nepis.epa.gov/Exe/ZyPDF.cgi/P100P7NL.PDF?Dockey=P100P7NL.PDF, accessed June 9, 2017.

Tier 4 emission standards, engine manufacturers will produce new engines with advanced emission control technologies."[178]

State Regulations, Plans, and Policies

California Assembly Bill 1493 (AB 1493) – Pavley

Enacted on July 22, 2002, AB 1493, commonly known as the Pavley law (named for the then-Assembly Member who sponsored the bill), required CARB to develop and adopt regulations that will lead to a reduction in GHGs emitted by passenger vehicles and light-duty trucks. Subsequent regulations adopted by CARB, often referred to as the Pavley regulations, apply to 2009 through 2016 vehicles. CARB estimated that the regulation would reduce GHG emissions from the light-duty and passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030, compared to recent years.[179] In 2011, the U.S. Department of Transportation, USEPA, and California announced a single timeframe for proposing fuel and economy standards for model year 2017 through 2025, thereby aligning the Pavley standards with the federal standards for passenger cars and light-duty trucks.[180]

California Advanced Clean Cars Program

In January 2012, CARB approved a new emissions-control program for vehicles of model years 2017 through 2025. The program combines the control of smog, soot, and GHGs into a single package of standards called the Advanced Clean Cars Program (13 CCR Sections 1962.1 and 1962.2). The Advanced Clean Cars requirements include new GHG standards for model year 2017 to 2025 vehicles.

The Advanced Clean Cars Program also includes amendments to the low emission vehicle (LEV) amendments (referred to as the LEV III amendments; (13 CCR Section 1900 et seq.), zero emission vehicle regulations, and the Clean Fuels Outlet Regulation. The LEV III regulations are aimed at reducing criteria pollutant and GHG emissions from light- and medium-duty vehicles. The ZEV regulation requires manufacturers to produce an increasing number of the very cleanest cars available. These zero-emission vehicles, which include battery electric, fuel cell, and plug-in hybrid electric vehicles, including battery electric, fuel cell, and plug-in hybrid electric vehicles. The Clean Fuels Outlet regulation is designed to ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to market.[181, 182]

6.5.3.4.2 Applicability to the Proposed Project

Construction

Estimated construction-related fuel consumption is provided in Tables 6-1, 6-2, 6-3, and 6-4. Federal and state regulations and programs aimed at increasing vehicle fuel efficiency would apply to construction vehicles associated with the proposed project. Moreover, as demonstrated in Section 6.5.3.1.2, LAWA has an ongoing commitment to increasing energy efficiency and implementing energy conservation measures to reduce wasteful, inefficient, and unnecessary consumption of energy at its airports, including during construction. Construction equipment used for the proposed project would be required to comply with federal and state fuel efficiency standards. In addition,

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178 U.S. Environmental Protection Agency, *Regulations for Emissions from Vehicles and Engines Homepage. Regulations for Emissions from Heavy Equipment with Compression-Ignition (Diesel) Engines)*. Available: https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-emissions-heavy-equipment-compression, accessed July 19, 2017.

179 California Air Resources Board, *Fact Sheet: Climate Change Emission Control Regulations*, December 10, 2004. Available: https://www.arb.ca.gov/cc/ccms/factsheets/cc_newfs.pdf.

180 California Environmental Protection Agency, Air Resource Board, *EPA, DOT and California Align Timeframe for Proposing Standards for Next Generation of Clean Cars,* January 24, 2011. Available: http://www.arb.ca.gov/newsrel/newsrelease.php?id=181, accessed November 19, 2015.

181 California Air Resources Board, *Advanced Clean Cars Program Homepage*. Available: https://www.arb.ca.gov/msprog/acc/acc.htm, accessed January 18, 2017.

182 California Air Resources Board, *News Release: California Air Resources Board Approves Advanced Clean Car Rules*, January 27, 2012. Available: https://www.arb.ca.gov/newsrel/newsrelease.php?id=282.

Standard Control Measure LAX-AQ-1 (Construction-Related Air Quality Standard Control Measures), intended to reduce construction-related air quality impacts, would also reduce fuel consumption of construction equipment. Therefore, the proposed project would not result in wasteful, inefficient, or unnecessary energy use associated with construction activities.

Operation

As discussed in Chapter 2, *Project Description*, the proposed project would not increase the number of passengers or aircraft operations at LAX, and would not increase long-term employment opportunities. Moreover, the proposed project would not increase the number, or alter the type, of vehicles accessing the AOA. As a result, federal and state regulations and programs pertaining to increased vehicle fuel efficiency do not apply to the proposed project's operations.

6.5.3.5 Summary

As described above, the proposed project would be located within an area that has existing energy and water infrastructure available to serve the proposed project. It would comply with federal, state, and local regulations and policies reducing energy demand associated with building energy use, water demand, wastewater generation, vehicle fuels, and construction equipment. In addition, electricity supplied to the project would be required to comply with California's aggressive renewable portfolio standard. Therefore, the proposed project's construction and operation would not result in wasteful, inefficient, or unnecessary energy use; would not increase reliance on fossil fuels; and would incorporate renewable energy and energy efficiency measures. The proposed project would not result in any significant adverse impacts with respect to energy consumption or energy conservation, therefore, no mitigation measures (e.g., additional energy conservation measures) are required. It should be noted, however, that Standard Control Measure LAX-AQ-1 (Construction-Related Air Quality Control Measures) would reduce energy consumption associated with the proposed project, and thereby would reduce the proposed project's reliance on fossil fuels.

6.5.4 Cumulative Impacts

As discussed in Chapter 4, *Environmental Impact Analysis*, cumulative impacts can be analyzed using either a "list" or "plan" approach. Using a "list" approach, in Chapter 3, *Overview of Project Setting*, Table 3-1 identifies other past, present, and reasonably foreseeable probable future projects at LAX. As with the proposed project, these other development projects would be required to comply with the energy conservation and renewable energy programs described earlier in this section. For example, new buildings would be required to meet energy consumption standards prescribed for new structures in Title 24, and all LAX development projects would comply with LAWA's Sustainability Plan. Therefore, there would be no significant cumulative impacts related to wasteful, inefficient, or unnecessary energy use, or increased reliance on fossil fuels.

Cumulative impacts on energy supply and distribution facilities caused by regional growth are best assessed using a "plan" approach. LADWP has forecasted future utility demand in the Power IRP and concluded that excess capacity exists over the planning horizon through 2040.[183] Based on the demand growth forecast, significant cumulative utility impacts on supply and distribution capabilities or on new supply facilities and distribution infrastructure are unlikely; thus, cumulative impacts on energy supply and distribution facilities caused by increased energy demand would be less than significant.

[183] City of Los Angeles, Department of Water and Power, *2015 Power Integrated Resource Plan*, December 2015. Available: https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-p-doc?_adf.ctrl-state=a45al0fj4_17&_afrLoop=428720973103184, accessed January 19, 2017.

6.6 Modifications to Standard Control Measures

The Initial Study for the proposed project, published on April 20, 2017, included standard control measures for air quality and transportation/traffic. The Initial Study found that impacts to air quality, greenhouse gas emissions, and transportation/traffic would be less than significant and that no mitigation was required. Nevertheless, LAWA would implement standard control measures to reduce emissions and traffic impacts associated with the proposed project. Subsequent to publication of the Notice of Preparation/Initial Study, LAWA modified the text of these standard control measures. None of the modifications diminish the scope or effectiveness of the measures. Moreover, as none of the measures was proposed for the purpose of addressing significant impacts, the modifications do not alter the conclusions of the analysis provided in the Initial Study. The modifications are provided below. Deletions are shown in strikethrough and additions are shown in italics and underline.

1. Measure 1e of Standard Control Measure LAX-AQ-1 on page 45 of the Initial Study is hereby revised as follows. The parenthetical statement was deleted as it simply provides technical information regarding Tier 4 engines and does not relate to the effectiveness of the measure. The text at the end of the measure was deleted because the assessment of equipment availability, equipment fleet mixtures, and best available control devices would occur on an ongoing basis (as opposed to on an annual basis) as new pieces of equipment are periodically added through the course of construction. The assessment would be reviewed and approved by LAWA. None of the revisions below diminish the effectiveness of the standard control measure.

   > All diesel-fueled equipment used for construction will be outfitted with the best available emission control devices, where technologically feasible, primarily to reduce emissions of diesel particulate matter (PM), including fine PM (PM2.5), and secondarily, to reduce emissions of NOx. This requirement shall apply to diesel-fueled off-road equipment (such as construction machinery), diesel-fueled on-road vehicles (such as trucks), and stationary diesel-fueled engines (such as electric generators). ~~(It is unlikely that this measure will apply to equipment with Tier 4 engines, as these engines typically already incorporate the best available emission control devises.)~~ The emission control devices utilized in construction equipment shall be verified or certified by California Air Resources Board or US Environmental Protection Agency for use in on-road or off-road vehicles or engines. ~~For multi-year construction projects, a reassessment of equipment availability, equipment fleet mixtures, and best available emissions control devices shall be conducted annually for equipment newly brought to the project site each year.~~

2. Measure 1j of Standard Control Measure LAX-AQ-1 on page 45 of the Initial Study is hereby revised for clarification purposes as follows:

   > Every effort shall be made to utilize grid-based electric power at any construction site, where feasible. Grid-based power can be from a direct hookup or a tie in to electricity from power poles. If diesel- or gasoline-fueled generators are necessary, generators using "clean burning diesel" *(i.e., ultra-low sulfur diesel – ULSD)* fuel and exhaust emission controls shall be utilized.

3. Measure 1m of Standard Control Measure LAX-AQ-1 on page 45 of the Initial Study is hereby revised for clarification purposes as follows:

   > The contractor or builder shall designate a person or persons to ensure the implementation of all components of the construction-related *air quality* measures through direct inspections, record reviews, and investigations of complaints.

4. Measure 1q of Standard Control Measure LAX-AQ-1 on pages 46 through 48 of the Initial Study is hereby revised as follows. The text deleted in this mitigation measure pertains to implementation details that would be monitored as part of the Mitigation Monitoring and Reporting (MMRP) compliance (i.e., details regarding means and methods by which various aspects of the mitigation measures would be monitored and enforced). These implementation details will be included in the MMRP that will be developed for the proposed project, under "Actions Indicating Compliance." The deleted text in Tables A and B of the measure

simply explains what is already self-evident in the text of the measure and in Tables A and B, and is therefore unnecessary. None of the revisions below diminish the effectiveness of the standard control measure.

The on-road haul truck and off-road construction equipment requirements set forth in Air Quality Standard Control Measures 1o and 1p above shall apply unless any of the following circumstances exist and the Contractor provides a written finding consistent with project contract requirements that:

- The Contractor does not have the required types of on-road haul trucks or off-road construction equipment within its current available inventory and intends to meet the requirements of the Measures 1o and 1p as to a particular vehicle or piece of equipment by leasing or short-term rental, and the Contractor has attempted in good faith and due diligence to lease the vehicle or equipment that would comply with these measures, but that vehicle or equipment is not available ~~for lease or short-term rental within 120 miles of the project site, and the Contractor has submitted documentation to LAWA showing that the requirements of this exception provision (Measure 1q) apply~~.
- The Contractor has been awarded funding by SCAQMD or another agency that would provide some or all of the cost to retrofit, repower, or purchase a piece of equipment or vehicle, but the funding has not yet been provided due to circumstances beyond the Contractor's control, and the Contractor has attempted in good faith and due diligence to lease or short-term rent the equipment or vehicle that would comply with Measures 1o and 1p, but that equipment or vehicle is not available ~~for lease or short-term rental within 120 miles of the project site, and the Contractor has submitted documentation to LAWA showing that the requirements of this exception provision (Measure 1q) apply~~.
- Contractor has ordered a piece of equipment or vehicle to be used on the construction project in compliance with Measures 1o and 1p at least 60 days before that equipment or vehicle is needed at the project site, but that equipment or vehicle has not yet arrived due to circumstances beyond the Contractor's control, and the Contractor has attempted in good faith and due diligence to lease or short-term rent a piece of equipment or vehicle to meet the requirements of Measures 1o and 1p, but that equipment or vehicle is not available ~~for lease or short-term rental within 120 miles of the project, and the Contractor has submitted documentation to LAWA showing that the requirements of this exception provision (Measure 1q) apply~~.
- Construction-related diesel equipment or vehicle will be used on the project site for fewer than 20 calendar days per calendar year. ~~The Contractor shall not consecutively use different equipment or vehicles that perform the same or a substantially similar function in an attempt to use this exception (Measure 1q) to circumvent the intent of Measures 1o and 1p.~~
- ~~Documentation of good faith efforts and due diligence regarding the above exceptions shall include written record(s) of inquiries (i.e., phone log[s]) to at least three (3) leasing/rental companies that provide construction-related on-road trucks of the type specified in Measure 1o above (i.e., medium-duty and larger diesel-powered trucks with a gross vehicle weight rating of at least 14,001 pounds) or diesel-powered off-road construction equipment such as the types to be used by the Contractor, documenting the availability/unavailability of the required types of trucks/equipment. LAWA will, from time-to-time, conduct independent research and verification of the availability of such vehicles and equipment for lease/rent within a 120-mile radius of LAX, which may be used in reviewing the acceptability of the Contractor's good faith efforts and due diligence.~~

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

Nothing in the above shall require an emissions control device (i.e., VDECS) that does not meet OSHA standards.

Table A Off-Road Compliance Step Down Schedule*		
Compliance Alternative	Engine Standard	CARB-verified DECS (VDECS)
1	Tier 4 interim	N/A**
2	Tier 3	Level 3
3	Tier 2	Level 3
4	Tier 1	Level 3
5	Tier 2	Level 2
6	Tier 2	Level 1
7	Tier 3	Uncontrolled
8	Tier 2	Uncontrolled
9	Tier 1	Level 2
** Tier 4 (interim or final) or 2007 model year equipment not already supplied with a factory-equipped diesel particulate filter shall be outfitted with Level 3 VDECS.		
Equipment less than Tier 1, Level 2 shall not be permitted.		

Table B On-Road Compliance Step Down Schedule*		
Compliance Alternative	Engine Model Year	CARB-verified DECS (VDECS)
1	2007	N/A**
2	2004	Level 3
3	1998	Level 3
4	2004	Uncontrolled
5	1998	Uncontrolled
**2007 Model Year equipment not already supplied with a factory-equipped diesel particulate filter shall be outfitted with Level 3 VDECS.		
Equipment with a model year earlier than Model Year 1998 shall not be permitted.		

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

Nothing in the above shall require an emissions control device (i.e., VDECS) that does not meet OSHA standards.

5. Standard Control Measure LAX-ST-1 on pages 98 through 100 of the Initial Study is hereby revised as follows. Deleted text in the first paragraph pertains to the specifics of the CALM process, and not the effectiveness of the measure.

- **LAX-ST-1. Construction Traffic Management Plan**

  Prior to initiation of construction, LAWA shall require contractors to complete a construction traffic management plan (CTMP). The CTMP shall include a description and illustrations of how the contractor will manage all construction related traffic during both peak and off-peak traffic periods. The CTMP shall detail the haul routes, locations for variable message and other signs, construction deliveries, construction employee shift hours and parking locations, any lane striping changes and traffic signal modifications, and shuttle system operations, if any. The CTMP shall require approval of the LAWA Construction and Logistics Management (CALM) Team prior to implementation. ~~The CALM Team approval process shall include multiple reviews addressing technical, scheduling and safety-related issues. Depending on the complexity and/or anticipated impacts to traffic flow, detailed review meetings with the contractor may be required. Contractor compliance shall be monitored throughout the project.~~ LAWA shall require contractors to implement and comply with the following CTMP measures to reduce construction-related traffic impacts associated with projects at LAX, including:

  a. Construction Deliveries

  Construction deliveries requiring lane closures shall receive prior approval from the CALM Team. Construction notification of deliveries requiring lane closures shall be made in writing (a minimum of seventy-two (72) hours in advance, unless otherwise coordinated with the CALM Team prior to the required closure(s) when a 72-hour advance written notification is not feasible) in order to allow for any modifications to approved traffic detour plans. Delivery permits from all applicable local agencies shall be obtained thirty (30) days prior to any delivery requiring a lane closure, as feasible. ~~To the extent possible, construction deliveries within the CTA requiring lane closures shall be scheduled during overnight hours (1:00 a.m. to 7:00 a.m.) to minimize impacts to Airport operations.~~

  b. Designated Truck Delivery Hours

  To the extent possible, truck deliveries of bulk materials such as aggregate, bulk cement, dirt, etc. to the project site, and hauling of material from the project site, shall be scheduled during off-peak hours to avoid the peak commuter ~~and Airport~~ traffic periods on designated haul routes. Peak commuter traffic periods are between 7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m. Monday through Friday. All deviations to these requirements shall be approved in writing by the CALM Team prior to actual site deliveries.

  c. Construction Employee Shift Hours

  To the extent possible, the beginning and ending times of work shifts that avoid peak commuter traffic periods (7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m. Monday through Friday) shall be established. (This measure may not apply to swing shifts.) To avoid peak commuter traffic, work periods may be extended to include weekend and multiple work shifts, when necessary.

  d. Designated Truck Routes

  For dirt, aggregate, bulk cement, and all other materials and equipment, truck deliveries to the LAX area shall be on designated routes only (freeways and non-residential streets).

  Designated truck routes shall be limited to:

- Aviation Boulevard (Imperial Highway to Manchester Boulevard)
- Manchester Boulevard (Aviation Boulevard to I-405)
- Florence Avenue (Aviation Boulevard to I-405)
- La Cienega Boulevard (north of Imperial Highway)
- Pershing Drive (Westchester Parkway to Imperial Highway)
- Westchester Parkway (Pershing Drive to Sepulveda Boulevard)
- Century Boulevard (Sepulveda Boulevard to Aviation Boulevard)
- Sepulveda Boulevard (Westchester Parkway to Imperial Highway)
- Imperial Highway (Pershing Drive to I-405)
- I-405
- I-105

f. Stockpile Locations

All stockpile locations shall be pre-approved by LAWA and its CALM Team. Stockpile locations/laydown/staging areas shall be accessed by construction vehicles with minimal disruption to adjacent public streets.