

May 14, 2026
Ms. Melissa Gamoning
Program Supervisor
Planning, Rule Development & Implementation
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

**BURBANK-GLENDALE-PASADENA AIRPORT AUTHORITY SOUTH COAST AIR QUALITY MANAGEMENT
DISTRICT MEMORANDUM OF UNDERSTANDING – REVISED 2024 ANNUAL PROGRESS REPORT**

Dear Ms. Gamoning,

Burbank-Glendale-Pasadena Airport Authority (“Authority”) is pleased to submit this revision to the Authority’s annual progress report for calendar year (“CY”) 2024. On May 30, 2025, the Authority submitted an initial Memorandum of Understanding (“MOU”) progress report for CY 2024 for South Coast Air Quality Management District (“South Coast AQMD”) review and comment. On January 30, 2026, South Coast AQMD provided comments on the initial report. This revised report details the results of the CY 2024 MOU Report incorporating revisions to address South Coast AQMD comments.

On December 17, 2019, an MOU was entered into between the South Coast AQMD and the Authority for the voluntary reduction of emissions from commercial non-aircraft airport mobile sources. This report details the progress achieved in CY 2024 and provides an overview of the Authority’s efforts to implement the MOU measures and quantify actual emission reductions. There are two measures in the Authority’s MOU related to non-aircraft commercial passenger airport mobile sources – the Ground Support Equipment (“GSE”) Program and the Hollywood Burbank Airport Shuttle Fleet Conversion. Required information described in the Authority’s MOU for each of these measures and their associated equipment and emissions are provided in the following sections. This report does not apply to any source or operation of any source that is not specifically identified in the MOU measures.

PROGRESS ON MOU MEASURES

MOU SCHEDULE NO. 1 – GROUND SUPPORT EQUIPMENT

As a key measure identified in the MOU with the South Coast AQMD, the Authority’s GSE Program requires the Authority to reduce nitrogen oxides (“NOx”) emissions from GSE to achieve a GSE fleet average composite emissions factor (“performance level”) that is equal to or less than 1.66 grams of NOx per brake horsepower-hour (“g/hp-hr of NOx”) by January 1, 2023, and 0.74 g/hp-hr of NOx by January 1, 2031. To achieve this measure, the Authority has been working with airlines and third-party GSE operators to achieve the performance targets by specified dates through accelerated turnover to cleaner equipment.

A list of GSE subject to this measure with the required information specified in MOU Schedule No. 1, Section III.B.1, *List of Ground Support Equipment*, is provided in **Exhibit A, Table 1**. Information on the

sale or retirement of non-zero emission GSE subject to this measure including information submitted to the California Air Resources Board DOORS database and relocation details (as applicable) as required by MOU Schedule No. 1, Section III.B.2, *List of Sold, Retired, or Relocated Equipment*, is presented in **Exhibit A, Table 2**. Further, as required by MOU Schedule No. 1, Section III.B.3, *Emission Inventory*, an inventory of GSE emissions associated with commercial operations at the Airport has been developed. Additional supporting information for the development of the GSE emissions inventory is provided in **Exhibit B**.

2024 Hollywood Burbank Airport MOU GSE Summary

Fleet Mix ¹					Fleet Emissions (tons per year; metric tons for CO ₂ e) ²						
Total	Electric	Diesel	Gas	Other	CO	ROG	NOx	PM ₁₀	PM _{2.5}	SOx	CO ₂ e
293	127	83	71	12	46.5	4.6	8.4	0.34	0.28	0.01	3,575

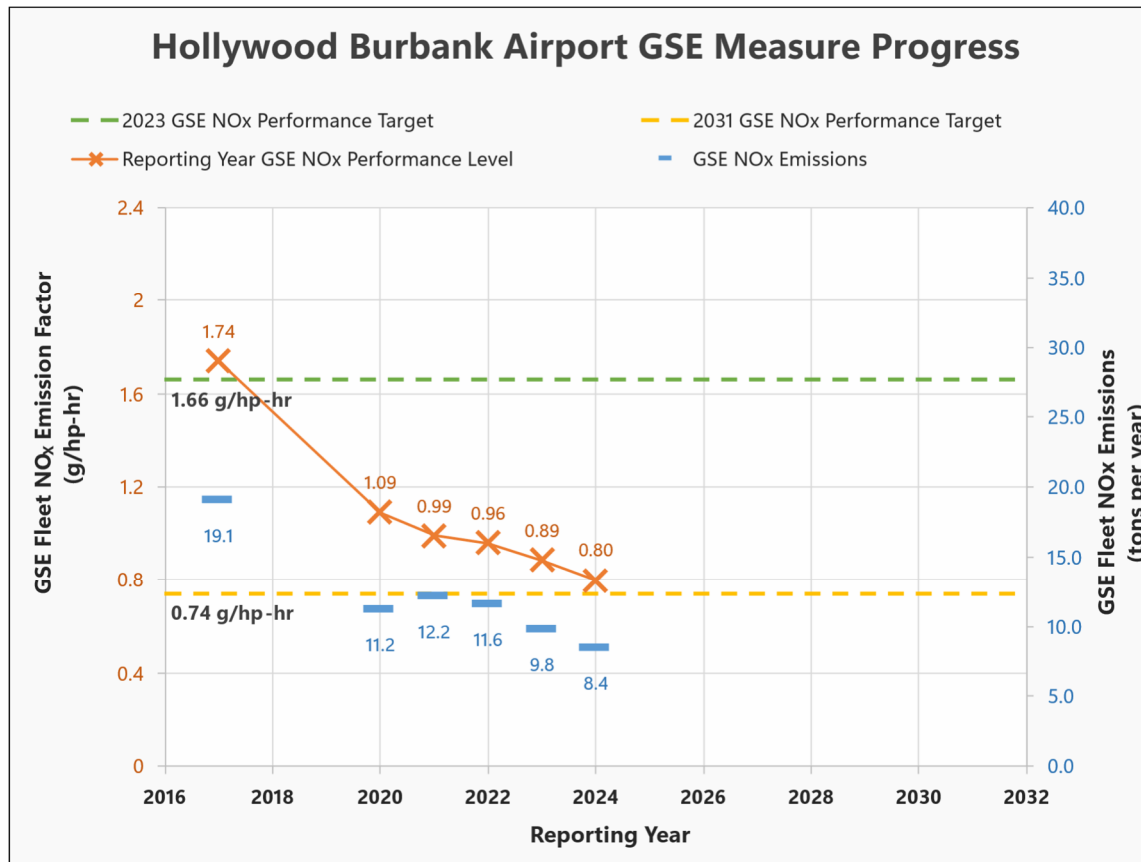
Notes:

1. Fleet counts include ≥ 25 horsepower in-use equipment used in the calculation of the NOx performance factor.
2. Fleet emissions include the operation of all reported equipment, including < 25 horsepower and low-use (< 200 hours per year) or emergency-use equipment.

In CY 2024, there were 293 pieces of in-use, ≥ 25 horsepower (collectively, “reportable”) GSE operating at the Airport – a net increase of 11 pieces of equipment relative to CY 2023. There were also 127 reportable electric ground support equipment (“eGSE”) representing a net increase of 6 units, 83 diesel-powered GSE representing a net decrease of 2 units, 71 gasoline-powered GSE representing a net increase of 7 units, and 12 liquefied petroleum gas- or propane-powered GSE representing no net change relative to CY 2023. The percentage of reportable eGSE at Hollywood Burbank Airport is 43.3%, unchanged relative to the percentage in CY 2023.

In CY 2024, the Airport achieved a performance level of 0.80 g/hp-hr of NOx, demonstrating the Airport’s continued achievement of the MOU’s January 1, 2023 performance level target. This performance level is within 9 percent of the MOU’s January 1, 2031 performance level target and indicates a high likelihood of achieving the 2031 target ahead of schedule. This factor represents a decrease relative to the CY 2023 factor of 0.89 g/hp-hr of NOx. The decrease was the result of substantial removal of pre-Tier 4 Final diesel and pre-2010 model year non-diesel (collectively, “legacy GSE”) GSE from the combined Airport fleet. The Authority anticipates the fleet composite performance factor to continue to decrease as the Authority continues its ongoing partnerships with third-party GSE operators to replace or relocate legacy GSE.

For CY 2024, annual NOx emissions from GSE totaled 8.4 tons, which is lower than the 2023 annual NOx emissions from GSE of 9.8 tons. This decrease in total annual NOx emissions is directly attributable to the removal and retirement of legacy GSE from the GSE fleets in operation at the Airport. The Authority’s GSE Emissions Reduction Program has achieved reduction in annual NOx emissions from GSE of 55.7% relative to the annual NOx emissions from GSE in 2019, the year of the Program’s inception. In June 2025, the Authority continued its targeted outreach approach, informing operators of their highest-emitting GSE and encouraging the elimination of remaining legacy GSE or highest-emission non-legacy GSE which remained in operation at the Airport in 2024.



Hollywood Burbank Airport GSE Performance and Emissions by Survey Year

MOU SCHEDULE NO. 2 – ZERO-EMISSION SHUTTLE BUS PROGRAM

MOU Schedule No. 2 is based on the Authority's AQIP creditable measure for zero-emission buses at the Airport. This measure requires that the Authority replace 50% and 100% of Authority owned and operated or Authority contracted buses with electric buses by January 1 of 2023 and 2031, respectively.

On March 3, 2025, four electric shuttle vehicles and supporting infrastructure were delivered to the airport. These buses were activated for service on May 5, 2025, replacing 4 conventionally-fueled buses and representing half of the Airport's shuttle fleet and achieving the 2023 shuttle electrification target.

As required by this measure, a list of shuttle buses operating at the Airport in CY 2024 with the required information specified in MOU Schedule No. 2, Section III.B.1, Shuttle Bus List, is provided in **Exhibit C, Table 1**. Further, as required by MOU Schedule No. 1, Section III.B.2, an emissions inventory for shuttle buses has been developed. As the electric buses were not yet operational at the Airport in 2024, all shuttles included in the provided Exhibit are conventionally fueled. Additional supporting information for the development of the shuttle bus emissions inventory can be found in **Exhibit C**.

2024 Hollywood Burbank Airport MOU Shuttle Bus Summary

Fleet Mix		Fleet Emissions (tons per year; metric tons for CO ₂ e)						
Electric	Non-electric ¹	CO	ROG	NOx	PM ₁₀	PM _{2.5}	SOx	CO ₂ e
0 (0%)	9 (100%)	0.76	0.01	0.04	0.03	0.01	<0.01	370

Notes:

1. Of the 9 buses which operated at BUR at any point in 2024, only 8 operated at any given time, with the oldest bus (a 2010 model year propane bus) being replaced with the newer CNG bus in January of 2024.

The Authority truly appreciates the ongoing partnership and collaboration with South Coast AQMD. If there are any questions, please contact either myself at mmartinez@bur.org (818) 729-2226 or Tami McCrossen-Orr at tami@trifiletticonsulting.com (310) 709-9637 at your earliest convenience.

Sincerely,



Maggie Martinez
Director, Noise and Environmental Affairs

Enclosed are the following documents.

- Exhibit A: MOU Schedule No. 1 – Ground Support Equipment MOU Report
- Exhibit B: MOU Schedule No. 1 – Ground Support Equipment Survey, Emissions Inventory Report, Revised May 2026
- Exhibit C: MOU Schedule No. 2 – Shuttle Bus MOU Report
- Exhibit D: South Coast AQMD Comments on May 30, 2025 Calendar Year 2024 MOU Progress Report and Authority Responses

Exhibit A

MOU Schedule No. 1 – Ground Support Equipment MOU Report

MOU SCHEDULE NO. 1 – GROUND SUPPORT EQUIPMENT

This MOU Schedule No. 1 is based on the Authority's AQIP measure for ground support equipment ¹.

- I. PROGRAM DESCRIPTION – Require that all ground support equipment associated with commercial operations achieve a fleet average NOx combined emission factors of 1.66 and 0.74 g/bhp-hr by January 1, 2023 and 2031, respectively.
- II. PROGRAM TIMEFRAME – Upon execution through 2032.
- III. AIRPORT OBLIGATIONS – The Authority agrees to:
 - A. Implement the measure by working with airport tenants to achieve the above performance targets by specified dates through accelerated turnover to cleaner equipment. Airport shall have complete discretion as to mechanisms used to implement this measure. Such mechanisms may include leases, licenses, operational requirements, or other agreements.
 - B. Beginning in 2021, and every year thereafter through 2032, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:
 1. List of ground support equipment as provided by airlines operating at BUR with the following information:
 - a. Equipment ID
 - b. Equipment type
 - c. Fuel type
 - d. Engine model year
 - e. Power rating (hp or kW)
 - f. Engine tier level (for diesel engines)
 - g. Annual activity data for non-zero emission equipment that is sufficient to determine emission reductions at a reasonable level of accuracy (i.e., actual operating hours from hour meter readings/maintenance records, average operating hours representative of equipment type and airport, or average operating hours by equipment/fuel type from CARB's OFFROAD model, if applicable)

¹ Ground Support Equipment or "GSE" is any vehicle or equipment used to support aircraft operations that is subject to, or included in compliance plans to meet, the requirements of the California Air Resources Board (CARB) In-Use Off-Road Diesel (ORD) Vehicle Regulation Program, CARB Off-Road Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation Program, or CARB Portable Equipment Registration Program and associated Portable Diesel Engine Airborne Toxic Control Measure. Furthermore, GSE as defined here only includes equipment that is not subject to compliance with SCAQMD Rule XX - RECLAIM, or included in a mobile source emission reduction credit program under SCAQMD Rule XVI.

2. For non-zero emission ground support equipment subject to this GSE measure, information regarding the sale or retirement of equipment available through CARB's DOORS system and, for pre-Tier 4 diesel, pre-2010 gasoline, or pre-2010 LPG ground support equipment relocated from BUR to another airport within the South Coast Air Basin, identify: a) the airport to which equipment is relocated, b) date of relocation, and c) estimated projected usage hours.
3. An annual emission inventory for all ground support equipment associated with commercial operations at BUR, including methodology and calculations.

IV OBLIGATIONS – South Coast AQMD agrees to:

- A. Verify emission reductions from the implementation of this AQIP measure in order to determine actual emission reductions.
- B. Ensure that any emission reduction data related to this AQIP measure and other pertinent information are accessible to the public and the USEPA.

MOU SCHEDULE NO. 1 – III.B.1. List of Ground Support Equipment

List of ground support equipment subject to this GSE measure with the following information: a) Equipment ID, b) Equipment type, c) Fuel type, d) Engine model year, e) Power rating (hp or kW), f) Engine tier level (for diesel engines), g) Annual activity data based on average operating hours from CARB's OFFROAD model

Table 1. 2024 Hollywood Burbank Airport GSE Fleet

Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Designated Low Use	Designated Emergency Use	On-Road Equivalent Engine
BUR-OP01-001	golf cart	cart	electric	2008	52	--	152	electric	john deer	yes	no	no
BUR-OP01-002	air conditioner	air conditioner	diesel	2005	85	tier 2	391	ace-302-h-cup	tld	no	no	no
BUR-OP02-002	fork lift	forklift	lpg/propane	1998	46	--	591		tcm	no	no	no
BUR-OP02-003	cart	cart	electric	1999	6	--	152	taylor dunn	taylor dunn	no	no	no
BUR-OP02-004	cart	cart	electric	1999	6	--	152	taylor dunn	taylor dunn	no	no	no
BUR-OP02-005	gpu	ground power unit	diesel	2015	44	tier 4	798	jetgo-550 mti	aerospecialties	no	no	no
BUR-OP02-006	towbarless tow tractor	a/c tug narrow body	electric	1998	3	--	385		lektro	no	no	no
BUR-OP02-007	towbarless tow tractor	a/c tug narrow body	electric	2001	6	--	385	jet porter	aerospecialties	no	no	no
BUR-OP02-008	lift	lift	electric	1996	5	--	391		jlg	no	no	no
BUR-OP03-001	fuel truck	fuel truck	diesel	2017	275	tier 4	83		international	no	no	no
BUR-OP03-003	fuel truck	fuel truck	diesel	2016	275	tier 4	83		international	no	no	no
BUR-OP03-004	fuel truck	fuel truck	diesel	2017	275	tier 4	83		international	no	no	no
BUR-OP03-005	fuel truck	fuel truck	diesel	2016	275	tier 4	83		international	no	no	no
BUR-OP03-008	fuel truck	fuel truck	diesel	2019	260	tier 4	83		international	no	no	no
BUR-OP03-009	fuel truck	fuel truck	diesel	2014	215	tier 4	83		international	no	no	no
BUR-OP03-010	fuel truck	fuel truck	diesel	2014	215	tier 4	83		international	no	no	no
BUR-OP03-011	fuel truck	fuel truck	diesel	2000	175	tier 1	208		isuzu	no	no	no
BUR-OP03-012	fuel truck	fuel truck	diesel	2000	175	tier 1	--		international	no	no	no
BUR-OP03-014	stair truck	passenger stand	gasoline	1975	300	--	52		ford	no	no	no
BUR-OP03-015	belt loader	belt loader	gasoline	1975	84	--	75		cargo king	no	no	no
BUR-OP03-016	belt loader	belt loader	electric	2018	6	--	706		tld	no	no	no

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BUR-OP03-017	floor scrubber	sweeper	electric	1999	4	--	339		tenant	no	no	no
BUR-OP03-018	floor scrubber	sweeper	electric	1995	2	--	339		tenant	no	no	no
BUR-OP03-019	golf cart	cart	electric	2015	120	--	152		cart mart inc	no	no	no
BUR-OP03-020	golf cart	cart	electric	2002	9	--	152		ez-go	no	no	no
BUR-OP03-021	gpu	ground power unit	diesel	2014	37	tier 4	798		aero specialties	no	no	no
BUR-OP03-022	gpu	ground power unit	diesel	2015	37	tier 4	798		aero specialties	no	no	no
BUR-OP03-023	gpu	ground power unit	electric			--	798		foxcart	no	no	no
BUR-OP03-025	gpu	ground power unit	diesel	2019	74	tier 4	798		aero specialties	no	no	no
BUR-OP03-026	gpu	ground power unit	diesel	2020	147	tier 4	798		tld	no	no	no
BUR-OP03-027	gpu	ground power unit	diesel	2014	147	tier 4	798		tld	no	no	no
BUR-OP03-028	lavatory cart	lav cart	electric	2002	--	--	150		aero specialties	no	no	no
BUR-OP03-029	lavatory cart	lav cart	electric	2018	--	--	150		aero specialties	no	no	no
BUR-OP03-030	lavatory cart	lav cart	electric	2015	--	--	150		aero specialties	no	no	no
BUR-OP03-032	ramp pickup truck	service truck	gasoline	2005	282	--	730		toyota	no	no	no
BUR-OP03-033	ramp pickup truck	service truck	gasoline	2005	245	--	1,095		toyota	no	no	no
BUR-OP03-034	potable water cart	cart	electric	2002	--	--	152		aero specialties	no	no	no
BUR-OP03-035	potable water cart	cart	electric	2019	--	--	152		aero specialties	no	no	no
BUR-OP03-036	towbarless tow tractor	a/c tug narrow body	electric	2013	45	--	385		lektro	no	no	no
BUR-OP03-037	towbarless tow tractor	a/c tug narrow body	electric	2001	19	--	385		lektro	no	no	no

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BUR-OP03-038	towbarless tow tractor	a/c tug narrow body	electric	2019	58	--	385		lektro	no	no	no
BUR-OP03-039	baggage tractor	baggage tug	diesel	2020	120	tier 4	846		tld	no	no	no
BUR-OP03-040	aircraft tractor	a/c tug narrow body	diesel	2018	68	tier 4	385		eagle	no	no	no
BUR-OP03-043	fuel truck	fuel truck	diesel	2016	195	tier 4	83		international	no	no	no
BUR-OP03-044	fuel truck	fuel truck	gasoline	2021	429	--	83		dodge	no	no	no
BUR-OP03-045	belt loader	belt loader	diesel	2022	65	tier 4	706	nbl	tld	no	no	no
BUR-OP03-046	fuel truck	fuel truck	diesel	2022	260	tier 4	83		international	no	no	no
BUR-OP03-047	aircraft tractor	a/c tug narrow body	electric	2023	28	--	385		tld	no	no	no
BUR-OP03-048	towbarless tow tractor	a/c tug narrow body	electric	2023	45	--	385		lektro	no	no	no
BUR-OP03-049	gpu	ground power unit	diesel	2023	147	tier 4	798		tld	no	no	no
BUR-OP03-050	stair truck	passenger stand	diesel	2022	51	tier 4	137		tld	no	no	no
BUR-OP03-051	ramp pickup truck	service truck	gasoline	2024	228	--	515		toyota	no	no	no
BUR-OP17-001	air conditioner	air conditioner	diesel	2020	173	tier 4	200	w/cummins qsf 3.8l diesel engine tier 4f	tld america	yes	no	no
BUR-OP17-004	baggage tractor	baggage tug	gasoline	2021	190	--	200	w/ford 2.5l gasoline engine & gm4l70 transmission	textron gse	yes	no	no
BUR-OP17-005	baggage tractor	baggage tug	gasoline	2021	190	--	200	w/ford 2.5l gasoline engine & gm4l70 transmission	textron gse	yes	no	no

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BUR-OP17-006	baggage tractor	baggage tug	gasoline	2021	190	--	200	w/ford 2.5l gasoline engine & gm4l70 transmission	textron gse	yes	no	no
BUR-OP17-007	belt loader	belt loader	gasoline	2019	190	--	706	w/ford 2.5l gasoline engine & gm4l70 transmission, w/backup alarm, standard morse, block heater	textron gse	no	no	no
BUR-OP17-008	belt loader	belt loader	gasoline	2019	190	--	706	w/ford 2.5l gasoline engine & gm4l70 transmission, w/backup alarm, standard morse, block heater	textron gse	no	no	no
BUR-OP17-009	belt loader	belt loader	gasoline	2019	190	--	706	w/ford 2.5l gasoline engine & gm4l70 transmission, w/backup alarm, standard morse, block heater	textron gse	no	no	no

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BUR-OP17-010	belt loader	belt loader	gasoline	2019	190	--	706	w/ford 2.5l gasoline engine & gm4l70 transmission, w/backup alarm, standard morse, block heater	textron gse	no	no	no
BUR-OP17-011	ground power unit	ground power unit	diesel	2019	160	tier 4	798	w/cummins qsb 4.5l t4f diesel engine, 400 hz, 90 kva	tld america	no	no	no
BUR-OP17-012	ground power unit	ground power unit	diesel	2019	160	tier 4	798	w/cummins qsb 4.5l t4f diesel engine, 400 hz, 90 kva	tld america	no	no	no
BUR-OP17-013	ground power unit	ground power unit	diesel	2019	160	tier 4	798	w/cummins qsb 4.5l t4f diesel engine, 400 hz, 90 kva	tld america	no	no	no
BUR-OP17-014	lavatory cart	lav cart	gasoline	2020	4	--	150	all stainless tanks & module, full insulation w/flush immersion heater, gasoline engine, honda 4hp	phoenix metal products	yes	no	no

Table 1. 2024 Hollywood Burbank Airport GSE Fleet

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BUR-OP17-015	lavatory cart	lav cart	gasoline	2020	4	--	150	all stainless tanks & module, full insulation w/flush immersion heater, gasoline engine, honda 4hp	phoenix metal products	yes	no	no
BUR-OP17-016	lavatory cart	lav cart	gasoline	2020	4	--	150	pnx wc400pl water cart, gasoline engine, honda 4hp	phoenix metal products	yes	no	no
BUR-OP17-017	pushback tractor	a/c tug narrow body	diesel	2020	74	tier 4	200	w/deutz td/tcd 3.6 l4 tier 4f diesel engine	textron gse	yes	no	no
BUR-OP17-018	pushback tractor	a/c tug narrow body	diesel	2019	74	tier 4	200	w/deutz td/tcd 3.6 l4 tier 4f diesel engine	textron gse	yes	no	no
BUR-OP17-019	pushback tractor	a/c tug narrow body	diesel	2018	74	tier 4	200	w/deutz td/tcd 3.6 l4 tier 4f diesel engine	textron gse	yes	no	no
BUR-OP17-021	maintenance truck	maint. truck	gasoline	2012	242	--	200	chevy colorado ext cab	chevy	yes	no	yes
BUR-OP17-022	maintenance truck	maint. truck	gasoline	2015	285	--	200	chevy express	chevy	yes	no	yes
BUR-OP17-023	maintenance truck	maint. truck	gasoline	2008	195	--	200	chevy silverado	chevy	yes	no	yes
BUR-OP17-025	catering truck	catering truck	gasoline	2017	280	--	200	gmc g33503 box truck	gmc	yes	no	yes

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Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Designated Low Use	Designated Emergency Use	On-Road Equivalent Engine
BUR-OP20-001	maintenance truck	maint. truck	gasoline	2022	191	--	450	maverick		no	no	yes
BUR-OP20-002	catering truck	catering truck	gasoline	2006	185	--	928	chevy		no	no	yes
BUR-OP04-001	towbarless tow tractor	a/c tug narrow body	electric	1998	300	--	200	electric tug	lektro	yes	no	no
BUR-OP04-002	towbarless tow tractor	a/c tug narrow body	electric	2008	300	--	200	electric tug	lektro	yes	no	no
BUR-OP04-003	golf cart	cart	electric	2011	100	--	152	electric golf cart	carryall	yes	no	no
BUR-OP04-004	golf cart	cart	electric	2008	100	--	152	electric golf cart	carryall	yes	no	no
BUR-OP04-005	golf cart	cart	electric	2000	100	--	152	electric golf cart	trans-porter	yes	no	no
BUR-OP05-003	aircraft tow tractor	a/c tug narrow body	diesel	2011	175	tier 4i	385	tuga/c	jbtac	no	no	no
BUR-OP05-005	cargo loader	cargo loader	diesel	2011	125	tier 3	556	loader/a	fmcxx	no	no	no
BUR-OP05-006	cargo loader	cargo loader	diesel	2005	102	tier 2	245	loader/a	fmcxx	no	no	no
BUR-OP05-007	cargo loader	cargo loader	diesel	2005	102	tier 2	556	loader/a	fmcxx	no	no	no
BUR-OP05-009	cargo loader	cargo loader	diesel	2017	160	tier 4	556	loader/a	jbtac	no	no	no
BUR-OP05-010	fork lift	forklift	gasoline	2008	57	--	591	forklift	toyot	no	no	no
BUR-OP05-011	belt loader	belt loader	gasoline	2009	56	--	706	bltloadr	tldxx	no	no	no
BUR-OP05-012	baggage tractor	baggage tug	gasoline	2010	80	--	846	tug	tiger	no	no	no
BUR-OP05-013	baggage tractor	baggage tug	gasoline	2010	80	--	846	tug	tiger	no	no	no
BUR-OP05-014	baggage tractor	baggage tug	gasoline	2010	80	--	846	tug	tiger	no	no	no
BUR-OP05-015	baggage tractor	baggage tug	gasoline	2010	80	--	846	tug	tiger	no	no	no
BUR-OP05-016	baggage tractor	baggage tug	gasoline	2009	75	--	846	tug	tiger	no	no	no
BUR-OP05-017	baggage tractor	baggage tug	gasoline	2009	75	--	846	tug	tiger	no	no	no
BUR-OP05-018	baggage tractor	baggage tug	gasoline	2009	75	--	846	tug	tiger	no	no	no

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Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Designated Low Use	Designated Emergency Use	On-Road Equivalent Engine
BUR-OP05-019	fork lift	forklift	lpg/propane	2011	51	--	591	forklift	toyot	no	no	no
BUR-OP05-020	fork lift	forklift	lpg/propane	2011	51	--	562	forklift	toyot	no	no	no
BUR-OP05-021	cargo tractor	cargo tractor	gasoline	2011	79	--	1,114	tug	tugmn	no	no	no
BUR-OP05-022	belt loader	belt loader	gasoline	1999	100	--	640	bltloadr	tugmn	no	no	no
BUR-OP05-025	cargo tractor	cargo tractor	gasoline	2004	100	--	1,114	tug	tugmn	no	no	no
BUR-OP05-026	cargo tractor	cargo tractor	gasoline	2004	100	--	1,114	tug	tugmn	no	no	no
BUR-OP05-027	cargo tractor	cargo tractor	gasoline	2004	100	--	1,114	tug	tugmn	no	no	no
BUR-OP05-028	fork lift	forklift	lpg/propane	2006	59	--	591	forklift	toyot	no	no	no
BUR-OP05-029	fork lift	forklift	lpg/propane	2006	59	--	591	forklift	toyot	no	no	no
BUR-OP05-030	cargo tractor	cargo tractor	gasoline	2017	86	--	1,114	tug	tugmn	no	no	no
BUR-OP05-031	maintenance truck	maint. truck	gasoline	2019	293	--	450	maintrk	isuzu	no	no	yes
BUR-OP05-032	maintenance truck	maint. truck	gasoline	1992	138	--	408	maintrk	tesco	no	no	yes
BUR-OP05-033	cart	cart	gasoline	2013	138	--	152	burdnear	cshmn	no	no	no
BUR-OP05-034	cart	cart	gasoline	2014	138	--	152	burdnear	cshmn	no	no	no
BUR-OP05-045	cargo loader	cargo loader	diesel	2021	130	tier 4	556	loader/a	rclxx	no	no	no
BUR-OP05-046	generator	generator	diesel	1997	13	tier 0	913	lgtunit	almbr	no	no	no
BUR-OP05-047	lift	lift	gasoline	2006	20	--	391	sortpltf	waspx	no	no	no
BUR-OP05-048	generator	generator	diesel	2013	10	tier 4	913	lgtunit	terex	no	no	no
BUR-OP05-049	generator	generator	diesel	2013	10	tier 4	913	lgtunit	terex	no	no	no
BUR-OP05-050	lift	lift	diesel	2015	25	tier 4	391	sortpltf	waspx	no	no	no
BUR-OP05-051	generator	generator	diesel	2020	14	tier 4	913	lgtunit	genac	no	no	no
BUR-OP05-052	belt loader	belt loader	gasoline	2022	80	--	706	bltloadr	tldac	no	no	no
BUR-OP05-054	cargo loader	cargo loader	diesel	2019	74	tier 4	350	loader/a	fmcxx	no	no	no
BUR-OP05-055	cargo tractor	cargo tractor	diesel	2022	75	tier 4	641	tug	gldhf	no	no	no
BUR-OP05-038	ground power unit	ground power unit	diesel	2015	147	tier 4	798		175401	no	no	no
BUR-OP05-039	air start	air start unit	diesel	2015	544	tier 4	79		175402	no	no	no
BUR-OP05-042	ground power unit	ground power unit	diesel	2021	155	tier 4	798			no	no	no

Table 1. 2024 Hollywood Burbank Airport GSE Fleet

Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Designated Low Use	Designated Emergency Use	On-Road Equivalent Engine
BUR-OP05-043	ground power unit	ground power unit	diesel	2021	155	tier 4	798	gpu	tldxx	no	no	no
BUR-OP05-044	air conditioner	air conditioner	diesel	2018	130	tier 4	391	aircontr	tldac	no	no	no
BUR-OP05-053	air conditioner	air conditioner	diesel	2022	225	tier 4	391	aircontr	tldac	no	no	no
BUR-OP06-001	pushback	a/c tug narrow body	diesel	2004	194	tier 2	385	pushback	tug	no	no	no
BUR-OP06-002	pushback	a/c tug narrow body	diesel	2009	88	tier 3	385	pushback	tug	no	no	no
BUR-OP06-003	pushback	a/c tug narrow body	diesel	2007	88	tier 2	385	pushback	tug	no	no	no
BUR-OP06-008	gpu	ground power unit	diesel	2006	194	tier 3	--	gpu	tug	no	no	no
BUR-OP06-010	gpu	ground power unit	diesel	2010	194	tier 3	798	gpu	tug	no	no	no
BUR-OP06-011	air conditioner	air conditioner	diesel	2016	310	tier 4	391	acu	tld	no	no	no
BUR-OP06-012	air conditioner	air conditioner	diesel	2009	310	tier 3	--	acu	tld	no	no	no
BUR-OP06-013	air start	air start unit	diesel	2009	400	tier 3	79	as	tld	yes	no	no
BUR-OP06-014	lavatory cart	lav cart	gasoline	2015	5	--	150	lc	phoenix	no	no	no
BUR-OP06-015	lavatory cart	lav cart	gasoline	2009	5	--	150	lc	par kan	no	no	no
BUR-OP06-016	lavatory cart	lav cart	electric	2016	28	--	150	lc	par kan	no	no	no
BUR-OP06-020	belt loader	belt loader	electric	2007	40	--	706	bd	tug	no	no	no
BUR-OP06-021	belt loader	belt loader	diesel	2014	77	tier 4	706	bd	tug	no	no	no
BUR-OP06-022	belt loader	belt loader	gasoline	2004	30	--	200	bw	wasp	yes	no	no
BUR-OP06-023	belt loader	belt loader	diesel	2007	77	tier 2	706	bd	tug	no	no	no
BUR-OP06-024	belt loader	belt loader	electric	2012	40	--	706	bd	tug	no	no	no
BUR-OP06-025	belt loader	belt loader	diesel	2006	77	tier 2	706	bd	tug	no	no	no
BUR-OP06-027	belt loader	belt loader	diesel	2007	77	tier 2	706	bd	tug	no	no	no
BUR-OP06-028	potable water cart	cart	electric	2004	5	--	152	pw	phoenix	no	no	no
BUR-OP06-029	potable water cart	cart	electric	1999	5	--	152	pw	davey	no	no	no
BUR-OP06-030	potable water cart	cart	electric	2001	5	--	76	pw	par kan	no	no	no

Table 1. 2024 Hollywood Burbank Airport GSE Fleet

Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Designated Low Use	Designated Emergency Use	On-Road Equivalent Engine
BUR-OP06-031	bag tug	baggage tug	gasoline	2006	88	--	422	t	harlad	no	no	no
BUR-OP06-032	bag tug	baggage tug	gasoline	2006	88	--	422	t	harlad	no	no	no
BUR-OP06-033	bag tug	baggage tug	electric	2007	40	--	846	t	tug	no	no	no
BUR-OP06-034	bag tug	baggage tug	electric	2007	40	--	422	t	tug	no	no	no
BUR-OP06-035	bag tug	baggage tug	electric	2006	40	--	422	t	tug	no	no	no
BUR-OP06-036	bag tug	baggage tug	electric	2006	40	--	422	t	tug	no	no	no
BUR-OP06-037	bag tug	baggage tug	electric	2006	40	--	422	t	tug	no	no	no
BUR-OP07-001	aircraft tractor	a/c tug narrow body	gasoline	1991	300	--	--	tug	clark	yes	yes	no
BUR-OP07-002	golf cart	cart	electric	2024		--	9	kinetic xp	polaris	no	yes	no
BUR-OP18-001	platform lift	lift	electric	1997	1	--	200	66850-010	upright, inc.	yes	no	no
BUR-OP18-002	fork lift	forklift	lpg/propane	1986	84	--	200	fgc 15	mitsubishi	yes	no	no
BUR-OP18-003	floor scrubber	sweeper	electric		1	--	200	t-12	tenant	yes	no	no
BUR-OP18-004	aircraft tractor	a/c tug narrow body	electric	2007	45	--	200	2007ap8850sd alektro		yes	no	no
BUR-OP18-005	aircraft tractor	a/c tug narrow body	diesel	2017	84	tier 4	83	tt12dal	eagle	yes	no	no
BUR-OP18-006	ground power unit	ground power unit	electric		--	--	200	6t28-600cl	hobart	yes	no	no
BUR-OP18-008	ground power unit	ground power unit	electric		--	--	200	6t28-400cl	hobart	yes	no	no
BUR-OP18-010	air conditioner	air conditioner	electric		6	--	200	484000-039	inspac	yes	no	no
BUR-OP18-011	air conditioner	air conditioner	electric		5	--	200	classic 40	movincool	yes	no	no
BUR-OP18-012	golf cart	cart	electric	1998	3	--	152	carryall 6	club car	yes	no	no
BUR-OP18-013	golf cart	cart	electric	1998	3	--	152	carryall 6	clubcar	yes	no	no
BUR-OP08-001	ground power unit	ground power unit	electric	1998	25	--	798	gpu	unitron	no	no	no
BUR-OP08-002	ground power unit	ground power unit	electric	2002	37	--	798	gpu	unitron	no	no	no
BUR-OP08-003	ground power unit	ground power unit	electric	2003	15	--	798	gpu	unitron	no	no	no
BUR-OP08-004	ground power unit	ground power unit	electric	1990	15	--	798	gpu	unitron	no	no	no

Table 1. 2024 Hollywood Burbank Airport GSE Fleet

Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Designated Low Use	Designated Emergency Use	On-Road Equivalent Engine
BUR-OP08-005	ground power unit	ground power unit	electric	2006	90	--	798	gpu	unitron	no	no	no
BUR-OP08-006	ground power unit	ground power unit	electric	2004	25	--	798	gpu	unitron	no	no	no
BUR-OP08-007	ground power unit	ground power unit	electric	1989	28	--	798	gpu	hobart	no	no	no
BUR-OP08-008	ground power unit	ground power unit	electric	2006	28	--	798	gpu	hobart	no	no	no
BUR-OP08-009	ground power unit	ground power unit	electric	1985	28	--	798	gpu	hobart	no	no	no
BUR-OP08-010	ground power unit	ground power unit	electric	1987	28	--	798	gpu	hobart	no	no	no
BUR-OP08-011	ground power unit	ground power unit	electric	1995	180	--	798	gpu	hobart	no	no	no
BUR-OP08-012	ground power unit	ground power unit	electric	1984	40	--	798	gpu	trilectron	no	no	no
BUR-OP08-013	hpu	ground power unit	electric	1998	28	--	798	hpu	tronair	no	no	no
BUR-OP08-014	hpu	ground power unit	electric	1996	28	--	798	hpu	tronair	no	no	no
BUR-OP08-015	hpu	ground power unit	electric	2001	28	--	798	hpu	trionair	no	no	no
BUR-OP08-016	fork lift	forklift	lpg/propane	1972	25	--	26	forklift	tmc	no	no	no
BUR-OP08-017	aircraft tractor	a/c tug narrow body	diesel	1974	43	tier 0	1	tug	hydratug	yes	yes	no
BUR-OP08-018	aircraft tractor	a/c tug narrow body	diesel	1974	43	tier 0	--	tug	hydratug	yes	yes	no
BUR-OP08-019	aircraft tow tractor	a/c tug narrow body	electric	1996	48	--	385		lektro	no	no	no
BUR-OP08-020	aircraft tow tractor	a/c tug narrow body	electric	1989	48	--	385		lektro	no	no	no
BUR-OP08-021	golf cart	cart	electric	2002	6	--	152		clubcar	no	no	no
BUR-OP08-022	golf cart	cart	electric	1996	6	--	152		clubcar	no	no	no
BUR-OP08-023	golf cart	cart	electric	1995	6	--	152		clubcar	no	no	no
BUR-OP09-002	generator	generator	gasoline	2018	15	--	913		champion	no	no	no
BUR-OP09-003	golf cart	cart	electric	2005	20	--	152		yamaha	no	no	no

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BUR-OP09-004	fork lift	forklift	lpg/propane	2012	85	--	591		toyota	no	no	no
BUR-OP09-005	towbarless tow tractor	a/c tug narrow body	electric	2019	110	--	385		lektro	no	no	no
BUR-OP09-006	man lift	lift	electric	2010	40	--	391		genie	no	no	no
BUR-OP09-007	air start	air start unit	diesel	2018	400	tier 4	79		tld	no	no	no
BUR-OP09-008	belt loader	belt loader	gasoline	2011	25	--	706		wasp	no	no	no
BUR-OP09-009	belt loader	belt loader	gasoline	2006	25	--	706	a2193800	wasp	no	no	no
BUR-OP09-010	bag tug	baggage tug	gasoline	2022	150	--	846		harlan ht6cl405dwdc	no	no	no
BUR-OP09-011	bag tug	baggage tug	lpg/propane	2022	150	--	846		harlan	no	no	no
BUR-OP09-012	bag tug	baggage tug	lpg/propane	2022	150	--	846		harlan	no	no	no
BUR-OP09-013	gpu	ground power unit	diesel	2003	99	tier 1	798		hobart #1	no	no	no
BUR-OP09-014	gpu	ground power unit	diesel	2006	99	tier 2	798		hobart #2	no	no	no
BUR-OP09-015	gpu	ground power unit	diesel	2004	99	tier 2	798		hobart #3	no	no	no
BUR-OP09-016	golf cart	cart	electric	2019	14	--	152		club car	no	no	no
BUR-OP09-017	belt loader	belt loader	gasoline	2022	65	--	706		tld	no	no	no
BUR-OP09-018	generator	generator	gasoline	2022	6	--	913		predator	no	no	no
BUR-OP10-003	fuel truck	fuel truck	diesel	2016	275	tier 4	269	aircraft refueler	international	no	no	no
BUR-OP10-004	fuel truck	fuel truck	diesel	2018	275	tier 4	841	aircraft refueler	international	no	no	no
BUR-OP10-005	fuel truck	fuel truck	diesel	2006	183	tier 3	201	aircraft refueler	iisuzu	no	no	no
BUR-OP10-008	aircraft tractor	a/c tug narrow body	diesel	2019	74	tier 4	423	tug	tld	no	yes	no
BUR-OP10-009	aircraft tractor	a/c tug narrow body	diesel	2017	74	tier 4	101	tug	tld	no	yes	no
BUR-OP10-010	belt loader	belt loader	diesel	2018	50	tier 4	27	belt loader	tld	no	no	no
BUR-OP10-011	gpu	ground power unit	diesel	2016	50	tier 4	742	gpu	jet go	no	no	no

Table 1. 2024 Hollywood Burbank Airport GSE Fleet

Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Designated Low Use	Designated Emergency Use	On-Road Equivalent Engine
BUR-OP10-012	gpu	ground power unit	diesel	2010	50	tier 4i	90	gpu	hobart	no	no	no
BUR-OP10-015	golf cart	cart	electric	2001	3	--	152	golf cart	e-z-go	no	no	no
BUR-OP10-016	golf cart	cart	electric	1999	3	--	152	golf cart	club car	no	no	no
BUR-OP10-017	fuel truck	fuel truck	diesel	2021	138	tier 4	958	aircraft refueler	freightliner	no	no	no
BUR-OP10-018	lavatory service cart	lav cart	electric	1999	--	--	150		aero specialties	no	no	no
BUR-OP10-020	golf cart	cart	electric	2022	5	--	152	black	evolution	no	no	no
BUR-OP10-021	fuel truck	fuel truck	diesel	2002	175	tier 1	36	4200 vt365	international	no	no	no
BUR-OP10-022	fuel truck	fuel truck	diesel	2022	85	tier 4	975	m2106	freightliner	no	no	no
BUR-OP10-023	passenger stand	passenger stand	gasoline	1983	150	--	33	350	ford wollard	no	yes	no
BUR-OP10-024	passenger stand	passenger stand	gasoline	1970	200	--	23	150	ford wollard	no	yes	no
BUR-OP10-025	ground power unit	ground power unit	diesel	2021	50	tier 4	490	jet go 400	aero specialties	no	yes	no
BUR-OP11-001	golf cart	cart	electric	2005	10	--	152	golf cart	club car	no	no	no
BUR-OP11-002	golf cart	cart	electric	2005	10	--	152	golf cart	club car	no	no	no
BUR-OP11-003	towbarless tow tractor	a/c tug narrow body	electric	2018	45	--	385	towbarless tow tractor	lektro	no	no	no
BUR-OP11-004	lavatory cart	lav cart	electric	2005	--	--	150	towable lav cart	tronair	no	no	no
BUR-OP11-005	platform lift	lift	electric	1990	10	--	391	platform lift	us lift	no	no	no
BUR-OP11-006	other gse	other gse	electric	2019	60	--	412	hydraulic mule	tronair	no	no	no
BUR-OP11-008	ground power unit	ground power unit	electric	2017	32	--	798	power cart	unitron	no	no	no
BUR-OP11-009	ground power unit	ground power unit	electric	2018	32	--	798	power cart	unitron	no	no	no
BUR-OP11-010	towbarless tow tractor	a/c tug narrow body	electric	2020	31	--	385	towbarless tow tractor	lektro	no	no	no
BUR-OP11-011	man lift	lift	electric	2021	10	--	391	man lift	crown	no	no	no
BUR-OP11-012	man lift	lift	electric	2021	10	--	391	man lift	crown	no	no	no
BUR-OP11-013	floor scrubber	sweeper	electric	2024	3	--	200	floor scrubber	tennant	yes	no	no

Table 1. 2024 Hollywood Burbank Airport GSE Fleet

Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Designated Low Use	Designated Emergency Use	On-Road Equivalent Engine
BUR-OP11-014	psgr elec cart	cart	electric	2024	15	--	152	powered industrial vehicle	motrec	no	no	no
BUR-OP12-001	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-002	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-003	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-004	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-005	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-006	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-007	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-008	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-009	bag tug	baggage tug	electric	2005	40	--	846		tug	no	no	no
BUR-OP12-010	bag tug	baggage tug	electric	2005	40	--	846		tug	no	no	no
BUR-OP12-011	bag tug	baggage tug	electric	2005	40	--	846		tug	no	no	no
BUR-OP12-012	bag tug	baggage tug	gasoline	2007	40	--	846		harlan	no	no	no
BUR-OP12-013	bag tug	baggage tug	gasoline	2007	40	--	846		harlan	no	no	no
BUR-OP12-067	bag tug	baggage tug	electric	2008	40	--	846		charlotte	no	no	no
BUR-OP12-068	bag tug	baggage tug	electric	2008	40	--	846		charlotte	no	no	no
BUR-OP12-069	bag tug	baggage tug	electric	2008	40	--	846		charlotte	no	no	no
BUR-OP12-014	bag tug	baggage tug	gasoline	2008	40	--	846		harlan	no	no	no
BUR-OP12-056	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-057	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-058	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-059	bag tug	baggage tug	electric	2004	40	--	846		tug	no	no	no
BUR-OP12-060	bag tug	baggage tug	electric	2001	40	--	846		tug	no	no	no
BUR-OP12-015	belt loader	belt loader	electric	1994	60	--	706		tug	no	no	no
BUR-OP12-016	belt loader	belt loader	electric	1994	60	--	706		tug	no	no	no
BUR-OP12-017	belt loader	belt loader	electric	1993	60	--	706		tug	no	no	no
BUR-OP12-018	belt loader	belt loader	electric	1994	60	--	706		tug	no	no	no
BUR-OP12-019	belt loader	belt loader	electric	1995	60	--	706		tug	no	no	no
BUR-OP12-020	belt loader	belt loader	electric	1995	60	--	706		tug	no	no	no
BUR-OP12-021	belt loader	belt loader	electric	1994	60	--	706		tug	no	no	no
BUR-OP12-022	belt loader	belt loader	electric	1994	60	--	706		tug	no	no	no
BUR-OP12-023	belt loader	belt loader	electric	1994	60	--	706		tug	no	no	no
BUR-OP12-024	belt loader	belt loader	electric	2018	60	--	706		tug	no	no	no

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BUR-OP12-025	belt loader	belt loader	electric	2018	60	--	706		tug	no	no	no
BUR-OP12-061	belt loader	belt loader	electric	1995	60	--	706		tug	no	no	no
BUR-OP12-062	belt loader	belt loader	electric	1996	60	--	706		tug	no	no	no
BUR-OP12-063	belt loader	belt loader	electric	1996	60	--	706		tug	no	no	no
BUR-OP12-026	fork lift	forklift	lpg/propane	2002	52	--	591		toyota	no	no	no
BUR-OP12-027	fork lift	forklift	lpg/propane	2002	52	--	591		toyota	no	no	no
BUR-OP12-029	fork lift	forklift	lpg/propane	2018	52	--	591		toyota	no	no	no
BUR-OP12-030	lavatory truck	lav truck	gasoline	2002	100	--	1,158		phoenix metals	no	no	yes
BUR-OP12-031	passenger stairs	passenger stand	electric	2001	49	--	137		wollard	no	no	no
BUR-OP12-032	passenger stairs	passenger stand	electric	2001	49	--	137		wollard	no	no	no
BUR-OP12-033	passenger stairs	passenger stand	electric	2001	49	--	137		wollard	no	no	no
BUR-OP12-034	passenger stairs	passenger stand	electric	2004	49	--	137		wollard	no	no	no
BUR-OP12-035	passenger stairs	passenger stand	gasoline	2018	49	--	137		phoenix metals	no	no	no
BUR-OP12-036	passenger stairs	passenger stand	gasoline	2018	49	--	137		phoenix metals	no	no	no
BUR-OP12-064	passenger stairs	passenger stand	electric	2004	49	--	137		wollard	no	no	no
BUR-OP12-065	passenger stairs	passenger stand	gasoline	2017	49	--	137		phoenix metals	no	no	no
BUR-OP12-066	pushback	a/c tug narrow body	diesel	1991	110	tier 0	385		stewart&steven son	no	no	no
BUR-OP12-040	towbarless tow tractor	a/c tug narrow body	electric	2019	110	--	385		lektro	no	no	no
BUR-OP12-041	towbarless tow tractor	a/c tug narrow body	electric	2019	110	--	385		lektro	no	no	no
BUR-OP12-042	towbarless tow tractor	a/c tug narrow body	electric	2019	110	--	385		lektro	no	no	no

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BUR-OP12-043	towbarless tow tractor	a/c tug narrow body	electric	2019	110	--	385		lektro	no	no	no
BUR-OP12-044	towbarless tow tractor	a/c tug narrow body	electric	2019	110	--	385		lektro	no	no	no
BUR-OP12-045	towbarless tow tractor	a/c tug narrow body	electric	2019	110	--	385		lektro	no	no	no
BUR-OP12-046	towbarless tow tractor	a/c tug narrow body	electric	2019	110	--	385		lektro	no	no	no
BUR-OP12-070	bag tug	baggage tug	electric	2024	40	--	433	t137 pro	charlatte	no	no	no
BUR-OP12-071	bag tug	baggage tug	electric	2024	40	--	433	t137 pro	charlatte	no	no	no
BUR-OP12-072	bag tug	baggage tug	electric	2024	40	--	433	t137 pro	charlatte	no	no	no
BUR-OP12-073	bag tug	baggage tug	electric	2024	40	--	28	t137 pro	charlatte	no	no	no
BUR-OP12-074	lav truck	lav truck	gasoline	2024	300	--	355	tl600	phoenix metals	no	no	no
BUR-OP12-075	towbarless tow tractor	a/c tug narrow body	electric	2024	58	--	22		lektro	no	no	no
BUR-OP12-076	bag tug	baggage tug	electric	2024	40	--	28	t137 pro	charlatte	no	no	no
BUR-OP12-077	bag tug	baggage tug	electric	2024	40	--	28	t137 pro	charlatte	no	no	no
BUR-OP12-078	bobtail	bobtail	gasoline	2024	385	--	25	eb3-7g	eagle	no	no	no
BUR-OP12-079	bag tug	baggage tug	electric	2024	40	--	28	t137 pro	charlatte	no	no	no
BUR-OP12-047	ground power unit	ground power unit	diesel	2015	155	tier 4	798			no	no	no
BUR-OP12-048	ground power unit	ground power unit	diesel	2014	155	tier 4	798			no	no	no
BUR-OP12-049	ground power unit	ground power unit	diesel	2012	256	tier 4i	798			no	no	no
BUR-OP12-050	ground power unit	ground power unit	diesel	2019	155	tier 4	798			no	no	no
BUR-OP12-051	ground power unit	ground power unit	diesel	2019	155	tier 4	798			no	no	no
BUR-OP12-052	ground power unit	ground power unit	diesel	2019	155	tier 4	798			no	no	no
BUR-OP12-053	ground power unit	ground power unit	diesel	2019	155	tier 4	798			no	no	no
BUR-OP12-054	ground power unit	ground power unit	diesel	2019	155	tier 4	798			no	no	no
BUR-OP12-055	air start	air start unit	diesel	2016	333	tier 4	79			no	no	no

Table 1. 2024 Hollywood Burbank Airport GSE Fleet

Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Designated Low Use	Designated Emergency Use	On-Road Equivalent Engine
BUR-OP13-001	aircraft tow tractor	a/c tug narrow body	electric	2018		--	200	pushback tug	lektro	yes	no	no
BUR-OP13-002	aerial platform	lift	electric	2018		--	200	scissor lift	jlg lift	yes	no	no
BUR-OP13-003	boom lift	lift	electric	2018		--	200	boom lift	jlg lift	yes	no	no
BUR-OP13-004	fork lift	forklift	electric	2018		--	200	fork lift	hyster	yes	no	no
BUR-OP13-005	golf cart	cart	electric	2018		--	152	golf cart	club car	yes	no	no
BUR-OP13-006	golf cart	cart	electric	2018		--	152	colf cart	columbia	yes	no	no
BUR-OP13-007	floor scrubber	sweeper	electric	2018		--	200	floor scrubber	tennant	yes	no	no
BUR-OP13-008	electric cart	cart	electric	2018		--	152	115v/ 400cyc ground power	unitron	yes	no	no
BUR-OP15-001	air conditioning	air conditioner	diesel	2019	130	tier 4	391	ac/heat combo	tld	no	no	no
BUR-OP15-002	air conditioning	air conditioner	diesel	2019	225	tier 4	391	ac/heat combo	tld	no	no	no
BUR-OP15-004	aircraft tow tractor	a/c tug narrow body	diesel	2019	74	tier 4	385	aircraft tow tractor	tug technologies	no	no	no
BUR-OP15-005	air start	air start unit	diesel	2019	380	tier 4	79	air start	tld	no	no	no
BUR-OP15-006	ground power unit	ground power unit	diesel	2019	155	tier 4	798	gpu	tld	no	no	no
BUR-OP15-007	ground power unit	ground power unit	diesel	2019	155	tier 4	798	gpu	tld	no	no	no
BUR-OP15-008	bag tractor	baggage tug	gasoline	2019	86	--	846	baggage tractor	tug technologies	no	no	no
BUR-OP15-009	bag tractor	baggage tug	gasoline	2019	86	--	846	baggage tractor	tug technologies	no	no	no
BUR-OP15-010	bag tractor	baggage tug	gasoline	2019	86	--	846	baggage tractor	tug technologies	no	no	no
BUR-OP15-011	bag tractor	baggage tug	gasoline	2019	86	--	846	baggage tractor	tug technologies	no	no	no
BUR-OP15-012	belt loader	belt loader	gasoline	2019	86	--	706	belt loader	tug technologies	no	no	no
BUR-OP15-013	belt loader	belt loader	gasoline	2019	86	--	706	belt loader	tug technologies	no	no	no

Table 1. 2024 Hollywood Burbank Airport GSE Fleet

Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Designated Low Use	Designated Emergency Use	On-Road Equivalent Engine
BUR-OP15-014	belt loader	belt loader	gasoline	2019	86	--	706	belt loader	tug technologies	no	no	no
BUR-OP15-015	ramp pickup truck	service truck	gasoline	2013	302	--	883	pickup truck	ford	no	no	yes
BUR-OP15-016	pushback tractor	a/c tug narrow body	electric	2022	45	--	385	pushback	lektro	no	no	no
BUR-OP16-003	aircraft tow tractor	a/c tug narrow body	diesel	2014	175	tier 4	385	pushback tractor	tld	no	no	no
BUR-OP16-005	cargo tractor	cargo tractor	gasoline	2004	120	--	220	cargo tractor	tug	no	no	no
BUR-OP16-006	cargo tractor	cargo tractor	gasoline	2004	120	--	220	cargo tractor	tug	no	no	no
BUR-OP16-007	cargo tractor	cargo tractor	gasoline	2004	120	--	220	cargo tractor	s&s	no	no	no
BUR-OP16-008	belt loader	belt loader	gasoline	2012	85	--	706	belt loader	tld	no	no	no
BUR-OP16-009	belt loader	belt loader	gasoline	2012	85	--	706	belt loader	tld	no	no	no
BUR-OP16-010	belt loader	belt loader	gasoline	2012	85	--	706	belt loader	tld	no	no	no
BUR-OP16-011	cargo loader	cargo loader	gasoline	2014	385	--	556	cargo loader	tld	no	no	no
BUR-OP16-012	belt loader	belt loader	gasoline	2019	85	--	706	belt loader	tld	no	no	no
BUR-OP16-015	lift	lift	electric	2020	85	--	391	boom lift	jlg	no	no	no
BUR-OP16-016	cargo loader	cargo loader	gasoline	2017	385	--	556	cargo loader	tld	no	no	no
BUR-OP16-017	cargo loader	cargo loader	gasoline	2018	385	--	556	cargo loader	tld	no	no	no
BUR-OP16-018	cargo tractor	cargo tractor	gasoline	2018	85	--	1,114	cargo tractor	tug	no	no	no
BUR-OP16-019	generator	generator	diesel	2018	24	tier 4	913	light cart	generac	no	no	no
BUR-OP16-020	cargo tractor	cargo tractor	gasoline	2023	85	--	220	cargo tractor	taylor dunn	no	no	no
BUR-OP16-021	generator	generator	diesel	2009	24	tier 4	913	light cart	generac	no	no	no
BUR-OP16-022	lift	lift	diesel	2009	24	tier 4	391	altd	wasp	no	no	no
BUR-OP16-023	generator	generator	diesel	2012	24	tier 4	913	light cart	generac	no	no	no
BUR-OP16-024	generator	generator	diesel	2014	24	tier 4	913	light cart	generac	no	no	no
BUR-OP16-025	generator	generator	diesel	2014	24	tier 4	913	light cart	generac	no	no	no
BUR-OP16-026	other gse	other gse	diesel	2013	24	tier 4	412	csp	wasp	no	no	no
BUR-OP16-028	cargo tractor	cargo tractor	gasoline	2018	85	--	1,114	cargo tractor	tug	no	no	no
BUR-OP16-029	cargo tractor	cargo tractor	gasoline	2018	85	--	1,114	cargo tractor	tug	no	no	no
BUR-OP16-030	cargo tractor	cargo tractor	gasoline	2018	85	--	1,114	cargo tractor	tug	no	no	no
BUR-OP16-031	cargo tractor	cargo tractor	gasoline	2018	85	--	1,114	cargo tractor	tug	no	no	no
BUR-OP16-013	air start	air start unit	diesel	2019	535	tier 4	16		189721	no	no	no
BUR-OP16-027	ground power unit	ground power unit	diesel	2020	154	tier 4	157	tld	tld	no	no	no

Table 1. 2024 Hollywood Burbank Airport GSE Fleet

Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Designated Low Use	Designated Emergency Use	On-Road Equivalent Engine
BUR-OP16-032	ground power unit	ground power unit	diesel	2020	154	tier 4	798	gpu	tld	no	no	no
BUR-OP16-033	air start	air start unit	diesel	2019	513	tier 4	79	airstart	tld	no	no	no
BUR-OP14-001	golf cart	cart	electric	2001	3	--	152	electric golf cart	ez-go	yes	no	no

MOU SCHEDULE NO. 1 – III.B.2. List of Sold, Retired, or Relocated Equipment

For non-zero emission ground support equipment subject to this GSE measure, information regarding the sale or retirement of equipment available through CARB's DOORS system and, for pre-Tier 4 diesel, pre-2010 gasoline, or pre-2010 LPG ground support equipment relocated from BUR to another airport within the South Coast Air Basin, identify: a) the airport to which equipment is relocated, b) date of relocation, and c) estimated projected usage hours.

The following reportable equipment was identified as having been sold, permanently retired, or relocated from BUR during the current reporting year.

Table 2. 2024 Hollywood Burbank Airport GSE pre-Tier 4 diesel, pre-2010 gasoline, or pre-2010 LPG Reportable Fleet Changes

Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Reportable Change
BUR-OP05-006	cargo loader	cargo loader	diesel	2005	102	tier 2	245	loader/a	fmcxx	moved from bur to other airport 6/10/2024 miami
BUR-OP05-020	fork lift	forklift	lpg/propane	2011	51	--	562	forklift	toyot	moved from bur to other location not airport 12/13/2024 laxrt heavy weight facility
BUR-OP05-022	belt loader	belt loader	gasoline	1999	100	--	640	bltloadr	tugmn	sold 11/27/2024 pnd
BUR-OP05-032	maintenance truck	maint. truck	gasoline	1992	138	--	408	maintrk	tesco	sold 11/27/2024 pnd
BUR-OP06-008	gpu	ground power unit	diesel	2006	194	tier 3	0	gpu	tug	moved from bur to hq (ga) (may/2023)
BUR-OP06-012	air conditioner	air conditioner	diesel	2009	310	tier 3	0	acu	tld	moved from bur to hq (ga) (aug/2023)
BUR-OP06-030	potable water cart	cart	electric	2001	5	--	76	pw	par kan	moved from bur to hq (ga) (july/24)
BUR-OP06-031	bag tug	baggage tug	gasoline	2006	88	--	422	t	harlad	moved from bur to hq (ga) (july/24)
BUR-OP06-032	bag tug	baggage tug	gasoline	2006	88	--	422	t	harlad	moved from bur to hq (ga) (july/24)
BUR-OP06-034	bag tug	baggage tug	electric	2007	40	--	422	t	tug	moved from bur to hq (ga) (july/24)
BUR-OP06-035	bag tug	baggage tug	electric	2006	40	--	422	t	tug	moved from bur to hq (ga) (july/24)
BUR-OP06-036	bag tug	baggage tug	electric	2006	40	--	422	t	tug	moved from bur to hq (ga) (july/24)
BUR-OP06-037	bag tug	baggage tug	electric	2006	40	--	422	t	tug	moved from bur to hq (ga) (july/24)
BUR-OP07-001	aircraft tractor	a/c tug narrow body	gasoline	1991	300	--	0	tug	clark	scrapped (1/1/2024)
BUR-OP18-005	aircraft tractor	a/c tug narrow body	diesel	2017	84	tier 4	83	tt12dal	eagle	sold - removed from burbank airport (june/2024)
BUR-OP16-005	cargo tractor	cargo tractor	gasoline	2004	120	--	220	cargo tractor	tug	moved from bur to ont 03/13/2024
BUR-OP16-006	cargo tractor	cargo tractor	gasoline	2004	120	--	220	cargo tractor	tug	moved from bur to ont 03/13/2024
BUR-OP16-007	cargo tractor	cargo tractor	gasoline	2004	120	--	220	cargo tractor	s&s	moved from bur to ont 03/13/2024

Table 2. 2024 Hollywood Burbank Airport GSE pre-Tier 4 diesel, pre-2010 gasoline, or pre-2010 LPG Reportable Fleet Changes

Airport GSE ID	Reported Type	Equipment Designation	Fuel Type	Engine Model Year	Power Rating	Engine Tier Level	Annual Activity Data	Vehicle Description	Vehicle Manufacture	Reportable Change
BUR-OP16-020	cargo tractor	cargo tractor	gasoline	2023	85	--	220	cargo tractor	taylor dunn	moved from bur to ont 03/13/2024
BUR-OP16-013	air start	air start unit	diesel	2019	535	tier 4	16		189721	moved from bur to ont 03/13/2024
BUR-OP16-027	ground power unit	ground power unit	diesel	2020	154	tier 4	157	tld	tld	moved from bur to ont 03/13/2024

MOU SCHEDULE NO. 1 – III.B.3. Emission Inventory

An annual emission inventory for all ground support equipment associated with commercial operations at BUR, including methodology and calculations.

Table 3. 2024 Hollywood Burbank Airport MOU Emissions Summary

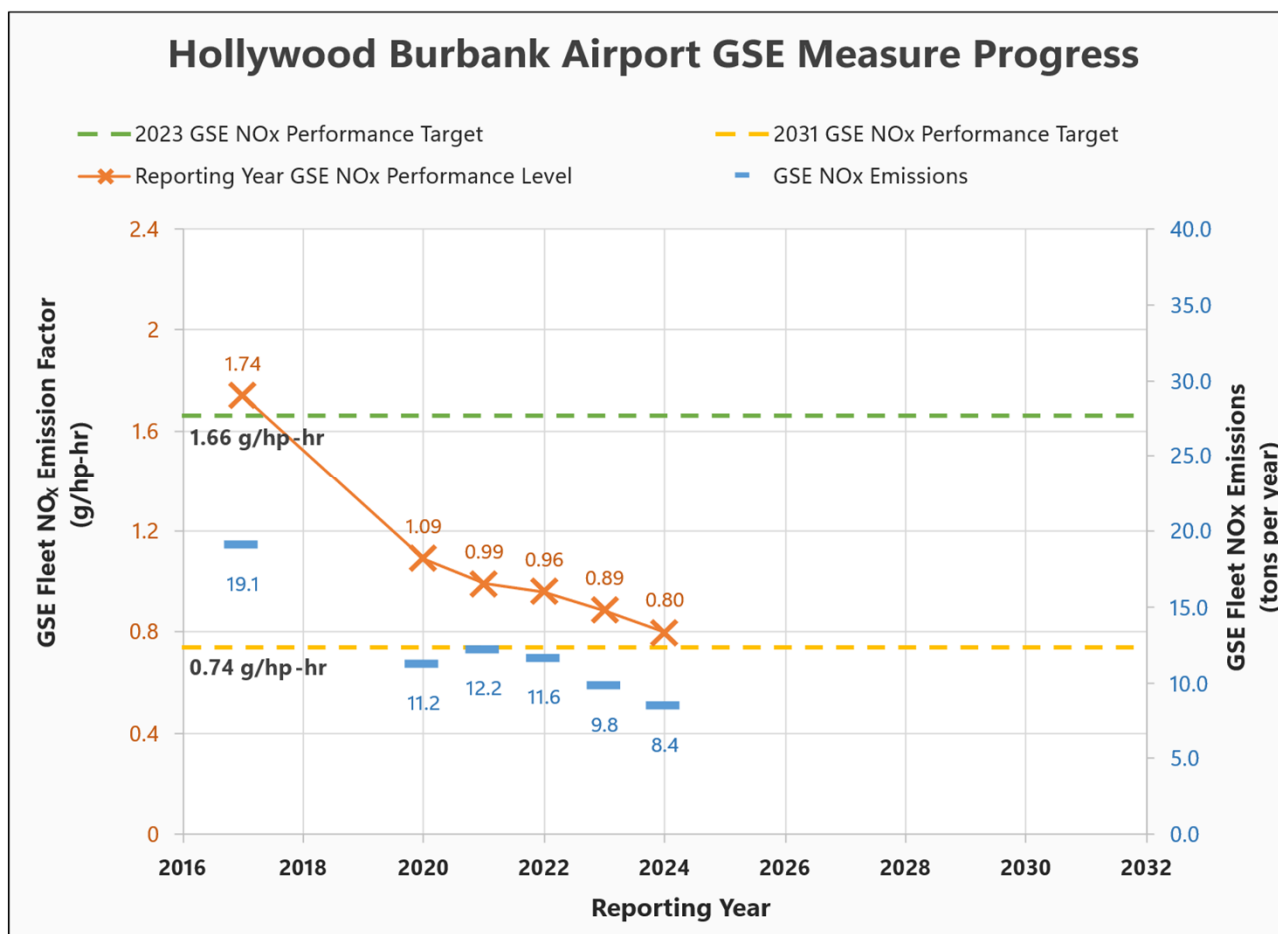
Fleet Mix ¹					Fleet Emissions (tons per year; metric tons for CO ₂ e) ²						
Total	Electric	Diesel	Gas	Other	CO	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO ₂ e
293	127	83	71	12	46.5	4.6	8.4	0.34	0.28	0.01	3,575

Notes:

1. Fleet counts include >25 horsepower in-use equipment used in the calculation of the NO_x performance factor.

2. Fleet emissions include the operation of all reported equipment, including <25 horsepower and low-use (<200 hours per year) equipment.

2024 Hollywood Burbank Airport GSE Fleet Composite NO_x Emission Factor 0.80 grams per brake horsepower-hour



Methodology – Collection of Data

In February 2025, reporting forms were distributed to all operators of GSE at the airport. Operators were supplied with the final versions of their fleet reporting forms from the previous MOU reporting year and were instructed to provide information on any equipment added to their fleet during the reporting year and to verify the data for the existing fleet, which include the model years, horsepower ratings, equipment categories, fuel types, and other identifying characteristics of the GSE in operation at the airport. Operators were instructed to specify the status of all previously reported equipment and, if the status of that equipment had changed, to indicate the nature of the change (such as a unit of GSE having been scrapped, relegated to emergency use, or relocated to a different airport). Operators were also instructed to provide specific dates for the status change. For equipment relocated to a different airport, operators were instructed to further report to which airport the equipment was relocated.

All operators had completed and submitted the reporting forms by the end of April. Additional follow-up with operators was completed throughout May.

Each unit of reported GSE was reviewed for accuracy and program applicability based on previously submitted data, MOU requirements, and professional judgement. Non-electric GSE with power ratings less than or equal to 25 horsepower are exempt from the California Air Resource Board (“CARB”) in-use off-road diesel-fueled (ORD) fleets, and large spark-ignition (LSI) fleets regulations, upon which the MOU’s GSE agreement is predicated and thus were excluded from the performance level calculations. Consistent with the MOU requirements, low-use equipment (defined as operating fewer than 200 hours per year), were also excluded from performance level calculations. Both non-electric GSE with power ratings less than or equal to 25 horsepower and low- and emergency-use equipment were retained in the inventory for the purposes of determining total annual NOx emissions from GSE. Emergency-use equipment were evaluated as low-use equipment to ensure any emergency equipment use was adequately captured. Quality review was performed for each reported unit and adjustments were made to irregular data as needed. Such adjustments may include but are not limited to: adjustments to engine model year, horsepower, or fuel type data based on discussions with equipment operators or review of previously reported data; and the use of surrogate horsepower or model year data for equipment for which such data was not reported or otherwise attainable from manufacturer specifications or prior reports. For units which were reported without complete horsepower or model year data, the average horsepower or model year for similar equipment in-use at the airport were used.

Methodology – Performance Calculation

The fleet performance factor was estimated using California regulatory standard emissions models, OFFROAD2017 and EMFAC2017, developed by CARB. For each unit of GSE, a representative equipment type was identified from either the OFFROAD2017 model (for off-road engine units) or EMFAC2017 model (for on-road engine units) based on Table 2-3 in the Hollywood Burbank AQIP Technical Support Document. Emission factors from the emissions models were queried for the Los Angeles (South Coast) region for CY 2023, assuming all adopted rules for exhaust controls. All fuel types, model years, and horsepower bins (OFFROAD2017 only) were selected, and an aggregated speed was assumed (EMFAC2017 only). Emission factors were assigned to each reported unit of GSE based on the GSE category, model year, horsepower rating, and fuel type of the equipment.

Emission factors were obtained in units of grams per brake horsepower-hour from OFFROAD2017, and in units of grams per mile from EMFAC2017. For equipment paired to the EMFAC2017 model, an average on-airport speed of 15 miles per hour was multiplied against the model’s emission factor and the resulting factor was divided by a reported equipment’s respective horsepower to convert to the appropriate grams per brake horsepower-hour unit. The resultant factors, with units of grams per brake horsepower-hour, were weighted by reported equipment horsepower and averaged to determine the NOx fleet performance factor.

Methodology – Emission Calculation

On July 12, 2021, it was determined that the publicly available version of CARB's OFFROAD2017 model did not incorporate the engine-standard requirements associated with CARB's 2006 LSI rulemaking and subsequent 2010 amendments. These standards required new LSI equipment certified for sale in the state of California to meet stringent emission standards for NO_x and hydrocarbons which far exceeded previous requirements. As a result, LSI engine emissions calculated using the OFFROAD2017 factors resulted in vastly overpredicted emissions, particularly for new equipment. South Coast AQMD was informed of this discrepancy and discussed the issue with CARB on July 14, 2021. Updated emission factors were developed by CARB based on actual historical engine certifications in the state of California since the 2006 rulemaking came into effect. These updated factors were provided initially on July 16, 2021, and updated on July 23, 2021, with final load factors and deterioration caps provided on August 13, 2021. These finalized LSI factors were used alongside CARB's ORDAS factors for diesel equipment (which also incorporated the most recent engine standard requirements) to develop the emissions inventory.

Although the emission factors were updated, the fundamental calculation methodology was not changed from the methodology used in the 2017 AQIP and MOU. Equipment categories were paired to each reported unit and emission factors were looked up based on the model year, fuel type, horsepower rating, and equipment category of a given unit. In the CY 2017 MOU calculations, base emission factors were back calculated from the OFFROAD2017 model's tons per year per equipment population outputs. The CARB-provided updated base factors were calculated using zero-hour emissions, emission deterioration rates, fuel correction factors, and load factors.

Per unit emissions were calculated using the following formula and summed across all equipment listed at the airport to determine the fleet-total emissions:

Emissions (grams per year) =

Activity (hours per year) × **Power Rating** (horsepower) × **Load Factor** (dimensionless) × {**Zero-hour Emission Factor** (grams per brake horsepower-hour) + [**Deterioration Rate** (grams per brake horsepower-hour per hour) × **Equipment Lifetime Cumulative Operational Hours** (hours)]} × **Fuel Correction Factor** (dimensionless)

Exhibit B

MOU Schedule No. 1 – Ground Support Equipment Survey,
Emissions Inventory Report, Revised May 2026

**COMMERCIAL
AIRPORTS MOU
SUPPORT**

**MOU Schedule No. 1
Ground Support Equipment**

**2024 Survey and Inventory Report
Revised May 2026**



**Hollywood
Burbank**
Airport

May 2026

**CDM
Smith**

Section 1

Project Information

Project Title: MOU Schedule No. 1 - Ground Support Equipment Survey Support

Airport Code: BUR

Airport Name: Hollywood Burbank Airport

Airport Owner: Burbank-Glendale-Pasadena-Airport Authority

Key Contacts:

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1.1 MOU Background

In December 2019, the Burbank-Glendale-Pasadena-Airport Authority, the owner and operator of Hollywood Burbank Airport (BUR or the Airport), entered into a voluntary Memorandum of Understanding (MOU) with the South Coast Air Quality Management District (South Coast AQMD) for the purpose of reducing emissions of criteria air pollutants at the airport. Schedule No. 1 of the MOU establishes Ground Support Equipment (GSE) fleet-average oxides of Nitrogen (NO_x) performance targets to be achieved at the airport by January 1, 2023, and January 1, 2031.

The purpose of the MOU is to reduce emissions of oxides of Nitrogen (NO_x) at the Airport by encouraging adoption of low- and zero-emission GSE as an alternative to conventional high-emission fossil fuel equipment. The MOU sets NO_x fleet-average performance targets of 1.66 grams NO_x per brake horsepower-hour by 2023 and 0.74 grams NO_x per brake horsepower-hour by 2031. The MOU allows discretion in the means by which the airport is to achieve these targets, including but not limited to enforcement through leases, licenses operational requirements, or other agreements.

Beginning on June 1, 2021, and continuing each year thereafter through 2032, BUR is required to collect and report information regarding GSE operating at the airport to the South Coast AQMD. BUR is also required to collect and report information pertaining to the sale or retirement of non-zero equipment retired under the MOU. Additionally, annual emissions inventories are required to be developed and reported based on the collected GSE data.

On May 30, 2025, BUR submitted an initial MOU progress report for reporting year 2024 for South Coast AQMD review and comment. On January 30, 2026, South Coast AQMD provided comments on the initial report. This revised report details the results of the reporting year 2024 BUR GSE survey and associated emissions inventory, incorporating revisions to address South Coast AQMD comments.

Section 2

GSE Inventory

2.1 Methodology

Data collected for the 2024 GSE survey were analyzed, and emissions related to their operation were estimated using industry standard models and assumptions following a methodology consistent with the Technical Support Documentation for the MOU, as detailed below.

2.1.1 Collection of Data

In February 2025, reporting forms were distributed to all operators of GSE at the airport. Operators were supplied with the final versions of their fleet reporting forms from the previous MOU reporting year and were instructed to provide information on any equipment added to their fleet during the reporting year and to verify the data for the existing fleet, which include the model years, horsepower ratings, equipment categories, fuel types, and other identifying characteristics of the GSE in operation at the airport. Operators were instructed to specify the status of all previously reported equipment and, if the status of that equipment had changed, to indicate the nature of the change (such as a unit of GSE having been scrapped, relegated to emergency use, or relocated to a different airport). Operators were also instructed to provide specific dates for the status change. For equipment relocated to a different airport, operators were instructed to further report to which airport the equipment was relocated.

All operators had completed and submitted the reporting forms by the end of April. Additional follow-up with operators was completed throughout May.

Each unit of reported GSE was reviewed for accuracy and program applicability based on previously submitted data, MOU requirements, and professional judgement. Non-electric GSE with power ratings less than or equal to 25 horsepower are exempt from the California Air Resource Board (“CARB”) in-use off-road diesel-fueled (“ORD”) fleets, and large spark-ignition (“LSI”) fleets regulations, upon which the MOU’s GSE agreement is predicated and thus were excluded from the performance level calculations. Consistent with the MOU requirements, low-use equipment (defined as operating fewer than 200 hours per year), were also excluded from performance level calculations. Both non-electric GSE with power ratings less than or equal to 25 horsepower and low- and emergency-use equipment were retained in the inventory for the purposes of determining total annual NO_x emissions from GSE. Emergency-use equipment were evaluated as low-use equipment to ensure any emergency equipment use was adequately captured. Quality review was performed for each reported unit and adjustments were made to irregular data as needed. Such adjustments may include but are not limited to: adjustments to engine model year, horsepower, or fuel type data based on discussions with equipment operators or review of previously reported data; and the use of surrogate horsepower or model year data for equipment for which such data was not reported or otherwise attainable from manufacturer specifications or prior reports. For units which were reported without complete horsepower or model year data, the average horsepower or model year for similar equipment in-use at the airport were used.

A detailed breakdown of all reported GSE is included in **Attachment A** to this report.

2.1.2 Performance Calculations

The fleet performance factor was estimated using California regulatory standard emissions models, OFFROAD2017 and EMFAC2017, developed by CARB. For each unit of GSE, a representative equipment type was identified from either the OFFROAD2017 model (for off-road engine units) or EMFAC2017 model (for on-road engine units) based on Table 2-3 in the *Hollywood Burbank AQIP Technical Support Document*. Emission factors from the emissions models were queried for the Los Angeles (South Coast) region for CY 2024, assuming all adopted rules for exhaust controls. All fuel types, model years, and horsepower bins (OFFROAD2017 only) were selected, and an aggregated speed was assumed (EMFAC2017 only). Emission factors were assigned to each reported unit of GSE based on the GSE category, model year, horsepower rating, and fuel type of the equipment.

Emission factors were obtained in units of grams per brake horsepower-hour from OFFROAD2017, and in units of grams per mile from EMFAC2017. For equipment paired to the EMFAC2017 model, an average on-airport speed of 15 miles per hour was multiplied against the model's emission factor and the resulting factor was divided by a reported equipment's respective horsepower to convert to the appropriate grams per brake horsepower-hour unit. The resultant factors, with units of grams per brake horsepower-hour, were weighted by reported equipment horsepower and averaged to determine the NO_x fleet performance factor.

2.1.2 Emission Calculations

On July 12, 2021, it was determined that the publicly available version of CARB's OFFROAD2017 model did not incorporate the engine-standard requirements associated with CARB's 2006 LSI rulemaking and subsequent 2010 amendments. These standards required new LSI equipment certified for sale in the state of California to meet stringent emission standards for NO_x and hydrocarbons which far exceeded previous requirements. As a result, LSI engine emissions calculated using the OFFROAD2017 factors resulted in vastly overpredicted emissions, particularly for new equipment. South Coast AQMD was informed of this discrepancy and discussed the issue with CARB on July 14, 2021. Updated emission factors were developed by CARB based on actual historical engine certifications in the state of California since the 2006 rulemaking came into effect. These updated factors were provided initially on July 16, 2021, and updated on July 23, 2021, with final load factors and deterioration caps provided on August 13, 2021. These finalized LSI factors were used alongside CARB's ORDAS factors for diesel equipment (which also incorporated the most recent engine standard requirements) to develop the emissions inventory.

Although the emission factors were updated, the fundamental calculation methodology was not changed from the methodology used in the 2017 AQIP and MOU. Equipment categories were paired to each reported unit and emission factors were looked up based on the model year, fuel type, horsepower rating, and equipment category of a given unit. In the CY 2017 MOU calculations, base emission factors were back calculated from the OFFROAD2017 model's tons per year per equipment population outputs. The CARB-provided updated base factors were calculated using zero-hour emissions, emission deterioration rates, fuel correction factors, and load factors.

Per unit emissions were calculated using the following formula and summed across all equipment listed at the airport to determine the fleet-total emissions:

$$\text{Emissions (grams per year)} = \text{Activity (hours per year)} \times \text{Power Rating (horsepower)} \times \text{Load Factor (dimensionless)} \times \{ \text{Zero-hour Emission Factor (grams per brake horsepower-hour)} + [\text{Deterioration Rate (grams per brake horsepower-hour per hour)} \times \text{Equipment Lifetime Cumulative Operational Hours (hours)}] \} \times \text{Fuel Correction Factor (dimensionless)}$$

Table 1. GSE Category Pairing with OFFROAD2017 Equipment and Fuel Types

GSE Category ¹	OFFROAD Category (Diesel)	GSE Category ¹	OFFROAD Category (Gasoline & Nat Gas)
Air Conditioner	Portable Equipment - Non-Rental Generator	Air Conditioner	OFF - AirGrSupp - Air Conditioner
Aircraft Tug	AirGrSupp - A/C Tug Narrow Body	Aircraft Tug	OFF - AirGrSupp - A/C Tug Narrow Body
Air Start Unit	Portable Equipment - Non-Rental Generator	Air Start Unit	OFF - AirGrSupp - Air Start Unit
Baggage Tug	AirGrSupp - Baggage Tug	Baggage Tug	OFF - AirGrSupp - Baggage Tug
Belt Loader	AirGrSupp - Belt Loader	Belt Loader	OFF - AirGrSupp - Belt Loader
Cargo Loader	AirGrSupp - Cargo Loader	Cargo Loader	OFF - AirGrSupp - Cargo Loader
Cargo Tractor	AirGrSupp - Cargo Tractor	Cargo Tractor	OFF - AirGrSupp - Cargo Tractor
Cart	AirGrSupp - Cart	Cart	OFF - AirGrSupp - Cart
Catering Truck	AirGrSupp - Other GSE	Catering Truck	OFF - AirGrSupp - Catering Truck
Forklift	AirGrSupp - Forklift	Forklift	OFF - AirGrSupp - Forklift
Fuel Truck	AirGrSupp - Other GSE	Fuel Truck	OFF - AirGrSupp - Fuel Truck
Generator	Portable Equipment - Non-Rental Generator	Generator	OFF - AirGrSupp - Generator
Ground Power Unit	AirGrSupp - Other GSE	Ground Power Unit	OFF - AirGrSupp - Ground Power Unit
Lavatory Cart	AirGrSupp - Other GSE	Lavatory Cart	OFF - AirGrSupp - Lav Cart
Lavatory Truck	AirGrSupp - Other GSE	Lavatory Truck	OFF - AirGrSupp - Lav Truck
Lift	AirGrSupp - Lift	Lift	OFF - AirGrSupp - Lift
Maintenance Truck	AirGrSupp - Other GSE	Maintenance Truck	OFF - AirGrSupp - Maint. Truck
Other GSE	AirGrSupp - Other GSE	Other GSE	OFF - AirGrSupp - Other GSE
Passenger Stand	AirGrSupp - Passenger Stand	Passenger Stand	OFF - AirGrSupp - Passenger Stand
Service Truck	AirGrSupp - Other GSE	Service Truck	OFF - AirGrSupp - Service Truck
Sweeper	ConstMin - Sweepers/Scrubbers	Sweeper	OFF - AirGrSupp - Sweeper
Water Truck	AirGrSupp - Other GSE	Water Truck	OFF - AirGrSupp - Water Truck

Notes:

1. The OFFROAD2017 model does not include emission factors for every combination of vehicle category, fuel type, and engine model year. For units in which no appropriate vehicle category, fuel type, and model year pairing exists, the "Other GSE" vehicle category was used in the estimation of emission factors.

2.2 Reporting Year 2024 GSE Inventory

The reporting year 2024 GSE inventory for the Airport is presented below.

2.2.1 GSE Operators

Table 2 presents airport tenants identified as GSE operators in the reporting year.

Table 2. BUR GSE Operators

GSE Operator	GSE Operator	GSE Operator	GSE Operator
Alaska Airlines	Earth Star	Jet Aviation	Star Aviation
Ameriflight	FedEx Express	Jet Suite X	The Yucaipa Companies
Atlantic Aviation	GAT	Million Air	Unifi DGS
Avelo Airlines	Glendale Burbank PD	Netflix	UPS
CAS	GTC Management	Southwest	

2.2.2 Equipment Breakdown

Table 3 presents a summary of GSE by category and fuel type for the reporting year.

Table 3. Count of Equipment by GSE Category and Fuel Type

GSE Category	Total Reported Equipment ¹	Electric	Diesel	Gasoline	LPG/Propane
Aircraft Tug	29	21	8	0	0
Air Conditioner	6	0	6	0	0
Air Start Unit	6	0	6	0	0
Baggage Tug	51	31	1	17	2
Belt Loader	41	17	6	18	0
Bobtail	1	0	0	1	0
Cargo Loader	9	0	6	3	0
Cargo Tractor	15	0	1	14	0
Cart	22	20	0	2	0
Catering Truck	1	0	0	1	0
Forklift	11	0	0	1	10
Fuel Truck	18	0	17	1	0
Generator	0	0	0	0	0
Ground Power Unit	49	18	31	0	0
Lavatory Cart	6	6	0	0	0
Lavatory Truck	2	0	0	2	0
Lift	6	6	0	0	0
Maintenance Truck	3	0	0	3	0
Other GSE	1	1	0	0	0
Passenger Stand	10	5	1	4	0
Service Truck	4	0	0	4	0
Sweeper	2	2	0	0	0
Total	293	127	83	71	12

Key: GSE = ground support equipment; LPG = liquefied petroleum gas

Note:

1. Equipment counts exclude non-electric equipment less than 25 horsepower and low-use equipment.

2.2.3 Emissions Inventory

Table 4 presents the summary of emissions by GSE category for the reporting year.

Table 4. Emissions by GSE Category

GSE Category	Emissions (tons per year; metric tons per year for CO ₂ e)						
	CO	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO ₂ e
Aircraft Tug	0.6	0.1	0.9	0.04	0.03	<0.01	154
Air Conditioner	0.3	<0.1	0.1	0.01	0.01	<0.01	93
Air Start Unit	0.1	<0.1	0.1	<0.01	<0.01	<0.01	42
Baggage Tug	12.5	2.0	1.1	0.05	0.04	<0.01	683
Belt Loader	10.1	0.6	1.4	0.06	0.05	<0.01	577
Bobtail	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	4
Cargo Loader	3.0	0.1	0.4	0.03	0.03	<0.01	338
Cargo Tractor	10.4	0.7	1.0	0.04	0.03	<0.01	516
Cart	0.1	<0.1	<0.1	<0.01	<0.01	<0.01	18
Catering Truck	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	34
Forklift	2.0	0.2	0.5	0.01	0.01	<0.01	81
Fuel Truck	0.5	<0.1	0.3	0.01	0.01	<0.01	165
Generator	0.6	0.1	0.3	0.01	0.01	<0.01	47
Ground Power Unit	3.5	0.3	1.7	0.06	0.05	<0.01	637
Lavatory Cart	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	1
Lavatory Truck	0.2	<0.1	<0.1	<0.01	<0.01	<0.01	32
Lift	0.8	0.1	0.1	<0.01	<0.01	<0.01	8
Maintenance Truck	0.1	<0.1	<0.1	<0.01	<0.01	<0.01	12
Other GSE	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	2
Passenger Stand	0.5	0.1	0.2	<0.01	<0.01	<0.01	25
Service Truck	1.1	0.3	0.3	0.01	0.01	<0.01	105
Sweeper	--	--	--	--	--	--	--
Total	46.5	4.6	8.4	0.34	0.28	0.01	3,575

Key: CO = carbon monoxide; CO₂e = carbon dioxide equivalents; GSE = ground support equipment; NO_x = oxides of nitrogen; PM₁₀ = particulate matter with an aerodynamic diameter less than or equal to 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns; ROG = reactive organic gases; SO_x = oxides of sulfur

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2.2.4 Fleet-Wide Performance Factor and Emissions

The Airport's fleet-wide NO_x performance factor for the 2024 reporting year was 0.80 grams per brake-horsepower hour, below the 2023 target of 1.66 grams per brake horsepower-hour and near to the 2031 target of 0.74 grams per brake-horsepower hour.

The Airport's fleet-wide NO_x emissions for the 2024 reporting year totaled to 8.4 tons of NO_x, reflecting a 55.7 percent reduction relative to the fleet-wide emissions at GSE program inception. **Figure 1** presents the historical fleet-wide NO_x performance factor and emissions by survey year.

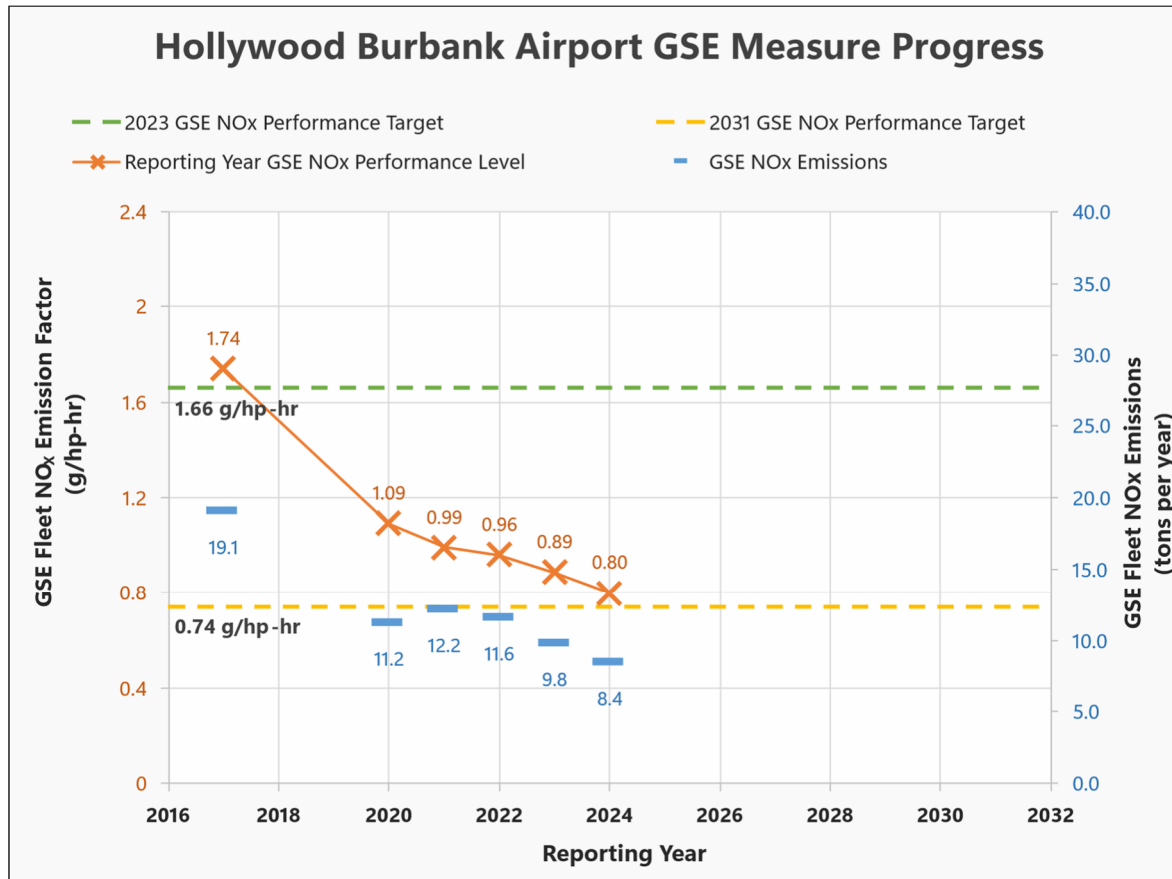


Figure 1. GSE Program Fleet-Wide NO_x Performance Factor and Emissions by Survey Year

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Attachment A

2024 Detailed Reported GSE Data and Emission

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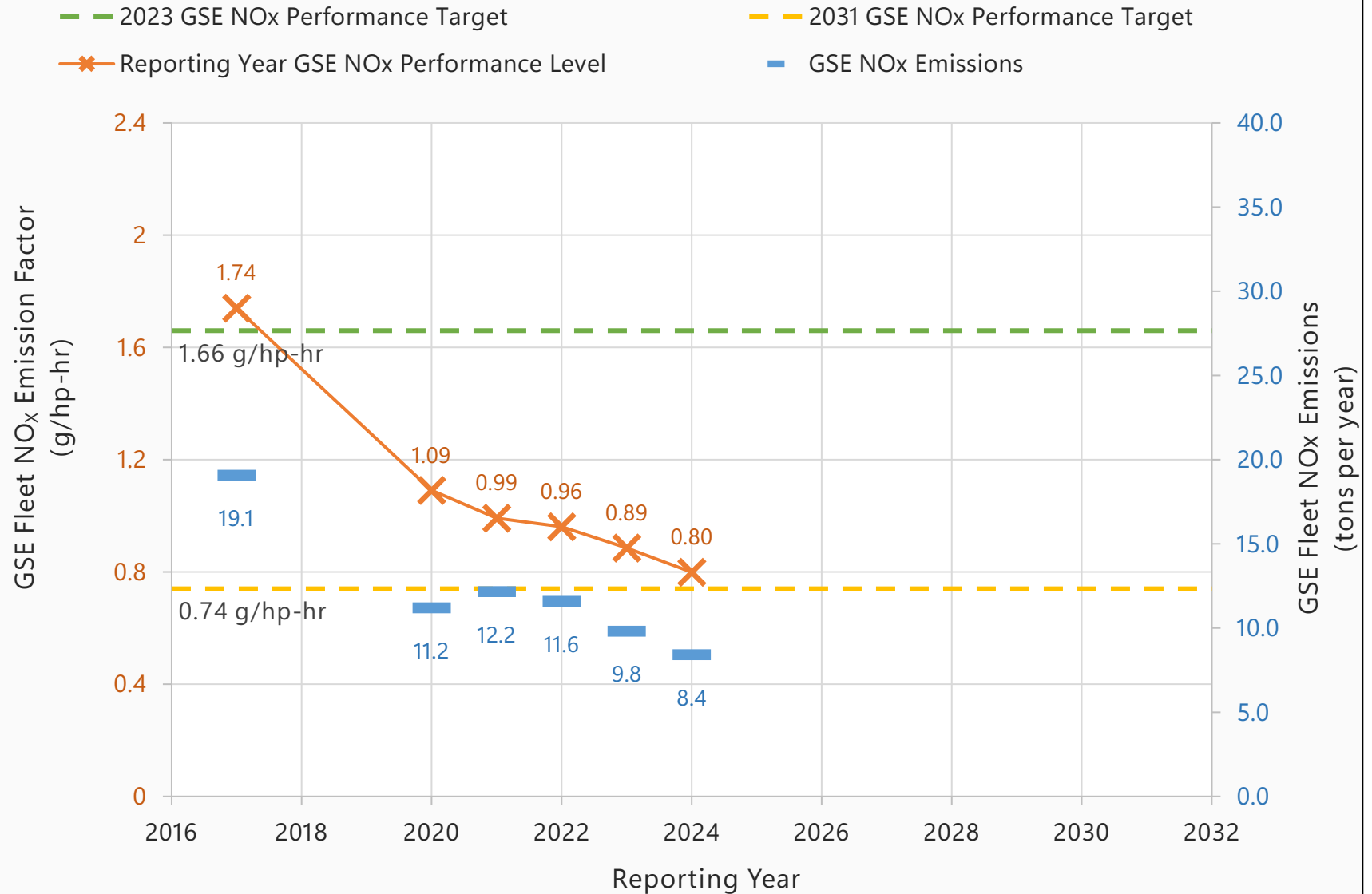
2024 Hollywood Burbank Airport GSE Measure Progress

Survey Year	Count of Equipment [1]	Percent Electric [1]	OFFROAD Method NO _x ^{[2][3]} (short tons)	CARB Factors Method NO _x ^{[2][4]} (short tons)	MOU Fleet Performance NO _x ^{[1][5][6]} (g/hp-hr)
2017	232	46.1%	17.85	19.1	1.74
2018					
2019					
2020	224	40.4%	16.00	11.2	1.09
2021	286	40.9%	--	12.2	0.99
2022	297	40.9%	--	11.6	0.96
2023	282	42.9%	--	9.8	0.89
2023				Performance Target:	1.66
2024	293	43.3%	--	8.4	0.80
2025					
2026					
2027					
2028					
2029					
2030					
2031					
2031				Performance Target:	0.74
2032					

Notes:

- [1] Excludes <25hp non-electric, low-use, and emergency-use equipment; Includes both new and removed equipment that operated at any point in reporting period.
- [2] Includes <25hp non-electric, low-use, emergency-use, and both new and removed equipment that operated at any point in reporting period.
- [3] Emission factors back-calculated from OFFROAD2017 outputs (outdated LSI emission factors).
- [4] Emission factors provided by CARB July 2021 based on certified engine standards (LSI) and 2017 ORDAS model (ORD).
- [5] Calculated as a fully-loaded horsepower-weighted factor consistent with the methodology employed throughout the development of the **SCAQMD and Burbank-Glendale-Pasadena Airport Authority 2019 MOU**.
- [6] Reporting year 2020 performance factor calculated using emission factors provided by CARB July 2021 based on certified engine standards (LSI) and 2017 ORDAS model (ORD). Reporting year 2017 factor and targets for years 2023 and 2031 based on back-calculated emission factors from the OFFROAD2017 model.

Hollywood Burbank Airport GSE Measure Progress



Count of Equipment

Excludes <25hp non-electric, low-use, and emergency-use equipment; **Includes** both new and removed equipment that operated at any point in reporting period.

	Diesel	Gasoline	LPG	Electric	Total
Overall Fleet	83	71	12	127	293
Overall Fleet Percent	28.3%	24.2%	4.1%	43.3%	--
A/C Tug Narrow Body	8	0	0	21	29
Air Conditioner	6	0	0	0	6
Air Start Unit	6	0	0	0	6
Baggage Tug	1	17	2	31	51
Belt Loader	6	18	0	17	41
Bobtail	0	1	0	0	1
Cargo Loader	6	3	0	0	9
Cargo Tractor	1	14	0	0	15
Cart	0	2	0	20	22
Catering Truck	0	1	0	0	1
Forklift	0	1	10	0	11
Fuel Truck	17	1	0	0	18
Generator	0	0	0	0	0
Ground Power Unit	31	0	0	18	49
Lav Cart	0	0	0	6	6
Lav Truck	0	2	0	0	2
Lift	0	0	0	6	6
Maint. Truck	0	3	0	0	3
Other GSE	0	0	0	1	1
Passenger Stand	1	4	0	5	10
Service Truck	0	4	0	0	4
Sweeper	0	0	0	2	2

Fleet Inventory Equipment Count

Includes <25hp non-electric, low-use, emergency-use, and both new and removed equipment that operated at any point in reporting period.

	In-Use	Low- or Emergency-Use	New Equipment	Removed Equipment	Total (all reported)	Electric (all reported)
Overall Fleet	310	51	22	21	361	153
Overall Fleet Percent	85.9%	14.1%	--	--	--	42.4%
A/C Tug Narrow Body	29	12	1	2	41	25
Air Conditioner	6	3	0	1	9	2
Air Start Unit	6	1	1	1	7	0
Baggage Tug	51	3	7	6	54	31
Belt Loader	41	1	0	1	42	17
Bobtail	1	0	1	0	1	0
Cargo Loader	9	0	1	1	9	0
Cargo Tractor	15	0	5	4	15	0
Cart	22	11	2	1	33	31
Catering Truck	1	1	0	0	2	0
Forklift	11	2	0	1	13	1
Fuel Truck	18	0	0	0	18	0
Generator	11	0	0	0	11	0
Ground Power Unit	49	3	1	2	52	20
Lav Cart	8	3	0	0	11	6
Lav Truck	2	0	1	0	2	0
Lift	9	3	0	0	12	9
Maint. Truck	3	3	0	1	6	0
Other GSE	2	0	0	0	2	1
Passenger Stand	10	2	0	0	12	5
Service Truck	4	0	1	0	4	0
Sweeper	2	3	1	0	5	5

Fleet Inventory Annual Emissions

Includes <25hp non-electric, low-use, emergency-use, and both new and removed equipment that operated at any point in reporting period.

	ROG (short tons)	CO (short tons)	NO _x (short tons)	PM ₁₀ (short tons)	PM _{2.5} (short tons)	CO ₂ e (metric tons)	SO _x (short tons)
Overall Fleet	4.6	46.5	8.4	0.34	0.28	3,575	0.01
Overall Fleet Percent	--	--	--	--	--	--	--
A/C Tug Narrow Body	0.1	0.6	0.9	0.04	0.03	154	<0.01
Air Conditioner	<0.1	0.3	0.1	0.01	0.01	93	<0.01
Air Start Unit	<0.1	0.1	0.1	<0.01	<0.01	42	<0.01
Baggage Tug	2.0	12.5	1.1	0.05	0.04	683	<0.01
Belt Loader	0.6	10.1	1.4	0.06	0.05	577	<0.01
Bobtail	<0.1	<0.1	<0.1	<0.01	<0.01	4	<0.01
Cargo Loader	0.1	3.0	0.4	0.03	0.03	338	<0.01
Cargo Tractor	0.7	10.4	1.0	0.04	0.03	516	<0.01
Cart	<0.1	0.1	<0.1	<0.01	<0.01	18	<0.01
Catering Truck	<0.1	<0.1	<0.1	<0.01	<0.01	34	<0.01
Forklift	0.2	2.0	0.5	0.01	0.01	81	<0.01
Fuel Truck	<0.1	0.5	0.3	0.01	0.01	165	<0.01
Generator	0.1	0.6	0.3	0.01	0.01	47	<0.01
Ground Power Unit	0.3	3.5	1.7	0.06	0.05	637	<0.01
Lav Cart	<0.1	<0.1	<0.1	<0.01	<0.01	1	<0.01
Lav Truck	<0.1	0.2	<0.1	<0.01	<0.01	32	<0.01
Lift	0.1	0.8	0.1	<0.01	<0.01	8	<0.01
Maint. Truck	<0.1	0.1	<0.1	<0.01	<0.01	12	<0.01
Other GSE	<0.1	<0.1	<0.1	<0.01	<0.01	2	<0.01
Passenger Stand	0.1	0.5	0.2	<0.01	<0.01	25	<0.01
Service Truck	0.3	1.1	0.3	0.01	0.01	105	<0.01
Sweeper	<0.1	<0.1	<0.1	<0.01	<0.01	<1	<0.01

Condensed Summary of GSE Fuel Type and Tier Rating Changes

2024 (change vs 2023)

Fleet Inventory Equipment Count

Excludes low-use equipment, <25 hp non-electric equipment.

Overall Fleet	293 (+11)
Diesel	83 (-2)
<i>Tier 4</i>	<i>61 (+4)</i>
<i>Tier 4i</i>	<i>3 (-)</i>
<i>Tier 3</i>	<i>4 (-4)</i>
<i>Tier 2</i>	<i>10 (-2)</i>
<i>Tier 1</i>	<i>4 (-)</i>
<i>Tier 0</i>	<i>1 (-)</i>
<i>On-Road</i>	<i>0 (-)</i>
Gasoline	71 (+7)
<i>Pre-2010</i>	<i>25 (-)</i>
<i>2010 and Newer</i>	<i>46 (+7)</i>
LPG	12 (-)
<i>Pre-2010</i>	<i>6 (-)</i>
<i>2010 and Newer</i>	<i>6 (-)</i>
Electric	127 (+6)

2024 (change vs 2019)

Fleet Inventory Equipment Count

Excludes low-use equipment, <25 hp non-electric equipment.

Overall Fleet	293 (+61)
Diesel	83 (+21)
<i>Tier 4</i>	<i>61 (+44)</i>
<i>Tier 4i</i>	<i>3 (+1)</i>
<i>Tier 3</i>	<i>4 (-12)</i>
<i>Tier 2</i>	<i>10 (-3)</i>
<i>Tier 1</i>	<i>4 (-7)</i>
<i>Tier 0</i>	<i>1 (-2)</i>
<i>On-Road</i>	<i>0 (-)</i>
Gasoline	71 (+21)
<i>Pre-2010</i>	<i>25 (-15)</i>
<i>2010 and Newer</i>	<i>46 (+36)</i>
LPG	12 (-1)
<i>Pre-2010</i>	<i>6 (-4)</i>
<i>2010 and Newer</i>	<i>6 (+3)</i>
Electric	127 (+20)

Comparison of Engine Tier & Horsepower Rating by Reporting Year (Diesel-Fueled Equipment)

Excludes low-use equipment and <25 hp non-electric equipment.

2024 Fleet (difference as compared to 2023)

Tier	Horsepower Bin									Total
	<25	25 - 49	50 - 74	75 - 99	100 - 174	175 - 299	300 - 599	600 - 749	≥ 750	
Tier 0	1 (-)	0 (-)	0 (-)	0 (-)	1 (-)	0 (-)	0 (-)	0 (-)	0 (-)	1 (-)
Tier 1	0 (-)	0 (-)	0 (-)	1 (-)	0 (-)	3 (-)	0 (-)	0 (-)	0 (-)	4 (-)
Tier 2	0 (-)	0 (-)	0 (-)	7 (-1)	2 (-)	1 (-)	0 (-1)	0 (-)	0 (-)	10 (-2)
Tier 3	0 (-)	0 (-)	0 (-)	1 (-)	1 (-1)	2 (-2)	0 (-1)	0 (-)	0 (-)	4 (-4)
Tier 4i	0 (-)	0 (-)	1 (-)	0 (-)	0 (-)	2 (-)	0 (-)	0 (-)	0 (-)	3 (-)
Tier 4	11 (-)	3 (-)	8 (+1)	3 (+1)	26 (+1)	14 (-)	7 (+1)	0 (-)	0 (-)	61 (+4)
Total										83 (-2)

Note. Totals exclude <25 hp equipment.

2024 Fleet (difference as compared to 2019 reporting year [based on 2017 fleet])

Tier	Horsepower Bin									Total
	<25	25 - 49	50 - 74	75 - 99	100 - 174	175 - 299	300 - 599	600 - 749	≥ 750	
Tier 0	1 (+1)	0 (-)	0 (-1)	0 (-2)	1 (+1)	0 (-)	0 (-)	0 (-)	0 (-)	1 (-2)
Tier 1	0 (-1)	0 (-)	0 (-)	1 (-3)	0 (-3)	3 (+3)	0 (-4)	0 (-)	0 (-)	4 (-7)
Tier 2	0 (-)	0 (-1)	0 (-2)	7 (+6)	2 (-5)	1 (+1)	0 (-2)	0 (-)	0 (-)	10 (-3)
Tier 3	0 (-)	0 (-)	0 (-)	1 (-1)	1 (-10)	2 (-1)	0 (-)	0 (-)	0 (-)	4 (-12)
Tier 4i	0 (-)	0 (-)	1 (+1)	0 (-1)	0 (-)	2 (+1)	0 (-)	0 (-)	0 (-)	3 (+1)
Tier 4	11 (+11)	3 (-1)	8 (+4)	3 (+2)	26 (+24)	14 (+12)	7 (+3)	0 (-)	0 (-)	61 (+44)
Total										83 (+21)

Note. Totals exclude <25 hp equipment.

Comparison of Engine Model Year & Fuel Type by Reporting Year

Excludes low-use equipment and <25 hp non-electric equipment.

2024 Fleet (difference as compared to 2023)

Model Year	Fuel Type				
	Gasoline	LPG/Propane	Electric	Diesel	Total
≤ 2007	19 (-)	6 (-)	81 (-1)	16 (-4)	122 (-5)
2008 - 2009	6 (-)	0 (-)	4 (-)	1 (-1)	11 (-1)
2010 - 2015	13 (-)	3 (-)	5 (-2)	17 (-1)	38 (-3)
2016 - 2020	24 (+4)	1 (-)	22 (-)	38 (+3)	85 (+7)
≥ 2021	9 (+3)	2 (-)	15 (+9)	11 (+1)	37 (+13)
Total:	71 (+7)	12 (-)	127 (+6)	83 (-2)	293 (+11)

2024 Fleet (difference as compared to 2019 reporting year [based on 2017 fleet])

Model Year	Fuel Type				
	Gasoline	LPG/Propane	Electric	Diesel	Total
≤ 2007	19 (-14)	6 (-3)	81 (-4)	16 (-14)	122 (-35)
2008 - 2009	6 (-1)	0 (-1)	4 (+1)	1 (-10)	11 (-11)
2010 - 2015	13 (+5)	3 (+1)	5 (-8)	17 (+10)	38 (+8)
2016 - 2020	24 (+22)	1 (-)	22 (+16)	38 (+24)	85 (+62)
≥ 2021	9 (+9)	2 (+2)	15 (+15)	11 (+11)	37 (+37)
Total:	71 (+21)	12 (-1)	127 (+20)	83 (+21)	293 (+61)

Exhibit C

MOU Schedule No. 2 – Shuttle Bus MOU Report

MOU SCHEDULE NO. 2 – III.B.1. Shuttle Bus List

List of shuttle buses operating at BUR with the following information: a. vehicle identification number; b. vehicle model year; c. gross vehicle weight rating; d. fuel type; e. odometer reading; f. annual vehicle miles travelled.

Hollywood Burbank Airport 2024 Shuttle Bus Equipment Inventory

Vehicle Identification Number (VIN)	Vehicle Model Year	Gross Vehicle Weight Rating	Fuel Type	Odometer Reading	Annual Vehicle Miles Traveled
1FDFE4FN2RDD12828	2023	15,000	Gasoline	40,723	27,683
1FDFE4FN5RDD12757	2023	15,000	Gasoline	40,577	27,849
1FDFE4FN1RDD08009	2023	15,000	Gasoline	26,278	18,968
1FDFE4FN8RDD12641	2023	15,000	Gasoline	40,986	27,442
1FDFE4FN3RDD13311	2023	15,000	Gasoline	30,672	23,182
1FDFE4FN2PDD30534	2023	15,000	Gasoline	35,778	22,618
1FDFE4FN9RDD03009	2023	15,000	Gasoline	36,123	22,144
1GBJ5V1G59F406126	2010	14,500	Propane	162,346	77
1FDFE4FS1CDB09300	2012	15,000	CNG	217,036	11,641

MOU SCHEDULE NO. 2 – III.B.2. Emission Inventory

An emission inventory for shuttle buses, including methodology and calculations.

2024 Hollywood Burbank Airport Shuttle Bus Emission Inventory

Fleet Mix		Fleet Emissions (tons per year; metric tons for CO ₂ e)						
Electric	Non-electric ¹	CO	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO ₂ e
0 (0%)	9 (100%)	0.76	0.01	0.04	0.03	0.01	<0.01	370

1. Of the 9 buses which operated at BUR at any point in 2024, only 8 operated at any given time, with the oldest bus (a 2010 model year propane bus) being replaced with the newer CNG bus in January of 2024.

Methodology - Collection of Data

In May 2025, the data required under MOU Measure 2.III. B.1. was requested from the currently contracted Authority shuttle bus operator for equipment operating at the Airport. All requested data was received by the end of May.

Methodology - Emission Calculations

Shuttle bus operating emissions were estimated using California regulatory standard emissions model EMFAC2017, developed by CARB. For each shuttle bus, a representative equipment type was identified from the EMFAC2017 model. Emission factors from the model were queried for the Los Angeles (South Coast) region for CY 2024, assuming all adopted rules for exhaust controls. Emission factors were assigned to each reported shuttle bus based on the buses representative EMFAC category and the vehicle's model year from the applicable fuel types within the EMFAC model. These factors were validated against base factors available in the applicable CARB engine certifications, and annual emissions for each shuttle bus were calculated by multiplying emission factors (in grams per mile) by annual reported vehicle miles traveled ("VMT").

MOU SCHEDULE NO. 2 – ZERO-EMISSION SHUTTLE BUS PROGRAM

This MOU Schedule No. 2 is based on the Authority's AQIP SIP creditable measure for zero-emission buses at BUR.

- I. PROGRAM DESCRIPTION – Replace 50% and 100% of BUR-owned and operated or BUR airport contracted buses with electric buses by January 1 of 2023 and 2031, respectively.
- II. PROGRAM TIMEFRAME – Upon execution through 2032.
- III. AIRPORT OBLIGATIONS – The Authority agrees to:
 - A. Replace or require shuttle buses to meet the specified targets.
 - B. Beginning in 2021, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:
 1. List of shuttle buses operating at BUR with the following information:
 - a. Vehicle Identification Number
 - b. Vehicle model year
 - c. Gross Vehicle Weight Rating
 - d. Fuel type
 - e. Odometer reading
 - f. Annual vehicle miles travelled
 2. An emission inventory for shuttle buses, including methodology and calculations.
- IV. SOUTH COAST AQMD OBLIGATIONS – South Coast AQMD agrees to:
 - A. Verify emission reductions from the implementation of this SIP creditable AQIP measure by the Authority in order to determine actual emission reductions.
 - B. Ensure that any emission reduction data related to this AQIP measure and other pertinent information are accessible to the public and the USEPA.

Exhibit D

South Coast AQMD Comments on May 30, 2025 Calendar Year 2024
MOU Progress Report and Authority Responses



Memorandum



*To: Melissa Gamoning
Program Supervisor
South Coast Air Quality Management District*

From: CDM Smith and Hollywood Burbank Airport

Date: March 27, 2026

*Subject: Responses to South Coast Air Quality Management District Comments on the
Hollywood Burbank Airport Memorandum of Understanding Annual Progress
Report, dated May 30, 2025*

Purpose

This memorandum documents responses to South Coast Air Quality Management District (“SCAQMD” or “the District”) comments on the Hollywood Burbank Airport (“BUR” or “the Airport”) Memorandum of Understanding (MOU) Progress Report for calendar year 2024, submitted May 30th, 2025. The Airport has two measures in the MOU: 1) a ground support equipment (GSE) emission reductions program; and 2) a shuttle bus fleet electrification schedule.

Responses have been prepared by CDM Smith on behalf of the Airport. **Bold** font weighting is used to identify specific actions being taken by the Airport, including potential revisions which will be applied to address SCAQMD comment under a final revised BUR MOU Progress Report.

Responses to AQMD Comments

Comment #1

GSEs with ID OP03-040, OP03-043, OP03-044, OP03-045, OP03-046, OP03-049, and OP03-050 have duplicates in emissions and performance level calculations. Please make appropriate corrections to emissions, performance levels, and corresponding summary tables.

Response to Comment #1

The specified GSE with identifiers OP03-040, OP03-043, OP03-044, OP03-045, OP03-046, OP03-049, and OP03-050 have been reviewed and duplication confirmed. **This duplication will be corrected in the final revised MOU report.**

Two additional GSE with identifiers OP03-047 and OP03-048, have also been confirmed to contain duplicate information. **This duplication will be corrected in the final revised MOU report.**

Comment #2

2023 units OP06-001 and OP03-006 were not sold or relocated in 2024 but excluded from 2024. Please check and make appropriate corrections.

Response to Comment #2

The GSE with identifier OP06-001 will be added to the performance calculations and inventory in the final revised MOU report.

The GSE with identifier OP03-006 was rendered inoperable by its operator in October 2023 with a note indicating its pending relocation out of state which occurred in 2024. **The GSE with identifier OP03-006 will be added to the final revised MOU report – excluded from performance and emissions calculations due to its inoperable status throughout 2024 – and will be identified in the list of removed equipment.**

Comment #3

Operating hours for the following units changed significantly from 2023 to 2024. Please double check data and/or provide justification.

EQ ID	2023	2024	
OP10-003	975	269	
OP10-009	910	101	
OP10-008	499	423	
OP10-011	278	742	
OP10-012	261	90	
OP10-017	679	958	
OP10-022	400	975	
OP08-016	45	591	(1972 LPG)
OP06-012	208	0	
OP08-017	1	200	
OP08-018	0.5	200	

Response to Comment #3

For the GSE with identifiers OP10-###, the 2023 and 2024 hours are actual data reported by the GSE owner. These are the best available data and no changes are appropriate or warranted.

For the GSE with identifiers OP08-###, The differences in operating hours identified by the District between the calendar year 2023 and 2024 reports are the result of default operating hours being assumed for 2024 and actual operating hours being provided for 2023. Operating hours were not an agreed upon reporting metric when the MOU was developed and are thus voluntary reporting information that the Airport does not strictly require operators to provide. **Nonetheless, the operator has voluntarily agreed to share this information; OP08-16 is used approximately 0.5 hours each week (26 hours annually), OP08-017 is used 1 hour annually for testing, and OP08-18 is not used (0 hours) but has not been formally retired or removed from the airfield. This updated activity will be applied in the final revised MOU report.**

The GSE with identifier OP06-012 was not operational in calendar year 2024 and was relocated out of state, as reported in the calendar year 2024 MOU annual progress report. No changes are appropriate or warranted for the 0 operating hours reported for 2024.

The GSE with identifier OP06-012 unit's removal from service occurred in August 2023 and this removal was not reported by the owner for the 2023 MOU annual progress report; therefore, emissions from this GSE were overestimated in the 2023 MOU annual progress report. The overestimate was by approximately 3 month (98 hours) of operation, equating to roughly 0.03 tons of NO_x emissions. This overestimate is a *de minimis* change which on its own would have no identifiable effect on the calendar year 2023 MOU annual progress report emissions – reported to one decimal place – and therefore, no updates to the 2023 MOU annual progress report are appropriate or warranted.

Comment #4

The summary table shows the number of Tier 4 diesel GSE increased by 8, while a comparison of Tier 4 GSE between 2023 and 2024 shows only 4 new Tier 4 units. Please double check and make necessary corrections as needed.

Response to Comment #4

An error has been identified in the GSE fleet statistical comparison tables resulting from offset added/removed identifiers. This error does not affect emission estimates or performance values, but resulted in some inaccuracies in counts, as identified by the District in Comment #4. **Corrections will be made to the statistical comparison calculations in the final revised MOU report.**

Comment #5

For the majority of the 18 low-use GSE, operating hours are assumed to be 200 hours for the majority of these equipment. Please confirm operating hours and if operators were asked to provide actual operating hours.

Response to Comment #5

The California Air Resources Board (CARB) definition for “low-use” has been used for all previous MOU reporting. CARB's definition limits equipment usage to no more than an average of 200 hours per year over a three-year period. Each unit's use is reported by GSE owners during the data survey period. GSE owners are instructed to provide the equipment status as reported in CARB's Diesel Off-Road Online Reporting System (DOORS). This equipment use is a required element of MOU reporting, negotiated with SCAQMD, Airlines for America (A4A), and non-A4A GSE stakeholders at the MOU's inception.

BUR acknowledges that operating hours were not agreed upon by relevant stakeholders at the time of the MOU's inception and are not a required element of MOU reporting, therefore, the Airport does not strictly require operators to provide this information. However, BUR does request this information from all GSE owners for all non-electric equipment as part of the annual GSE survey.

Comment #6

NOx emission factors for the following GSE are significantly different between 2023 and 2024. Please validate, explain changes, and confirm whether the emissions factors conform to the latest methodology [[methodology-for-calculating-ground-support-equipment-fleet-average-emission-factor.pdf](#)]

EQ ID	Fuel	type	model yr	hp	2023 EF	2024 EF
OP05-028	LPG	Forklift	2006	59	3.5	0.88
OP05-029	LPG	Forklift	2006	59	3.5	0.88
OP05-034	Gasoline	Cart	2014	138	1.87	1.04
OP05-042	Diesel	GPU	2021	155	0.45	0.09
OP05-043	Diesel	GPU	2021	155	0.45	0.09
OP10-017	Diesel	Fuel Truck	2021	138	0.45	0.09
OP12-012	Gasoline	Bag Tractor	2007	138	2.02	1.32
OP12-013	Gasoline	Bag Tractor	2007	40	2.02	1.32
OP03-011	Diesel	Fuel Truck	2000	175	2.13	2.67

Response to Comment #6

The MOU and each airport's aggregate performance targets were developed in 2019 using emission factors derived from CARB's current, at the time, OFFROAD emissions model, OFFROAD2017. To ensure a like-to-like comparison of airport performance progress against the MOU targets, BUR in concurrence with SCAQMD under prior reporting periods, has continued to use OFFROAD2017 factors for evaluating performance characteristics instead of updating to a more recent emissions model.

It is understood that due to gaps in the OFFROAD2017 model's coverage, for specific combinations of fuel types, horsepower ratings, equipment types, and the extremes of equipment ages, GSE performance factors may be inconsistently estimated from calendar year to calendar year. The November 26, 2024 [Final Methodology for Calculating Ground Support Equipment Fleet Average Emission Factor](#) guidance establishes a consistent approach to addressing gap equipment. The in-use performance factors for all BUR GSE in the MOU Annual Progress Report for calendar year 2024 were selected consistent with the guidance.

Documentation is included in the Airport's MOU performance calculation spreadsheet for each unit of GSE as to which NOx factor was ultimately applied and which step of the stepdown approach described in the final methodology was ultimately applicable.

BUR-OP03-011

Unit BUR-03-011 is a model year 2000, 175 horsepower diesel fuel truck. Under the MOU methodology, diesel fuel trucks map to the "Other GSE" category in OFFROAD2017. Upon review, a lookup error has been identified which resulted in unit BUR-OP03-011 having been mistakenly assigned a factor of 2.13 where a performance factor of 2.69 should have been applied under the November 2024 [Final Methodology for Calculating Ground Support Equipment Fleet Average Emission Factor](#) guidance (Step 3, previous calendar year exact match). **This performance factor will be updated in the final revised MOU report.**

BUR-OP05-028 and BUR-OP05-029

Both unit BUR-05-028 and unit BUR-05-029 are 2006 model year LPG forklifts, a GSE category for which significant gaps exist in the OFFROAD2017 model. For reporting year 2023, the November 2024 *Final Methodology for Calculating Ground Support Equipment Fleet Average Emission Factor* guidance had not yet been issued and a different approach to selecting a surrogate performance value had been used for these units, resulting in the higher performance values.

For reporting year 2024, the guidance was followed.

- **Step 1** (exact match) failed due to the lack of model year 2007 forklifts in the reference OFFROAD model (the earliest model year LPG forklift for calendar year 2024 is 2013).
- **Step 2** (previous calendar year) failed due to a lack of an exact match in the previous calendar year (the earliest model year LPG forklift for calendar year 2023 is 2012).
- **Step 3** (multiple calendar year step-back) failed due to a lack of an exact match in any prior calendar year in the available dataset (the earliest calendar year in the available OFFROAD2017 dataset used during the MOU's development is 2020, for which the earliest model year LPG forklift is 2009).
- **Step 4** (wildcard model year or horsepower bin parameters) was ultimately applied, using the earliest available (model year 2013) LPG forklift emission rate values.

BUR-OP05-034

Unit BUR-05-034 is 2014 model year, 138 horsepower gasoline cart. For reporting year 2023, the November 2024 *Final Methodology for Calculating Ground Support Equipment Fleet Average Emission Factor* guidance had not yet been issued and a different approach to selecting a surrogate performance value had been used for these units, resulting in the higher performance values.

For reporting year 2024, the guidance was followed.

- **Step 1** (exact match) failed due to the lack of model year 2014 gasoline carts in the reference OFFROAD model (the earliest model year gasoline cart for calendar year 2024 is 2015).
- **Step 2** (previous calendar year) failed due to a lack of an exact match in the previous calendar year (while a 2014 gasoline cart exists in calendar year 2023 its horsepower bin is does not match [25]).
- **Step 3** (multiple calendar year step-back) failed due to a lack of an exact match in any prior calendar year in the available dataset.
- **Step 4** (involving wildcard model year or horsepower bin parameters) was ultimately used, with a 2023 calendar year gasoline cart serving as a surrogate—this cart corresponded to the exact 2014 model year and the closest available match of a 25 horsepower bin.

BUR-OP05-042 and BUR-OP05-043

Both unit BUR-05-042 and unit BUR-05-043 are 2021 model year diesel ground power units. For reporting year 2023, the November 2024 *Final Methodology for Calculating Ground Support Equipment Fleet Average Emission Factor* guidance had not yet been issued and a different approach to selecting a surrogate performance value had been used for these units, resulting in the higher performance values.

For reporting year 2024, the guidance was followed and an exact match (Step 1) was identified and its performance factor applied.

BUR-OP10-017

Unit BUR-10-017 is a model year 2021, 138 horsepower diesel fuel truck. Under the MOU methodology, diesel fuel trucks map to the “Other GSE” category in OFFROAD2017. For prior reporting years, the November 2024 *Final Methodology for Calculating Ground Support Equipment Fleet Average Emission Factor* guidance had not yet been issued and a different approach to selecting a surrogate performance value had been used, resulting in inconsistent application of surrogate performance values.

For reporting year 2024, the guidance was followed and an exact match (Step 1) was identified and its performance factor applied.

BUR-OP12-012 and BUR-OP12-013

Units BUR-OP12-012 and BUR-OP12-013 are gasoline baggage tugs, a GSE category for which significant gaps exist in the OFFROAD2017 model. Upon review, a lookup error has been identified which resulted in both unit BUR-OP12-012 and BUR-OP12-013 having been mistakenly assigned a factor of 1.32 where a performance factor of 2.02 should have been applied under the November 2024 *Final Methodology for Calculating Ground Support Equipment Fleet Average Emission Factor* guidance (Step 4, wildcard model year [2013]). **These performance factors will be updated in the final revised MOU report.**

Comment #7

Please revise and resubmit the 2024 and 2023 progress reports for any corrections as a result of the above comments or other changes.

Response to Comment #7

As indicated in the preceding comments, several small revisions are required for the BUR MOU Annual Progress Report for calendar year 2024. **Following receipt of the necessary responses and confirmation from the District that no further comments will be provided, the 2024 report will be updated and reissued.**

Additionally, as previously noted, no changes have been identified that would necessitate further revision of the calendar year 2023 report, and BUR does not anticipate making any additional modifications to that document.