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Petition for Post-Certification Amendment

Modification of Combined Cycle Gas Turbine Operating Hours

For the
Huntington Beach Energy Project
Huntington Beach, California
(12-AFC-02C)

Submitted to the:
California Energy Commission

Submitted by:
AES Huntington Beach Energy, LLC

With Technical Assistance by:

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and
Yorke Engineering, LLC

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Executive Summary

AES Huntington Beach Energy, LLC (the Project Owner) is submitting this petition to the California Energy Commission (CEC) for post-certification license modification for the Huntington Beach Energy Project (HBEP) (12-AFC-02C). The HBEP consists of a combined cycle gas turbine (CCGT) power block and a simple cycle gas turbine (SCGT) power block. The CCGT power block includes unfired heat recovery steam generators, a condensing steam turbine (STG), an air-cooled condenser, and ancillary facilities. To facilitate startup of the CCGT, the project also includes an auxiliary boiler.

This petition for post-certification license amendment (Petition to Amend or PTA) proposes to increase the annual CCGT operating hours to meet projected demand of the Los Angeles Basin. The PTA includes the following actions:

- Increase the annual CCGT operating hours from 6,640 hours per unit per year (including starts and stops) to 7,640 hours per unit per year (including starts and stops).
- Modify air emission limits commensurate with the modification of annual CCGT operating hours.

No changes to the number or type of CCGT startups and shutdowns are required or proposed. Similarly, no operational changes to the HBEP's other equipment are proposed.

To ensure compliance with all applicable laws, ordinances, regulations, and standards (LORS), the Project Owner has submitted a permit application to the South Coast Air Quality Management District (SCAQMD), presented in Attachment 3.1 of this PTA, including the Project Owner's proposed permit conditions. The Project Owner expects the SCAQMD to issue a Determination of Compliance (DOC), including modifications to certain Air Quality Conditions of Certification (COC). To ensure clarity and avoid confusion, the Project Owner believes it is prudent to look to the SCAQMD's DOC for its revised permit conditions.

To analyze potential environmental effects, an environmental impacts assessment is presented in Section 3. The assessment concludes that there will be no significant environmental impacts associated with the implementation of the actions specified in this PTA and that the project, as modified, will continue to comply with all applicable LORS.

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Acronyms and Abbreviations

µg/m^3	microgram per cubic meter
AFC	Application for Certification
ARM2	Ambient Ratio Method 2
BACT	best available control technology
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CCGT	combined cycle gas turbine
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COC	Conditions of Certification
DOC	Determination of Compliance
EPA	Environmental Protection Agency
FR	Federal Register
GHG	greenhouse gas
HAP	Hazardous Air Pollutants
HBEP	Huntington Beach Energy Project
HBGS	Huntington Beach Generating Station
HHRA	human health risk assessment
HI	Hazard Index
lb CO_2/MMBtu	pounds of CO_2 per million British thermal unit
lb CO_2/MWh	pounds of CO_2 per megawatt-hour
lb CO_2/net-MWh	pounds of CO_2 per net megawatt-hour
lb/hr	pounds per hour
lb/MMBtu	pounds per million British thermal unit

LORS	laws, ordinances, regulations, and standards
MICR	Maximum Individual Cancer Risk
MMBtu/hr	million British thermal units per hour
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
net-MWh	net megawatt-hours
NO_2	nitrogen dioxide
NO_X	nitrogen oxide
NSPS	New Source Performance Standards
PM	particulate matter
$PM_{2.5}$	particulate matter with aerodynamic diameter of 2.5 microns or less
PM_{10}	particulate matter with aerodynamic diameter of 10 microns or less
ppm	parts per million
ppmv	parts per million by volume
ppmvd	parts per million by volume dry
PSD	Prevention of Significant Deterioration
PTA	Petition to Amend
PTE	potential-to-emit
RECLAIM	Regional Clean Air Incentives Market
RTCs	RECLAIM Trading Credits
SCAQMD	South Coast Air Quality Management District
SCGT	simple cycle gas turbine
SCR	Selective Catalytic Reduction
SILs	Significant Impact Levels
SO_2	sulfur dioxide
SO_X	sulfur oxide
STG	condensing steam turbine
TAC	Toxic Air Contaminant
tpy	tons per year
VOC	volatile organic compound

1. Introduction

1.1 Background

The CEC approved the HBEP Application for Certification (AFC) on October 29, 2014 ("Final Decision") and the amendment request to the original license on April 12, 2017 ("Final Amendment Decision").

The HBEP site is on the existing Huntington Beach Generating Station (HBGS) property, located at 21730 Newland Street in the City of Huntington Beach, California, and occupies approximately 30 acres of the 106-acre HBGS site. With the Final Amendment Decision, the CEC analyzed the project's impacts for two General Electric Model 7FA.05 combustion turbines in a combined cycle configuration, two General Electric Model LMS100-PB combustion turbines in a simple cycle configuration, and an auxiliary boiler. The HBEP's CCGTs began commercial operation in February 2020, along with the auxiliary boiler. Construction of the SCGTs has yet to commence and is contingent on securing a power purchase agreement.

Since issuance of the Final Amendment Decision, the following post-certification changes have also been approved by the CEC:

- Modification of several commissioning parameters for the auxiliary boiler, approved in July 2019.
- Replacement of an approved architectural screening structure (spherical ball wall) with a mural-based design treatment for screening and enhancing views of the project site, approved in April 2021.
- Increase of CCGT nitrogen oxide (NO_X) non-cold startup emissions limit from 17 pounds per event to 32 pounds per event for consistency with the SCAQMD's revised Title V Facility Permit, approved in August 2021.

1.2 Overview of Proposed Amendments

This PTA addresses the potential environmental impacts associated with increasing the annual operating hours of the CCGTs to meet projected demand within the Los Angeles Basin. The modification of operating hours will not increase short-term emissions (i.e., maximum hourly, daily, or monthly emissions) of any pollutant, but will increase annual emissions from the two CCGTs as follows:

- Annual emissions of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) will increase by 8.5 tons per year (tpy)
- Annual emissions of particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$) will increase by 8.5 tpy
- Annual carbon monoxide (CO) emissions will increase by 7.65 tpy
- Annual NO_X emissions will increase by 16.8 tpy
- Annual sulfur oxide (SO_X) emissions will increase by 1.5 tpy
- Annual volatile organic compound (VOC) emissions will increase by 5.8 tpy

A detailed description of the proposed modification is included in Section 2 and analyzed in Section 3.

This PTA contains all of the information that is required pursuant to the CEC's Siting Regulations (Title 20, California Code of Regulations [CCR], Section 1769, Post Certification Petition for Changes in Project Design, Operation or Performance and Amendments to the Commission Decision). The information necessary to fulfill the requirements of Section 1769 is contained in Sections 1 through 7, as summarized in Table 1.2-1.

Table 1.2-1. Informational Requirements for Post-Certification Modifications

Section 1769(a)(1) Requirements	Sections of PTA Fulfilling Requirements
(A) A complete description of the proposed change, including new language for any conditions of certification that will be affected;	Sections 1, 2, and 3
(B) A discussion of the necessity for the proposed change and an explanation of why the change should be permitted;	Sections 1.1, 1.2, 1.3, and 3
(C) A description of any new information or change in circumstances that necessitated the change;	Sections 1.1, 1.2, 1.3, and 3
(D) An analysis of the effects that the proposed change to the project may have on the environment and proposed measures to mitigate any significant environmental effects;	Sections 1.4 and 3
(E) An analysis of how the proposed change would affect the project's compliance with applicable laws, ordinances, regulations, and standards;	Sections 1.5 and 3
(F) A discussion of how the proposed change would affect the public;	Sections 1, 3, and 4
(G) A list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of any affected project linears and 1,000 feet of the project site;	Section 5
(H) A discussion of the potential effect of the proposed change on nearby property owners, residents, and the public; and	Sections 3, 4, and 6
(I) A discussion of any exemptions from the California Environmental Quality Act, commencing with Section 21000 of the Public Resources Code, that the project owner believes may apply to approval of the proposed change.	Section 7

1.3 Necessity of Proposed Changes, an Explanation of Why it Should Be Permitted, and a Description of New Information or Change in Circumstances

The CEC Siting Regulations require a discussion of the necessity for the proposed revisions to the HBEP Certification, an explanation of why the change should be permitted, and a description of any new information or change in circumstances that necessitated the change (Title 20, CCR, Sections 1769(a)(1)(B) and (C)). The change to revise the annual operating hours of the CCGTs is necessary to meet projected electrical demand in the Los Angeles Basin with the most efficient delivery of non-renewable energy. This PTA further discusses why the change should be allowed.

1.4 Summary of Potential Environmental Effects and Proposed Mitigation Measures

The CEC Siting Regulations require an analysis of the effects that the proposed change to the project may have on the environment and proposed measures to mitigate any significant environmental effect (Title 20, CCR, Section 1769(a)(1)(D)). Section 3 of this PTA includes a discussion of the potential environmental impacts associated with the modification as well as a discussion of the consistency of the modification with applicable LORS. Section 3 concludes that there will be no significant, unmitigated environmental impacts associated with implementing the actions specified in this PTA and that the project, as modified, will comply with all applicable LORS. As such, no new or additional mitigation measures are proposed as part of this PTA.

1.5 Consistency of Changes with Applicable LORS

The CEC Siting Regulations require an analysis of how the proposed change would affect the project's compliance with applicable LORS (Title 20, CCR, Section 1769(a)(1)(E)). The proposed project modification is consistent with applicable LORS, as discussed in Section 3. The proposed project change will allow the HBEP to run efficiently, while meeting environmental goals, and increasing available electrical production during periods of high electrical demand.

2. Description of Proposed Amendments

This section includes a description of the proposed project modification, consistent with CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(A)).

The proposed change to the HBEP includes a 1,000-hour increase to the annual CCGT operating hours, without any change to CCGT startup and shutdown hours. The licensed and proposed annual operating hours for each CCGT are presented in Table 2-1.

Table 2-1. Licensed and Proposed HBEP Annual CCGT Operating Hours

Turbine	Operating Mode	Licensed		Proposed		Net Change	
		Duration (hours/ year)	Max. Number Events/ Year	Duration (hours/ year)	Max. Number Events/ Year	Duration (hours/ year)	Max. Number Events/ Year
Combined-Cycle	Normal Operations	6,100	--	7,100	--	1,000	--
	Cold Starts	80	80	80	80	0	0
	Warm Starts	44	88	44	88	0	0
	Hot Starts	166	332	166	332	0	0
	Shutdowns	250	500	250	500	0	0
	Total	6,640	--	7,640	--	1,000	--

Source: Yorke Engineering, LLC. 2021. Applications for Modification: Turbine Operating Hours. Table 3-1. December.

The proposed modification of annual operating hours for the CCGTs will not require any earth-moving activities, physical changes (i.e., increased natural gas conveyance or filtration, additional air-cooled condenser cells, etc.), or operational changes beyond revising the existing SCAQMD operational permits. The modified operating hours will also not impact the size or operations of the auxiliary boiler used to maintain the CCGT operational readiness. As such, there will be no change to operation of the auxiliary boiler or other HBEP equipment.

3. Environmental Analysis of Proposed Amendments

The following subsections present a discussion of the potential impacts that the proposed change may have on the environmental analysis as presented in applicable sections of the Final Decision and subsequent amendments. Each discussion includes an environmental analysis, an assessment of compliance with applicable LORS, proposed mitigation measures, and, if applicable, proposed changes to the COCs that are necessary as a result of the project modification.

3.1 Air Quality and Greenhouse Gases

3.1.1 Environmental Setting

The proposed modifications have the potential to affect air quality and greenhouse gas (GHG) emissions. Table 3.1-1 presents the National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) which will be used, in combination with measured ambient pollutant concentrations, to assess the potential air quality impacts of the modifications. An air permit application reflecting the increase in CCGT hours of operation has been submitted to the SCAQMD and is presented as Attachment 3.1. The potential effects of the proposed operational changes are considered below.

Table 3.1-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Period	NAAQS Standard [a]	Units	CAAQS Standard [b]	Units
CO	1 Hour	35	ppm	20	ppm
	8 Hour	9	ppm	9	ppm
NO_2	1 Hour	100	ppb	0.18	ppm
	Annual	53	ppb	0.03	ppm
$PM_{2.5}$	24 Hour	35	$\mu g/m^3$	--	--
	Annual	12	$\mu g/m^3$	12	$\mu g/m^3$
PM_{10}	24 Hour	150	$\mu g/m^3$	50	$\mu g/m^3$
	Annual	--	--	20	$\mu g/m^3$
SO_2	1 Hour	75	ppb	0.25	ppm
	3 Hour	0.5 (Secondary)	ppm	--	--
	24 Hour	--	--	0.04	ppm

Source: California Air Resources Board (CARB). 2016. "Ambient Air Quality Standards." May. Available online at: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf. Accessed April 8, 2022.

Notes:

-- = No standard

$\mu g/m^3$ = micrograms per cubic meter

NO_2 = nitrogen dioxide

ppb = parts per billion

ppm = parts per million

SO_2 = sulfur dioxide

The project is located in Orange County, which is within the SCAQMD's jurisdiction. The SCAQMD is the U.S. Environmental Protection Agency's (EPA) delegated authority to implement state and federal air quality regulations. The SCAQMD also monitors and reports the status of the area's air quality attainment of the CAAQS and NAAQS. Table 3.1-2 presents the attainment status for Orange County.

Table 3.1-2. State and Federal Air Quality Designations for Orange County, California

Pollutant	State Designation	Federal Designation
Ozone	1-hour: Nonattainment 8-hour: Nonattainment	1-hour: Nonattainment (Extreme) 8-hour: Nonattainment (Extreme)
CO	1-hour: Attainment 8-hour: Attainment	1-hour: Attainment (Serious Maintenance) 8-hour: Attainment (Serious Maintenance)
NO_2	1-hour: Attainment Annual: Attainment	1-hour: Attainment (Maintenance) Annual: Attainment (Maintenance)
SO_2	1-hour: Attainment 24-hour: Attainment	1-hour: Attainment N/A
PM_{10}	24-hour: Nonattainment Annual: Nonattainment	24-hour: Attainment (Serious Maintenance) N/A
$PM_{2.5}$	N/A Annual: Nonattainment	24-hour: Nonattainment (Serious) Annual: Nonattainment (Serious)
Lead	Attainment	Attainment
H_2S, Sulfates, Visibility, Vinyl Chloride	Attainment/Unclassified	N/A

Sources:

California Air Resources Board (CARB). 2022. "Maps of State and Federal Area Designations." Available online at: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations. Accessed April 22, 2022.

U.S. Environmental Protection Agency (EPA). 2022. "Nonattainment Areas for Criteria Pollutants (Green Book)." Available online at: https://www.epa.gov/green-book. Accessed April 22, 2022.

Notes:

H_2S = hydrogen sulfide

N/A = Not applicable (i.e., no standard)

The proposed modification of operating hours will only affect the proposed annual emissions from the CCGTs as the permitted maximum monthly emissions already assume the maximum number of monthly operating hours, including startups and shutdowns. Maximum potential short-term emission rates (1, 3, 8, and 24-hour averages) are not affected by the proposed change. Therefore, air quality dispersion modeling need only be performed for criteria pollutants with an annual ambient air quality standard. As such, Table 3.1-3 presents annual background ambient air concentrations for nitrogen dioxide (NO_2), PM_{10}, and $PM_{2.5}$.

Table 3.1-3. Background Ambient Air Concentrations

Pollutant	Averaging Period	Background Value (µg/m^3)
NO_2	Annual	39.13
PM_{10}	Annual	19.0
$PM_{2.5}$	Annual	8.81

Source: Yorke Engineering, LLC. 2021. Applications for Modification: Turbine Operating Hours. Tables 4-2 and 4-11. December.

3.1.2 Environmental Consequences

A comparison of the approved (i.e., licensed) and modified (i.e., proposed) air emissions is presented in Table 3.1-4. These emissions are based on the assumed operating hours shown in Table 2-1 and the hourly emission limits in the current HBEP air permit from SCAQMD.

Table 3.1-4. Summary of Facility-Wide Air Emissions [a]

Pollutant	Licensed/Proposed	Maximum Annual Operational Emissions (Pounds)	Maximum Annual Operational Emissions (Tons)
NO_X	Approved	252,913	126
	Proposed Modification	286,513	143
	Net Change	33,600	16.8
CO	Approved	400,931	200
	Proposed Modification	416,231	208
	Net Change	15,300	7.65
VOC	Approved	130,529	65.3
	Proposed Modification	142,129	71.1
	Net Change	11,600	5.80
$PM_{10}/PM_{2.5}$	Approved	114,272	57.1
	Proposed Modification	131,272	65.6
	Net Change	17,000	8.50
SO_x	Approved	20,302	10.2
	Proposed Modification	23,302	11.7
	Net Change	3,000	1.50
CO_2e	Approved	--	1,759,209
	Proposed Modification	--	2,022,441
	Net Change	--	263,233

Source: Yorke Engineering, LLC. 2021. Applications for Modification: Turbine Operating Hours. Tables 3-4 and 3-10 and Appendix B. December.

Notes:

CO_2e = carbon dioxide equivalent

[a] Facility-wide estimates do not include legacy equipment belonging to the HBGS, miscellaneous equipment such as the emergency fire pump, and equipment not yet constructed such as the SCGTs.

3.1.3 Regulatory Requirements

3.1.3.1 Federal Regulations

The federal pre-construction Prevention of Significant Deterioration (PSD) program for sources subject to PSD pre-construction review permitting applies to sources located in attainment areas, which are classified as major sources. The HBEP is subject to the PSD program. Therefore, PSD review applies to the proposed modification, which will be addressed in the Section 3.1.3.2 below.

The federal operating permit program (Title V) and prohibitory rules applicable to the HBEP will also be addressed in Section 3.1.3.2 below.

3.1.3.2 Local Regulations

The SCAQMD has promulgated rules governing the need for sources to apply for pre-construction/operating permits, and prohibitory rules. Below is an analysis of the SCAQMD rules applicable to the proposed HBEP modification.

Rule 212 – Standards for Approving Permits and Issuing Public Notice

In accordance with Rule 212(c), public notice is required for:

- A project requesting installation of a new source or modification of an existing source, if the source is located within 1,000 feet of the outer boundary of a school, or
- A project resulting in a new or modified facility with onsite emission increases exceeding any of the daily maximums from Rule 212(g), or
- A project requesting installation of a new source or modification of an existing source, if the emission increases result in exposure to Maximum Individual Cancer Risk (MICR) greater than or equal to the applicable thresholds in Rule 212(c)(3)(A), or substances that pose a potential risk of nuisance.

The nearest K-12 school, Edison High School, is located approximately 900 meters to the northeast of the HBEP, which is more than 1,000 feet. Because no changes to the daily operating scenarios are being proposed as part of this project, there will be no increase in daily emissions. As discussed in Section 3.9.2, the emissions increases associated with the proposed project are not expected to result in MICR greater than or equal to the applicable thresholds.

As described above, none of the Rule 212 criteria are exceeded; therefore, Rule 212 public notice is not required for this project.

Rule 218 – Continuous Emissions Monitoring

The CCGTs are equipped with CO continuous emissions monitoring systems that comply with the requirements of Rule 218 (c), (d), (e), and (f). The changes in operating limits will not affect compliance with this rule.

Rule 301 – Permitting and Associated Fees

The processing fees were determined using Rule 301. Attachment 3.1 documents that the Project Owner has paid the applicable processing fees to SCAQMD and has requested expedited permit processing.

Rule 401 – Visible Emissions

The subject equipment combusts natural gas and is not, therefore, expected to result in visible emissions. Compliance with this rule is expected.

Rule 402 – Nuisance

This project is not expected to cause injury, detriment, nuisance, or annoyance to the public, based on the equipment combusting natural gas and the control systems and mitigation measures currently employed.

Rule 403 – Fugitive Dust

The fugitive dust emissions requirements set forth in Rule 403 will be adhered to by the Project Owner during operation. No significant fugitive dust emissions are expected from the facility during normal operations or due to the proposed change in the operating limits. Therefore, compliance with this rule is expected.

Rule 407 – Liquid and Gaseous Air Contaminants

This rule prohibits an operator from discharging sulfur dioxide (SO_2) and CO into the atmosphere from any equipment in excess of 500 parts per million by volume dry (ppmvd) and 2,000 ppmvd, respectively. The CCGTs are not subject to the SO_2 limits of this rule, as the equipment complies with the gaseous fuel sulfur content limits of Rule 431.1 instead (see below). The CCGTs are equipped with oxidation catalysts that

ensure compliance with the Title V Facility Permit limit of 1.5 ppmvd at 15 percent oxygen. Therefore, the CCGTs are expected to comply with the CO limits of this rule.

Rule 409 – Combustion Contaminants

This rule prohibits an owner/operator from discharging into the atmosphere from any equipment combustion contaminants exceeding 0.1 grain per cubic foot of gas calculated to 12 percent of carbon dioxide (CO_2) at standard conditions averaged over a minimum of 15 consecutive minutes. The CCGTs combust only pipeline quality natural gas. The requested modification of emission limits will not adversely impact continued compliance with this rule.

Rule 431.1 – Sulfur Content of Gaseous Fuels

The natural gas fuel supplied to HBEP is the same source as during licensing (i.e., pipeline quality natural gas). Therefore, HBEP is expected to comply with the Rule 431.1 fuel sulfur limit.

Rule 474 – Fuel Burning Equipment – Oxides of Nitrogen

This rule is superseded by the requirements of the NO_X Regional Clean Air Incentives Market (RECLAIM) Program, per Rule 2001(j).

Rule 475 – Electric Power Generating Equipment

As discussed in Attachment 3.1, source tests conducted in January 2020 demonstrated that the CCGTs comply with both of the following limits of this rule:

- 11 pounds per hour
- 0.01 grain per cubic foot of gas calculated to 3 percent of oxygen at standard conditions averaged over a minimum of 15 consecutive minutes

Since no changes to the fuel type or hourly throughput are proposed as part of this project, continued compliance with this rule is expected.

Regulation IX – New Source Performance Standards

The New Source Performance Standards (NSPS) establish emission standards for specific emission sources, as published in the Code of Federal Regulations (CFR) and in the Federal Register (FR) by the EPA. The following NSPS are applicable to HBEP.

40 CFR 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines

This rule applies to units with a heat input rating greater than 10 million British thermal units per hour (MMBtu/hr) that commenced construction after February 18, 2005 and limits emissions of both NO_X and SO_2.

The natural gas-fired CCGTs use Selective Catalytic Reduction (SCR) to control NO_X emissions at or below the Title V Facility Permit limit of 2.0 ppmvd at 15 percent oxygen. Therefore, the CCGTs are expected to continue complying with the NO_X limit of this rule (15 parts per million [ppm] at 15 percent oxygen).

As described in Attachment 3.1, Rule 431.1 limits the sulfur content of natural gas to 16 parts per million by volume (ppmv), which equates to an SO_2 emission rate of 6.1 pounds per hour (lb/hr). Based on the CCGT's maximum heat input of 2,273 MMBtu/hr, worst-case SO_2 emissions are expected to be no more than approximately 0.002 pounds per million British thermal unit (lb/MMBtu), which complies with the SO_2 limit of this rule (0.06 lb/MMBtu).

The NSPS also includes monitoring, recordkeeping and reporting requirements. The Project Owner will demonstrate compliance by continuing to operate and maintain a continuous emissions monitoring system to monitor NO_X emissions.

40 CFR 60, Subpart TTTT – Standards of Performance for Greenhouse Gas Emissions from Electric Generating Units

This rule applies to steam generating units, integrated gasification combined-cycle facilities, and stationary gas turbines that commenced construction after January 8, 2014 and limits emissions of CO_2.

As described in Attachment 3.1, the applicable emission limits from this rule are 1,000 pounds of CO_2 per megawatt-hour (lb CO_2/MWh) on a rolling 12-month basis when the unit supplies more than 1,519,500 net megawatt-hours (net-MWh)[1] over a rolling 12-month basis and a rolling 3-year average basis, and 120 pounds of CO2 per million British thermal unit (lb CO_2/MMBtu) on a rolling 12-month basis when the unit supplies less than 1,519,500 net-MWh over a rolling 12-month basis and a rolling 3-year average basis. As described in Attachment 3.1, the Project Owner is proposing to update the GHG efficiency of each CCGT from 967.6 pounds of CO_2 per net megawatt-hour (lb CO_2/net-MWh) to 960.3 lb CO_2/net-MWh, based on the inclusion of 1,000 additional hours of operation year. This revised GHG efficiency will continue to comply with this rule.

Regulation X – National Emission Standards for Hazardous Air Pollutants

The National Emission Standards for Hazardous Air Pollutants (NESHAP) regulate the emissions of Hazardous Air Pollutants (HAP) from specific emission sources. These regulations are periodically updated to reflect actions by the EPA. The following NESHAP is applicable to HBEP.

40 CFR 63, Subpart YYYY – National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

This rule applies to gas turbines located at major sources of HAP emissions. A major source is defined as a facility with emissions of 10 tpy or more of a single HAP or 25 tpy or more of any combination of HAPs. As demonstrated in Table 3.9-1, HBEP is not considered a major source of HAP emissions.[2] Therefore, the requirements of this rule do not apply.

Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines

The rule is not applicable to HBEP as its gas turbines are instead subject to Rule 1135 (see below).

Rule 1135 – Emissions of Oxides of Nitrogen from Electric Power Generating Stations

The rule applies to electricity generating units at electricity generating facilities. The CCGTs comply with the emission limits of Rule 1135(d)(1) because the current Title V Facility Permit limits NO_X concentrations to 2.0 ppmvd at 15 percent oxygen. As a current RECLAIM facility, compliance with the monitoring, reporting, and recordkeeping provisions of this rule is demonstrated through compliance with Rules 2012 and 218.

Regulation XIII – New Source Review

The proposed change results in an emission increase of nonattainment pollutants and ammonia; therefore, new source review is required. However, as HBEP is subject to RECLAIM for NO_X and SO_X,

[1] This value is calculated on a gross basis and includes half of the STG output with each CCGT, as follows: (236.1 megawatts [MW] + 0.5 x 221.4 MW) x 8,760 hours/year x 0.5.

[2] Note that ammonia and propylene are not regulated HAPs.

Regulation XIII is not applicable for NO_X or SO_X. Key provisions of Regulation XIII are separately addressed below.

Rule 1303 – Requirements

Rule 1303 requires use of best available control technology (BACT), emissions modeling, and emission offsets. Additional review under Rule 1303(b)(5), including an alternative analysis, demonstration of statewide compliance, and protection of visibility, is not required for the proposed project as the annual emission increases shown in Table 3.1-4 are less than the major modification thresholds specified in Rule 1302(r).[3]

Best Available Control Technology. In accordance with Rule 1303(a), BACT is required for new and modified equipment resulting in a net emissions increase exceeding 1 pound per day of nonattainment pollutants or ammonia. The proposed changes to HBEP's operating hours result in an increase in annual emissions, but no change in the maximum daily emissions. Therefore, BACT is not triggered.

Emissions Modeling. Rule 1303(b)(1) requires demonstration that a modified facility will not cause or make worse a violation of an ambient air quality standard. As shown in Table 3.1-5 below, the increase in annual operating hours for the CCGTs will not cause or contribute to the violation of an ambient air quality standard. Details of the modeling analysis are included in Appendix C of Attachment 3.1.

Table 3.1-5. Rule 1303(b)(1) Modeling Demonstration

Pollutant	Averaging Time	Max. Back-ground Conc. (µg/m³)	Modeled Concentration (µg/m³)[a]	Modeled + Back-ground Conc. (µg/m³)	NAAQS (µg/m³)	CAAQS (µg/m³)	Exceeds Standards?
PM_{10}	Annual	19.0	0.7	19.7	N/A	20	No
$PM_{2.5}$	Annual	8.81	0.7	9.5	12	12	No

Source: Yorke Engineering, LLC. 2021. Applications for Modification: Turbine Operating Hours. Table 4-2. December.

Notes:

N/A = Not applicable (i.e., no standard)

[a] Project impacts represent the post-application emissions for the CCGTs and auxiliary boiler since the equipment has not been in commercial operation for a full three years.

In addition, the proposed operating changes will increase facility-wide PM_{10} emissions by 8.5 tpy, which is less than the rule's PM_{10} threshold of 15 tpy. Therefore, a modeling analysis for plume visibility is not required for the proposed project.

Emission Offsets. Rule 1303(b)(2) requires modified facilities to provide emission offsets for emission increases unless otherwise exempted by Rule 1304. Emission increases are calculated from calendar monthly emissions divided by 30 in accordance with Rule 1306(b). The proposed changes to HBEP's operating hours result in an increase in annual emissions, but no change in the maximum monthly emissions. Therefore, offsets should not be required.

Rule 1304.1 – Electrical Generating Facility Fee for Use of Offset Exemption

Rule 1304(a)(2) requires repower projects to pay a fee for emissions of VOC and particulate matter (PM). Offset fees for NO_X and SO_X emissions are excluded if the facility is subject to RECLAIM. The Project Owner is currently subject to RECLAIM for NO_X and SO_X emissions but subject to Rule 1304.1 fees, paid to the

[3] Comparison to the daily major modification thresholds is not warranted because there are no proposed changes to daily emissions.

SCAQMD for HBEP's VOC and PM emissions. The Project Owner will continue to comply with Rule 1304.1 when the proposed operational change is approved by the SCAQMD and the CEC.

Rule 1325 – Federal $PM_{2.5}$ New Source Review Program

Rule 1325 applies to any new major polluting facility, major modifications to a major polluting facility, and any modification to an existing facility that would constitute a major polluting facility in and of itself that will emit $PM_{2.5}$ or its precursors (NO_X, SO_2, VOC, and ammonia). Rule 1325(b)(4) defines a major polluting facility as a facility located in a federal nonattainment area with a potential to emit greater than 70 tpy of $PM_{2.5}$ or any of its precursors. A major modification is any change resulting in a significant emissions increase (40 tpy of NO_X, SO_2, VOC, or ammonia or 10 tpy of $PM_{2.5}$).

As shown in Table 3.1-6 below, none of the proposed emission increases are considered significant. However, the proposed change will result in the facility being considered a major polluting facility for VOC.[4] The CCGTs are already equipped with oxidation catalysts that ensure compliance with the Title V Facility Permit limit of 2.0 ppmvd VOC at 15 percent oxygen. As such, the proposed modifications should be considered compliant with the requirements of Rule 1325(c)(1).

Table 3.1-6. Rule 1325 Major Polluting Facility Applicability

Pollutant	Approved (tpy)	Proposed Modification (tpy)	Net Change (tpy)	Major Polluting Facility Threshold (tpy)	Exceeds Major Polluting Threshold?	Significant Emissions Increase Threshold (tpy)	Exceeds Significant Emissions Increase Threshold?
$PM_{2.5}$	57.1	65.6	8.50	70	No	10	No
NO_X	126	143	16.8	70	Yes	40	No
SO_2	10.2	11.7	1.50	70	No	40	No
VOC	65.3	71.1	5.80	70	Yes	40	No
Ammonia	104	119	15.6	70	Yes	40	No

Source: Yorke Engineering, LLC. 2021. Applications for Modification: Turbine Operating Hours. Table 4-4. December.

Rule 1401 – New Source Review for Air Toxics

As described in Section 3.9.2, an updated human health risk assessment (HHRA) was conducted for the proposed project. The HHRA modeling predicted that the MICR and chronic Hazard Index (HI) from both CCGTs would remain below the appropriate Rule 1401 thresholds. Acute health risk was not evaluated as the project does not propose an increase in maximum hourly emissions.

Regulation XVII – Prevention of Significant Deterioration

The proposed change results in an emission increase of attainment pollutants; therefore, PSD review is required for PM_{10} (24-hour NAAQS), CO, NO_X, and SO_X. Key provisions of Regulation XVII are separately addressed below.

Rule 1703 – PSD Analysis

Rule 1703(a)(2) requires BACT for each criteria pollutant for which there is a net emission increase. Although there will be a net emission increase for all criteria pollutants, this project does not propose an increase in daily emissions and BACT is satisfied by the existing equipment configuration.

[4] Note that the facility is already considered a major polluting facility for NO_X and ammonia.

As shown in Table 3.1-4, the increase in potential-to-emit (PTE) does not exceed 100 tpy for any criteria pollutant. However, the proposed modification will result in the facility being considered a major stationary source for NO_X and CO, under Rule 1702(m)(1), as post-application emissions will exceed 100 tpy (143 and 208 tpy, respectively). In accordance with Rule 1706(c), the increase in emissions was estimated based on a comparison of the post-application emissions and past actuals. As shown in Table 3.1-7 below, the increase in emissions of PM_{10} and NO_X constitute a major modification under Regulation XVII.

Table 3.1-7. Regulation XVII Major Modification Applicability

Pollutant	Post-Application (tpy)	Past Actuals (tpy)	Increase (tpy)	Significant Increase Threshold (tpy)	Exceeds Threshold?
PM_{10}	65.6	20.9	44.7	15	Yes
CO	208	450	-242	100	No
NO_X	143	39.4	104	40	Yes
SO_2	11.7	2.82	8.88	40	No

Source: Yorke Engineering, LLC. 2021. Applications for Modification: Turbine Operating Hours. Table 4-8. December.

To demonstrate compliance with Rule 1703(a)(3)(C) for this major modification, annual PM_{10} and NO_2 modeling was conducted for comparison to the Class I and II Significant Impact Levels (SILs) and PSD increment thresholds. The results of this analysis are shown in Table 3.1-8 below. For PM_{10}, no further modeling analysis is required as the proposed project's predicted PM_{10} concentrations do not exceed the Class I or II SILs or PSD increment thresholds. The proposed project's predicted NO_2 concentrations, however, do exceed the Class II SIL and warrant modeling for comparison to the NAAQS. The results of that analysis are provided under the discussion for Rule 2005 below and demonstrate that the project will not cause or contribute to a violation of the annual NO_2 NAAQS. Additional details regarding the Class I and II analysis are provided in Attachment 3.1.

Table 3.1-8. Total Facility Model-Predicted Impacts Compared to Class I and II SILs and PSD Increments

Pollutant	Averaging Time	Modeled Concentration ($\mu g/m^3$)	Significant Impact Level (SIL) ($\mu g/m^3$)	Exceeds SIL?	PSD Increment ($\mu g/m^3$)	Exceeds Increment?
Class I Analysis [a]						
NO_2	Annual	0.0093 [b]	0.1	No	N/A	N/A
PM_{10}	Annual	0.0048	0.2	No	N/A	N/A
Class II Analysis						
NO_2	Annual	1.31 [b]	1.0	Yes [c]	25	No
PM_{10}	Annual	0.7	1.0	No	17	No

Source: Yorke Engineering, LLC. 2021. Applications for Modification: Turbine Operating Hours. Tables 4-9 and 4-10. December.

Notes:

N/A = Not applicable (i.e., no increment)

[a] Maximum modeled Class I concentrations predicted at 50 kilometers from facility.

[b] The NO_2 concentration included conversion of NOx to NO_2 using the Ambient Ratio Method 2 (ARM2).

[c] Refined modeling using Ozone Limiting Methodology may be performed at the SCAQMD's request.

Rule 1714 – Prevention of Significant Deterioration for Greenhouse Gases

Rule 1714 codifies the federal PSD regulations as they apply to GHG emissions. This rule applies to the proposed project because the emissions increase between actuals (2-year average of 225,000 metric tons

carbon dioxide equivalent [CO_2e]) and the post-application emissions shown in Table 3.1-4 is greater than the 75,000 tpy significance threshold for CO_2e.

The applicable GHG standard imposed by this rule is the NSPS contained in 40 CFR 60, Subpart TTTT (Standards of Performance for Greenhouse Gas Emissions from Electric Generating Units). To demonstrate the CCGTs comply with the NSPS performance standard of 1,000 lb CO_2/MWh, a GHG efficiency demonstration was performed (see Appendix B of Attachment 3.1). This demonstration, based on inclusion of 1,000 additional hours of operation per CCGT per year, shows the net GHG efficiency, including an 8 percent degradation, to be 960.3 lb CO_2/net-MWh.

Regulation XX

Regulation XX establishes the requirements for the RECLAIM Program. HBEP is a NO_X and SO_X RECLAIM facility. As such, new source review for NO_X and SO_X are addressed under Rule 2005, as described below, rather than under Rule 1303. The Project Owner is expected to continue complying with the NO_X and SO_X monitoring, recordkeeping, and reporting requirements of Rules 2012 and 2011, respectively.

Rule 2005 – New Source Review for RECLAIM

Rules 2005(c)(1)(A) and 2005(c)(4)(A) require BACT for emission increases of NO_X and SO_X, respectively. Rule 2005(d) defines an emission increase to occur if a source's post-project maximum hourly PTE is greater than the source's pre-project maximum hourly PTE. Because the proposed changes to the CCGT operating hours will not result in an increase in hourly emissions, a BACT analysis is not required under Rule 2005.

Rule 2005(c)(1)(B) requires that new or modified source(s) at existing RECLAIM facilities will not exceed NO_2 ambient air quality standards. Table 3.1-9 demonstrates that the increase in annual NO_X emissions will not exceed the NO_2 ambient air quality standards. Note that the highest impacts for each CCGT were determined to be less than 1 microgram per cubic meter ($\mu g/m^3$); as such, each individual CCGT is not expected to cause or make worse a violation of the annual ambient air quality standards for NO_2. Details of the modeling analysis are provided in Appendix C of Attachment 3.1.

Table 3.1-9. Rule 2005 Modeled Results – Annual Operations [a]

Pollutant	Averaging Time	Modeled Conc. ($\mu g/m^3$)	Max. Back-ground Conc. ($\mu g/m^3$)	Modeled + Background Conc. ($\mu g/m^3$)	CAAQS ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Rule 1303 Threshold ($\mu g/m^3$)	Exceeds Thresholds?
NO_2	Annual	1.31 [b]	39.13	40.4	57	100	N/A	No

Source: Yorke Engineering, LLC. 2021. Applications for Modification: Turbine Operating Hours. Table 4-11. December.

Notes:

N/A = Not applicable (i.e., no threshold)

[a] Project impacts represent the post-application emissions for the CCGTs and auxiliary boiler since the equipment has not been in commercial operation for a full three years.

[b] The NO_2 concentration included conversion of NO_X to NO_2 using ARM2.

Rules 2005(c)(2) and 2005(c)(4)(B) require facilities to hold sufficient RECLAIM Trading Credits (RTCs) to offset the initial year of an emissions increase of NO_X and at least one year of an emissions increase of SO_X, respectively. The proposed change to the CCGT operating hours will increase the facility's annual emissions, requiring RTCs to be provided at a 1-to-1 ratio. Based on the net increase in emissions presented in Table 3.1-4, the Project Owner will need to provide a total (both CCGTs) of 33,600 pounds of NO_X RTCs for the first year of operation under the new operating scenario and a total (both CCGTs) of 3,000 pounds of SO_X RTCs for a minimum of one year of operation under the new operating scenario.

Rule 2005(g) requires additional review of new major polluting facilities and major modifications at major polluting facilities. As shown in Table 3.1-6, the facility is only considered a major polluting facility for NO_X, VOC, and ammonia. A major modification would be triggered if daily emissions of NO_X or VOC increased by more than 1 pound. Because the proposed change will not affect daily emission rates, the proposed change does not constitute a major modification and additional review under Rule 2005(g), including demonstration of statewide compliance, an alternative analysis, and protection of visibility, is not required.

Regulation XXX – Title V

As described in Rule 3000(a), the Title V Facility Permit system is the air pollution control permit system implementing the federal Operating Permit Program as required by Title V of the federal Clean Air Act, as amended in 1990, and to implement requirements for GHGs pursuant to 40 CFR 70. Regulation XXX defines the Title V Facility Permit application and issuance procedures under the SCAQMD's jurisdiction, as well as compliance requirements associated with the program.

The proposed change to the CCGT operating hours is considered a Significant Permit Revision under Rule 3000(b)(31)(D), as described in Section 4.11.1 of Attachment 3.1. As such, Rule 3005(f) requires the submittal of a permit revision application with contents as specified in Rule 3003. SCAQMD will also require the posting of a public notice for modification to HBEP's Title V Facility Permit consistent with Rule 3006.

Regulation XXXI – Acid Rain Permit Program

HBEP is subject to the Acid Rain Permitting Program requirements, with NO_X and SO_X emissions reported directly to the EPA. Increases in NO_X and SO_X emissions are expected with this modification and continued compliance is anticipated.

3.1.4 Mitigation Measures

The proposed HBEP modifications will not create a significant air quality or GHG impact and will not require additional mitigation measures beyond an increase in RECLAIM NO_X and SO_X RTCs and an additional fee payment under Rule 1304.1, to be assessed at the discretion of SCAQMD.

3.1.5 Consistency with LORS

The air dispersion modeling assessment (presented above) demonstrates that the modification of annual CCGT operating hours does not cause or contribute to the violation of an ambient air quality standard. HBEP will comply with applicable federal, state, and local air quality LORS.

Additionally, for purposes of demonstrating compliance with the California Environmental Quality Act (CEQA), comparison to the SCAQMD's criteria pollutant significance thresholds is not warranted because the proposed modification will not result in an increase to daily emissions. Similarly, an alternative analysis, demonstration of statewide compliance, and protection of visibility are not required for this project because the proposed modification does not constitute a major modification under Rules 1303(b)(5) or 2005(g). Furthermore, the CEC's power plant licensing program is recognized as a CEQA-equivalent process.

Although the proposed modification will increase the facility's CO_2e emissions by more than the SCAQMD's GHG significance threshold of 10,000 metric tons per year, it will not result in impacts that are cumulatively considerable for the same reasons stated by the CEC during licensing. Specifically, the CEC determined in its Final Amendment Decision that GHG emissions produced by the amended HBEP are not incremental additions to system-wide emissions, but are offset by reductions in GHG emissions from those

generation resources that it displaces and will reduce overall GHG emissions from the electricity sector.[5] Furthermore, the Project Owner will continue to participate in California's cap-and-trade program, with the requirement to purchase allowances for actual GHG emissions.

3.1.6 Conditions of Certification

The Project Owner is proposing the following changes (**additions**/~~**deletions**~~) to the Air Quality COCs for the facility. Note, however, that these changes should be confirmed consistent with the SCAQMD's forthcoming issuance of a DOC.

AQ-26 The project owner shall limit the operating time to no more than ~~**6640**~~**7,640** hour(s) in any one calendar year.

The limit includes baseload operation as well as startups and shutdowns. The limit does not apply to the calendar year in which the units are commissioned.

Combined-Cycle Turbines No. 1 and No. 2 shall not simultaneously operate at minimum load for more than 20 consecutive hours (approximately 44 percent of full load rating).

The project owner shall maintain records, in a manner approved by the SCAQMD to demonstrate compliance with this condition.

The combined-cycle turbines are subject to this condition.

Verification: The project owner shall provide a table demonstrating compliance with this condition as part of the Quarterly Operation Reports (AQ-SC8). The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-56 The project owner shall, upon completion of construction, operate and maintain this equipment according to the following specifications:

The project owner shall record the total net power generated in a calendar month in megawatt-hours.

The project owner shall calculate and record greenhouse gas emissions for each calendar month using the following formula:

$CO_2 = 60.009 * FF$

Where, CO_2 is in tons and FF is the monthly fuel usage in millions standard cubic feet.

The project owner shall calculate and record the CO_2 emissions in pounds per net megawatt-hour on a 12-month rolling average. The CO_2 emissions from this equipment shall not exceed ~~**873,035**~~**1,004,512** tons per year per turbine on a 12-month rolling average basis. The calendar annual average CO_2 emissions shall not exceed ~~**967.6**~~**960.3** pounds per net MW-hour.

The project owner shall maintain records in a manner approved by the SCAQMD to demonstrate compliance with this condition. The records shall be made available to SCAQMD upon request.

The combined-cycle turbines are subject to this condition.

Verification: The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

[5] California Energy Commission (CEC). 2017. *Revised Final Decision for Huntington Beach Energy Project Amendment*. May. CEC-800-2017-002-CMF-REV, Page 4.1-12.

AQ-65 This equipment shall not be operated unless the facility holds 14,803 pounds of SO_X RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the project owner demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds ~~9,960~~**11,460** pounds of SO_X RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

The combined-cycle turbines are subject to this condition.

Verification: The project owner shall submit to the CPM copies of all RECLAIM reports filed with the District as part of Quarterly Operation Reports (AQ-SC8).

AQ-72 This equipment shall not be operated unless the facility holds 16,800 pounds of NO_X RTCs in its allocation account to offset the annual emissions increase for the first year of operation. RTCs held to satisfy this condition may be transferred only after one year from the initial start of operation. If the hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

The combined-cycle turbines are subject to this condition.

Verification: The project owner shall submit to the CPM copies of all RECLAIM reports filed with the District as part of Quarterly Operation Reports (AQ-SC8).

3.2 Biological Resources

3.2.1 Environmental Setting

This PTA does not require changes to the biological resources setting described in the Final Decision and subsequent amendments.

3.2.2 Environmental Consequence

The proposed modification of CCGT operations will not result in any change in habitat or physical disturbance of special-status species, natural or cropland vegetation; soils; wetlands; vernal pools or vernal swales; interfere with wildlife or aquatic species movement; or conflict with any local policies/ordinances or any approved/adopted conservation plans.

The proposed HBEP change will, however, increase the project's NO_X PTE above the licensed annual emissions by approximately 14 percent (see Table 3.1-4). This increase in NO_X emissions has the potential to increase the already less-than-significant nitrogen deposition impacts analyzed during licensing. During licensing, CEC staff noted that the air dispersion modeling performed to predict HBEP's nitrogen deposition was likely an overprediction of the actual nitrogen deposition by as much as 10-fold and, therefore, was not expected to approach the critical nitrogen deposition levels for nearby sensitive habitats. Staff also concluded that the project area's nitrogen emissions inventory and baseline nitrogen deposition levels have decreased by more than 50 percent since the reporting of nitrogen deposition

levels in 2002.[6] Based on the conservative nature of the nitrogen deposition analysis, the proposed increase in HBEP's NO_X emissions is not expected to alter or undermine the conclusions reached by the CEC staff in the Final Decision and subsequent amendments. Therefore, the modified project is expected to result in less-than-significant impacts to biological resources.

3.2.3 Mitigation Measures

The proposed HBEP modification will not create a significant biological resources impact and will not require additional mitigation measures.

3.2.4 Consistency with LORS

The modified project conforms to applicable LORS related to biological resources.

3.2.5 Conditions of Certification

The proposed modification does not require changes to the COCs for biological resources.

3.3 Cultural Resources

3.3.1 Environmental Setting

This PTA does not require changes to the cultural resources setting described in the Final Decision and subsequent amendments.

3.3.2 Environmental Consequences

The proposed HBEP modification will not impact native soils and no excavations or earth-moving activities are expected. Additionally, the proposed changes do not alter the physical appearance of the project, which could potentially impact nearby historic properties. Therefore, no impacts to cultural resources are expected.

3.3.3 Mitigation Measures

No cultural resources impacts are expected from the proposed HBEP modification. Therefore, no additional mitigation measures are required.

3.3.4 Consistency with LORS

The modified project conforms to applicable LORS related to cultural resources.

3.3.5 Conditions of Certification

The proposed modification does not require changes to the COCs for cultural resources.

[6] California Energy Commission (CEC). 2014. *Final Staff Assessment for Huntington Beach Energy Project*. May. CEC-700-2013-002-FSA, Page 4.2-45.

3.4 Energy and Energy Resources

3.4.1 Environmental Setting

The PTA proposes to increase the available energy resources in the project area by increasing the annual hours of CCGT operation, in compliance with applicable LORS.

3.4.2 Environmental Consequences

The proposed HBEP modification will not result in potentially significant environmental impacts due to the wasteful, inefficient, or unnecessary consumption of energy resources. The HBEP only operates when called on, after preferred energy resources have been exhausted. Furthermore, the potential increase in HBEP annual operations would not conflict with or obstruct state or local planning efforts for the implementation of renewable energy or energy efficiency projects. Therefore, no impacts to energy or energy resources are expected.

3.4.3 Mitigation Measures

No energy or energy resources impacts are expected from the proposed HBEP modification. Therefore, no additional mitigation measures are required.

3.4.4 Consistency with LORS

The modified project conforms to applicable LORS related to energy and energy resources.

3.4.5 Conditions of Certification

The Final Decision and subsequent amendments did not include COCs for energy or energy resources and, as impacts are considered less than significant, none are required.

3.5 Geological and Paleontological Resources

3.5.1 Environmental Setting

This PTA does not require changes to the geological and paleontological resources setting described in the Final Decision and subsequent amendments.

3.5.2 Environmental Consequences

The proposed HBEP modification will not result in ground disturbance, excavations, earth moving, or foundation installation and no additional geologic resources or geologic hazards have been identified in the project area. Therefore, no impacts to geological and paleontological resources are expected.

3.5.3 Mitigation Measures

No geological and paleontological resources impacts are expected from the proposed HBEP modification. Therefore, no additional mitigation measures are required.

3.5.4 Consistency with LORS

The modified project conforms to applicable LORS related to geological and paleontological resources.

3.5.5 Conditions of Certification

The proposed modification does not require changes to the COCs for geological and paleontological resources.

3.6 Hazardous Materials Management

3.6.1 Environmental Setting

This PTA does not require changes to the hazardous materials management setting described in the Final Decision and subsequent amendments.

3.6.2 Environmental Consequences

The proposed HBEP modification will neither result in the use of a new hazardous material onsite nor increase the approved amount of hazardous materials used. The increase in annual air emissions is expected to increase the number and frequency of aqueous ammonia deliveries by only 3 to 4 trucks per year, assuming HBEP operates at its permitted maximum capacity. This slight increase in aqueous ammonia deliveries will not alter the basis of hazardous materials management analysis or conclusions. Therefore, no significant impacts to hazardous materials management are expected.

3.6.3 Mitigation Measures

No hazardous materials management impacts are expected from the proposed HBEP modification. Therefore, no additional mitigation measures are required.

3.6.4 Consistency with LORS

The modified project conforms to applicable LORS related to hazardous materials management.

3.6.5 Conditions of Certification

The proposed modification does not require changes to the COCs for hazardous materials management.

3.7 Land Use

3.7.1 Environmental Setting

This PTA does not require changes to the land use setting described in the Final Decision and subsequent amendments.

3.7.2 Environmental Consequences

The proposed change to HBEP's CCGT operation does not physically divide an established community. The project change is consistent with existing land uses in the project vicinity, the policy for consistent land use designation/zoning district, and other applicable policies. Therefore, no impacts to land use are expected.

3.7.3 Mitigation Measures

No land use impacts are expected from the proposed HBEP modification. Therefore, no additional mitigation measures are required.

3.7.4 Consistency with LORS

The modified project conforms to applicable LORS related to land use.

3.7.5 Conditions of Certification

The proposed modification does not require changes to the COCs for land use.

3.8 Noise and Vibration

3.8.1 Environmental Setting

This PTA does not require changes to the noise and vibration setting described in the Final Decision and subsequent amendments.

3.8.2 Environmental Consequences

The proposed HBEP modification will not increase noise or vibration-producing activities at the site. Therefore, the proposed change to CCGT operating hours will not alter the noise or vibration impacts of the project.

3.8.3 Mitigation Measures

The proposed HBEP modification will not create a significant noise and vibration impact and will not require additional mitigation measures.

3.8.4 Consistency with LORS

The modified project conforms to applicable LORS related to noise and vibration.

3.8.5 Conditions of Certification

The proposed modification does not require changes to the COCs for noise and vibration.

3.9 Public Health

3.9.1 Environmental Setting

This PTA does not require changes to the public health setting described in the Final Decision and subsequent amendments.

3.9.2 Environmental Consequences

The proposed HBEP operational change will result in a slight increase in annual fuel consumption, which will increase annual Toxic Air Contaminant (TAC) and HAP emissions. Table 3.9-1 presents HBEP's annual TAC/HAP emissions for the entire facility, including the proposed operational change to the CCGTs.[7] The potential effects of the proposed operational change are considered below.

[7] Hourly TAC/HAP emissions are not presented as this PTA does not propose any change to the licensed hourly emission rates for HBEP.

Table 3.9-1. Licensed and Proposed HBEP TAC/HAP Annual Emissions a

Pollutant	Licensed		Proposed		Change	
	lb/yr	tpy	lb/yr	tpy	lb/yr	tpy
Ammonia	207,021	104	238,132	119	31,111	15.6
Acetaldehyde	5,255	2.63	6,046	3.02	791	0.396
Acrolein	109	0.0543	125	0.0624	16.3	0.00814
Benzene	98.4	0.0492	113	0.0565	14.7	0.00733
1,3-Butadiene	12.8	0.00642	14.8	0.00739	1.93	0.000965
Ethylbenzene	957	0.478	1,100	0.550	144	0.0719
Formaldehyde	10,750	5.37	12,368	6.18	1,619	0.809
Hexane	0.850	0.000425	0.850	0.000425	0.000	0.000
Naphthalene	38.9	0.0194	44.7	0.0224	5.84	0.00292
PAH [b]	26.9	0.0134	30.9	0.0155	4.05	0.00203
Propylene	97.8	0.0489	97.8	0.0489	0.000	0.000
Propylene Oxide	866	0.433	996	0.498	130	0.0652
Toluene	3,886	1.94	4,470	2.24	584	0.292
Xylene	1,914	0.957	2,202	1.10	288	0.144
Max. Single HAP [c]		5.37		6.18		
Total HAP [c]		12.0		13.8		

Source: Yorke Engineering, LLC. 2021. Applications for Modification: Turbine Operating Hours. Table 3-7. December.

Notes:

lb/yr = pound(s) per year

PAH = polycyclic aromatic hydrocarbons

[a] Facility-wide estimates do not include legacy equipment belonging to the HBGS, miscellaneous equipment such as the emergency fire pump, and equipment not yet constructed such as the SCGTs.

[b] Excludes naphthalene, which is separately listed.

[c] Excludes ammonia and propylene, which are not regulated HAPs.

To determine whether the proposed HBEP modification results in a significant public health impact, an HHRA was performed according to the methodology presented in Appendix C of Attachment 3.1. Per SCAQMD Rule 1401(f)(3), the Maximum MICR and chronic HI for a modified permit unit may be determined from the increase in potential emissions after the modification relative to permitted emissions stated in permit conditions. Accordingly, the MICR and chronic HI have been estimated from only the increase in annual fuel usage resulting from an additional 1,000 hours of operation per CCGT per year. Acute health risk was not evaluated because the project does not propose an increase in maximum hourly emissions.

Table 3.9-2 shows the HHRA results for the MICR and chronic HI at the maximally exposed individual resident, maximally exposed individual worker, and maximally exposed sensitive receptor. Since the combined cancer and chronic risk are less than the applicable standards of 10 in a million[8] and 1.0, respectively, compliance is demonstrated. Cancer burden was not calculated since the 70-year cancer risk did not exceed 1 in a million at any residential receptor. Based on these results, the TAC/HAP emission impacts for the proposed change to HBEP are not expected to be significant.

[8] This is the threshold for permit units constructed with Best Available Control Technology for Toxics (T-BACT). As described in the Final Decision and subsequent amendments, the HBEP equipment has been designed and constructed with T-BACT.

Table 3.9-2. HBEP HHRA Results

Risk Component	Cancer Risk	Chronic Hazard Index	Exceeds Thresholds?
Residential	0.68 in a million	9.86E-04	N
Worker	0.02 in a million	8.60E-04	N
Sensitive Receptor	0.59 in a million	8.60E-04	N

Source: Yorke Engineering, LLC. 2021. *Applications for Modification: Turbine Operating Hours*. Table 4-5. December

3.9.3 Mitigation Measures

The proposed HBEP modification will result in less-than-significant impacts on public health. Therefore, no additional mitigation measures are required.

3.9.4 Consistency with LORS

The modified project conforms to applicable LORS related to public health.

Additionally, as demonstrated through the HHRA results shown in Table 3.9-2 above, the increase in CCGT annual hours of operation will not cause a MICR or chronic HI greater than the significance thresholds for purposes of complying with CEQA.

3.9.5 Conditions of Certification

The Final Decision and subsequent amendments did not include COCs for public health.

3.10 Socioeconomics

3.10.1 Environmental Setting

This PTA does not require changes to the socioeconomic setting described in the Final Decision and subsequent amendments.

3.10.2 Environmental Consequences

The proposed change to the CCGT operating hours will not alter the basis of the CEC's determination that HBEP will not have a significant impact on socioeconomics. Therefore, no significant socioeconomic impacts are expected.

3.10.3 Mitigation Measures

No socioeconomics impacts are expected from the proposed HBEP modification. Therefore, no additional mitigation measures are required.

3.10.4 Consistency with LORS

The modified project conforms to applicable LORS related to socioeconomics.

3.10.5 Conditions of Certification

The proposed modification does not require changes to the COCs for socioeconomics.

3.11 Soil and Water Resources

3.11.1 Environmental Setting

This PTA does not require changes to the soil and water resources setting described in the Final Decision and subsequent amendments.

3.11.2 Environmental Consequences

The proposed modification to HBEP does not result in any ground disturbance or excavations, occurs entirely within the developed project site, and will not result in an increase in water consumption or discharge. Therefore, no impacts to soil or water resources are expected.

3.11.3 Mitigation Measures

No soil and water resources impacts are expected from the proposed HBEP modification. Therefore, no additional mitigation measures are required.

3.11.4 Consistency with LORS

The modified project conforms to applicable LORS related to soil and water resources.

3.11.5 Conditions of Certification

The proposed modification does not require changes to the COCs for soil and water resources.

3.12 Traffic and Transportation

3.12.1 Environmental Setting

This PTA does not require changes to the traffic and transportation setting described in the Final Decision and subsequent amendments.

3.12.2 Environmental Consequences

The proposed change to the CCGT operating hours may require 3 to 4 additional aqueous ammonia deliveries per year, assuming the facility operates at the permitted maximum hours. This increase in truck deliveries to the site does not result in a material increase in traffic in the project area. Therefore, no significant impacts to traffic or transportation are expected.

3.12.3 Mitigation Measures

The proposed HBEP modification will not create a significant traffic and transportation impact and will not require additional mitigation measures.

3.12.4 Consistency with LORS

The modified project conforms to applicable LORS related to traffic and transportation.

3.12.5 Conditions of Certification

The proposed modification does not require changes to the COCs for traffic and transportation.

3.13 Visual Resources

3.13.1 Environmental Setting

This PTA does not require changes to the visual resources setting described in the Final Decision and subsequent amendments.

3.13.2 Environmental Consequences

The proposed change to HBEP will not alter the physical appearance of the project. Therefore, no impacts to visual resources are expected.

3.13.3 Mitigation Measures

No visual resources impacts are expected from the proposed HBEP modification. Therefore, no additional mitigation measures are required.

3.13.4 Consistency with LORS

The modified project conforms to applicable LORS related to visual resources.

3.13.5 Conditions of Certification

The proposed modification does not require changes to the COCs for visual resources.

3.14 Waste Management

3.14.1 Environmental Setting

This PTA does not require changes to the waste management setting described in the Final Decision and subsequent amendments.

3.14.2 Environmental Consequences

The proposed change to HBEP will not result in an increase in waste generation at the site. Therefore, no impacts to waste management are expected.

3.14.3 Mitigation Measures

No waste management impacts are expected from the proposed HBEP modification. Therefore, no additional mitigation measures are required.

3.14.4 Consistency with LORS

The modified project conforms to applicable LORS related to waste management.

3.14.5 Conditions of Certification

The proposed modification does not require changes to the COCs for waste management.

3.15 Wildfire

3.15.1 Environmental Setting

The HBEP site is not located in or near a State Responsibility Area or a very high Fire Hazard Severity Zone.

3.15.2 Environmental Consequences

The proposed change to HBEP will not substantially impair an adopted emergency response/evacuation plan, expose project occupants to pollution concentrations from a wildfire, require installation or maintenance of associated infrastructure that may exacerbate fire risk, or expose people or structures to significant risks due to flooding or landslides.

3.15.3 Mitigation Measures

No wildfire impacts are expected from the proposed HBEP modification. Therefore, no additional mitigation measures are required.

3.15.4 Consistency with LORS

The modified project conforms to applicable LORS related to wildfire.

3.15.5 Conditions of Certification

The Final Decision and subsequent amendments did not include COCs for wildfire and, as impacts are considered less than significant, none are required.

3.16 Worker Safety and Fire Protection

3.16.1 Environmental Setting

This PTA does not require changes to the worker safety and fire protection setting described in the Final Decision and subsequent amendments.

3.16.2 Environmental Consequences

The proposed change to HBEP will neither increase workers' exposure to health and safety hazards nor negatively impact the availability and adequacy of fire protection and emergency response services. Therefore, no impacts to worker safety and fire protection are expected.

3.16.3 Mitigation Measures

No worker safety and fire protection impacts are expected from the proposed HBEP modification. Therefore, no additional mitigation measures are required.

3.16.4 Consistency with LORS

The modified project conforms to applicable LORS related to worker safety and fire protection.

3.16.5 Conditions of Certification

The proposed modification does not require changes to the COCs for worker safety and fire protection.

4. Potential Effects on the Public

This section discusses the potential effects on the public that may result from the modification proposed in this PTA, in accordance with CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(F)).

With the implementation of the proposed change, the project would have no adverse effect on the public. As previously mentioned, the operation of HBEP will result in an increase in maximum potential annual air emissions; however, the potential impacts associated with this increase in emissions will be reduced to less-than-significant levels by providing an additional SCAQMD Rule 1304.1 fee payment, if required, and surrendering additional RECLAIM NO_X and SO_X RTCs. Amending the air quality COCs does not adversely affect the public because the facility will still adhere to the conditions in the project's Title V Facility Permit, as well as all other COCs contained in the amended CEC license. The modifications will occur entirely onsite, and air quality and public health impacts are not expected to result in unmitigated significant impacts on the public. Therefore, no significant adverse effects on the public will occur because of the project change proposed in this PTA.

5. List of Property Owners

In accordance with the CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(G)), a list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of any affected project linears and 1,000 feet of the project site is provided under separate cover.

6. Potential Effects on Property Owners, the Public, and Parties in the Proceeding

This section addresses potential effects of the project change proposed in this PTA on nearby property owners, the public, and parties in the application proceeding, in accordance with CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(H)).

As set forth in Section 3, the proposed modification will not result in any potentially significant impacts and the project will remain in compliance with all applicable LORS. The project, as modified, will not differ significantly in potential effects on adjacent land owners, compared with the project as certified. Operation of HBEP with the increased annual air emissions will have no adverse effect on nearby property owners, the public, or other parties in the application proceeding. The project, therefore, would have no adverse effects on nearby property owners, the public, or other parties in the application proceeding.

7. Potentially Applicable CEQA Exemptions

This section includes a discussion of any exemptions from CEQA, commencing with Section 21000 of the Public Resources Code, that the Project Owner believes may apply to approval of the proposed change. Given the operational changes proposed, the CEQA exemption for Air Quality Permits (Title 14, CCR, Section 15281) would not apply in this case, and no other exemptions appear to be applicable.

Attachment 3.1
HBEP Air Permit Application

AES Huntington Beach, LLC
21730 Newland Street
Huntington Beach, CA 92646

SCAQMD Facility ID: 115389

December 2021

Prepared by:

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Applications for Modification: Turbine Operating Hours

Applications for Modification: Turbine Operating Hours

Prepared for:
AES Huntington Beach, LLC
21730 Newland Street
Huntington Beach, CA 92646

SCAQMD Facility ID: 115389

December 2021

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APPENDIX A – APPLICATION FORMS

APPENDIX B – EMISSION CALCULATIONS

APPENDIX C – MODELING SUPPLEMENTAL

List of Acronyms and Abbreviations

ADMRT	Air Dispersion Modeling and Risk Tool
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AES	AES Huntington Beach
AQIA	Air Quality Impact Analysis
ARM2	Ambient Ratio Method 2
A/N	Application Number
BACT	Best Available Control Technology
BPIPPRM	Building Profile Input Program for PRIME
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CCGT	Combined-Cycle Gas Turbine
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
Deg F	Degrees Fahrenheit
Deg K	Degrees Kelvin
EPA	Environmental Protection Agency
ERC	Emission Reduction Credits
FR	Federal Register
g	Gram
GHG	Greenhouse Gas
GLC	Ground Level Concentration
GWP	Global Warming Potential
HAP	Hazardous Air Pollutants
HARP2	Hotspots Analysis and Reporting Program, Version 2
HHV	Higher Heating Value
HIA	Hazard Index – Acute
HIC	Hazard Index – Chronic
HRA	Health Risk Assessment
HRSG	Heat Recovery Steam Generator
°K	Degree Kelvin
km	Kilometer
KSNA	John Wayne International Airport
lb	Pound
m	Meter
MEIR	Maximum Exposed Individual Resident
MEIW	Maximum Exposed Individual Worker
MICR	Maximum Individual Cancer Risk
MMBTU	Million British Thermal Units
MMSCF	Million Standard Cubic Feet

mps	Meters per Second
MW	Megawatt
MWh	Megawatt-hour
NAAQS	National Ambient Air Quality Standards
NED	National Elevation Dataset
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxide
NSPS	New Source Performance Standards
NSR	New Source Review
OEHHA	Office of Environmental Health Hazard Assessment
OxCat	Oxidation Catalyst
$PM_{2.5}$	Particulate Matter Smaller Than 2.5 Micrometers
PM_{10}	Particulate Matter Smaller Than 10 Micrometers
PMI	Point of Maximum Impact
ppb	Parts per Billion
ppm	Parts per Million
PTO	Permit to Operate
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RTC	RECLAIM Trading Credit
s	Second
SCAQMD	South Coast Air Quality Management District
SCGT	Simple-Cycle Gas Turbine
SCR	Selective Catalytic Reduction
SIL	Significant Impact Level
SO_x	Sulfur Oxide
STG	Steam Turbine Generator
T-BACT	Best Available Control Technology for Toxics
TAC	Toxic Air Contaminant
tpy	Tons per Year
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compounds
WAF	Worker Adjustment Factor
X/Q (Chi/Q)	Average Pollutant Concentration Normalized by Source Strength
yr	Year
Yorke	Yorke Engineering, LLC
ZOI	Zone of Impact
ug/m3	Microgram per Cubic Meter

Applications for Modification: Turbine Operating Hours

1.0 INTRODUCTION

AES Huntington Beach (AES) is requesting changes to the operating hours for the two (2) natural gas-fired Combined-Cycle Gas Turbines (CCGTs) [A/N's 618931, 618932; Device ID Nos. D115, D124] at the facility located at 21730 Newland Street in Huntington Beach, CA (SCAQMD Facility ID No. 115389). To meet projected LA Basin demand, AES is proposing a 1,000-hour increase to the permitted normal operating hours of the subject CCGTs. There will be no change to start-up and shutdowns hours. Accordingly, AES is requesting a permit revision that will allow for up to 7,640 total hours of operation per CCGT per year. The Auxiliary Boiler's hours of operation are not being modified and no permit revision is being requested for this equipment. It is considered in several sections of the application package when assessing certain regulatory thresholds.

The proposed modifications will not increase short-term emissions (i.e., maximum hourly, daily or monthly emissions) of any pollutant because (1) maximum hourly fuel consumption will remain the same; and (2) the daily and monthly operating scenarios will continue to be as evaluated in A/N's 578073-86. The proposed change in operating hours has the following impact on potential annual emissions from the two CCGTs:

- Annual $PM_{10}/PM_{2.5}$ emissions will increase by 8.50 tons/yr;
- Annual CO emissions will increase by 7.65 tons/yr;
- Annual NO_x emissions will increase by 16.80 tons/yr;
- Annual SO_x emissions will increase by 1.50 tons/yr; and
- Annual VOC emissions will increase by 5.80 tons/yr.

This application package contains the information necessary for the SCAQMD to process and approve the applications, including facility information (Section 1.0), equipment and process description (Section 2.0), emission estimates (Section 3.0), screening/modeling (Section 4.0) and rule applicability and compliance determinations (Section 5.0). Recommended permit wording is provided in Section 6.0. Application forms, emission estimates and modeling files are provided in the appendices.

AES is requesting Expedited Permit Processing for this application package.

1.1 Facility Information

1.1.1 Facility Background

The Huntington Beach Energy Project (HBEP) originally was to consist of:

- The subject CCGTs, each rated at 236.1 MW (gross);
- One (1) steam turbine, common to the subject CCGTs and rated at 221.4 MW (gross);
- One (1) auxiliar boiler that provides startup assistance to the CCGTs; and
- Two (2) Simple-Cycle Gas Turbines (SCGTs), each rated at 100.8 MW (gross).

The Permits to Construct (PTC) for the SCGTs were canceled in September 2021 as these units are no longer in the plan for the facility. The dates of first fire and the end of commissioning for the two CCGTs and auxiliary boiler are shown in Table 1-1.

The CCGTs and auxiliary boiler are equipped with Selective Catalytic Reduction (SCR) to control emissions of NO_x; the CCGTs are equipped with Oxidation Catalyst (OxCat) to control emissions of CO/VOC.

The Auxiliary Boiler, as previously discussed, has no requested revisions. The annual heat input limit of 189,155 MMBtu/yr per Condition C1.14 for the Auxiliary Boiler remains unchanged.

Table 1-1: HBEP - Dates of First Fire and End of Commissioning

Equipment	Device ID	First Fire	End of Commissioning
CCGT 1A	D115	October 4, 2019	January 23, 2020
CCGT 1B	D124	October 11, 2019	January 23, 2020
Auxiliary Boiler	D145	July 16, 2019	October 2, 2019

This permit application package does not include emissions calculations or regulatory analysis for any AES Huntington Beach legacy equipment such as Boiler No. 2 (Device D25) and its associated devices, or miscellaneous equipment such as the emergency fire pump internal combustion engines.

1.1.2 Facility Contact Information

Facility and applicant contact information is provided in Table 1-2.

Table 1-2: Facility Information

Applicant's Name:	AES Huntington Beach
Responsible Official Contact Information:	Weikko Wirta V.P., AES Southland Energy (714) 374-1421 Weikko.Wirta@AES.com
Applicant Contact Information:	Weikko Wirta V.P., AES Southland Energy (714) 374-1421 Weikko.Wirta@AES.com
Facility ID:	115389
RECLAIM:	Yes (NO_x and SO_x)
Title V:	Yes
Mailing Address:	21730 Newland Street Huntington Beach, CA 92646
Equipment Location:	21730 Newland Street Huntington Beach, CA 92646

1.1.3 Location Information

The facility is located at 21730 Newland Street in the City of Huntington Beach, approximately 900 feet from the Pacific Ocean. The surrounding area is a mix of residential, wetland preserve, public beach, and industrial, and is bordered by a manufactured home/recreation vehicle park on the west, Huntington Beach Channel, and residential areas to the north and east, a tank farm to the north, the Huntington Beach Wetland Preserve/Magnolia Marsh wetlands on the southeast, and the Huntington Beach State Park and the Pacific Ocean to the south and southwest. The entire parcel on which the Huntington Beach Generating Station is located, including the switchyard and tank farm, is approximately 106 acres. The HBEP occupies approximately 30 acres.

The nearest residence is located approximately 420 meters west-northwest of the CCGT exhaust stacks. The nearest commercial facility, the Wetlands & Wildlife Care Center, is located approximately 270 meters west-southwest of the CCGT exhaust stacks. The nearest school is Edison High School on Magnolia Avenue, located approximately 900 meters to the northeast. A plot plan showing the facility and surrounding properties is provided as Figure 1-1.

Figure 1-1: Aerial View of the AES Huntington Beach Facility and Surrounding Area

1.2 Summary of Proposed Modifications

With this application, AES requests changes to the permit conditions shown in Table 1-3. Please note that each condition applies to each CCGT.

Table 1-3: Proposed Permit Modifications

Permit Condition	Modification
C1.9	Increase total annual operating hours from 6,640 to 7,640
E193.6	Increase the 12-month rolling CO_2 emissions from 873,035 ton/yr to 1,004,512 ton/yr; Update the CO_2 efficiency from 967.6 lb/net-MWh to 960.3 lb/net-MWh
I297.x	Add new condition stating the NO_x RECLAIM Trading Credit (RTC) hold requirement for the first year of operation at 7,640 hours (16,800 lb per CCGT)
I298.1	Increase the SO_x RTC hold requirement for all years of operation after the first year from 9,960 to 11,460

This application package contains the application forms necessary for application processing. A summary of the application forms is provided in Table 1-4; the application forms are included in Appendix A.

Table 1-4: SCAQMD Forms Accompanying This Application

Equipment	Requested Permit Action	Title
CCGT 1A (D115)	Alteration/ Modification	400-A Application Form for Permit or Plan Approval 400-E-12 Gas Turbine 400-PS
CCGT 1B (D124)	Alteration/ Modification	400-A Application Form for Permit or Plan Approval 400-E-12 Gas Turbine 400-PS
RECLAIM/Title V Facility Permit	Amendment	400-A Application Form for Permit or Plan Approval 500-C1 Title V Compliance Status Report 500-A2 Title V Application Certification
Project	---	400-CEQA California Environmental Quality Act (CEQA) Applicability
Project	Expedited Application Processing	400-XPP Express Permit Processing Request

1.4 Application Preparation

This permit application was prepared by Stephanie Harris and Don Barkley of Yorke Engineering, LLC, with peer review by James Adams of Yorke Engineering, LLC. If there are technical questions regarding this application, please use the contact information provided in Table 1-5.

Table 1-5: Application Preparers and Peer Review

Name:	Stephanie Harris	Don Barkley	James Adams
Company:	Yorke Engineering, LLC	Yorke Engineering, LLC	Yorke Engineering, LLC
Phone:	(949) 248-8490	(949) 248-8490	(949) 248-8490
Cellular:	(949) 226-4873	(949) 426-4943	(949) 573-7924
E-mail:	SHarris@YorkeEngr.com	DBarkley@YorkeEngr.com	JAdams@YorkeEngr.com

2.0 EQUIPMENT AND PROCESS DESCRIPTION

Process and equipment details are provided in this section.

2.1 Process Description

The facility supplies power to the wholesale energy market through the existing substation adjacent to the property and is dispatched at peaking and intermediate loads on a regular basis.

Each CCGT is equipped with dry low NO_x combustors and inlet air filters, compressors, and evaporative coolers. NO_x emissions are controlled by SCR; CO/VOC emissions are controlled by OxCat. The steam turbine is driven by steam produced in an unfired Heat Recovery Steam Generator (HRSG).

The auxiliary boiler provides steam to the steam turbine to assist the CCGTs in reaching base load quickly and reduce start-up time. NO_x emissions are controlled by SCR. Steam from the auxiliary boiler is not used to generate electrical power.

Ammonia is provided to the SCR for the CCGTs and auxiliary boiler from Device ID D150, the 22,290-gallon tank listed in Section H of the Facility Permit.

2.2 Equipment Description

The equipment affected by this project is summarized in Table 2-1. Please note that the auxiliary boiler is included in Table 2-1 since this project requires consideration of long-term facility-wide emissions. AES Huntington Beach legacy equipment such as Boiler No. 2 and miscellaneous equipment such as the fire pump emergency engines are not included.

Table 2-1: Equipment Summary

Basic Equipment	NO_x Control Equipment	CO/VOC Control Equipment
D115 Gas Turbine, Unit No. 1, Combined Cycle, GE Model 7FA.05, Natural Gas, 2,273 mmBtu/hr at 32 Deg F with Dry Low NOx Combustor, GE DLN 2.6, with Generator, 236.1 MW Gross at 32 Deg F Generator, Heat Recovery Steam Turbine, Steam, Common with Gas Turbine No. 2, 221.4 MW Gross at 32 Deg F	C121 Selective Catalytic Reduction, Cormetech, Titanium/Vanadium/Tungsten, Serving Unit No. 1, 2,761 Cubic Feet of Total Catalyst Volume, Width: 1 ft-6 in; Height: 71 ft-7.2 in; Length: 25 ft-8.4 in, with Ammonia Injection Grid	C120 CO Oxidation Catalyst, BASF, Serving Gas Turbine No. 1, with 328.8 Cubic Feet of Total Catalyst Volume
D124 Gas Turbine, Unit No. 2, Combined Cycle, GE Model 7FA.05, Natural Gas, 2,273 mmBtu/hr at 32 Deg F with Dry Low NOx Combustor, GE DLN 2.6, with Generator, 236.1 MW Gross at 32 Deg F Generator, Heat Recovery Steam Turbine, Steam, Common with Gas Turbine No. 2, 221.4 MW Gross at 32 Deg F	C130 Selective Catalytic Reduction, Cormetech, Titanium/Vanadium/Tungsten, Serving Unit No. 2, 2,761 Cubic Feet of Total Catalyst Volume, Width: 1 ft-6 in; Height: 71 ft-7.2 in; Length: 25 ft-8.4 in, with Ammonia Injection Grid	C129 CO Oxidation Catalyst, BASF, Serving Gas Turbine No. 2, with 328.8 Cubic Feet of Total Catalyst Volume
D145 Boiler, Auxiliary, Cleaver Brooks, Model NB-200D-50, Water Tube, Natural Gas, with Low NOx Burner, Flue Gas Recirculation, 71 mmBtu/hr with Burner, P-71-G23-11-16	C147 Selective Catalytic Reduction, Babcock and Wilcox, Vanadium, Serving the Auxiliary Boiler, with 46 Cubic Feet of Total Catalyst Volume, with Ammonia Injection Grid	--

3.0 EMISSIONS

This section provides the basis for emission calculations and a summary of the annual emissions. Detailed emission calculation spreadsheets are included in Appendix B.

3.1 Process Operating Parameters

AES is proposing a 1,000-hour increase to the permitted normal operating hours for the subject CCGTs. All other operating parameters will remain as evaluated in A/N's 578073-86.

The operating schedule used to estimate annual emissions is summarized in Table 3-1.

Table 3-1: Operating Schedule

Turbine	Operating Mode	Pre-Application		Post-Application		Net Change	
		Duration (hours/ year)	Max. Number Events/ Year	Duration (hours/ year)	Max. Number Events/ Year	Duration (hours/ year)	Max. Number Events/ Year
Combined-Cycle	Normal Operations	6,100	--	7,100	--	1,000	--
	Cold Starts (60-min)	80	80	80	80	0	0
	Warm Starts (30-min)	44	88	44	88	0	0
	Hot Starts (30-min)	166	332	166	332	0	0
	Shutdowns (30-min)	250	500	250	500	0	0
	Total Hours of Operation	**6,640**	--	**7,640**	--	**1,000**	--
Auxiliary Boiler	Normal Operations	2,573	--	2,573	--	0	0
	Cold Starts (170-min)	68	24	68	24	0	0
	Warm Starts (85-min)	68	48	68	48	0	0
	Hot Starts (25-min)	20	48	20	48	0	0
	Total Hours of Operation	**2,729**	--	**2,729**	--	**0**	--

3.2 Criteria Pollutants

3.2.1 Emission Factors

The emission factors used to estimate annual emissions are the same as evaluated in A/N's 578073-86. CCGT emission factors are summarized in Table 3-2; auxiliary boiler emission factors are summarized in Table 3-3.

Table 3-2: Criteria Pollutant Emission Factors - CCGTs

Criteria Pollutant	Normal Operations (lb/hr)	Cold Start (lb/event)	Warm Start / Hot Start (lb/event)	Shutdown (lb/event)
NO_x	16.8	61	32[1]	10
CO	7.65	325	137	133
VOC	5.8	36	25	32
PM_{10}	8.5	8.5	4.25	4.25
$PM_{2.5}$	8.5	8.5	4.25	4.25
SO_x	1.5	1.5	0.75	0.75

Table 3-3: Criteria Pollutant Emission Factors - Auxiliary Boiler

Criteria Pollutant	Normal Operations (lb/hr)	Cold Start (lb/event)	Warm Start (lb/event)	Hot Start (lb/event)
NO_x	0.42	4.22	2.11	0.62
CO	2.83	4.34	2.17	0.64
VOC	0.37	1.05	0.52	0.15
PM_{10}	0.51	1.45	0.72	0.21
$PM_{2.5}$	0.51	1.45	0.72	0.21
SO_x	0.14	0.4	0.2	0.06

3.2.2 Emissions

Annual criteria pollutant emissions are summarized in Table 3-4.

[1] As identified in the Petition to Amend submitted on June 17, 2020.

Table 3-4: Annual Criteria Pollutant Emissions

Pollutant	Pre-/Post-Application	CCGT 1A D115 (lb/yr)	CCGT 1B D124 (lb/yr)	Aux Boiler D145 (lb/yr)	Facility* (lb/yr)
NO_x	Pre-	119,500	119,500	1,313	240,313
	Post-	136,300	136,300	1,313	273,913
	Net Change	**16,800**	**16,800**	**0**	**33,600**
CO	Pre-	196,705	196,705	7,521	400,931
	Post-	204,355	204,355	7,521	416,231
	Net Change	**7,650**	**7,650**	**0**	**15,300**
VOC	Pre-	64,760	64,760	1,009	130,529
	Post-	70,560	70,560	1,009	142,129
	Net Change	**5,800**	**5,800**	**0**	**11,600**
PM_{10}/ $PM_{2.5}$	Pre-	56,440	56,440	1,392	114,272
	Post-	64,940	64,940	1,392	131,272
	Net Change	**8,500**	**8,500**	**0**	17,000
SO_x	Pre-	9,960	9,960	382	20,302
	Post-	11,460	11,460	382	23,302
	Net Change	**1,500**	**1,500**	**0**	**3,000**

* Does not include AES Huntington Beach legacy equipment such as Boiler No. 2 and miscellaneous equipment such as the fire pump emergency engines

3.3 Toxic Air Contaminants and Hazardous Air Pollutants

3.3.1 Emission Factors

The emission factors used to estimate Toxic Air Contaminant (TAC) / Hazardous Air Pollutant (HAP) emissions are the same as evaluated in A/N's 578073-86, except as noted. TAC/HAP emission factors are summarized in Table 3-5.

Table 3-5: TAC/HAP Emission Factors

TAC/HAP	CAS No.	CCGT Emission Factor (lb/mmBtu)	Aux Boiler Emission Factor (lb/mmscf)
Ammonia[1] (TAC only)	7664417	7.266 lb/mmscf	2.395
Acetaldehyde	75070	0.000176[2]	0.0031
Acrolein	107028	0.00000362[2]	0.0027
Benzene	71432	0.00000326[2]	0.0058
1,3, Butadiene	106990	0.00000043	--
Ethylbenzene	100414	0.000032	0.0069
Formaldehyde	50000	0.00036[2]	0.0123
Hexane	110543	--	0.0046
Naphthalene	91203	0.0000013	0.0003
PAHs	1151	0.0000009	0.0001
Propylene (TAC only)	115071	--	0.53
Propylene Oxide	75569	0.000029	--
Toluene	108883	0.00013	0.0265
Xylene	1330207	0.000064	0.0197

[1]The ammonia emission factor is calculated from 5 ppmv ammonia slip.

[2]Emission factors are from AP-42, Section 3.1, Background Information, Table 3.4-1 – Summary of Emission Factors for Natural Gas-Fired Gas Turbines, April 2000. These emission factors include control by OxCat.

3.3.2 Emissions

Annual CCGT emissions were calculated using the annual average heat input value (at the annual average temperature with evaporative cooling) of 2,248 mmBtu/hr (per A/N's 578073-86 as shown in, for example, Table H.17), the operating schedule from Table 3-1, and the emission factors from Table 3-5. Auxiliary boiler emissions were calculated from the heat input rating listed in the Section H equipment description of 71 mmBtu/hr, the operating schedule from Table 3-1, and the emission factors from Table 3-5.

Annual CCGT emissions are summarized in Table 3-6; facility-wide emissions, including the auxiliary boiler, are summarized in Table 3-7.

Table 3-6: Annual TAC/HAP Emissions - per CCGT

TAC	CAS No.	Pre-Application lb/yr	Post-Application lb/yr	Net Change lb/yr
Ammonia (TAC only)	7664417	103,290	118,845	15,556
Acetaldehyde	75070	2,627.10	3,022.75	395.65
Acrolein	107028	54.03	62.17	8.14
Benzene	71432	48.66	55.99	7.33
1,3, Butadiene	106990	6.42	7.39	0.97
Ethylbenzene	100414	477.66	549.59	71.94
Formaldehyde	50000	5,373.62	6,182.90	809.28
Hexane	110543	--	--	--
Naphthalene	91203	19.40	22.33	2.92
PAHs	1151	13.43	15.46	2.02
Propylene (TAC only)	115071	--	--	--
Propylene Oxide	75569	432.87	498.07	65.19
Toluene	108883	1,940.47	2,232.71	292.24
Xylene	1330207	955.31	1,099.18	143.87

Table 3-7: Annual TAC Emissions - Facility-Wide*

TAC	CAS No.	Pre-Application lb/yr	Post-Application lb/yr	Net Change lb/yr
Ammonia (TAC only)	7664417	207,021	238,132	31,111
Acetaldehyde	75070	5,254.78	6,046.07	791.30
Acrolein	107028	108.57	124.84	16.28
Benzene	71432	98.39	113.05	14.66
1,3, Butadiene	106990	12.84	14.77	1.93
Ethylbenzene	100414	956.58	1,100.46	143.87
Formaldehyde	50000	10,749.51	12,368.07	1,618.56
Hexane	110543	0.85	0.85	0.00
Naphthalene	91203	38.86	44.71	5.84
PAHs	1151	26.89	30.93	4.05
Propylene (TAC only)	115071	97.80	97.80	0.00
Propylene Oxide	75569	865.75	996.13	130.38
Toluene	108883	3,885.84	4,470.32	584.48
Xylene	1330207	1,914.26	2,202.00	287.74

* Does not include AES Huntington Beach legacy equipment such as Boiler No. 2 and miscellaneous equipment such as the fire pump emergency engines

3.4 Greenhouse Gas Emissions

3.4.1 Emission Factors

The emission factors used to estimate Greenhouse Gas (GHG) emissions are the same as evaluated in A/N's 578073-86. GHG emission factors for natural gas combustion are summarized in Table 3-8.

Table 3-8: GHG Emission Factors

GHG	Emission Factor (kg/mmBtu)	Emission Factor (lb/mmscf)	GWP
CO_2	53.06	120,017	1
CH_4	0.001	2.26	25
N_2O	0.0001	0.226	298

3.4.2 Emissions

Annual CCGT emissions are summarized in Table 3-9; facility-wide emissions, including the auxiliary boiler, are summarized in Table 3-10. Emissions from the transformers are assumed to be negligible.

Please note that the GHG emission calculations use an HHV of 1,026 for consistency with A/N's 578073-86.

Table 3-9: Annual GHG Emissions - per CCGT

GHG	Pre-Application (ton/yr)	Post-Application (ton/yr)	Net Change (ton/yr)
CO_2	873,031	1,004,512	131,481
CH_4	16.440	18.916	2.476
N_2O	1.644	1.892	0.248
CO_2e	873,932	1,005,548	131,616

Table 3-10: Annual GHG Emissions - Facility-Wide*

Equipment	Period	CO_2e Emissions (ton/yr)
CCGT (total, 2 units)	Pre-Application	1,747,864
	Post-Application	2,011,097
	Net Change	**263,233**
Boiler	Pre-Application	11,344
	Post-Application	11,344
	Net Change	**0**
Facility-wide*	Pre-Application	1,759,209
	Post-Application	2,022,441
	Net Change	**263,233**

* Does not include AES Huntington Beach legacy equipment such as Boiler No. 2 and miscellaneous equipment such as the fire pump emergency engines

4.0 RULE COMPLIANCE EVALUATION

4.1 Regulation II – Permits

4.1.1 Rule 212 – Standards for Approving Permits and Issuing Public Notice

Rule 212(c) requires public notice for:

- (c)(1). A project requesting installation of a new source or modification of an existing source, if the source is location within 1,000 feet of the outer boundary of a school; or
- (c)(2). A project resulting in a new or modified facility with on-site emission increases exceeding any of the daily maximums from Rule 212(g); or
- (c)(3). A project requesting installation of a new source or modification of an existing source, if the emission increases result in exposure to Maximum Individual Cancer Risk (MICR) greater than or equal to the applicable thresholds in (c)(3)(A), or substances that pose a potential risk of nuisance.

As discussed in Section 1.1.3 and shown in Figure 1-1, the project sources are not located within 1,000 feet of the outer boundary of a school. Rule 212(c)(1) does not apply.

Rule 212(g) lists daily maximum emission increases for criteria pollutants. As noted in Section 1.0, this project does not propose a change to the daily operating scenarios evaluated in A/N's 578073-86. With no change to the daily operating scenario for the CCGTs, there will be no increase in daily emissions. Rule 212(c)(2) does not apply.

As shown in Table 4-5, the emissions increases associated with the proposed project are not expected to result in MICR greater than or equal to the applicable thresholds in (c)(3)(A).

Because the proposed project does not exceed any of the criteria for Rule 212 public notice, Rule 212 public notice is not required for the project.

4.2 Regulation III – Fees; Rule 301

The application processing fees were determined using Rule 301. Fees are summarized in Table 4-1. The applicant is requesting expedited permit processing for these applications.

Table 4-1: Application Processing Fees

Equipment	Rule 301 Table IA/IB	Schedule	Permit Action	Fee
CCGT-1 (D115)	Gas Turbine, > 50 MW, other fuel	G, FY 2021-22, Title V	Alteration/ Modification	$23,684.83
CCGT-2 (D124)	Gas Turbine, > 50 MW, other fuel	G, FY 2021-22, Title V, identical equipment	Alteration/ Modification	$11,842.42
Expedited Processing (50% of base fee)				$17,763.63
RECLAIM/Title V Administrative Permit Revision	---	Rule 301(m)(5) and Table VII	Amendment	$2,853.99
			Total	**$56,144.87**

4.4 Regulation IV – Prohibitions

4.4.1 Rule 401 – Visible Emissions

This rule prohibits the discharge into the atmosphere from any single source of emissions of any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (b)(1)(A) of the rule.

The CCGTs combust natural gas and will continue to combust natural gas post-project. Visible emissions are not expected.

4.4.2 Rule 402 – Nuisance

Rule 402 prohibits the discharge from any source such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The CCGTs combust natural gas and will continue to combust natural gas post-project. Nuisance emissions are not expected.

4.4.3 Rule 404 – Particulate Matter Concentration

Rule 404 prohibits the discharge into the atmosphere from any source particulate matter in excess of the concentration at standard conditions, shown in Table 404(a) of the rule.

The provisions of this rule do not apply to emissions resulting from the combustion of liquid or gaseous fuels in steam generators or gas turbines.

4.4.4 Rule 407 – Liquid and Gaseous Air Contaminants

Rule 407 prohibits the discharge into the atmosphere from any equipment: 1) CO exceeding 2,000 ppmv measured on a dry basis, averaged over 15 consecutive minutes, and 2) Sulfur compounds which would exist as liquid or gas at standard conditions, calculated as sulfur dioxide (SO_2) exceeding 500 ppmv averaged over 15 consecutive minutes.

The CCGTs operate with oxidation catalysts that ensure compliance with the permit limit of 2.0 ppmv at 15% excess oxygen (O_2), thus ensuring compliance with the CO limits of this rule.

The sulfur compound limit does not apply to equipment that complies with the gaseous fuel sulfur content limits of Rule 431.1. The CCGTs described in this application combust Public Utilities Commission (PUC)-quality pipeline natural gas that complies with the sulfur limits of Rule 431.1; therefore, the sulfur limits of Rule 407 do not apply.

4.4.5 Rule 409 – Combustion Contaminants

This rule prohibits the discharge into the atmosphere from the burning of fuel, combustion contaminants exceeding 0.23 gram per cubic meter (0.1 grain per cubic foot) of gas calculated to 12 percent of carbon dioxide (CO_2) at standard conditions averaged over a minimum of 15 consecutive minutes.

The CCGTs described in this application combust PUC-quality pipeline natural gas that will ensure compliance with this rule.

4.4.6 Rule 431.1 – Sulfur Content of Gaseous Fuels

The purpose of this rule is to reduce SO_x emissions from the burning of gaseous fuels in stationary equipment requiring a permit to operate by the SCAQMD. The rule prohibits the transfer, sell, or offer for sale for use in the jurisdiction of the District natural gas containing sulfur compounds calculated as hydrogen sulfide (H_2S) in excess of 16 ppmv.

The CCGTs described in this application combust PUC-quality pipeline natural gas that complies with the sulfur limits of Rule 431.1.

4.4.7 Rule 474 – Fuel Burning Equipment-Oxides of Nitrogen

Per Rule 2001, Table I, this rule does not apply to NO_x RECLAIM facilities.

4.4.8 Rule 475 – Electric Power Generating Equipment

This rule limits emissions of particulate matter to the atmosphere from equipment having a maximum rating of more than 10 net MW used to produce electric power.

For new equipment, defined as equipment for which a permit is required after May 7, 1976, emissions of particulate matter may not exceed both of the limits from (a)(3)(A) [11 pounds per hour] and (a)(3)(B) [0.01 gr/SCF calculated at three percent oxygen on a dry basis and averaged over 15 consecutive minutes].

The January 2020 CCGT source tests showed that neither limit is exceeded. Continued compliance is expected.

4.5 Regulation IX – New Source Performance Standards

Regulation IX, New Source Performance Standards (NSPS), was adopted by reference to the appropriate section of the Code of Federal Regulations (CFR). These regulations are periodically updated to reflect actions published in the Federal Register (FR) by the Environmental Protection Agency (EPA).

4.5.1 40 CFR 60, Subpart GG – Standards of Performance for Stationary Gas Turbines

This rule applies to stationary gas turbines that were constructed, modified, or reconstructed after October 3, 1977. The CCGTs are subject to 40 CFR 60 Subpart KKKK and are thus exempt from the requirements of 40 CFR 60 Subpart GG (60.4305(b)).

4.5.2 40 CFR 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines

This subpart establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines with a heat input at peak load equal to or greater than 10 MMBtu per hour, based on the HHV of the fuel, that commenced construction, modification, or reconstruction after February 18, 2005. The pollutants regulated by this subpart are NO_x and SO_2.

The rule limits NO_x emissions from new, modified, or reconstructed turbines firing natural gas with a heat input greater than 850 MMBtu per hour to no more than 15 ppmv at 15 percent O_2 or 0.43 pound per megawatt-hour (lb/MWh) of useful output.

The rule prohibits the discharge of any gases which contain SO_2 in excess of 0.90 lb/MWh gross output; and prohibits the combustion of any fuel which contains total potential sulfur emissions in excess of 0.060 pounds SO_2 per MMBtu heat input.

The CCGTs operate with SCR to control NO_x emissions to 2 ppmv, which is less than 15 ppmv. Continued compliance with the Subpart KKKK NO_x emission limit is expected.

A/N's 578073-86 estimated SO_x emissions to be up to 4.6 lb/hr. This estimate was based on 12 ppmv; Rule 431.1 allows up to 16 ppmv. The equivalent emission rate at 16 ppmv is 6.1 lb/hr. CCGT heat input is up to 2,273 mmBtu/hr. Worst-case, SO_x emissions are expected to be no more than approximately 0.002[2] lb/mmBtu. Continued compliance with the Subpart KKKK fuel sulfur limit is expected.

Subpart KKKK imposes a number of other monitoring, recordkeeping, and reporting requirements. AES will continue to comply with these other requirements, as applicable.

4.5.3 40 CFR 60, Subpart TTTT – GHG Emissions from Electric Generating Units

This subpart establishes emission standards and compliance schedules for the control of greenhouse gas emissions from a steam generating unit, Integrated Gasification Combined Cycle Facility (IGCC), or a stationary combustion turbine that commences construction after January 8, 2014 or commences modification or reconstruction after June 8, 2014.

The CCGTs are subject to Subpart TTTT as 'stationary combustion turbines'. §60.5520 specifies that the applicable emission limits are from Table 1 or Table 2 of the subpart. The emission limits for a stationary combustion turbine are contained in Table 2 of Subpart TTTT. Table 2 contains emission limits for newly constructed and reconstructed units, but not modified units. Therefore, the applicable emission Subpart TTTT emission limit will continue to be 1,000 lb CO_2/gross-MWh on a rolling 12-month basis as long as the unit supplies more than 1,519,500 net-MWh[3] over a rolling 12-month basis and a rolling 3-year average basis, and 120 lb CO_2/mmBtu on a rolling 12-month basis when the unit supplies less than 1,519,500 net-MWh over a rolling 12-month basis and a rolling 3-year average basis.

[2] 6.1 lb/hr / 2,273 mmBtu/hr

[3] This number is calculated on a gross basis in A/N's 578073-86 and includes half of the steam turbine output with each CCGT. (236.1 MW + 0.5 x 221.4 MW) x 8,760 hr/yr x 0.5 ~ 1,519,500.

AES will continue to comply with the applicable monitoring, recordkeeping, and reporting requirements from Subpart TTTT.

4.6 Regulation X – National Emission Standards for Hazardous Air Pollutants

Regulation X, National Emission Standards for Hazardous Air Pollutants (NESHAP), was adopted by reference to the appropriate section of the CFR. These regulations are periodically updated to reflect actions published in the FR by the EPA.

4.6.1 NESHAPS for Stationary Gas Turbines – 40 CFR Part 63 Subpart YYYY

This regulation applies to gas turbines located at major sources of HAP emissions. A major source is defined as a facility with emissions of 10 tpy or more of a single HAP or 25 tpy or more of a combination of HAPs.

Per Table 3-7, formaldehyde is the HAP with the highest emissions, and ammonia and propylene are the only non-HAP. Post-project emissions of formaldehyde from the CCGTs and auxiliary boiler are estimated to be approximately 6 ton/yr (< 10 ton/yr); post-project emissions of HAP from the CCGTs and auxiliary boiler are estimated to be approximately 14 ton/yr (<25 ton/yr).

The facility is not a major source of HAP; therefore, the requirements of this regulation do not apply.

4.7 Regulation XI – Source Specific Standards

4.7.1 Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines

The purpose of this rule is to reduce emissions of NO_x from stationary gas turbines. The provisions of this rule shall apply to all stationary gas turbines, 0.3 megawatt (MW) and larger. This rule does not apply to stationary gas turbines: subject to Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities; located at petroleum refineries, landfills, or publicly owned treatment works; or fueled by landfill gas.

AES is subject to Rule 1135. Rule 1134 does not apply to units subject to Rule 1135.

4.7.2 Rule 1135 – Emissions of Oxides of Nitrogen from Electric Power Generating Stations

The purpose of this rule is to reduce emissions of NO_x from electric generating units at electricity generating facilities. This rule applies to electric generating units at electricity generating facilities. While the facility is currently a RECLAIM facility and exempt from Rule 1135, Rule 1135 is the landing rule for gas turbines upon RECLAIM sunset. Thus, on and after January 1, 2024, or when required by a permit to operate issued to effectuate the requirements in this rule, whichever occurs first, the owner or operator of an electricity generating facility may not operate a gas turbine in a manner that exceeds the NO_x and ammonia emissions limits listed in Table 1 of the rule: Emissions Limits for Boilers and Gas Turbines. For a combined cycle gas turbine, the NO_x limit is 2 ppmv and the ammonia slip concentration limit is 5 ppmv, both at 15% excess O_2.

The CCGTs already comply with the 2 ppmv NO_x limit and 5 ppmv ammonia slip limit pursuant to current permit conditions. Therefore, compliance is expected.

Rule 1135 is currently open for amendment. AES will comply with any other applicable requirements from the amended rule in a timely manner.

4.8 Regulation XIII – New Source Review

This project requires review of Regulation XIII, New Source Review. Since AES is a NO_x and SO_x RECLAIM facility, New Source Review for NO_x and SO_x are addressed under Rule 2005.

4.8.1 Rule 1303 – Requirements

4.8.1.1 Best Available Control Technology (BACT)

Rule 1303(a) requires Best Available Control Technology (BACT) for a modified emission source that results in an emission increase of any nonattainment air contaminant, any ozone depleting compound, or ammonia. Per Rule 1306(b), an emission increase for determination of BACT applicability is defined as an increase in maximum daily emissions of more than 1 lb/day. This project does not propose a change to the CCGT daily operating scenario. A Rule 1303(a) BACT analysis is not required.

4.8.1.2 Modeling

Rule 1303(b)(1) requires a demonstration that a modified facility will not cause or make worse, a violation of an ambient air quality standard. This project proposes an increase in annual CCGT emissions. The results of the modeling demonstration are shown in Table 4-2. Methodology is described in detail in Appendix C. Electronic modeling files will be provided upon request.

Table 4-2: Rule 1303(b)(1) Modeling Demonstration

Pollutant	2018 (ug/m3)	2019 (ug/m3)	2020 (ug/m3)	Project Impact (ug/m3)	Project + Background (ug/m3)	Federal Standard (ug/m3)	Exceeds Federal Standard?	California Standard (ug/m3)	Exceeds California Standard?
PM_{10}	**19**	16.6	16.8	0.698	19.7	--	--	20	No
$PM_{2.5}$	8.31	7.11	**8.81**	0.698	9.5	12	No	12	No

Background data is from Station 19 – Saddleback Valley.

Project impacts represent the post-application emissions for the CCGTs and auxiliary boiler since the equipment has not been in commercial operation for a full three years.

4.8.1.3 Offsets

Except as allowed under other rules, Rule 1303(b)(2) requires modified facilities to provide emission offsets. Per Rule 1306(b), the quantity of offsets to be provided is calculated from calendar monthly emissions divided by 30. This project does not propose a change to the CCGT monthly operating scenario and does not require emission offsets.

AES will remit payment should the District determine that an additional Rule 1304.1 fee payment is necessary to increase the CCGT operating hours.

4.8.1.4 Major Polluting Facilities

Rule 1303(b)(5) requires additional review of new major polluting facilities and major modifications at major polluting facilities. The definitions of major polluting facility and major modification are provided in Rule 1302.

The facility post-application emissions and emission increases are shown in Table 4-3, along with the major polluting facility and major modification thresholds. As shown in Table 4-3, the proposed project does not constitute a new major polluting facility or a major modification to a major polluting facility. Additional review under Rule 1303(b)(5) is not required.

Table 4-3: Rule 1303(b)(5) - Major Polluting Facility Applicability

Pollutant	Post-Application (ton/yr)	Major Polluting Facility (ton/yr)	Increase	Major Modification
CO	208.12	50	7.65 ton/yr	50 ton/yr
VOC	71.06	10	N/A. No daily emissions increase.	1 lb/day
PM_{10}	65.64	70	8.5 ton/yr	15 ton/yr

4.8.2 Rule 1325 – Federal $PM_{2.5}$ New Source Review Program

Rule 1325 is the New Source Review rule for $PM_{2.5}$ and its precursors: VOC, NO_x, SO_2, and ammonia. The rule applies to new major polluting facilities, major modifications to existing major polluting facilities, or any modification to an existing facility that would constitute a major polluting facility in and of itself. A major polluting facility is defined as a facility located in a federal non-attainment area which has actual emissions, or a potential to emit, of greater than 70 tons per year, of either $PM_{2.5}$ or its precursors. Significant emission increase is defined in Rule 1325(b)(13).

The facility post-application emissions and emission increases are shown in Table 4-4, along with the major polluting facility and significant emission increase thresholds. The emission increases have been determined by comparing the potential pre-application and post-application emissions for each source since the CCGTs do not have a consecutive 24-month period of normal, post-commissioning operations.

Per Table 4-4, facility NO_x and ammonia emissions exceeded the major polluting facility thresholds before the proposed project and the proposed project is not expected to result in a significant emission increase. Post-application, facility SO_2 and $PM_{2.5}$ emissions are not expected to exceed the major polluting facility thresholds.

As proposed, this project would result in facility VOC emissions above the major polluting facility thresholds. Based on the SCAQMD's processing of these applications, the project may consider options to comply with the Major Polluting Facility requirements.

Table 4-4: Rule 1325 - Major Polluting Facility Applicability

Pollutant	Post-Application (ton/yr)	Major Polluting Facility (ton/yr)	Increase (ton/yr)	Significant Emission Increase (ton/yr)
NO_x	143.26	70	16.80	40
SO_2	11.65	70	1.50	40
VOC	71.06	70	5.80	40
Ammonia	119.10	70	15.56	40
$PM_{2.5}$	65.64	70	8.50	10

4.9 Regulation XIV – Toxics and Other Non-Criteria Pollutants

4.9.1 Rule 1401 – New Source Review for Air Toxics

Rule 1401 specifies limits for maximum individual cancer risk (MICR), cancer burden, and non-cancer acute and chronic hazard index (HI) from new permit units, relocations, or modifications to existing permit units that emit TAC listed in Table I of the rule. The rule establishes allowable risks for permit units requiring new permits pursuant to Rules 201 or 203.

This project does not propose an increase in maximum hourly emissions. Acute health risk has not been evaluated.

Per Rule 1401(f)(3), MICR and HIC for a modified permit unit may be determined from the increase in potential emissions after the modification relative to permitted emissions as stated in permit conditions. Condition C1.9 limits annual hours of operation, which directly limits annual fuel consumption and TAC emissions. MICR and HIC have been estimated from the increase in annual fuel usage resulting from an additional 1,000 hours of operation.

HRA results are shown in Table 4-5. Methodology is described in detail in Appendix C. Electronic modeling files will be provided upon request. Cancer burden was not calculated since the 70-year cancer risk did not exceed 1 in a million at any residential receptor.

The HRA results shown in Table 4-5 represent the combined risk from both CCGTs. Since the combined risk is less than the applicable standards, compliance is demonstrated.

Table 4-5: Rule 1401 HRA Results

Health Risk	Maximally Exposed Individual Resident (MEIR)	Sensitive Receptor (Edison High School)	Maximally Exposed Individual Worker (MEIW)
Cancer Risk (in a Million) Standard: 1.0 without T-BACT; 10 with T-BACT	0.68	0.59	0.02
Chronic Hazard Index Standard: 1.0	9.86E-04	8.60E-04	8.60E-04

4.10 Regulation XVII – Prevention of Significant Deterioration

The purpose of this regulation is to establish preconstruction review requirements for stationary sources to ensure that air quality in clean air areas does not significantly deteriorate while maintaining a margin for future industrial growth.

Best Available Control Technology (BACT)

Rule 1703(a)(2) requires BACT for each criteria pollutant for which there is a net emission increase. There will be a net emission increase for all criteria pollutants; however, per Section 4.8.1.1, this project does not propose an increase in daily emissions and BACT is satisfied by the existing equipment configuration.

Major Stationary Source Status

The major stationary source threshold for PSD depends on whether the facility can be considered one of the listed source categories from Rule 1702(m)(1). The first category from Rule 1702(m)(1) is "fossil fuel-fired steam electric plants of more than 250 million BTU/hr input". The CCGTs operate with a common steam turbine generator and are rated greater than 250 mmBtu/hr. The major stationary source threshold is therefore 100 ton/yr per pollutant. Rule 1702(l) defines a major modification as any change that would result in a significant emission increase. Significant emission increase is defined in Rule 1702(s).

The District is in attainment for PM_{10} (24-hour national standard), CO, NO_x, and SO_x. The facility post-application emissions are shown in Table 4-6.

Table 4-6: Reg XVII Major Stationary Source

Pollutant	Post-Application (ton/yr)	Major Stationary Source (ton/yr)	Exceeds Threshold?
PM_{10}	65.64	100	No
CO	208.12	100	Yes
NO_x	143.26	100	Yes
SO_x	11.65	100	No

Major Modification / Significant Emission Increase

Facility emissions reported pursuant to Rule 301 are shown in Table 4-7.

Table 4-7: Reg XVII Past Actuals

Year	PM_{10}	CO	NO_x	SO_x
2020	**26.744**	**313.62**	**52.232**	**4.159**
2019	**15.117**	**586.377**	**26.543**	**1.489**
2018	3.526	150.832	13.58	1.133
2017	4.526	193.185	15.432	1.452
2016	5.163	219.008	15.956	2.223
2-Year Average	20.93	450	39.39	2.82

The post-application emissions and past actuals are compared to the significant increase thresholds from Rule 1702 in Table 4-8 in accordance with Rule 1706. As shown in Table 4-8, the increase in emissions of PM_{10} and NO_x constitute a Major Modification.

Table 4-8: Reg XVII Major Modification

Pollutant	Post-Application (ton/yr)	Past Actuals (ton/yr)	Increase (ton/yr)	Significant Increase Threshold (ton/yr)	Exceeds Threshold?
PM_{10}	65.64	20.93	44.71	15	Yes
CO	208.12	450	-241.88	100	No
NO_x	143.26	39.39	103.87	40	Yes
SO_x	11.65	2.82	8.83	40	No

Class II Significant Impact Level (SIL) Analysis

The Class II SIL analysis is shown in Table 4-9. AES suggests that Table 4-11, which presents the facility impact + background data relative to the annual ambient air quality standards for NO_x, is sufficient for demonstrating that an analysis of cumulative sources + background data would be less than the annual ambient air quality standards for NO_x and no additional analyses are necessary.

Table 4-9: Reg XVII Class II SIL Analysis

Pollutant	Project Impact (ug/m3)	SIL (ug/m3)	Exceeds SIL?
PM_{10}	0.7	1	No
NO_2	1.31	1	Yes[4]

[4] Refined modeling using Ozone Limiting Methodology may be performed at the District's request.

Class I Significant Impact Level (SIL) Analysis

Per A/N's 578073-86, the nearest Class I areas are the San Gabriel Wilderness and Cucamonga Wilderness. These two areas are located more than 50 km from the facility. A single-ring polar grid with 50-km radius was used to estimate the project impacts at this distance, the maximum possible using AERMOD. The Class I SIL analysis is shown in Table 4-10. Since the impacts at 50 km are less than the Class I SILs, the impacts at the Class I areas are expected to be below the Class I SILs and no additional analyses are necessary.

Table 4-10: Reg XVII Class I SIL Analysis

Pollutant	Project Impact (ug/m3)	SIL (ug/m3)	Exceeds SIL?
PM_{10}	0.0048	0.2	No
NO_2	0.0093	0.1	No

Class I Deposition and Visibility Analysis

Per A/N's 578073-86, the nearest Class I area, the San Gabriel Wilderness area, is located approximately 69 km (i.e., > 50 km) from AES. The Q/D screening value was estimated to be approximately 3.77, which is less than the screening threshold of 10. A full Class I deposition and visibility analysis was not required.

BACT for Greenhouse Gas (GHG) Emissions

AES reported average emissions of approximately 225,000 metric tons CO_2e to CARB in 2018 and 2019. The difference between this number and the post-application emissions shown in Table 3-10 is greater than the 75,000 ton/yr significance threshold for GHG.

AES suggests that the current equipment configuration be considered BACT for GHG. AES proposes to update the GHG efficiency value from Condition E193.6 from 967.6 lb/net-MWh to 960.3 lb/net-MWh, based on assigning the 1,000 additional hours to 1x1 operation. This calculation is shown in Appendix B.

4.11 Regulation XX – RECLAIM

AES is a NO_x and SO_x RECLAIM facility. New Source Review for NO_x and SO_x are addressed under Rule 2005.

4.11.1 Rule 2005 – New Source Review for RECLAIM

Post-application, the facility Potential to Emit for NO_x is expected to remain below the starting allocation plus non-tradable credits. Post-application, the facility Potential to Emit for SO_x will remain above the starting allocation plus non-tradable credits.

Best Available Control Technology (BACT)

Rule 2005(c)(1)(A) [NO_x] and Rule 2005(c)(4)(A) [SO_x] require BACT for emission increases. Rule 2005(d) defines an emission increase to occur if a source's maximum hourly Potential to Emit after the project is greater than the source's maximum hourly Potential to Emit before the project. This project will not result in an increase in hourly emissions. A Rule 2005 BACT analysis is not required.

Modeling

Rule 2005(c)(1)(B) [NO_x] requires a demonstration that a modified facility will not cause or make worse, a violation of an ambient air quality standard. This project proposes an increase in annual CCGT emissions. The results of the modeling demonstration are shown in Table 4-11. Methodology is described in detail in Appendix C. Electronic modeling files will be provided upon request.

Table 4-11: Rule 2005 Modeling Demonstration

Pollutant	2018 (ppb)	2019 (ppb)	2020 (ppb)	Project Impact (ug/m3)	Project + Background (ug/m3)	Federal Standard (ug/m3)	Exceeds Federal Standard?	California Standard (ug/m3)	Exceeds California Standard?
NO_2	**20.8 39.13 ug/m3**	19.2	18.8	1.31	40.4	100	No	57	No

Background data is the highest of Station 17 – North Central Orange County and I-5 Near Road.

Project impacts represent the post-application emissions for the CCGTs and auxiliary boiler since the equipment has not been in commercial operation for a full three years.

The highest impacts for each CCGT are less than 1 ug/m3. Each individual CCGT is not expected to cause or make worse, a violation of the annual ambient air quality standards for NO_2.

RECLAIM Trading Credits (RTCs)

Rule 2005(c)(2) [NO_x] and Rule 2005(c)(4)(B) [SO_x] require holding RTCs for 1 year and a minimum of one year, respectively. The estimated RTC hold requirement is shown in Table 4-12.

Table 4-12: RTC Hold Requirements

Pollutant	Pre-Application (lb/yr)	Post-Application (lb/yr)	Increase (lb/yr)
NO_x	125,800	142,600	16,800 (1 Year)
SO_x	9,960	11,460	1,500 (Minimum 1 Year)

Major Polluting Facilities

Rule 2005(b) requires additional review of new major polluting facilities and major modifications at major polluting facilities. The definitions of major polluting facility and major modification are provided in Rule 2005.

The facility post-application emissions and emission increases are shown in Table 4-13, along with the major polluting facility and major modification thresholds. As shown in Table 4-13, the proposed project does not constitute a new major polluting facility or a major modification to a major polluting facility. Additional review under Rule 2005(g) is not required.

Table 4-13: Rule 2005(g) - Major Polluting Facility Applicability

Pollutant	Post-Application (ton/yr)	Major Polluting Facility (ton/yr)	Increase	Major Modification
NO_x	143.26	10	N/A. No daily emissions increase.	1 lb/day
SO_x	11.65	70 [from Rule 1302]	1.50 ton/yr	40 ton/yr

4.12 Regulation XXX – Title V

The Title V Permit system is the air pollution control permit system implementing the federal Operating Permit Program as required by Title V of the federal CAA as amended in 1990 and to implement requirements for greenhouse gases pursuant to 40 CFR Parts 70. This regulation defines permit application and permit issuance procedures as well as compliance requirements associated with the program.

As discussed in Section 4.11.1, AES's Potential to Emit for SO_x is and will remain above the starting allocation plus non-tradable credits. Pursuant to Rule 3000(b)(31)(D), a Significant Permit Revision includes "any modification at a RECLAIM facility that results in an emission increase of RECLAIM pollutants over the facility's starting Allocation plus the non-tradeable Allocations." This permitting action will be considered a Significant Permit Revision.

5.0 PROPOSED PERMIT CONDITIONS

AES suggests the following changes to the permit conditions (~~deletions~~ **additions**).

The requested change to Condition C1.9 reflects the additional 1,000 hours of operation per year per turbine.

C1.9 The operator shall limit the operating time to no more than ~~6640~~**7,640** hour(s) in any one year.

The limit includes baseload operation as well as start ups and shutdowns. The limit does not apply to the calendar year in which the units are commissioned.

Combined Cycle Turbines No. 1 and No. 2 shall not simultaneously operate at minimum load for more than 20 consecutive hours (approximately 44% of full load rating).

The operator shall maintain records, in a manner approved by the SCAQMD to demonstrate compliance with this condition.

[**RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996**]

[Devices subject to this condition: D115, D124]

The requested change to Condition E193.6 reflects the update to the annual CO_2 emissions and the CO_2 efficiency metric.

E193.6 The operator shall upon completion of construction, operate and maintain this equipment according to the following specifications:

The operator shall record the total net power generated in a calendar month in megawatt-hours.

The operator shall calculate and record greenhouse gas emissions for each calendar month using the following formula:

CO2 = 60.009 * FF

Where, CO2 is in tons and FF is the monthly fuel usage in millions standard cubic feet.

The operator shall calculate and record the CO2 emissions in pounds per net megawatt-hour on a 12-month rolling average. The CO2 emissions from this equipment shall not exceed ~~873,035~~**1,004,512** tons per year per turbine on a 12-month rolling average basis. The calendar annual average CO2 emissions shall not exceed ~~967.6~~**960.3** pounds per net MW-hour.

The operator shall maintain records in a manner approved by the SCAQMD to demonstrate compliance with this condition. The records shall be made available to SCAQMD upon request.

[**RULE 1714, 12-20-2012**]

[Devices subject to this condition: D115, D124]

The addition of Condition I297.x reflects the increase in annual NO_x emissions.

I297.x This equipment shall not be operated unless the facility holds 16,800 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. RTCs held to satisfy this condition may be transferred only after one year from the initial start of operation. If the hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

[**RULE 2005, 12-4-2015**]

[Devices subject to this condition: D115, D124]

The requested change to Condition I298.1 reflects the post-application SO_x emissions.

I298.1 This equipment shall not be operated unless the facility holds 14803 pounds of SOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds ~~9960~~**11460** pounds of SOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

[**RULE 2005, 6-3-2011**]

[Devices subject to this condition: D115, D124]

APPENDIX A – APPLICATION FORMS

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): AES Huntington Beach, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (●) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

21730 Newland St
Street Address
Huntington Beach , CA 92646
City Zip
Weikko Wirta V.P., AES SL Energy
Contact Name Title
(714) 374-1421
Phone # Ext. Fax #
E-Mail: Weikko.Wirta@AES.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
[X] Check here if same as equipment location address

21730 Newland St
Address
Huntington Beach , CA 92646
City State Zip
Weikko Wirta V.P., AES SL Energy
Contact Name Title
(714) 374-1421
Phone # Ext. Fax #
E-Mail: Weikko.Wirta@AES.com

Section D - Application Type

6. The Facility Is: ( ) Not In RECLAIM or Title V ( ) In RECLAIM ( ) In Title V (●) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:
- ( ) New Construction (Permit to Construct)
- ( ) Equipment On-Site But Not Constructed or Operational
- ( ) Equipment Operating Without A Permit *
- ( ) Compliance Plan
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

7b. Facility Permits:
- ( ) Title V Application or Amendment (Refer to Title V Matrix)
- ( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:
- ( ) Administrative Change
- (●) Alteration/Modification
- ( ) Alteration/Modification without Prior Approval *
- ( ) Change of Condition
- ( ) Change of Condition without Prior Approval *
- ( ) Change of Location
- ( ) Change of Location without Prior Approval *
- ( ) Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number: 618931

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy):
8b. Estimated End Date of Construction (mm/dd/yyyy):
8c. Estimated Start Date of Operation (mm/dd/yyyy):

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Gas Turbine, Unit No. 1A, Combined Cycle; Increase in Operating Hours

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process) 1

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (●) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? ( ) No (●) Yes
If Yes, provide NOV/NC#: P69259/67930

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Electric Power Generation

14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? ( ) No (●) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (●) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official:

18. Title of Responsible Official: V.P., AES Southland Energy

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ( ) No (●) Yes

20. Print Name: Weikko Wirta

21. Date: 12/05/2021

22. Do you claim confidentiality of data? (If Yes, see instructions.) (●) No ( ) Yes

23. Check List: [X] Authorized Signature/Date [X] Form 400-CEQA [X] Supplemental Form(s) (ie., Form 400-E-xx) [X] Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED $	PAYMENT TRACKING #	VALIDATION

DATE	APP REJ	DATE	APP REJ	CLASS I III	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN

South Coast Air Quality Management District

Form 400-E-12
Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Huntington Beach, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site):
21730 Newland St., Huntington Beach, CA 92646 (D115)

(•) Fixed Location ( ) Various Locations

Section B - Equipment Description

Turbine

Manufacturer: General Electric | Model: 7FA.05 | Serial No.:

Size (based on Higher Heating Value - HHV):

Manufacturer Maximum Input Rating: _____ MMBTU/hr _____ kWh

Manufacturer Maximum Output Rating: 2,273.00 MMBTU/hr 236,100.00 kWh

Function (Check all that apply)

[X] Electrical Generation [ ] Driving Pump/Compressor [ ] Emergency Peaking Unit
[X] Steam Generation [ ] Exhaust Gas Recovery [ ] Other (specify): _____

Cycle Type

( ) Simply Cycle ( ) Regenerative Cycle
(•) Combined Cycle ( ) Other (specify): _____

Combustion Type

( ) Tubular (•) Can-Annular ( ) Annular

Fuel (Turbine)

[X] Natural Gas [ ] LPG [ ] Digester Gas*
[ ] Landfill Gas* [ ] Propane [ ] Refinery Gas* [ ] Other*: _____
* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).

Heat Recovery Steam Generator (HRSG)

Steam Turbine Capacity: 221.4 MW
Low Pressure Steam Output Capacity: _____ lb/hr @ _____ °F
High Pressure Steam Output Capacity: _____ lb/hr @ _____ °F
Superheated Steam Output Capacity: _____ lb/hr @ _____ °F

Duct Burner

Manufacturer: | Model:

Number of burners: _____ Rating of each burner (HHV): _____

Type: ( ) Low NOx (please attach manufacturer's specifications)
( ) Other: _____
Show all heat transfer surface locations with the HRSG and temperature profile

Fuel (Duct Burner)

( ) Natural Gas ( ) LPG ( ) Digester Gas*
( ) Landfill Gas* ( ) Propane ( ) Refinery Gas* ( ) Other*: _____
* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).

South Coast Air Quality Management District

Form 400-E-12
Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (Cont.)

Air Pollution Control

(●) Selective Catalytic Reduction (SCR)* ( ) Selective Non-Catalytic Reduction (SNCR)*

( ) Oxidation Catalyst* ( ) Other (specify)*: _____

( ) Steam/Water Injection: Injection Rate: _____ lbs. water/lbs. fuel, or _____ mole water/mole fuel

* Separate application is required.

Capital Cost: _____ Installation Cost: _____ Annual Operating Cost: _____

Oxidation Catalyst Data (If Applicable)

Manufacturer: BASF Corp. Model: _____

Catalyst Dimensions: Length: _____ ft. _____ in. Width: _____ ft. _____ in. Height: _____ ft. _____ in.

Catalyst Cell Density: _____ cells/sq.in. Pressure Drop Across Catalyst: _____

Manufacturer's Guarantee: CO Control Efficiency: _____ % Catalyst Life: _____ yrs

VOC Control Efficiency: _____ % Operating Temp. Range: _____ °F

Space Velocity (gas flow rate/catalyst volume): _____ Area Velocity (gas flow/wetted catalyst surface area): _____

VOC Concentration into Catalyst: _____ PPMVD@ 15%O_2 CO Concentration inot Catalyst: _____ PPMVD@ 15%O_2

Section C - Operation Information

On-line Emissions Data

Pollutants	Maximum Emissions Before Control *		Maximum Emissions After Control	
	PPM@15% O_2, dry	lb/hour	PPM@15% O_2, dry	lb/hour
ROG			2.0	5.80
NOx			2.0	16.80
CO			1.5	7.65
PM_{10}				8.50
SOx				1.50
NH_3			5.0	15.5

* Based on temperature, fuel consumption, and MW output.

Reference (attach data):

☐ Manufacturer Emission Data ☐ EPA Emission Factors ☐ AQMD Emission Factors ☐ Source Test

Stack or Vent Data

Stack Height: 149 ft. 11 in. Stack Diameter: 20 ft. 0 in.

Exhaust Temperature: 170.3 °F Exhaust Pressure: _____ inches water column

Exhaust Flow Rate: 729666 CFM Oxygen Level: _____ %

South Coast Air Quality Management District

Form 400-E-12
Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section C - Operation Information (cont.)

Startup Data

No. of Startups per day: _____ No. of Startups per year: 500 Duration of each startup: _____ hrs.

Shutdown Data

No. of Shutdowns per day: _____ No. of Shutdowns per year: 500 Duration of each Shutdown: _____ hrs.

Startup and Shutdown Emissions Data

Pollutants	Startup Emissions		Shutdown Emissions	
	PPM@15% O_2, dry	lb/hour	PPM@15% O_2, dry	lb/hour
ROG				
NOx				
CO				
PM_{10}				
SOx				
NH_3				

Monitoring and Reporting

Continuous Emission Monitoring System (CEMS): CEMS Make: Teledyne

CEMS Model: TML T200M/O2, TML T300

Will the CEMS be used to measure both on-line and startup/shutdown emissions? (•) Yes ( ) No

The following parameters will be continuously monitored:

☒ NOx ☒ CO ☒ O_2

☐ Fuel Flow Rate ☐ Ammonia Injection Rate ☐ Other (specify): _____

☐ Ammonia Stack Concentration: Ammonia CEMS Make: _____

Ammonia CEMS Model: _____

Operating Schedule

Normal: _____ hours/day _____ days/week _____ weeks/yr

Maximum: _____ hours/day _____ days/week _____ weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info

Signature: [signature] Date: 12/9/2021

Title: Senior Engineer Company Name: Yorke Engineering, LLC

Name: Don Barkley

Phone #: (949) 248-8490 Fax #:

Email: DBarkley@YorkeEngr.com

Contact Info

Name: Weikko Wirta

Title: V.P., AES SL Energy Company Name: AES Huntington Beach

Phone #: (714) 374-1421 Fax #:

Email: Weikko.Wirta@AES.com

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Form 400A and Form 400-CEQA.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator To Appears On The Permit): AES Huntington Beach, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): 21730 Newland St., Huntington Beach, CA 92646 (D115)

(•) Fixed Location ( ) Various Locations

Section B - Location Data

Plot Plan

Please attach a site map for the project with distances and scales. Identify and locate the proposed equipment on the map. A copy of the appropriate Thomas Brothers page, a web-based map, or a sketch that shows the major streets and location of the equipment is acceptable.

Location of Schools Nearby

Is the facility located within a 1/4 mile radius (1,320 feet) of the outer boundary of a school? ( ) Yes (•) No

If yes, please provide name(s) of school(s) below:

School Name: _____ **School Name:** _____

School Address: _____ **School Address:** _____

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

CA Health & Safety Code 42301.9: "School" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.

Population Density

(•) Urban ( ) Rural (<50% of land within 3 km radius accounted for by urban land use categories, i.e., multi-family dwelling or industrial.)

Zoning Classification

(•) Mixed Use Residential Commercial Zone (M-U) ( ) Service and Professional Zone (C-S) ( ) Medium Commercial (C-3)

( ) Heavy Commercial (C-4) ( ) Commercial Manufacturing (C-M)

Section C - Emission Release Parameters - Stacks, Vents

Stack Data

Stack Height: 150.00 feet (above ground level) **What is the height of the closest building nearest the stack?** 100 feet

Stack Inside Diameter: 240.16 inches **Stack Flow:** 729,666 acfm **Stack Temperature:** 170 °F

Rain Cap Present: ( ) Yes (•) No **Stack Orientation:** (•) Vertical ( ) Horizontal

If the stack height is less than 2.5 times the closest building height (H), please provide information on any building within 5xH distance from the stack (attach additional sheet if necessary):

Building #/Name: See Appendix C **Building #/Name:** See Appendix C

Building Height: _____ feet (above ground level) **Building Height:** _____ feet (above ground level)

Building Width: _____ feet **Building Width:** _____ feet

Building Length: _____ feet **Building Length:** _____ feet

Receptor Distance From Equipment Stack or Roof Vents/Openings

Distance to nearest residence or sensitive receptor*: 1,378 feet

Distance to nearest business: 886 feet

Building Information

Are the emissions released from vents and/or openings from a building? ( ) Yes (•) No

If yes, please provide:

Building #/Name: _____ **Building Width:** _____ feet

Building Height: _____ feet (above ground level) **Building Length:** _____ feet

*AQMD Rule 1470 defines SENSITIVE RECEPTOR as meaning any residence including private homes, condominiums, apartments, and living quarters, schools as defined under paragraph (b)(57), preschools, daycare centers and health facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Form 400A and Form 400-CEQA.

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submittfgfed with this application is true and correct.

Signature of Preparer:	Title of Preparer:	Preparer's Phone #: (949) 248-8490 Preparer's Email: DBarkley@YorkeEngr.com
	Don Barkley	

Contact Person: Weikko Wirta	Contact's Phone#: (714) 374-1421	Date Signed: 12/9/2021
Contact's Email: Weikko.Wirta@AES.com	Contact's Fax#:	

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): AES Huntington Beach, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (●) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

21730 Newland St
Street Address
Huntington Beach , CA 92646
City Zip
Weikko Wirta V.P., AES SL Energy
Contact Name Title
(714) 374-1421
Phone # Ext. Fax #
E-Mail: Weikko.Wirta@AES.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
[X] Check here if same as equipment location address

21730 Newland St
Address
Huntington Beach , CA 92646
City State Zip
Weikko Wirta V.P., AES SL Energy
Contact Name Title
(714) 374-1421
Phone # Ext. Fax #
E-Mail: Weikko.Wirta@AES.com

Section D - Application Type

6. The Facility Is: ( ) Not In RECLAIM or Title V ( ) In RECLAIM ( ) In Title V (●) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:
- ( ) New Construction (Permit to Construct)
- ( ) Equipment On-Site But Not Constructed or Operational
- ( ) Equipment Operating Without A Permit *
- ( ) Compliance Plan
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

7b. Facility Permits:
- ( ) Title V Application or Amendment (Refer to Title V Matrix)
- ( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:
- ( ) Administrative Change
- (●) Alteration/Modification
- ( ) Alteration/Modification without Prior Approval *
- ( ) Change of Condition
- ( ) Change of Condition without Prior Approval *
- ( ) Change of Location
- ( ) Change of Location without Prior Approval *
- ( ) Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number: 618932

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy):
8b. Estimated End Date of Construction (mm/dd/yyyy):
8c. Estimated Start Date of Operation (mm/dd/yyyy):

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Gas Turbine, Unit No. 1B, Combined Cycle; Increase in Operating Hours

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process): 1

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (●) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? (●) No ( ) Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Electric Power Generation

14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? ( ) No (●) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (●) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official:

18. Title of Responsible Official: V.P., AES Southland Energy

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ( ) No (●) Yes

20. Print Name: Weikko Wirta

21. Date: 12/09/2021

22. Do you claim confidentiality of data? (If Yes, see instructions.) (●) No ( ) Yes

23. Check List: [X] Authorized Signature/Date [X] Form 400-CEQA [X] Supplemental Form(s) (ie., Form 400-E-xx) [X] Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED $	PAYMENT TRACKING #	VALIDATION

DATE	APP REJ	DATE	APP REJ	CLASS I III	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN

South Coast Air Quality Management District

Form 400-E-12
Gas Turbine

South Coast AQMD

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Huntington Beach, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site):

21730 Newland St., Huntington Beach, CA 92646 (D124)

(•) Fixed Location ( ) Various Locations

Section B - Equipment Description

Turbine

Manufacturer: General Electric **Model:** 7FA.05 **Serial No.:**

Size (based on Higher Heating Value - HHV):

Manufacturer Maximum Input Rating: _____ MMBTU/hr _____ kWh

Manufacturer Maximum Output Rating: 2,273.00 MMBTU/hr 236,100.00 kWh

Function (Check all that apply)

[X] Electrical Generation [ ] Driving Pump/Compressor [ ] Emergency Peaking Unit

[X] Steam Generation [ ] Exhaust Gas Recovery [ ] Other (specify): _____

Cycle Type

( ) Simply Cycle ( ) Regenerative Cycle

(•) Combined Cycle ( ) Other (specify): _____

Combustion Type

( ) Tubular (•) Can-Annular ( ) Annular

Fuel (Turbine)

[X] Natural Gas [ ] LPG [ ] Digester Gas*

[ ] Landfill Gas* [ ] Propane [ ] Refinery Gas* [ ] Other*: _____

* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).

Heat Recovery Steam Generator (HRSG)

Steam Turbine Capacity: 221.4 MW

Low Pressure Steam Output Capacity: _____ lb/hr @ _____ °F

High Pressure Steam Output Capacity: _____ lb/hr @ _____ °F

Superheated Steam Output Capacity: _____ lb/hr @ _____ °F

Duct Burner

Manufacturer: _____ **Model:** _____

Number of burners: _____ **Rating of each burner** (HHV): _____

Type: ( ) Low NOx (please attach manufacturer's specifications)

( ) Other: _____
Show all heat transfer surface locations with the HRSG and temperature profile

Fuel (Duct Burner)

( ) Natural Gas ( ) LPG ( ) Digester Gas*

( ) Landfill Gas* ( ) Propane ( ) Refinery Gas* ( ) Other*: _____

* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).

South Coast Air Quality Management District

Form 400-E-12
Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (Cont.)

Air Pollution Control

(●) Selective Catalytic Reduction (SCR)* ( ) Selective Non-Catalytic Reduction (SNCR)*

( ) Oxidation Catalyst* ( ) Other (specify)*: _____

( ) Steam/Water Injection: Injection Rate: _____ lbs. water/lbs. fuel, or _____ mole water/mole fuel

* Separate application is required.

Capital Cost: _____ Installation Cost: _____ Annual Operating Cost: _____

Oxidation Catalyst Data (If Applicable)

Manufacturer: BASF Corp. Model: _____

Catalyst Dimensions: Length: _____ ft. _____ in. Width: _____ ft. _____ in. Height: _____ ft. _____ in.

Catalyst Cell Density: _____ cells/sq.in. Pressure Drop Across Catalyst: _____

Manufacturer's Guarantee: CO Control Efficiency: _____ % Catalyst Life: _____ yrs

VOC Control Efficiency: _____ % Operating Temp. Range: _____ °F

Space Velocity (gas flow rate/catalyst volume): _____ Area Velocity (gas flow/wetted catalyst surface area): _____

VOC Concentration into Catalyst: _____ PPMVD@ 15%O_2 CO Concentration inot Catalyst: _____ PPMVD@ 15%O_2

Section C - Operation Information

On-line Emissions Data

Pollutants	Maximum Emissions Before Control *		Maximum Emissions After Control	
	PPM@15% O_2, dry	lb/hour	PPM@15% O_2, dry	lb/hour
ROG			2.0	5.80
NOx			2.0	16.80
CO			1.5	7.65
PM_{10}				8.50
SOx				1.50
NH_3			5.0	15.5

* Based on temperature, fuel consumption, and MW output.

Reference (attach data):

☐ Manufacturer Emission Data ☐ EPA Emission Factors ☐ AQMD Emission Factors ☐ Source Test

Stack or Vent Data

Stack Height: 149 ft. 11 in. Stack Diameter: 20 ft. 0 in.

Exhaust Temperature: 170.3 °F Exhaust Pressure: _____ inches water column

Exhaust Flow Rate: 729666 CFM Oxygen Level: _____ %

South Coast Air Quality Management District

Form 400-E-12
Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section C - Operation Information (cont.)

Startup Data

No. of Startups per day: _____ No. of Startups per year: 500 Duration of each startup: _____ hrs.

Shutdown Data

No. of Shutdowns per day: _____ No. of Shutdowns per year: 500 Duration of each Shutdown: _____ hrs.

Startup and Shutdown Emissions Data

Pollutants	Startup Emissions		Shutdown Emissions	
	PPM@15% O_2, dry	lb/hour	PPM@15% O_2, dry	lb/hour
ROG				
NOx				
CO				
PM_{10}				
SOx				
NH_3				

Monitoring and Reporting

Continuous Emission Monitoring System (CEMS): CEMS Make: Teledyne

CEMS Model: TML T200M/O2, TML T300

Will the CEMS be used to measure both on-line and startup/shutdown emissions? (•) Yes ( ) No

The following parameters will be continuously monitored:

☒ NOx ☒ CO ☐ O_2

☐ Fuel Flow Rate ☐ Ammonia Injection Rate ☐ Other (specify): _____

☐ Ammonia Stack Concentration: Ammonia CEMS Make: _____

Ammonia CEMS Model: _____

Operating Schedule

Normal: _____ hours/day _____ days/week _____ weeks/yr

Maximum: _____ hours/day _____ days/week _____ weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info

Signature: Don Barkley Date: 12/9/2021

Title: Senior Engineer Company Name: Yorke Engineering, LLC

Name: Don Barkley

Phone #: (949) 248-8490 Fax #:

Email: DBarkley@YorkeEngr.com

Contact Info

Name: Weikko Wirta

Title: V.P., AES SL Energy Company Name: AES Huntington Beach

Phone #: (714) 374-1421 Fax #:

Email: Weikko.Wirta@AES.com

THIS IS A PUBLIC DOCUMENT

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Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Form 400A and Form 400-CEQA.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator To Appears On The Permit): AES Huntington Beach, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): 21730 Newland St., Huntington Beach, CA 92646 (D124)

(•) Fixed Location ( ) Various Locations

Section B - Location Data

Plot Plan

Please attach a site map for the project with distances and scales. Identify and locate the proposed equipment on the map. A copy of the appropriate Thomas Brothers page, a web-based map, or a sketch that shows the major streets and location of the equipment is acceptable.

Location of Schools Nearby

Is the facility located within a 1/4 mile radius (1,320 feet) of the outer boundary of a school? ( ) Yes (•) No

If yes, please provide name(s) of school(s) below:

School Name: _____ **School Name:** _____

School Address: _____ **School Address:** _____

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

CA Health & Safety Code 42301.9: "School" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.

Population Density

(•) Urban ( ) Rural (<50% of land within 3 km radius accounted for by urban land use categories, i.e., multi-family dwelling or industrial.)

Zoning Classification

(•) Mixed Use Residential Commercial Zone (M-U) ( ) Service and Professional Zone (C-S) ( ) Medium Commercial (C-3)

( ) Heavy Commercial (C-4) ( ) Commercial Manufacturing (C-M)

Section C - Emission Release Parameters - Stacks, Vents

Stack Data

Stack Height: 150.00 feet (above ground level) **What is the height of the closest building nearest the stack?** 100 feet

Stack Inside Diameter: 240.16 inches **Stack Flow:** 729,666 acfm **Stack Temperature:** 170 °F

Rain Cap Present: ( ) Yes (•) No **Stack Orientation:** (•) Vertical ( ) Horizontal

If the stack height is less than 2.5 times the closest building height (H), please provide information on any building within 5xH distance from the stack (attach additional sheet if necessary):

Building #/Name: See Appendix C **Building #/Name:** See Appendix C

Building Height: _____ feet (above ground level) **Building Height:** _____ feet (above ground level)

Building Width: _____ feet **Building Width:** _____ feet

Building Length: _____ feet **Building Length:** _____ feet

Receptor Distance From Equipment Stack or Roof Vents/Openings

Distance to nearest residence or sensitive receptor*: 1,378 feet

Distance to nearest business: 886 feet

Building Information

Are the emissions released from vents and/or openings from a building? ( ) Yes (•) No

If yes, please provide:

Building #/Name: _____ **Building Width:** _____ feet

Building Height: _____ feet (above ground level) **Building Length:** _____ feet

*AQMD Rule 1470 defines SENSITIVE RECEPTOR as meaning any residence including private homes, condominiums, apartments, and living quarters, schools as defined under paragraph (b)(57), preschools, daycare centers and health facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Form 400A and Form 400-CEQA.

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submittfgfed with this application is true and correct.

Signature of Preparer:	Title of Preparer:	Preparer's Phone #: (949) 248-8490
	Don Barkley	Preparer's Email: DBarkley@YorkeEngr.com

Contact Person:	Contact's Phone#: (714) 374-1421	Date Signed:
Weikko Wirta		12/9/2021
Contact's Email: Weikko.Wirta@AES.com	Contact's Fax#:	

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Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): AES Huntington Beach, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (◉) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

21730 Newland St
Street Address
Huntington Beach , CA 92646
City Zip
Weikko Wirta V.P., AES SL Energy
Contact Name Title
(714) 374-1421
Phone # Ext. Fax #
E-Mail: Weikko.Wirta@AES.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
[X] Check here if same as equipment location address

21730 Newland St
Address
Huntington Beach , CA 92646
City State Zip
Weikko Wirta V.P., AES SL Energy
Contact Name Title
(714) 374-1421
Phone # Ext. Fax #
E-Mail: Weikko.Wirta@AES.com

Section D - Application Type

6. The Facility Is: ( ) Not In RECLAIM or Title V ( ) In RECLAIM ( ) In Title V (◉) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:
- ( ) New Construction (Permit to Construct)
- ( ) Equipment On-Site But Not Constructed or Operational
- ( ) Equipment Operating Without A Permit *
- ( ) Compliance Plan
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

7b. Facility Permits:
- (◉) Title V Application or Amendment (Refer to Title V Matrix)
- ( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:
- ( ) Administrative Change
- ( ) Alteration/Modification
- ( ) Alteration/Modification without Prior Approval *
- ( ) Change of Condition
- ( ) Change of Condition without Prior Approval *
- ( ) Change of Location
- ( ) Change of Location without Prior Approval *
- ( ) Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy):
8b. Estimated End Date of Construction (mm/dd/yyyy):
8c. Estimated Start Date of Operation (mm/dd/yyyy):

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Title V Permit Amendment

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process)

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (◉) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? ( ) No (◉) Yes
If Yes, provide NOV/NC#: P66881

Section E - Facility/Business Information

13. What type of business is being conducted at this equipment location? Electric Power Generation

14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? ( ) No (◉) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (◉) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official:

18. Title of Responsible Official: V.P., AES Southland Energy

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ( ) No (◉) Yes

20. Print Name: Weikko Wirta

21. Date: 12/09/2021

22. Do you claim confidentiality of data? (If Yes, see instructions.) (◉) No ( ) Yes

23. Check List: [X] Authorized Signature/Date [X] Form 400-CEQA [X] Supplemental Form(s) (ie., Form 400-E-xx) [X] Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED $	PAYMENT TRACKING #	VALIDATION

DATE	APP REJ	DATE	APP REJ	CLASS I III	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN

South Coast Air Quality Management District

Form 500-A2
Title V Application Certification

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section I - Operator Information

1. Facility Name (Business Name of Operator That Appears On Permit): AES Huntington Beach, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

3. This Certification is submitted with a (Check one):
- a. ◉ Title V Application (Initial, Revision or Renewal)
- b. ○ Supplement/Correction to a Title V Application
- c. ○ MACT Part 1

4. Is Form 500-C2 included with this Certification? ○ Yes ◉ No

Section II - Responsible Official Certification Statement

*Read each statement carefully and check each that applies – **You must check 3a or 3b.***

1. For Initial, Permit Renewal, and Administrative Application Certifications:

a. ○ The facility, including equipment that are exempt from written permit per Rule 219, is currently operating and will continue to operate in compliance with all applicable requirement(s) identified in Section II and Section III of Form 500-C1,

i. ☐ except for those requirements that do not specifically pertain to such devices or equipment and that have been identified as "Remove" on Section III of Form 500-C1.

ii. ☐ except for those devices or equipment that have been identified on the completed and attached Form 500-C2 that will not be operating in compliance with the specified applicable requirement(s).

b. ○ The facility, including equipment that are exempt from written permit per Rule 219, will meet in a timely manner, all applicable requirements with future effective dates.

2. For Permit Revision Application Certifications:

a. ☑ The equipment or devices to which this permit revision applies, will in a timely manner comply with all applicable requirements identified in Section II and Section III of Form 500-C1.

3. For MACT Hammer Certifications:

a. ○ The facility is subject to Section 112(j) of the Clean Air Act (Subpart B of 40 CFR part 63), also known as the MACT "hammer." The following information is submitted with a Title V application to comply with the Part 1 requirements of Section 112(j).

b. ◉ The facility is not subject to Section 112(j) of the Clean Air Act (Subpart B of 40 CFR part 63).

Section III - Authorization/Signature

I certify under penalty of law that I am the responsible official for this facility as defined in AQMD Regulation XXX and that based on information and belief formed after reasonable inquiry, the statement and information in this document and in all attached application forms and other materials are true, accurate, and complete.

1. Signature of Responsible Official:	2. Title of Responsible Official: V.P., AES SL Energy
3. Print Name: Weikko Wirta	4. Date: 12/04/2024
5. Phone #: (714) 374-1421	6. Fax #:

7. Address of Responsible Official:

Street #	City	State	Zip
21730 Newland St	Huntington Beach	CA	92646

Acid Rain Facilities Only: Please Complete Section IV

Acid Rain facilities must certify their compliance status of the devices subject to applicable requirements under Title IV by an individual who meets the definition of Designated (or Alternate) Representative in 40 CFR Part 72.

Section IV - Designated Representative Certification Statement	
For Acid Rain Facilities Only: I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.	
1. Signature of Designated Representative or Alternate:	2. Title of Designated Representative or Alternate: Plant Manager
3. Print Name of Designated Representative or Alternate: Weikko Wirta	4. Date: 12/09/2021
5. Phone #: (714) 374-1421	6. Fax #:
7. Address of Designated Representative or Alternate:	

Street #	City	State	Zip
21730 Newland St	Huntington Beach	CA	92646

South Coast Air Quality Management District

Form 500-C1

Title V Compliance Status Report

To provide the compliance status of your facility with applicable federally enforceable requirements and identify other local-only requirements, complete this form and attach it to a completed compliance certification Form 500-A2. As appropriate, all submittals of Form 500-C2 as appropriate should also be attached to this form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section I - Operator Information

1. Facility Name (Business Name of Operator That Appears On Permit):
AES Huntington Beach, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD):
115389

PROCEDURES FOR DETERMINING COMPLIANCE STATUS

1. **Equipment verification:** Review the list of pending applications, and either the preliminary Title V facility permit or the list of current permits to operate that the AQMD provided you, to determine if they completely and accurately describe all equipment operating at the facility. Attach a statement to describe any discrepancies.
2. **Identify applicable requirements*:** Use the checklist in Section II to identify all applicable and federally-enforceable local, state, and federal rules and regulations, test methods, and monitoring, recordkeeping and reporting (MRR) requirements that apply to any equipment or process (including equipment exempt from a permit by Rule 219) at your facility.
   The potential applicable requirements, test methods and MRR requirements are identified and listed adjacent to each given equipment/process description. Check off each box adjacent to the corresponding requirement as it applies to your particular equipment/process.
   Note: Even if there is only one piece of equipment that is subject to a particular requirement, the appropriate box should be checked.
3. **Identify additional applicable requirements*:** Use Section III to identify any additional requirements not found in Section II. Section II is not a complete list of all applicable requirements. It does not include recently adopted NESHAP regulations by EPA or recent amendments to AQMD rules. Do not add rules listed in Section V here.
4. **Identify any requirements that do not apply to a specific piece of equipment or process:** Also use Section III to identify any requirements that are listed in Section II but that do not apply to a specific piece of equipment or process. Fill out Section III of this form and attach a separate sheet to explain the reason(s) why the identified rules do not apply. Note: Listing any requirement that does not apply to a specific piece of equipment will not provide the facility with a permit shield unless one is specifically requested by completing Form 500-D and is approved by AQMD.
5. **Identify SIP-approved rules that are not current AQMD rules:** Use Section IV to identify older versions of current AQMD rules that are the EPA-approved versions in the State Implementation Plan (SIP), and that are still applicable requirements as defined by EPA. The facility is not required to certify compliance with the items checked in Section IV provided that the non-SIP approved rule in Section II is at least as stringent as the older SIP-approved version in Section IV. **
6. **Identify Local-Only Enforceable Regulatory Requirements:** Use Section V to identify AQMD rules that are not SIP-approved and are not federally enforceable.
7. **Determine compliance:** Determine if all equipment and processes are complying with all requirements identified in Sections II and III. If each piece of equipment complies with all applicable requirements, complete and attach Form 500-A2 to certify the compliance status of the facility. If any piece of equipment is not in compliance with any of the applicable requirements, complete and attach Form 500-C2 in addition to Form 500-A2.

* The following AQMD rules and regulations are not required to be included in Section II and do not have to be added to Section III: Regulation I, List and Criteria in Regulation II, Rule 201, Rule 201.1, Rule 202, Rule 203, Rule 205, Rule 206, Rule 207, Rule 208, Rule 209, Rule 210, Rule 212, Rule 214, Rule 215, Rule 216, Rule 217, Rule 219, Rule 220, Rule 221, Regulation III, Regulation V, Regulation VIII, Regulation XII, Regulation XV, Regulation XVI, Regulation XIX, Regulation XXI, Regulation XXII, and Regulation XXX.

** Emission units adversely affected by the gap between current and SIP-approved versions of rules may initially be placed in a non-Title V portion of the permit

Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
☐ All Air Pollution Control Equipment Using Combustion (RECLAIM & non-RECLAIM sources)	☐ Rule 480 (10/07/77)	N/A	N/A
☐ All Coating Operations (12/15/00)	☐ Rule 442	☐ Rule 442(f)	☐ Rule 442(g)
☐ All Combustion Equipment, ≥ 555 Mmbtu/Hr (except for NOx RECLAIM sources)	☐ Rule 474 (12/04/81)	☐ AQMD TM 7.1 or 100.1	
☑ All Combustion Equipment Except Internal Combustion Engines (RECLAIM & non-RECLAIM sources)	☑ Rule 407 (04/02/82) ☑ Rule 409 (08/07/81)	☑ AQMD TM 100.1 or 10.1, 307-91 ☑ AQMD TM 5.1, 5.2, or 5.3	
☑ All Combustion Equipment Using Gaseous Fuel (except SOx RECLAIM sources)	☑ Rule 431.1 (06/12/98)	☑ Rule 431.1(f)	☑ Rule 431.1(d) & (e)
☑ All Combustion Equipment Using Liquid Fuel (except SOx RECLAIM sources)	☑ Rule 431.2 (09/15/00)	☑ Rule 431.2(g)	☑ Rule 431.2(f)
☐ All Combustion Equipment Using Fossil Fuel (except SOx RECLAIM sources)	☐ Rule 431.3 (05/07/76)		
☑ All Equipment	☑ Rule 401 (11/09/01) ☑ Rule 405 (02/07/86) ☑ Rule 408 (05/07/76) ☑ Rule 430 (07/12/96) ☐ Rule 701 (06/13/97) ☑ New Source Review, BACT ☑ Rule 1703 (10/07/88) ☑ 40 CFR68 - Accidental Release Prevention	☑ California Air Resources Board Visible Emission Evaluation ☑ AQMD TM 5.1, 5.2, or 5.3 N/A See Applicable Subpart	☑ Rule 430(b) See Applicable Subpart
☐ All Equipment Processing Solid Materials	☐ Rule 403 (06/03/05)	☐ Rule 403(d)(3)	☐ Rule 403(f)
☑ All Equipment With Exhaust Stack (except cement kilns subject to Rule 1112.1)	☑ Rule 404 (02/07/86)	☑ AQMD TM 5.1, 5.2, or 5.3	
☑ All Facilities Using Solvents to Clean Various Items or Equipment	☑ Rule 109 (05/02/03) ☑ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART T	☑ Rule 109(g) ☑ Rule 1171(e) See Applicable Subpart	☑ Rule 109(c) ☑ Rule 1171(c)(6) See Applicable Subpart
☑ All RECLAIM Equipment (NOx & SOx)	☑ Reg. XX - RECLAIM	☑ Rule 2011, App. A (05/06/05) ☑ Rule 2012, App. A (05/06/05)	☑ Rule 2011, App. A (05/06/05) ☑ Rule 2012, App. A (05/06/05)
☑ Abrasive Blasting	☑ Rule 1140 (08/02/85)	☑ Rule 1140(d) & (e), AQMD Visible Emission Method	

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Aggregate and Related Operations	☐ Rule 1157 (09/08/06)	☐ Rule 1157(f)	☐ Rule 1157(e)
☐ Appliances Containing Ozone Depleting Substances (except Motor Vehicle Air Conditioners): Manufacturing, Repair, Maintenance, Service, & Disposal	☐ 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
☐ Asphalt	See Manufacturing, Asphalt Processing & Asphalt Roofing		
☐ Asphalt Concrete/Batch Plants	☐ 40 CFR60 SUBPART I	See Applicable Subpart	See Applicable Subpart
☐ Benzene Emissions, Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, & Coke By-Product Recovery Plants	☐ Rule 1173 (02/06/09) ☐ Rule 1176 (09/13/96) ☐ 40 CFR61 SUBPART L ☐ 40 CFR61 SUBPART Y ☐ 40 CFR63 SUBPART R ☐ 40 CFR63 SUBPART CC	☐ Rule 1173(j) ☐ Rule 1176(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 1173(i) ☐ Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Benzene Transfer Operations	☐ Rule 1142 (07/19/91) ☐ 40 CFR61 SUBPART BB ☐ 40 CFR63 SUBPART Y	☐ Rule 1142(e) See Applicable Subpart See Applicable Subpart	☐ Rule 1142(h) See Applicable Subpart See Applicable Subpart
☐ Benzene Waste Operations	☐ Rule 1176 (09/13/96) ☐ 40 CFR61 SUBPART FF ☐ 40 CFR63 SUBPART CC	☐ Rule 1176(h) See Applicable Subpart See Applicable Subpart	☐ Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart
☐ Beryllium Emissions	☐ 40 CFR61 SUBPART C	See Applicable Subpart	See Applicable Subpart
☐ Beryllium Emissions, Rocket Motor Firing	☐ 40 CFR61 SUBPART D	See Applicable Subpart	See Applicable Subpart
☐ Boiler, < 5 Mmbtu/Hr (non-RECLAIM sources)	☐ Rule 1146.1 (09/05/08) ☐ Rule 1146.2 (05/05/06) ☐ 40 CFR63 SUBPART DDDDD	☐ Rule 1146.1(d) N/A See Applicable Subpart	☐ Rule 1146.1(c)(2) & (c)(3) N/A See Applicable Subpart
☐ Boiler, < 5 Mmbtu/Hr (RECLAIM sources)	☐ Rule 1146.1 (09/05/08) - excluding NOx requirements ☐ 40 CFR63 SUBPART DDDDD	☐ Rule 1146.1(d) See Applicable Subpart	☐ Rule 1146.1(c)(2) & (c)(3) See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Boiler, ≥ 5 Mmbtu/Hr (non-RECLAIM sources)	☐ Rule 218 (05/14/99) ☐ Rule 429 (12/21/90) ☐ Rule 475 (08/07/78) ☐ Rule 476 (10/08/76) ☐ Rule 1146 (09/05/08) ☐ 40 CFR60 SUBPART D ☐ 40 CFR60 SUBPART Da ☐ 40 CFR60 SUBPART Dc ☐ 40 CFR63 SUBPART DDDDD	☐ AQMD TM 100.1 N/A ☐ AQMD TM 5.1, 5.2, or 5.3 ☐ AQMD TM 7.1, 100.1, 5.1, 5.2, or 5.3 ☐ Rule 1146(d) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 218(e) & (f) ☐ Rule 429(d) ☐ Rule 1146(c)(6) & (c)(7) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☑ Boiler, ≥ 5 Mmbtu/Hr (RECLAIM sources)	☑ Rule 475 (08/07/78) ☐ Rule 476 (10/08/76) - excluding NOx requirements ☑ Rule 1146 (09/05/08) - excluding NOx requirements ☑ Rule 2011 (05/06/05) ☑ or Rule 2012 (05/06/05) ☐ 40 CFR60 SUBPART D ☐ 40 CFR60 SUBPART Da ☐ 40 CFR60 SUBPART Dc ☐ 40 CFR63 SUBPART DDDDD	☑ AQMD TM 5.1, 5.2, or 5.3 ☐ AQMD TM 7.1, 100.1, 5.1, 5.2, or 5.3 ☑ Rule 1146(d) ☑ Rule 2011, App. A (05/06/05) or ☑ Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☑ Rule 1146(c)(6) & (c)(7) ☑ Rule 2011, App. A (05/06/05) ☑ or Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Boiler, Petroleum Refining (non-RECLAIM sources)	☐ Rule 218 (05/14/99) ☐ Rule 429 (12/21/90) ☐ Rule 431.1 (06/12/98) ☐ Rule 475 (08/07/78) ☐ Rule 1146 (09/05/08) ☐ 40 CFR60 SUBBPART J ☐ 40 CFR63 SUBPART DDDDD	☐ AQMD TM 100.1 N/A ☐ Rule 431.1(f) ☐ AQMD TM 5.1, 5.2, or 5.3 ☐ Rule 1146(d) See Applicable Subpart See Applicable Subpart	☐ Rule 218(e) & (f) ☐ Rule 429(d) ☐ Rule 431.1(d) & (e) ☐ Rule 1146(c)(6) & (c)(7) See Applicable Subpart See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Boiler, Petroleum Refining (RECLAIM sources)	☐ Rule 1146 (09/05/08) - excluding NOx requirements ☐ Rule 2011 (05/06/05) ☐ or ☐ Rule 2012 (05/06/05) ☐ 40 CFR60 SUBPART J ☐ 40 CFR63 SUBPART DDDDD	☐ Rule 1146(d) ☐ Rule 2011, App. A (05/06/05) ☐ or ☐ Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart	☐ Rule 1146(c)(6) & (c)(7) ☐ Rule 2011, App. A (05/06/05) ☐ or ☐ Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart
☐ Boilers, Electric Utility (non-RECLAIM sources)	☐ Rule 218 (05/14/99) ☐ Rule 429 (12/21/90) ☐ Rule 1135 (07/19/91) ☐ 40 CFR60 SUBPART Db ☐ 40 CFR63 SUBPART DDDDD	☐ AQMD TM 100.1 N/A ☐ Rule 1135(e) See Applicable Subpart See Applicable Subpart	☐ Rule 218(e) & (f) ☐ Rule 429(d) ☐ Rule 1135(e) See Applicable Subpart See Applicable Subpart
☑ Boilers, Electric Utility (RECLAIM sources)	☑ Rule 2012 (05/06/05) ☐ 40 CFR60 SUBPART Db ☐ 40 CFR63 SUBPART DDDDD	☑ Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart	☑ Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart
☐ Bulk Loading Of Organic Liquids	☐ Rule 462 (05/14/99) ☐ 40 CFR60 SUBPART XX ☐ 40 CFR63 SUBPART R ☐ 40 CFR63 SUBPART BBBBBB ☐ 40 CFR63 SUBPART EEEE	☐ Rule 462(f) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 462(g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Cadmium Electroplating Operation	☐ Rule 1426 (05/02/03)		☐ Rule 1426(e)
☐ Calciner, Mineral Industries	☐ 40 CFR60 SUBPART UUU	See Applicable Subpart	See Applicable Subpart
☐ Calciner, Petroleum Coke	☐ Rule 477 (04/03/81) ☐ Rule 1119 (03/02/79) ☐ 40 CFR63 SUBPART L	☐ AQMD Visible Emissions, AQMD TM 5.1, 5.2, or 5.3 ☐ AQMD TM 6.1 or 100.1 See Applicable Subpart	See Applicable Subpart
☐ Charbroilers	☐ Rule 1174 (10/05/90) ☐ Rule 1138 (11/14/97)	☐ AQMD Test Protocol ☐ Rule 1138(g)	☐ Rule 1138(d)
☐ Chrome Plating & Chromic Acid Anodizing Operation	☐ Rule 1426 (05/02/03) ☐ Rule 1469 (12/05/08)	☐ Rule 1469(e)	☐ Rule 1426(e) ☐ Rule 1469(g), (j) & (k)

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Coating Operation, Adhesive Application Operation	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1132 (05/05/06) ☐ Rule 1168 (01/07/05) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART RR	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1132(f) ☐ Rule 1168(f) & (e) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1132(g) ☐ Rule 1168(d) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Coating Operation, Aerospace Assembly & Component Manufacturing	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1124 (09/21/01) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART GG	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1124(e) & (f) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1124(j) & (d) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Coating Operation, Graphic Arts (Gravure, Letter Press, Flexographic & Lithographic Printing Process, Etc.)	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1130 (10/08/99) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART QQ ☐ 40 CFR60 SUBPART RR ☐ 40 CFR60 SUBPART FFF ☐ 40 CFR60 SUBPART VVV ☐ 40 CFR63 SUBPART KK ☐ 40 CFR63 SUBPART JJJJ	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1130(h) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1130(e) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Magnet Wire Coating	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1126 (01/13/95) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09)	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1126(d) ☐ Rule 1132(f) ☐ Rule 1171(e)	☐ Rule 109(c) ☐ Rule 1126(c)(4) ☐ Rule 1132(g) ☐ Rule 1171(c)(6)

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Coating Operation, Marine Coating (Except for recreational equipment)	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1106 (01/13/95) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART II	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1106(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1106(c)(5) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Coating Operation, Metal Coating	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1107 (01/06/06) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART EE ☐ 40 CFR60 SUBPART SS ☐ 40 CFR63 SUBPART NNNN ☐ 40 CFR63 SUBPART MMMM ☐ 40 CFR63 SUBPART RRRR	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1107(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1107(j) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Metal Containers, Closure, & Coil Coating Operations	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1125 (03/07/08) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART TT ☐ 40 CFR60 SUBPART WW ☐ 40 CFR63 SUBPART KKKK ☐ 40 CFR63 SUBPART SSSS	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1125(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1125(c)(6) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Motor Vehicle & Mobile Equipment Non-Assembly Line Coating Operation	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1132 (05/05/06) ☐ Rule 1151 (12/02/05) ☐ Rule 1171 (05/01/09)	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1132(f) ☐ Rule 1151(h) ☐ Rule 1171(e)	☐ Rule 109© ☐ Rule 1132(g) ☐ Rule 1151(f) ☐ Rule 1171(c)(6)

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Coating Operation, Motor Vehicle Assembly Line	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1115 (05/12/95) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART MM ☐ 40 CFR63 SUBPART IIII	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1115(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1115(g) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Paper, Fabric, & Film Coating Operations	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1128 (03/08/96) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART VVV ☐ 40 CFR63 SUBPART OOOO	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1128(f) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1128(e) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Plastic, Rubber, & Glass	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1145 (12/04/09) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR60 SUBPART TTT ☐ 40 CFR63 SUBPART NNNN ☐ 40 CFR63 SUBPART PPPP	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1145(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1145(d) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Coating Operation, Pleasure Craft	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1106.1 (02/12/99) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART II	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1106.1(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1106.1(d) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Coating Operation, Screen Printing	☐ Rule 109 (05/02/03) ☐ Rule 1130.1 (12/13/96) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART KK	☐ Rule 109(g) ☐ Rule 1130.1(g) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1130.1(c)(5) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart
☑ Coating Operation, Use Of Architectural Coating (Stationary Structures)	☑ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☑ Rule 1113 (07/13/07) ☐ Rule 1132 (05/05/06) ☑ Rule 1171 (05/01/09)	☑ Rule 109(g) ☐ Rule 481(d) ☑ Rule 1113(e) ☐ Rule 1132(f) ☑ Rule 1171(e)	☑ Rule 109(c) ☐ Rule 1132(g) ☑ Rule 1171(c)(6)
☐ Coating Operation, Wood Flat Stock	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1104 (08/13/99) ☐ Rule 1132 (05/05/06) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART II	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1104(e) ☐ Rule 1132(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1104(d) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Coating Operation, Wood Products (Commercial Furniture, Cabinets, Shutters, Frames, Toys)	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1132 (05/05/06) ☐ Rule 1136 (06/14/96) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART JJ	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1132(f) ☐ Rule 1136(f) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1132(g) ☐ Rule 1136(d) & (g) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Coater	See Coating Operations		
☐ Columns	See Petroleum Refineries, Fugitive Emissions		
☐ Composting Operation	☐ Rule 1133 (01/10/03) ☐ Rule 1133.1 (01/10/03) ☐ Rule 1133.2 (01/10/03)	☐ Rule 1133.1(e) ☐ Rule 1133.2(g)	☐ Rule 1133.1(d) ☐ Rule 1133.2(h)
☐ Compressors	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		
☐ Concrete Batch Plants	See Nonmetallic Mineral Processing Plants		
☐ Consumer Product Manufacturing	See Manufacturing, Consumer Product		
☐ Cooling Tower, Hexavalent Chromium	☐ 40 CFR63 SUBPART Q	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Copper Electroplating Operation	☐ Rule 1426 (05/02/03)		☐ Rule 1426(e)
☐ Crude Oil Production	See Oil Well Operations		
☐ Crusher	See Nonmetallic Mineral Processing Plants		
☐ Dairy Farms and Related Operations	☐ Rule 1127 (08/06/04)	☐ Rule 1127(h)	☐ Rule 1127(g)
☐ Degreasers	☐ Rule 109 (05/02/03) ☐ Rule 1122 (05/01/09) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART T	☐ Rule 109(g) ☐ Rule 1122(h) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1122(i) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Dry Cleaning, Perchloroethlyene	☐ Rule 1421 (12/06/02)	☐ Rule 1421(e) & (i)	☐ Rule 1421(g) & (h)
☐ Dry Cleaning, Petroleum Solvent	☐ Rule 109 (05/02/03) ☐ Rule 1102 (11/17/00) ☐ 40 CFR60 SUBPART JJJ	☐ Rule 109(g) ☐ Rule 1102(g) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1102(f) See Applicable Subpart
☐ Dryers, Mineral Industries	☐ 40 CFR60 SUBPART UUU	See Applicable Subpart	See Applicable Subpart
☐ Ethylene Oxide Sterilizer	See Sterilizer, Ethylene Oxide		
☐ Flanges	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		
☐ Fluid Catalytic Cracking Unit	☐ Rule 218 (05/14/99) ☐ Rule 1105 (09/01/84) ☐ Rule 1105.1 (11/07/03)	☐ AQMD TM 100.1 ☐ Rule 1105(c)(1) ☐ Rule 1105.1(f)	☐ Rule 218(e) & (f) ☐ Rule 1105(c)(2) ☐ Rule 1105.1(e)
☐ Foundries, Iron and Steel	☐ 40 CFR63 SUBPART EEEEE	See Applicable Subpart	See Applicable Subpart
☐ Friction Materials Manufacturing	See Manufacturing, Friction Materials		
☐ Fugitive Emissions, Benzene	☐ Rule 1173 (12/06/02) ☐ 40 CFR61 SUBPART L ☐ 40 CFR61 SUBPART V ☐ 40 CFR63 SUBPART R ☐ 40 CFR63 SUBPART CC	☐ Rule 1173(j) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 1173(i) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Fugitive Emissions, Chemical Plant	☐ Rule 466 (10/07/83)	☐ Rule 466(f)	☐ Rule 466(e)
	☐ Rule 466.1 (03/16/84)	☐ Rule 466.1(g)	☐ Rule 466.1(h)
	☐ Rule 467 (03/05/82)	☐ Rule 467(f)	☐ Rule 467(e)
	☐ Rule 1173 (02/06/09)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ 40 CFR60 SUBPART VV	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR61 SUBPART V	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Fugitive Emissions, Natural Gas Processing Plant	☐ Rule 466 (10/07/83)	☐ Rule 466(f)	☐ Rule 466(e)
	☐ Rule 466.1 (03/16/84)	☐ Rule 466.1(g)	☐ Rule 466.1(h)
	☐ Rule 467 (03/05/82)	☐ Rule 467(f)	☐ Rule 467(e)
	☐ Rule 1173 (02/06/09)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ 40 CFR60 SUBPART KKK	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR61 SUBPART V	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Fugitive Emissions, Oil & Gas Production Facility	☐ Rule 466 (10/07/83)	☐ Rule 466(f)	☐ Rule 466(e)
	☐ Rule 466.1 (03/16/84)	☐ Rule 466.1(g)	☐ Rule 466.1(h)
	☐ Rule 467 (03/05/82)	☐ Rule 467(f)	☐ Rule 467(e)
	☐ Rule 1173 (02/06/09)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ 40 CFR61 SUBPART V	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Fugitive Emissions, Pipeline Transfer Station	☐ Rule 466 (10/07/83)	☐ Rule 466(f)	☐ Rule 466(e)
	☐ Rule 466.1 (03/16/84)	☐ Rule 466.1(g)	☐ Rule 466.1(h)
	☐ Rule 467 (03/05/82)	☐ Rule 467(f)	☐ Rule 467(e)
	☐ Rule 1173 (02/06/09)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ 40 CFR61 SUBPART V	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Furnace, Basic Oxygen Process	☐ 40 CFR60 SUBPART Na	See Applicable Subpart	See Applicable Subpart
☐ Furnace, Electric Arc, For Steel Plants: Constructed After August 17, 1983	☐ 40 CFR60 SUBPART AAa	See Applicable Subpart	See Applicable Subpart
☐ Furnace, Electric Arc, For Steel Plants: Constructed After Oct. 21, 1974, & On Or Before Aug. 17, 1983	☐ 40 CFR60 SUBPART AA	See Applicable Subpart	See Applicable Subpart
☐ Furnace, Glass Melting	☐ Rule 1117 (01/06/84)	☐ Rule 1117(c), AQMD TM 7.1 or 100.1	
	☐ 40 CFR60 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Furnace, Lead Melting, Automotive Batteries	☐ Rule 1101 (10/07/77)	☐ AQMD TM 6.1	
	☐ 40 CFR63 SUBPART X	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
☐ Gasoline Transfer & Dispensing Operation	☐ Rule 461 (06/03/05)	☐ Rule 461(f)	☐ Rule 461(e)(6) & (e)(7)
☐ Glass Manufacturing	See Manufacturing, Glass		
☐ Grain Elevators	☐ 40 CFR60 SUBPART DD	See Applicable Subpart	See Applicable Subpart
☐ Halon-containing Equipment, Use for Technician Training, Testing, Maintenance, Service, Repair, or Disposal	☐ 40 CFR82 SUBPART H	See Applicable Subpart	See Applicable Subpart
☐ Hazardous Waste Combustors	☐ 40 CFR63 SUBPART EEE	See Applicable Subpart	See Applicable Subpart
☐ Heater, Asphalt Pavement	☐ Rule 1120 (08/04/78)	☐ AQMD Visible Emissions, AQMD TM 6.2	☐ Rule 1120(f)
☐ Heaters, Petroleum Refinery Process	☐ Rule 429 (12/21/90) ☐ Rule 431.1 (06/12/98) ☐ Rule 1146 (09/05/08) ☐ 40 CFR60 SUBPART J ☐ 40 CFR63 SUBPART DDDDD	N/A ☐ Rule 431.1(f) ☐ Rule 1146(d) See Applicable Subpart See Applicable Subpart	☐ Rule 429(d) ☐ Rule 431.1(d) & (e) ☐ Rule 1146(c)(6) & (c)(7) See Applicable Subpart See Applicable Subpart
☐ Heaters, Process	See Boilers		
☐ Incinerators	☐ 40 CFR60 SUBPART E ☐ 40 CFR60 SUBPART CCCC	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Inorganic Arsenic Emissions, Arsenic Trioxide & Metallic Arsenic Production Facilities	☐ 40 CFR61 SUBPART P	See Applicable Subpart	See Applicable Subpart
☑ Internal Combustion Engines, Reciprocating	☑ Rule 1110.2 (07/09/10) ☐ 40 CFR60 SUBPART IIII and JJJJ ☑ 40 CFR63 SUBPART ZZZZ	Rule 1110.2(g) See Applicable Subpart See Applicable Subpart	Rule 1110.2(f) See Applicable Subpart See Applicable Subpart
☐ Kiln, Cement Plant	☐ Rule 1112 (06/06/86) ☐ Rule 1112.1 (12/04/09) ☐ 40 CFR60 SUBPART F	N/A N/A See Applicable Subpart	N/A N/A See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
☐ Landfills	☐ Rule 1150 (10/15/82) ☐ Rule 1150.1 (03/17/00) ☐ 40 CFR60 SUBPART WWW ☐ 40 CFR63 SUBPART AAAA	☐ Rule 1150.1(j) See Applicable Subpart See Applicable Subpart	☐ Rule 1150.1(e) & (f) See Applicable Subpart See Applicable Subpart
☐ Lead Acid Battery Manufacturing Plants	See Manufacturing, Lead Acid Battery		
☐ Lead Electroplating Operation	☐ Rule 1426 (05/02/03)		☐ Rule 1426(e)
☐ Manufacturing, Asphalt Processing & Asphalt Roofing	☐ Rule 470 (05/07/76) ☐ Rule 1108 (02/01/85) ☐ Rule 1108.1 (11/04/83) ☐ 40 CFR60 SUBPART UU ☐ 40 CFR63 SUBPART LLLLL	N/A ☐ Rule 1108(b) ☐ Rule 1108.1 (b) See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Manufacturing, Brick & Structural Clay Products	☐ 40 CFR63 SUBPART JJJJJ	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Cement	☐ Rule 1156 (03/06/09)	☐ Rule 1156(g)	☐ Rule 1156(f)
☐ Manufacturing, Clay Ceramics	☐ 40 CFR63 SUBPART KKKKK	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Coatings & Ink (SIC Code 2851)	☐ Rule 1141.1 (11/17/00) ☐ 40 CFR63 SUBPART HHHHH	N/A See Applicable Subpart	☐ Rule 1141.1(c) See Applicable Subpart
☐ Manufacturing, Consumer Product	☐ Title 17 CCR 94500		
☐ Manufacturing, Food Product	☐ Rule 1131 (06/06/03)	☐ Rule 1131(e)	☐ Rule 1131(d)
☐ Manufacturing, Friction Materials	☐ 40 CFR63 SUBPART QQQQQ	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Glass	☐ Rule 1117 (01/06/84) ☐ 40 CFR60 SUBPART CC ☐ 40 CFR61 SUBPART N	☐ Rule 1117(c), AQMD TM 7.1 or 100.1 See Applicable Subpart See Applicable Subpart	 See Applicable Subpart See Applicable Subpart
☐ Manufacturing, Hydrochloric Acid	☐ 40 CFR63 SUBPART NNNNN	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Lead-Acid Battery	☐ 40 CFR60 SUBPART KK	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
☐ Manufacturing, Lime	☐ 40 CFR63 SUBPART AAAAA	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Magnetic Tape Industry	☐ 40 CFR60 SUBPART SSS ☐ 40 CFR63 SUBPART EE	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Manufacturing, Miscellaneous Organic Chemical	☐ 40 CFR63 SUBPART FFFF	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Nitric Acid	☐ Rule 218 (05/14/99) ☐ Rule 1159 (12/06/85) ☐ 40 CFR60 SUBPART G	☐ AQMD TM 100.1 ☐ AQMD TM 7.1 or 100.1 See Applicable Subpart	☐ Rule 218(e) & (f) See Applicable Subpart
☐ Manufacturing, Plywood & Composite Wood Products	☐ Rule 1137 (02/01/02) ☐ 40 CFR63 SUBPART DDDD	N/A See Applicable Subpart	☐ Rule 1137(e) See Applicable Subpart
☐ Manufacturing, Polymer Industry	☐ 40 CFR60 SUBPART DDD ☐ 40 CFR63 SUBPART W ☐ 40 CFR63 SUBPART J	See Applicable Subpart See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Manufacturing, Polymeric Cellular Foam	☐ Rule 1175 (09/07/07) ☐ 40 CFR63 SUBPART UUUU	☐ Rule 1175(f) See Applicable Subpart	☐ Rule 1175(e) See Applicable Subpart
☐ Manufacturing, Products Containing Halon Blends	☐ 40 CFR82 SUBPART H	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Products Containing Organic Solvents	☐ Rule 443.1 (12/05/86)	N/A	N/A
☐ Manufacturing, Products Containing Ozone Depleting Substances (ODS)	☐ 40 CFR82 SUBPART A ☐ 40 CFR82 SUBPART E	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Manufacturing, Reinforced Plastic Composites	☐ 40 CFR63 SUBPART WWWW	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Refractory Products	☐ 40 CFR63 SUBPART SSSSS	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Resin	☐ Rule 1141 (11/17/00) ☐ 40 CFR63 SUBPART W	☐ Rule 1141(d) See Applicable Subpart	☐ Rule 1141(c) See Applicable Subpart
☐ Manufacturing, Rubber Tire	☐ 40 CFR63 SUBPART XXXX	See Applicable Subpart	See Applicable Subpart
☐ Manufacturing, Semiconductors	☐ Rule 109 (05/02/03) ☐ Rule 1164 (01/13/95) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART BBBBB	☐ Rule 109(g) ☐ Rule 1164(e) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1164(c)(5) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Manufacturing, Solvent	☐ Rule 443 (05/07/76)	N/A	N/A

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
Manufacturing, Sulfuric Acid	Rule 469 (02/13/81) 40 CFR60 SUBPART H 40 CFR60 SUBPART Cd	AQMD TM 6.1 or 6.2 See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
Manufacturing, Surfactant	Rule 1141.2 (01/11/02)	Rule 1141.2(e) AQMD TM 25.1	
Manufacturing, Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes	40 CFR60 SUBPART III 40 CFR60 SUBPART NNN	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
Manufacturing, Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	40 CFR60 SUBPART RRR	See Applicable Subpart	See Applicable Subpart
Manufacturing, Vinyl Chloride	40 CFR61 SUBPART F	See Applicable Subpart	See Applicable Subpart
Manufacturing, Water Heaters	Rule 1121 (09/03/04)	N/A	N/A
Manufacturing, Wool Fiberglass Insulation	40 CFR60 SUBPART PPP	See Applicable Subpart	See Applicable Subpart
Manure Processing Operations	Rule 1127 (08/06/04)	Rule 1127(h)	Rule 1127(g)
Marine Tank Vessel Operations	Rule 1142 (07/19/91) Rule 1173 (02/06/09) 40 CFR63 SUBPART Y	Rule 1142(e) Rule 1173(j) See Applicable Subpart	Rule 1142(h) Rule 1173(i) See Applicable Subpart
Mercury Emissions	40 CFR61 SUBPART E 40 CFR63 SUBPART IIII	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
Motor Vehicle Air Conditioners with Ozone Depleting Substances (ODS): Repair, Service, Manufacturing, Maintenance, or Disposal	40 CFR82 SUBPART B 40 CFR82 SUBPART F	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
Municipal Waste Combustors	40 CFR60 SUBPART Cb 40 CFR60 SUBPART Ea 40 CFR60 SUBPART Eb	See Applicable Subpart See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart See Applicable Subpart
Negative Air Machines/HEPA, Asbestos	40 CFR61 SUBPART M	See Applicable Subpart	See Applicable Subpart
Nickel Electroplating Operation	Rule 1426 (05/02/03)		Rule 1426(e)
Nonmetallic Mineral Processing Plants	Rule 404 (02/07/86) Rule 405 (02/07/86) 40 CFR60 SUBPART OOO	AQMD TM 5.1, 5.2, or 5.3 AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart	See Applicable Subpart
Off-site Waste and Recovery Operation	40 CFR63 SUBPART DD	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
☐ Oil and Gas Well Operation	☐ Rule 1148 (11/05/82) ☐ Rule 1148.1 (03/05/04)	☐ AQMD TM 25.1 ☐ Rule 1148.1 (g)	☐ Rule 1148.1 (f)
☐ Onshore Natural Gas Processing, SO2 Emissions	☐ 40 CFR60 SUBPART LLL	See Applicable Subpart	See Applicable Subpart
☐ Open Fires	☐ Rule 444 (11/07/08)		
☐ Open Storage, Petroleum Coke	☐ Rule 403 (06/03/05) ☐ Rule 403.1 (04/02/04) ☐ Rule 1158 (06/11/99)	☐ Rule 403(d)(4) ☐ Rule 1158(h)	☐ Rule 403(f) ☐ Rule 403.1(h) ☐ Rule 1158(j)
☐ Open Storage	☐ Rule 403 (06/03/05) ☐ Rule 403.1 (04/02/04)	☐ Rule 403(d)(4)	☐ Rule 403(f) ☐ Rule 403.1(h)
☐ Outer Continental Shelf Platform	☐ Rule 1183 (03/12/93) ☐ 40 CFR55	☐ 40 CFR55 See Applicable Subpart	☐ 40 CFR55 See Applicable Subpart
☐ Oven, Commercial Bakery	☐ Rule 1153 (01/13/95)	☐ Rule 1153(h)	☐ Rule 1153(g)
☐ Oven, Petroleum Coke	☐ Rule 477 (04/03/81) ☐ 40 CFR63 SUBPART L ☐ 40 CFR63 SUBPART CCCCC	☐ AQMD Visible Emissions, AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Ozone Depleting Substances (ODS) or Alternative ODS, Use	☐ 40 CFR82 Subpart G	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
☐ Petroleum Refineries	☐ Rule 218 (05/14/99)	☐ AQMD TM 100.1	☐ Rule 218(e) & (f)
	☐ Rule 465 (08/13/99)		
	☐ Rule 468 (10/08/76)	☐ AQMD TM 6.1 or 6.2	
	☐ Rule 469 (02/13/81)	☐ AQMD TM 6.1 or 6.2	
	☐ Rule 1118 (11/04/05)	☐ Rule 1118(j)	☐ Rule 1118(f), (g), (h), & (i)
	☐ Rule 1123 (12/07/90)	N/A	☐ Rule 1123(c)
	☐ Rule 1189 (01/21/00)	☐ Rule 1189(f)	☐ Rule 1189(e)
	☐ 40 CFR60 SUBPART J	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART EEEE	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART GGGGG	See Applicable Subpart	See Applicable Subpart
	☐ Title 13 CCR 2250		
☐ Petroleum Refineries, Fugitive Emissions	☐ Rule 1173 (02/06/09)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ Rule 466 (10/07/83)	☐ Rule 466(f)	☐ Rule 466(e)
	☐ Rule 466.1 (03/16/84)	☐ Rule 466.1(g)	☐ Rule 466.1(h)
	☐ Rule 467 (03/05/82)	☐ Rule 467(f)	☐ Rule 467(e)
	☐ 40 CFR60 SUBPART GGG	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR61 SUBPART V	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart

KEY ABBREVIATIONS: **Reg.** = AQMD Regulation; **Rule** = AQMD Rule; **App.** = Appendix; **AQMD TM** = AQMD Test Method; **CFR** = Code of Federal Regulations; **CCR** = California Code of Regulations

Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Petroleum Refineries, Storage Tanks	☐ Rule 463 (05/06/05)	☐ Rule 463(g)	☐ Rule 463(e)(5)
	☐ Rule 1178 (04/07/06)	☐ Rule 1178(i)	☐ Rule 1178(f) & (h)
	☐ 40 CFR60 SUBPART K	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Ka	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Kb	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART EEEE	See Applicable Subpart	See Applicable Subpart
☐ Petroleum Refineries, Wastewater Systems	☐ Rule 1176 (09/13/96)	☐ Rule 1176(h)	☐ Rule 1176(f) & (g)
	☐ Rule 464 (12/07/90)	N/A	
	☐ 40 CFR60 SUBPART QQQ	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Pharmaceuticals & Cosmetics Manufacturing	☐ Rule 1103 (03/12/99)	☐ Rule 1103(f)	☐ Rule 1103(e)
	☐ 40 CFR63 SUBPART GGG	See Applicable Subpart	See Applicable Subpart
☐ Polyester Resin Operation	☐ Rule 109 (05/02/03)	☐ Rule 109(g)	☐ Rule 109(c)
	☐ Rule 1162 (07/08/05)	☐ Rule 1162(f)	☐ Rule 1162(e)
	☐ Rule 1171 (05/01/09)	☐ Rule 1171(e)	☐ Rule 1171(c)(6)
☐ Primary Magnesium Refining	☐ 40 CFR63 SUBPART TTTTT	See Applicable Subpart	See Applicable Subpart
☐ Printing Press	See Coating Operations		
☐ Publicly Owned Treatment Works Operations	☐ Rule 1179 (03/06/92)	☐ Rule 1179(e)	☐ Rule 1179(c) & (d)
	☐ 40 CFR60 SUBPART O	See Applicable Subpart	See Applicable Subpart
☐ Pumps	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Recycling & Recovery Equipment for Ozone Depleting Substances (ODS),	☐ 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
☐ Refrigerant Reclaimers for Ozone Depleting Substances (ODS)	☐ 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
☐ Rendering Plant	☐ Rule 472 (05/07/76)	N/A	☐ Rule 472(b)
☐ Rock Crushing	See Nonmetallic Mineral Processing Plants		
☐ Secondary Aluminum Production	☐ 40 CFR63 SUBPART LL	See Applicable Subpart	See Applicable Subpart
☐ Semiconductor Manufacturing	See Manufacturing, Semiconductors		
☐ Sewage Treatment Plants	See Publicly Owned Treatment Works Operation		
☐ Site Remediation	☐ 40 CFR63 SUBPART GGGGG	See Applicable Subpart	See Applicable Subpart
☐ Smelting, Primary Copper	☐ 40 CFR63 SUBPART QQQ	See Applicable Subpart	See Applicable Subpart
☐ Smelting, Secondary Lead	☐ 40 CFR60 SUBPART L ☐ 40 CFR63 SUBPART X	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
☐ Soil Decontamination / Excavation	☐ Rule 1166 (05/11/01) ☐ 40 CFR63 SUBPART GGGGG	☐ Rule 1166(e) See Applicable Subpart	☐ Rule 1166(c)(1)(C) See Applicable Subpart
☐ Spray Booth	See Coating Operations		
☐ Sterilizer, Ethylene Oxide	☐ 40 CFR63 SUBPART O	See Applicable Subpart	See Applicable Subpart
☐ Storage Tank, Degassing Operation	☐ Rule 1149 (07/14/95) ☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ Storage Tank, Greater Than 19,815 Gallon Capacity	☐ Rule 463 (05/06/05)	☐ Rule 463(g)	☐ Rule 463(e)(5)
	☐ Rule 1178 (04/07/06)	☐ Rule 1178(i)	☐ Rule 1178(h)
	☐ 40 CFR63 SUBPART F	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART G	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART H	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART I	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART K	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Ka	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART Kb	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	☐ 40CFR63 SUBPART BBBBBB	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart
☐ Synthetic Fiber Production Facilities	☐ 40 CFR60 SUBPART HHH	See Applicable Subpart	See Applicable Subpart
☐ Taconite Iron Ore Processing Facilities	☐ 40 CFR63 SUBPART RRRRR	See Applicable Subpart	See Applicable Subpart
☑ Turbine, Stationary Gas-Fired	☐ Rule 1134 (08/08/97)	☐ Rule 1134(e) & (g)	☐ Rule 1134(d) & (f)
	☑ Rule 475 (08/07/78)	☑ AQMD TM 5.1, 5.2, or 5.3	
	☐ 40 CFR60 SUBPART GG	See Applicable Subpart	See Applicable Subpart
	☑ 40 CFR60 SUBPART KKKK	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART YYYY	See Applicable Subpart	See Applicable Subpart
☐ Turbine, Stationary Oil-Fired	☐ 40 CFR63 SUBPART YYYY	See Applicable Subpart	See Applicable Subpart
☐ Valves	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		
☐ Vessel, Refinery Process	☐ Rule 1123 (12/07/90)	N/A	☐ Rule 1123(c)
☐ Vessels	See Petroleum Refineries, Fugitive Emissions		

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	**Applicable Requirement**	**Test Method**	**MRR Requirement**
☐ Wastewater, Chemical Plant	☐ Rule 464 (12/07/90) ☐ Rule 1176 (09/13/96) ☐ 40 CFR63 SUBPART F ☐ 40 CFR63 SUBPART G ☐ 40 CFR63 SUBPART H ☐ 40 CFR63 SUBPART I ☐ 40 CFR63 SUBPART CC	N/A ☐ Rule 1176(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☑ Wastewater Treatment, Other	☑ Rule 464 (12/07/90) ☐ Rule 1176 (09/13/96)	N/A ☐ Rule 1176(h)	☐ Rule 1176(f) & (g)
☐ Woodworking Operations	☐ Rule 1137 (02/01/02)	N/A	☐ Rule 1137(e)

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Section III - Supplemental Identification of Specific Requirements

Complete this section only if there is a specific requirement (i.e., rule reference, test method, or MRR requirement) that is:

1. Listed for a specific type of equipment or process in Section II of this form & **DOES NOT** pertain to a specific device at your facility*; OR,
2. Is **NOT** Listed for a specific type of equipment or process in Section II of this form but it **IS** applicable to a specific device at your facility.

NOTES:

1. For any specific requirement, test method, or MRR requirement that is identified as "Remove," attach additional sheets to explain the reasons why the specific requirement does not pertain to the device listed.
2. All boxes that are checked in Section II and any additional requirements identified in this section as "Add" will be used to determine the facility's compliance status. This information will be used to verify the certification statements made on Form 500-A2.
3. Do not use this section to identify equipment that is exempt from specific rule requirements. Your equipment is automatically considered to be in compliance with the rule that specifically exempts the equipment from those requirements.
4. Listing any requirement that does not apply to a specific piece of equipment in this section will not provide the facility with a permit shield unless one is specifically requested by completing Form 500-D and approved by the AQMD.

* If this section is completed as part of the initial Title V application & there is no device number assigned, refer to the existing permit or application number in this column.

Device No.*	Specific Requirement (Rule Number & Date)	Add (A) or Remove (R) (Check one)	Test Method	Add (A) or Remove (R) (Check one)	MRR Requirement	Add (A) or Remove (R) (Check one)
		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R
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		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R
		O A O R		O A O R		O A O R

Section IV - SIP-Approved Rules That Are Not The Most Current AQMD Rules					
Check off each SIP-Approved Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.					
SIP - Approved Rule	**Adoption/ Amendment Date**	**Check (✓) If Applies**	**SIP - Approved Rule**	**Adoption/ Amendment Date**	**Check (✓) If Applies**
401	03/02/84	☑			☐
431.2	05/04/90	☑			☐
461	6/3/05	☐			☐
466.1	05/02/80	☐			☐
469	04/07/76	☐			☐
475	10/08/76	☑			☐
1112	01/06/84	☐			☐
1112.1	2/7/86	☐			☐
1113	11/08/96	☑			☐
1117	1/6/83	☐			☐
1122	07/11/97	☐			☐
1132	03/05/04	☐			☐
1140	02/01/80	☑			☐
1146	11/17/00	☑			☐
1146.1	5/13/94	☐			☐
1151	12/11/98	☐			☐
1158	6/11/99	☐			☐
1162	11/17/00	☐			☐
1166	07/14/95	☐			☐
1171	11/07/03	☑			☐
1175	05/13/94	☐			☐
1186	09/10/99	☐			☐

Section V - AQMD Rules That Are Not SIP-Approved (Continued on Following Page)					
Check off each AQMD Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.					
Non SIP - Approved Rule	**Adoption/ Amendment Date**	**Check (✓) If Applies**	**Non SIP - Approved Rule**	**Adoption/ Amendment Date**	**Check (✓) If Applies**
53 Los Angeles Co.	N/A	☐	1192	06/16/00	☐
53 Orange Co.	N/A	☑	1193	07/09/10	☐
53 Riverside Co.	N/A	☐	1194	10/20/00	☐
53 San Bernardino Co.	N/A	☐	1195	05/05/06	☐
53A San Bernardino Co.	N/A	☐	1196	06/06/08	☐
402	05/07/76	☑	1401	09/10/10	☑
429	12/21/90	☐	1401.1	11/04/05	☐
430	07/12/96	☑	1402	03/04/05	☐
441	05/07/76	☐	1403	10/05/07	☐
473	05/07/76	☐	1404	04/06/90	☐
477	04/03/81	☐	1405	01/04/91	☐
480	10/07/77	☐	1406	07/08/94	☐
1109	08/05/88	☐	1407	07/08/94	☐
1110.2	07/09/10	☑	1411	03/01/91	☐
1116.1	10/20/78	☐	1414	05/03/91	☐
1127	08/06/04	☐	1415	10/14/94	☐
1143	07/09/10	☐	1418	09/10/99	☐
1147	12/05/08	☐	1420	09/11/92	☐
1148.1	03/05/04	☐	1420.1	11/05/10	☐
1150	10/15/82	☐	1421	12/06/02	☐
1155	12/04/09	☐	1425	03/16/01	☐
1156	03/06/09	☐	1426	05/02/03	☐
1157	09/08/06	☐			☐
1163	06/07/85	☐			☐
1170	05/06/88	☐			☐
1183	03/12/93	☐			☐
1186.1	01/09/09	☐			☐
1191	06/16/00	☐			☐

Section V - AQMD Rules That Are Not SIP-Approved (Continued on Following Page)					
Check off each AQMD Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.					
Non SIP - Approved Rule	**Adoption/ Amendment Date**	**Check (✓) If Applies**	**Non SIP - Approved Rule**	**Adoption/ Amendment Date**	**Check (✓) If Applies**
1469	12/05/08	☐	2009.1	05/11/01	☐
1469.1	03/04/05	☐	2501	05/09/97	☐
1470	06/01/07	☑	2506	12/10/99	☐
1472	03/07/08	☐			☐
2009	01/07/05	☑			☐
		☐			☐
		☐			☐
		☐			☐
		☐			☐
		☐			☐

South Coast Air Quality Management District

Form 400-CEQA
California Environmental Quality Act (CEQA) Applicability

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project [1] has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines § 15060(a)]. Form 400-CEQA and the instructions for guidance on completing this form are available at http://www.aqmd.gov/home/regulations/ceqa/ceqa-permit-forms or http://www.aqmd.gov/home/permits/permit-application-forms. For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one Form 400-CEQA is necessary for the entire project. If you need assistance completing this form, contact Permit Services at (909) 396-3385.

Section A – Facility Information

1. Facility Name (Business Name of Operator to Appear on the Permit): AES Huntington Beach, LLC

2. SCAQMD Facility ID: 115389

3. Project Description: Increase in operating hours by 1000 hours for Two Combined Cycle Gas Turbines

Section B – Review For Exemption From Further CEQA Action

Check "Yes" or "No" as applicable. If "Yes" is checked for any question in Section B, skip Section C and proceed to page 2 and complete Section D - Signatures.

	Yes	No	Is this application for:
1.	○	◎	A request for a change of operator only (without equipment or process change modifications)?
2.	○	◎	A functionally identical permit unit replacement with no increase in equipment unit rating or emissions?
3.	○	◎	A change of daily VOC permit limit to a monthly VOC permit limit?
4.	○	◎	Equipment damaged as a result of a disaster during state of emergency?
5.	○	◎	A Title V (e.g., SCAQMD Regulation XXX) permit renewal without equipment or process change modifications?
6.	○	◎	A Title V administrative permit revision?
7.	○	◎	The conversion of an existing permit into an initial Title V permit?

Section C – Review of Impacts Which May Trigger Further CEQA Review

Check "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	
1.	○	◎	Is this project specifically evaluated in a previously certified or adopted CEQA document? If "Yes" is checked, attach a copy of the signed Notice of Determination to this form.
2.	○	◎	Is this project specifically exempted from CEQA by another entity (e.g., city or agency)? If "Yes" is checked, attach a copy of the signed Notice of Exemption or other documentation from the entity to this form.
3.	○	◎	Is this project part of a larger project? If "Yes" is checked, attach a separate sheet to briefly describe the larger project.
4.	○	◎	Will the project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound listed on Form 400-CEQA, Table 1 - Regulated Substances List and Threshold Quantities for Accidental Release Prevention [http://www.aqmd.gov/home/regulations/ceqa/ceqa-permit-forms]? If "Yes" is checked, attach a separate sheet to identify each hazardous material and corresponding quantity to be transported, stored, or used.
5.	○	◎	Will the project emit any air toxic listed on Form 400-CEQA, Table 2 - Other Air Toxics and Their Screening Levels [http://www.aqmd.gov/home/regulations/ceqa/ceqa-permit-forms] [2]? If "Yes" is checked, attach a separate sheet to identify each air toxic and corresponding quantity to be emitted.
6.	○	◎	Will the project require any demolition, excavation, and/or grading construction activities that encompass an area exceeding 20,000 square feet?

[1] A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc

[2] Form 400-CEQA, Table 2 – Other Air Toxics and Their Screening Levels, contains a list of air toxics that either do not have a cancer potency (CP) or reference exposure level (REL) approved by the Office of Environmental Health Hazards Assessment (OEHHA) or have a combination of OEHHA-approved and non-approved CPs or RELs.

Section C – Review of Impacts Which May Trigger Further CEQA (concluded)			
	Yes	No	
7.	◉	○	**Will the project utilize a boiler, engine, or other combustion equipment that uses fuel (e.g., gasoline, diesel, natural gas, liquefied petroleum gas (LPG), or landfill gas)?** If "Yes" is checked, then the applicant will need to calculate the amount of GHGs from fuel use via on the Greenhouse Gas (GHG) online estimator [http://www.aqmd.gov/home/regulations/ceqa/ceqa-permit-forms], and attaching the printout or by conducting hand calculations and providing the documentation. Refer to the Instructions for Form 400-CEQA for guidance.
8.	○	◉	**Will the project utilize other types of equipment not addressed in Question 7 that require the use of, or will generate, any chemicals listed on Form 400-CEQA, Table 3 - Greenhouse Gases** [http://www.aqmd.gov/home/regulations/ceqa/ceqa-permit-forms]? If "Yes" is checked, attach a separate sheet to identify each equipment unit, the chemical name(s), and the quantity of each chemical identified.
9.	○	◉	**Will the project include the open outdoor storage of dry bulk solid materials that could generate dust?** If "Yes" is checked, include a plot plan with the application package.
10.	○	◉	**Will the project result in or make worse noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements?** For example, landfills, materials recovery/recycling facilities (MRF), and compost materials or other types of greenwaste (e.g., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to SCAQMD Rule 402 – Nuisance.
11.	○	◉	**Will the project cause an increase of emissions from marine vessels, trains and/or airplanes?**
12.	○	◉	**Will the project increase demand for potable water at the facility by more than 262,820 gallons per day?** The following examples identify some, but not all, types of projects that may result in a "Yes" answer to this question: 1) a project that generates steam; 2) a project that uses water as part of operating air pollution control equipment; 3) a project that requires water as part of the production process; 4) a project that requires a new, or the expansion of an existing, sewage treatment facility, new water lines, sewage lines, sewage hook-ups etc.; 5) a project where the water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; 6) a project that requires new or the expansion of existing, water supply and conveyance facilities; and, 7) a project that requires water to hydrotest pipelines, storage tanks etc. for structural integrity.
13.	○	◉	**Will the project create an increase in the mass inflow of effluents to a public wastewater treatment facility that would require a new, or revision to an existing, National Pollutant Discharge Elimination System (NPDES) or other related permit at the facility?**
14.	○	◉	**Will the project result in the need for more than 350 new employees?**
15.	○	◉	**Will the project result in an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?**
16.	○	◉	**Will the project result in an increase in customer traffic by more than 700 visits per day?**
17.	○	◉	**Will the project result in temporary or permanent noise or vibration in excess of what is allowed by the applicable local noise ordinance?**
18.	○	◉	**Will the project create a permanent need for new or additional solid waste disposal?** Check "No" if the projected potential amount of solid waste to be generated by the project is less than five tons per day.
19.	○	◉	**Will the project create a permanent need for new or additional hazardous waste disposal?** Check "No" if the projected potential amount of hazardous wastes to be generated by the project is less than 42 cubic yards per day (or equivalent in pounds).
20.	○	◉	**Will the project include equipment that after installation or modification will change the visual character of the site and its surroundings or block views?**
21.	○	◉	**Will the project have equipment that will create a new source of external lighting that will be visible at the property line?**

Section D – SIGNATURES

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

1. Signature of Responsible Official of Firm:		2. Title of Responsible Official of Firm: V.P., AES SL Energy	
3. Print Name of Responsible Official of Firm: Welkko Wirta		4. Date Signed: 12/09/2021	
5. Phone # of Responsible Official of Firm: (714) 374-1421	6. Fax # of Responsible Official of Firm:	7. Email of Responsible Official of Firm: Welkko.Wirta@AES.com	
8. Signature of Preparer, (if prepared by person other than responsible official of firm):		9. Title of Preparer: Senior Engineer	
10. Print Name of Preparer: Don Barkley		11. Date Signed: 12/9/2021	
12. Phone # of Preparer: (949) 248-8490	13. Fax # of Preparer:	14. Email of Preparer: DBarkley@YorkeEngr.com	

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND ANY ATTACHMENTS WITH FORM 400-A.

South Coast Air Quality Management District

Form 400 - XPP

Express Permit Processing Request

Form 400-A, Form 400-CEQA and one or more 400-E-xx form(s) must accompany all submittals.

Mail To:
SCAQMD
P.O Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator To Appear On The Permit): AES Huntington Beach, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

Section B - Equipment Location Address

3. (◉) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

21730 Newland St
Street Address

Huntington Beach, CA 92646
City State Zip

Weikko Wirta — V.P., AES SL Energy
Contact Name Title

(714) 374-1421 — — —
Phone # Ext. Fax #

Weikko.Wirta@AES.com
E-Mail

Section C - Permit Mailing Address

4. Permit and Correspondence Information:
☑ Check here if same as equipment location address

21730 Newland St
Address

Huntington Beach, CA 92646
City State Zip

Weikko Wirta — V.P., AES SL Energy
Contact Name Title

(714) 374-1421 — —
Phone # Ext. Fax #

Weikko.Wirta@AES.com
E-Mail

Section D - Authorization/Signature

I understand that the Expedited Permit Processing fees must be submitted at the time of application submittal, and that the application may be subject to additional fees per Rule 301. I understand that requests for Express Permit Processing neither guarantees action by any specific date nor does it guarantee permit approval; that Express Permit Processing is subject to availability of qualified staff; and that once Express Permit Processing has commenced, the expedited fees will not be refunded. I hereby certify that all information contained herein and information submitted with the application are true and correct.

5. Signature of Responsible Official:	6. Title of Responsible Official: V.P., AES SL Energy
7. Print Name of Responsible Official: Weikko Wirta	8. Date: 12/09/2021
9. Phone #: (714) 374-1421	10. Fax #:

AQMD USE ONLY	APPLICATION TRACKING #		TYPE B C	EQUIPMENT CATEGORY CODE:	FEE SCHEDULE: $		VALIDATION
ENG. DATE A R	ENG. DATE A R		CLASS I II	ASSIGNMENT Unit Engineer	CHECK/MONEY ORDER #	AMOUNT $	TRACKING #

APPENDIX B – EMISSION CALCULATIONS

Yorke ENGINEERING, LLC
www.YorkeEngr.com

HBEP Criteria Pollutant Emissions Summary - Permitted Operating Scenario

Total Facility	NOx	CO	VOC	PM10	PM2.5	SOx
Annual Emissions (tpy)	126.46	200.47	65.26	57.14	57.14	10.15

Auxiliary Boiler

	Events/Year	Duration Minutes	Hours/Year	NOx lb/event	CO lb/event	VOC lb/event	PM10 lb/event	PM2.5 lb/event	SOx lb/event
Cold Start	24	170	68	4.22	4.34	1.05	1.45	1.45	0.4
Warm Start	48	85	68	2.11	2.17	0.52	0.72	0.72	0.2
Hot Start	48	25	20	0.62	0.64	0.15	0.21	0.21	0.06
Heat input 100% load (MMBtu/hr)	71								
Annual Normal Operating Hours			2,573						
Total Annual Hours			2,729						
Annual Heat Input Normal Operating Hours (MMBtu)			182,703						

	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Hourly Emissions (Normal Operations)	0.42	2.83	0.37	0.51	0.51	0.14

	tpy	tpy	tpy	tpy	tpy	tpy
Annual Emissions	0.66	3.76	0.50	0.70	0.70	0.19
Annual Emissions (lb/yr)	1,313	7,521	1,009	1,392	1,392	382

Yorke ENGINEERING, LLC
www.YorkeEngr.com

HBEP Criteria Pollutant Emissions Summary - Permitted Operating Scenario

Total Facility	NOx	CO	VOC	PM10	PM2.5	SOx
Annual Emissions (tpy)	126.46	200.47	65.26	57.14	57.14	10.15

Combined Cycle Gas Turbine

	Events/Year	Duration Minutes	Hours/Year	NOx lb/event	CO lb/event	VOC lb/event	PM10 lb/event	PM2.5 lb/event	SO2 Long-term lb/event
Cold Start	80	60	80	61	325	36	8.5	8.5	1.5
Warm Start/Non-Cold	420	30	210	32	137	25	4.25	4.25	0.75
Shutdown	500	30	250	10	133	32	4.25	4.25	0.75
Annual Avg Heat Input (MMBtu/hr)	2,248								
Annual Normal Operating Hours			6,100						
Total Annual Hours			6,640						

	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Hourly Emissions (Normal Operations)	16.8	7.65	5.8	8.5	8.5	1.5

	tpy	tpy	tpy	tpy	tpy	tpy
Annual Emissionss - 2 CCGT	125.80	196.71	64.76	56.44	56.44	9.96
Annual Emissions - 1 CCGT	62.90	98.35	32.38	28.22	28.22	4.98
Each CCGT (lb/yr)	125,800	196,705	64,760	56,440	56,440	9,960

Yorke ENGINEERING, LLC
www.YorkeEngr.com

HBEP Criteria Pollutant Emissions Summary - Revised Operating Scenario

Total Facility	NOx	CO	VOC	PM10	PM2.5	SOx
Permitted Annual Emissions (tpy)	126.46	200.47	65.26	57.14	57.14	10.15
Revised Annual Emissions (tpy)	143.26	208.12	71.06	65.64	65.64	11.65
Change (tpy)	16.80	7.65	5.80	8.50	8.50	1.50

Auxiliary Boiler

	Events/Year	Duration Minutes	Hours/Year	NOx lb/event	CO lb/event	VOC lb/event	PM10 lb/event	PM2.5 lb/event	SOx lb/event
Cold Start	24	170	68	4.22	4.34	1.05	1.45	1.45	0.4
Warm Start	48	85	68	2.11	2.17	0.52	0.72	0.72	0.2
Hot Start	48	25	20	0.62	0.64	0.15	0.21	0.21	0.06
Heat input 100% load (MMBtu/hr)	71								
Annual Normal Operating Hours			2573						
Total Annual Hours			2,729						
Annual Heat Input Normal Operating Hours (MMBtu)			182,703						
				lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Hourly Emissions (Normal Operations)				0.42	2.83	0.37	0.51	0.51	0.14
				tpy	tpy	tpy	tpy	tpy	tpy
Annual Emissions				0.66	3.76	0.50	0.70	0.70	0.19
Annual Emissions (lb/yr)				1,313	7,521	1,009	1,392	1,392	382

Yorke ENGINEERING, LLC
www.YorkeEngr.com

HBEP Criteria Pollutant Emissions Summary - Revised Operating Scenario

Total Facility	NOx	CO	VOC	PM10	PM2.5	SOx
Permitted Annual Emissions (tpy)	126.46	200.47	65.26	57.14	57.14	10.15
Revised Annual Emissions (tpy)	143.26	208.12	71.06	65.64	65.64	11.65
Change (tpy)	16.80	7.65	5.80	8.50	8.50	1.50

Combined Cycle Gas Turbine

	Events/Year	Duration Minutes	Hours/Year	NOx lb/event	CO lb/event	VOC lb/event	PM10 lb/event	PM2.5 lb/event	SO2 Long-term lb/event
Cold Start	80	60	80	61	325	36	8.5	8.5	1.5
Warm Start/Non-Cold	420	30	210	32	137	25	4.25	4.25	0.75
Shutdown	500	30	250	10	133	32	4.25	4.25	0.75
Annual Avg Heat Input (MMBtu/hr)	2,248								
Base Annual Normal Operating Hours (from Permitted Scenario)			6,100						
Additional Annual Normal Operating Hours			1,000						
Annual Normal Operating Hours			7,100						
Total Annual Hours			7,640						
				lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Hourly Emissions (Normal Operations)				16.8	7.65	5.8	8.5	8.5	1.5
				tpy	tpy	tpy	tpy	tpy	tpy
Annual Emissionss - 2 CCGT				142.60	204.36	70.56	64.94	64.94	11.46
Annual Emissions - 1 CCGT				71.30	102.18	35.28	32.47	32.47	5.73
Each CCGT (lb/yr)				142,600	204,355	70,560	64,940	64,940	11,460

AQIA Emission Rates (lb/yr)

Boiler	1,313	--	--	1,392	1,392	--
CCGT	142,600	--	--	64,940	64,940	--

AQIA Emission Rates (g/s)

Boiler	1.8902E-02	--	--	2.0035E-02	2.0035E-02	--
CCGT	2.0529E+00	--	--	9.3489E-01	9.3489E-01	--

Yorke ENGINEERING, LLC
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HBEP Criteria Pollutant Emissions Summary - Revised Operating Scenario

Total Facility	NOx	CO	VOC	PM10	PM2.5	SOx
Permitted Annual Emissions (tpy)	126.46	200.47	65.26	57.14	57.14	10.15
Revised Annual Emissions (tpy)	143.26	208.12	71.06	65.64	65.64	11.65
Change (tpy)	16.80	7.65	5.80	8.50	8.50	1.50

Q/D for Class I Deposition and Visibility Analysis

Boiler (Daily Scenario)

NOx: 1 Cold Start + 21.17 Hours Normal Operations	13.1	lb/day
PM10: 24 Hours Normal Operations	12.2	lb/day
SOx: 24 Hours Normal Operations	3.4	lb/day

CCGT (Daily Scenario)

NOx: 1 Cold Start + 1 Hot Start + 2 Shutdowns + 20.5 Hours Normal Operations	457.4	lb/day
PM10: 24 Hours Normal Operations	204.0	lb/day
SOx: 24 Hours Normal Operations	36.0	lb/day

Calculation of Q

Pollutant	Aux Boiler (lb/day)	CCGTs (lb/day)	Total (lb/day)
NOx	13.1	914.8	927.9
PM10	12.2	408.0	420.2
SOx	3.4	72.0	75.4

	1,423.5	lb/day
Q	260	ton/yr

Calculation of Q/D

Per A/N's 578073-86, the distance to the San Gabriel Wilderness area is approximately 69 km.

D	69	km

Q/D	3.77

The Q/D screening value for sources > 50 km from a Class I area is 10. Further analysis is not required since Q/D is less than 10.

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HBEP Hazardous Air Pollutants Summary - Permitted Operating Scenario

Total Facility Hazardous Air Pollutants Emissions

Compound	CAS	TAC/HAP	Total CCGTs (ton/yr)	Boiler (ton/yr)	Total Project (ton/yr)
Ammonia	7664417	TAC	103.3	0.2	103.5
Acetaldehyde	75070	HAP & TAC	2.6	0.0003	2.6
Acrolein	107028	HAP & TAC	0.1	0.0002	0.1
Benzene	71432	HAP & TAC	0.05	0.0005	0.0
1,3, Butadiene	106990	HAP & TAC	0.01	NA	0.01
Ethylbenzene	100414	HAP & TAC	0.5	0.0006	0.5
Formaldehyde	50000	HAP & TAC	5.4	0.001	5.4
Hexane	110543	HAP & TAC	NA	0.0004	0.0004
Naphthalene	91203	HAP & TAC	0.02	0.00003	0.02
PAHs	1151	HAP & TAC	0.01	0.00001	0.01
Propylene	115071	TAC	NA	0.05	0.05
Propylene Oxide	75569	HAP & TAC	0.4	NA	0.4
Toluene	108883	HAP & TAC	1.9	0.002	1.9
Xylene	1330207	HAP & TAC	1.0	0.002	1.0
Total Annual HAPs					**12.0**
Total Annual TACs					**115.5**
Highest Single HAP - Formaldehyde					**5.4**

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HBEP Hazardous Air Pollutants Summary - Permitted Operating Scenario

Each CCGT Hazardous Air Pollutants Emissions

CCGT Operational Parameters

MMBtu/hr - Annual Average	2,248
MMBtu/year	14,926,720
Hours/year per CCGT	6,640

Compound	CAS	TAC/HAP	Emission Factor (lb/MMBtu)	Annual Emissions (lb/yr)	Annual Emissions (ton/yr)
Ammonia **(lb/mmscf)**	7664417	TAC	7.266	103,290	51.6
Acetaldehyde	75070	HAP & TAC	1.76E-04	2,627.10	1.31
Acrolein	107028	HAP & TAC	3.62E-06	54.03	0.027
Benzene	71432	HAP & TAC	3.26E-06	48.66	0.024
1,3, Butadiene	106990	HAP & TAC	4.30E-07	6.42	0.0032
Ethylbenzene	100414	HAP & TAC	3.20E-05	477.66	0.24
Formaldehyde	50000	HAP & TAC	3.60E-04	5,373.62	2.69
Hexane	110543	HAP & TAC	NA	NA	NA
Naphthalene	91203	HAP & TAC	1.30E-06	19.40	0.010
PAHs	1151	HAP & TAC	9.00E-07	13.43	0.0067
Propylene	115071	TAC	NA	NA	NA
Propylene Oxide	75569	HAP & TAC	2.90E-05	432.87	0.22
Toluene	108883	HAP & TAC	1.30E-04	1,940.47	0.97
Xylene	1330207	HAP & TAC	6.40E-05	955.31	0.48
Total Annual HAPs per CCGT					**5.97**
Total Annual TACs per CCGT					**57.6**

Notes:

Emission factors based on AP-42, Section 3.1, Final Section, Table 3.1-3--Emission Factors for Hazardous Air Pollutants from Natural Gas-Fired Stationary Gas Turbine (Uncontrolled), April 2000, unless otherwise noted below.

Acetaldehyde, acrolein, benzene, and formaldehyde emission factors are based on AP-42, Section 3.1, Background Information, Table 3.4-1--Summary of Emission Factors for Natural Gas-Fired Gas Turbines, April 2000. These emission factors include control by CO catalyst.

Ammonia emissions based on the operating exhaust ammonia limit of 5 ppmv at 15 percent oxygen and an F-factor of 8,710.

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HBEP Hazardous Air Pollutants Summary - Permitted Operating Scenario

Boiler Hazardous Air Pollutants Emissions

Boiler Operational Parameters

MMBtu/hr - Maximum Hourly	71.0
MMBtu/year	193,759.0
Hours/year	2,729

Compound	CAS	TAC/HAP	Emission Factor (lb/MMscf)	Emission Factor (lb/MMBtu)	Annual Emissions (lb/yr)	Annual Emissions (ton/yr)
Ammonia	7664417	TAC	2.395	2.28E-03	442	0.22
Acetaldehyde	75070	HAP & TAC	0.0031	2.95E-06	0.57	2.86E-04
Acrolein	107028	HAP & TAC	0.0027	2.57E-06	0.50	2.49E-04
Benzene	71432	HAP & TAC	0.0058	5.52E-06	1.07	5.35E-04
Ethylbenzene	100414	HAP & TAC	0.0069	6.57E-06	1.27	6.37E-04
Formaldehyde	50000	HAP & TAC	0.0123	1.17E-05	2.27	1.13E-03
Hexane	110543	HAP & TAC	0.0046	4.38E-06	0.85	4.24E-04
Naphthalene	91203	HAP & TAC	0.0003	2.86E-07	0.06	2.77E-05
PAHs	1151	HAP & TAC	0.0001	9.52E-08	0.02	9.23E-06
Propylene	115071	TAC	0.53	5.05E-04	97.80	4.89E-02
Toluene	108883	HAP & TAC	0.0265	2.52E-05	4.89	2.45E-03
Xylene	1330207	HAP & TAC	0.0197	1.88E-05	3.64	1.82E-03
Total Annual HAPs						**0.0076**
Total Annual TACs						**0.28**

Notes:

Ventura County APCD emissions factors are provided in lb/MMcf. The natural gas heat content of 1050 MMBtu/MMscf was used for conversion to lb/MMBtu.

Ammonia emissions based on the operating exhaust ammonia limit of 5 ppmv at 3 percent oxygen and an F-factor of 8,710.

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HBEP Hazardous Air Pollutants Summary - Revised Operating Scenario

Total Facility Hazardous Air Pollutants Emissions

Compound	CAS	TAC/HAP	Total CCGTs (ton/yr)	Boiler (ton/yr)	Total Project (ton/yr)	Annual Increase (lb/yr)
Ammonia	7664417	TAC	118.8	0.2	119.1	31,111
Acetaldehyde	75070	HAP & TAC	3.0	0.0003	3.0	791.30
Acrolein	107028	HAP & TAC	0.1	0.0002	0.1	16.28
Benzene	71432	HAP & TAC	0.06	0.0005	0.1	14.66
1,3, Butadiene	106990	HAP & TAC	0.01	NA	0.01	1.93
Ethylbenzene	100414	HAP & TAC	0.5	0.0006	0.6	143.87
Formaldehyde	50000	HAP & TAC	6.2	0.001	6.2	1,618.56
Hexane	110543	HAP & TAC	NA	0.0004	0.0004	0.00
Naphthalene	91203	HAP & TAC	0.02	0.00003	0.02	5.84
PAHs	1151	HAP & TAC	0.02	0.00001	0.02	4.05
Propylene	115071	TAC	NA	0.05	0.05	0.00
Propylene Oxide	75569	HAP & TAC	0.5	NA	0.5	130.38
Toluene	108883	HAP & TAC	2.2	0.002	2.2	584.48
Xylene	1330207	HAP & TAC	1.1	0.002	1.1	287.74
Total Annual HAPs					**13.8**	
Total Annual TACs					**132.9**	
Highest Single HAP - Formaldehyde					**6.2**	

HBEP Hazardous Air Pollutants Summary - Revised Operating Scenario

Each CCGT Hazardous Air Pollutants Emissions

CCGT Operational Parameters

MMBtu/hr - Annual Average	2,248
MMBtu/year	17,174,720
Hours/year per CCGT	7,640

Compound	CAS	TAC/HAP	Emission Factor (lb/MMBtu)	Annual Emissions (lb/yr)	Annual Emissions (ton/yr)	Annual Increase (lb/yr)
Ammonia **(lb/mmscf)**	7664417	TAC	7.266	118,845	59.4	15,556
Acetaldehyde	75070	HAP & TAC	1.76E-04	3,022.75	1.51	395.65
Acrolein	107028	HAP & TAC	3.62E-06	62.17	0.031	8.14
Benzene	71432	HAP & TAC	3.26E-06	55.99	0.028	7.33
1,3, Butadiene	106990	HAP & TAC	4.30E-07	7.39	0.0037	0.97
Ethylbenzene	100414	HAP & TAC	3.20E-05	549.59	0.27	71.94
Formaldehyde	50000	HAP & TAC	3.60E-04	6,182.90	3.09	809.28
Hexane	110543	HAP & TAC	NA	NA	NA	NA
Naphthalene	91203	HAP & TAC	1.30E-06	22.33	0.011	2.92
PAHs	1151	HAP & TAC	9.00E-07	15.46	0.0077	2.02
Propylene	115071	TAC	NA	NA	NA	NA
Propylene Oxide	75569	HAP & TAC	2.90E-05	498.07	0.25	65.19
Toluene	108883	HAP & TAC	1.30E-04	2,232.71	1.12	292.24
Xylene	1330207	HAP & TAC	6.40E-05	1,099.18	0.55	143.87
Total Annual HAPs per CCGT					**6.87**	
Total Annual TACs per CCGT					**66.3**	

Notes:

Emission factors based on AP-42, Section 3.1, Final Section, Table 3.1-3--Emission Factors for Hazardous Air Pollutants from Natural Gas-Fired Stationary Gas Turbine (Uncontrolled), April 2000, unless otherwise noted below.

Acetaldehyde, acrolein, benzene, and formaldehyde emission factors are based on AP-42, Section 3.1, Background Information, Table 3.4-1--Summary of Emission Factors for Natural Gas-Fired Gas Turbines, April 2000. These emission factors include control by CO catalyst.

Ammonia emissions based on the operating exhaust ammonia limit of 5 ppmv at 15 percent oxygen and an F-factor of 8,710.

Yorke ENGINEERING, LLC
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HBEP Hazardous Air Pollutants Summary - Revised Operating Scenario

Boiler Hazardous Air Pollutants Emissions

Boiler Operational Parameters

MMBtu/hr - Maximum Hourly	71.0
MMBtu/year	193,759.0
Hours/year	2,729

Compound	CAS	TAC/HAP	Emission Factor (lb/MMscf)	Emission Factor (lb/MMBtu)	Annual Emissions (lb/yr)	Annual Emissions (ton/yr)
Ammonia	7664417	TAC	2.395	2.28E-03	442	0.22
Acetaldehyde	75070	HAP & TAC	0.0031	2.95E-06	0.57	2.86E-04
Acrolein	107028	HAP & TAC	0.0027	2.57E-06	0.50	2.49E-04
Benzene	71432	HAP & TAC	0.0058	5.52E-06	1.07	5.35E-04
Ethylbenzene	100414	HAP & TAC	0.0069	6.57E-06	1.27	6.37E-04
Formaldehyde	50000	HAP & TAC	0.0123	1.17E-05	2.27	1.13E-03
Hexane	110543	HAP & TAC	0.0046	4.38E-06	0.85	4.24E-04
Naphthalene	91203	HAP & TAC	0.0003	2.86E-07	0.06	2.77E-05
PAHs	1151	HAP & TAC	0.0001	9.52E-08	0.02	9.23E-06
Propylene	115071	TAC	0.53	5.05E-04	97.80	4.89E-02
Toluene	108883	HAP & TAC	0.0265	2.52E-05	4.89	2.45E-03
Xylene	1330207	HAP & TAC	0.0197	1.88E-05	3.64	1.82E-03
Total Annual HAPs						**0.0076**
Total Annual TACs						**0.28**

Notes:

Ventura County APCD emissions factors are provided in lb/MMcf. The natural gas heat content of 1050 MMBtu/MMscf was used for conversion to lb/MMBtu.

Ammonia emissions based on the operating exhaust ammonia limit of 5 ppmv at 3 percent oxygen and an F-factor of 8,710.

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HBEP Greenhouse Gas Summary - Permitted Operating Scenario

Total Facility GHG Annual Emissions (ton/yr)

Greenhouse Gas	All CCGTs	Auxiliary Boiler	Total
CO2	1,746,063	11,333	**1,757,395**
CH4	32.88	0.21	**33.1**
N2O	3.29	0.02	**3.31**
CO2e	**1,747,864**	**11,344**	**1,759,209**

Greenhouse Gas	Emission Factors	Units	Global Warming Potential
CO2	120,017	lb/mmscf	1
CH4	2.26	lb/mmscf	25
N2O	0.226	lb/mmscf	298
HHV	1,026	MMBtu/mmscf	

GHG Emissions per Unit

Fuel Consumption Each CCGT (MMBtu/yr)	Fuel Consumption Auxiliary Boiler (MMBtu/yr)
14,926,720	193,759.0

Greenhouse Gas	GHG Emissions Each CCGT (ton/yr)	GHG Emissions Auxiliary Boiler (ton/yr)
CO2	873,031	11,333
CH4	16.4	0.21
N2O	1.64	0.021
CO2e	873,932	11,344

Yorke ENGINEERING, LLC
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HBEP Greenhouse Gas Summary - Permitted Operating Scenario

Total Facility GHG Annual Emissions (ton/yr)

Greenhouse Gas	All CCGTs	Auxiliary Boiler	Total	Increase Each CCGT	Increase Total
CO2	2,009,024	11,333	**2,020,356**	131,481	262,961
CH4	37.83	0.21	**38.0**	2	5
N2O	3.78	0.02	**3.80**	0	0
CO2e	**2,011,097**	**11,344**	**2,022,441**	131,616	263,233

Greenhouse Gas	Emission Factors	Units	Global Warming Potential
CO2	120,017	lb/mmscf	1
CH4	2.26	lb/mmscf	25
N2O	0.226	lb/mmscf	298
HHV	1,026	MMBtu/mmscf	

GHG Emissions per Unit

Fuel Consumption Each CCGT (MMBtu/yr)	Fuel Consumption Auxiliary Boiler (MMBtu/yr)
17,174,720	193,759.0

Greenhouse Gas	GHG Emissions Each CCGT (ton/yr)	GHG Emissions Auxiliary Boiler (ton/yr)
CO2	1,004,512	11,333
CH4	18.9	0.21
N2O	1.89	0.021
CO2e	1,005,548	11,344

Yorke ENGINEERING, LLC
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HBEP - Greenhouse Gas Efficiency

CCGT GHG Efficiency - Permitted

Operating Mode	Hours per Year	Net Heat Rate (Btu/kW-hr)
Baseload - 1X1	1,200	7,217
Baseload - 2X1	4,900	7,015
Starts - First Fire to Baseload	219	19,783
Starts - Baseload to Completion	71	7,217
Shutdown - Baseload to Zero Fuel Flow	250	11,870
Totals	6,640	7,657.6

GHG Efficiency, net (without degradation) (lb CO2 /MWh-HHV) =	895.92
GHG Efficiency, net (with degradation) (lb CO2 /MWh-HHV) =	967.6

CCGT GHG Efficiency - Revised

Operating Mode	Hours per Year	Net Heat Rate (Btu/kW-hr)
Baseload - 1X1	2,200	7,217
Baseload - 2X1	4,900	7,015
Starts - First Fire to Baseload	219	19,783
Starts - Baseload to Completion	71	7,217
Shutdown - Baseload to Zero Fuel Flow	250	11,870
Totals	7,640	7,599.9

Note: This calculation applies all of the 1,000 hours to 1X1 operation.

GHG Efficiency, net (without degradation) (lb CO2 /MWh-HHV) =	889.17
GHG Efficiency, net (with degradation) (lb CO2 /MWh-HHV) =	960.3

Conversion Factors

1,000	kWh/MWh
1.00E-06	mmBtu/Btu
53.06	kg CO2/mmBtu-HHV
2.205	lb/kg
8%	Degradation

APPENDIX C – MODELING SUPPLEMENTAL

AES Huntington Beach, LLC

21730 Newland Street
Huntington Beach, CA 92646

SCAQMD Facility ID: 115389

December 2021

Appendix C
Modeling Supplemental

Prepared by:

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Health Risk Assessment & Air Quality Impact Analysis

Prepared in Support of Application to Increase Turbine Hours of Operation

Prepared for:

AES Huntington Beach, LLC
21730 Newland Street
Huntington Beach, CA 92646
SCAQMD Facility ID: 115389

December 2021

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Attachments

ATTACHMENT 1 – BACKGROUND CONCENTRATION DATA

Health Risk Assessment & Air Quality Impact Analysis
Application to Increase Turbine Hours of Operation

1.0 INTRODUCTION

Yorke Engineering, LLC (Yorke) has prepared this Health Risk Assessment (HRA) and Air Quality Impact Analysis (AQIA) in support of the application to the SCAQMD for the proposed Project.

1.1 Project Overview

AES Huntington Beach (AES) is requesting changes to the operating hours for the two (2) natural gas-fired Combined-Cycle Gas Turbines (CCGTs) [A/N's 618931, 618932; Device ID Nos. D115, D124] at the facility located at 21730 Newland Street in Huntington Beach, CA (SCAQMD Facility ID No. 115389). To meet projected LA Basin demand, AES is proposing a 1,000-hour increase to the permitted normal operating hours of the subject CCGTs. There will be no change to start-up and shutdowns hours and no equipment modifications. Accordingly, AES is requesting a permit revision that will allow for up to 7,640 total hours of operation per CCGT per year. The Auxiliary Boiler's hours of operation are not being modified and no permit revision is being requested for this equipment. It is considered in several sections of the application package when assessing certain regulatory thresholds.

The proposed modifications will not increase short-term emissions (i.e., maximum hourly, daily or monthly emissions) of any pollutant because (1) maximum hourly fuel consumption will remain the same; and (2) the daily and monthly operating scenarios will continue to be as evaluated in A/N's 578073-86. The project will result in an increase in annual emissions of Toxic Air Contaminants (TAC) and criteria pollutants from the CCGTs.

The Project requires a Rule 1401 HRA. Per Rule 1401(f)(3), Maximum Individual Cancer Risk (MICR) and Chronic Hazard Index (HIC) for a modified permit unit may be determined from the increase in potential emissions after the modification relative to permitted emissions as stated in permit conditions. Condition C1.9 limits annual hours of operation, which directly limits annual fuel consumption and TAC emissions. MICR and HIC have been estimated from the increase in annual fuel usage resulting from an additional 1,000 hours of operation. Acute health risk has not been evaluated since the Project does not propose an increase in maximum hourly emissions.

The Project requires an AQIA under Regulations XIII and XVII. These are discussed further in Section 2.0 and 5.0.

Appendix C contains emission data (Section 2.0), a discussion of dispersion modeling methodology (Section 3.0), a summary of the HRA (Section 4.0), and a summary of the AQIA (Section 5.0). Attachment 1 contains background concentration data.

1.2 Facility Location

The facility is located at 21730 Newland Street in the City of Huntington Beach, approximately 900 feet from the Pacific Ocean. The surrounding area is a mix of residential, wetland preserve, public beach, and industrial, and is bordered by a manufactured home/recreation vehicle park on the west, Huntington Beach Channel, and residential areas to the north and east, a tank farm to the north, the Huntington Beach Wetland Preserve/Magnolia Marsh wetlands on the southeast, and the Huntington Beach State Park and the Pacific Ocean to the south and southwest.

The nearest residence is located approximately 420 meters west-northwest of the CCGT exhaust stacks. The nearest commercial facility, the Wetlands & Wildlife Care Center, is located approximately 270 meters west-southwest of the CCGT exhaust stacks. The nearest school is Edison High School on Magnolia Avenue, located approximately 900 meters to the northeast. A plot plan showing the facility and surrounding properties is provided as Figure 1-1.

Figure 1-1: Facility Location

2.0 EMISSION INFORMATION

The emission sources associated with the Project are the two CCGTs and Auxiliary Boiler. The methodologies used to estimate emissions from the Project sources are presented in Section 3.0 of the application and Appendix B of the application.

Rule 1401(f)(3) allows long-term health risks to be estimated from the difference between post-project emissions and permitted pre-project emissions when pre-project emissions are limited by permit condition. Condition C1.9 limits annual hours of operation, which directly limits annual fuel consumption and TAC emissions. MICR and HIC have been estimated from the increase in annual fuel usage resulting from an additional 1,000 hours of operation. The TAC emission increase for each CCGT is provided in Table 2-1.

The AQIA requires the evaluation of criteria pollutant emissions over the Annual averaging period, as appropriate for each California Ambient Air Quality Standard (CAAQS), National Ambient Air Quality Standard (NAAQS), and Class I and Class II Significant Impact Level (SIL). The AQIA assumes that the Pre-Project emissions are not part of background since the Project sources have been in full operation for less than three years. The criteria pollutant emissions used in the AQIA are represented by the Post-Project Potential to Emit (PTE) and are summarized in Table 2-2.

Table 2-1: Rule 1401 HRA – Annual TAC Emissions (per CCGT)

Pollutant	CAS No.	Post-Project Increase in Annual Emissions (lb/yr)
Ammonia	7664417	15,556
Acetaldehyde	75070	395.65
Acrolein	107028	8.14
Benzene	71432	7.33
1,3, Butadiene	106990	0.97
Ethylbenzene	100414	71.94
Formaldehyde	50000	809.28
Hexane	110543	NA
Naphthalene	91203	2.92
PAHs	1151	2.02
Propylene	115071	NA
Propylene Oxide	75569	65.19
Toluene	108883	292.24
Xylenes	1330207	143.87

Table 2-2: AQIA Emissions

Pollutant	Project Source	Post-Project Potential to Emit (lb/yr)	AQIA Emissions[1] (g/s)
NO_2	CCGT (per Unit)	142,600	2.0529E+00
	Auxiliary Boiler	1,313	1.8902E-02
$PM_{10}/PM_{2.5}$	CCGT (per Unit)	64,940	9.3489E-01
	Auxiliary Boiler	1,392	2.0035E-02

[1] AQIA Emissions (g/s) = Post-Project Potential to Emit (lb/yr) x 454 / 8,760 / 60 / 60

3.0 DISPERSION MODELING

Dispersion modeling was conducted to estimate project impacts to ambient air. Dispersion modeling methodology is discussed in this section. Electronic files can be provided upon request.

3.1 Dispersion Model Input

The air dispersion model used for this Project was the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) Version 21112, with the Lakes Environmental Software implementation/user interface, AERMOD View™ Version 10.0.1. For the HRA, AERMOD was run with all sources emitting unit emissions [1 gram/second (g/s)] to obtain the X/Q (Chi/Q) values that are necessary for input into the Hotspots Analysis and Reporting Program, version 2 (HARP2). For the AQIA, the actual emissions from Table 2-2 were used in AERMOD.

3.1.1 Model Options

Regulatory defaults, the "Urban" modeling option, and "Elevated" terrain were used for the analyses. AES is in Orange County. Per the SCAQMD website, the population of the urban area to be used for projects in Orange County Is 3,010,232.

3.1.2 Source Parameters

Source parameters are from A/N's 578073-86. Source locations, stack diameters, and release heights are from Table H.2. Stack temperatures and exit velocities are from Table H.16. CCGT source parameters are reproduced in Table 3-1; auxiliary boiler source parameters are reproduced in Table 3-2.

Table 3-1: CCGT Source Parameters

UTM E (m)	UTM N (m)	Stack Diameter (m)	Release Height (m)	Stack Temperature (Deg K)	Exit Velocity (mps)
409,449 / 409,474	3,723,148 / 3,723,182	6.10	45.7	350	11.8

Table 3-2: Auxiliary Boiler Source Parameters

UTM E (m)	UTM N (m)	Stack Diameter (m)	Release Height (m)	Stack Temperature (Deg K)	Exit Velocity (mps)
409,438	3,723,236	0.91	24.4	432	21.2

3.1.3 Meteorological Data

AES is located approximately 11,000 meters west-southwest from the John Wayne International Airport (KSNA). The station at KSNA is the closest station to the facility. The SCAQMD website contains meteorological data for the KSNA station for the years 2012 through 2016. The surface station's base elevation is 17 meters.

3.1.4 Receptor Grids

The dispersion model included a fenceline grid, a multi-tier grid, and discrete receptors representing residences, workplaces, and sensitive receptors.

The fenceline grid was created by placing a receptor every 10 meters along the facility boundary.

The multi-tier grid was centered on the centroid of the polygon formed by the emission sources and created using:

- 50-meter receptor spacing within 1,000 meters of the grid origin; and
- 100-meter receptor spacing between 1,000 meters and 2,000 meters from the grid origin.

Per A/N's 578073-86, the nearest Class I areas are the San Gabriel Wilderness and Cucamonga Wilderness. These two areas are located more than 50 km from the facility. A single-ring polar grid with 50-km radius was used to estimate the project impacts at this distance, the maximum possible using AERMOD. If the impacts at 50 km are less than the Class I SILs, the impacts at the Class I areas are expected to be below the Class I SILs.

The fenceline grid (solid red line), multi-tier grid (light blue cross), and discrete receptors (residences = yellow circle; workplaces = pink circle; sensitive = green and blue circle) are shown in Figure 3-1.

Figure 3-1: Receptors

3.1.5 Buildings

All significant buildings were included in the dispersion model for the purpose of estimating building downwash. Buildings are shown as blue polygons in Figure 3-2. Building downwash effects were assessed using the Building Profile Input Program for Prime (BPIPPRM).

Figure 3-2: Buildings

3.1.6 Terrain Data

Terrain data were imported directly into AERMOD View™ using the WebGIS import feature. The terrain data were from the United States Geological Survey (USGS) National Elevation Dataset (NED) and had a spatial resolution of approximately 30 meters (1 arcsecond). The terrain data files were processed by AERMOD View™ using AERMAP Version 18081 and elevations were assigned to receptors, buildings, and emission sources accordingly.

3.1.7 NO_x to NO_2

The AQIA used the Tier 2 Ambient Ratio Method 2 (ARM2), with default ratios, for conversion of NO_x to NO_2.

4.0 RULE 1401 HEALTH RISK ASSESSMENT

Rule 1401 specifies limits for maximum individual cancer risk (MICR), cancer burden, and non-cancer acute and chronic hazard index (HI) from new permit units, relocations, or modifications to existing permit units which emit TAC listed in Table I of the rule. The rule establishes allowable risks for permit units requiring new permits pursuant to Rules 201 or 203.

The health risk calculations were performed using HARP2's Air Dispersion Modeling and Risk Tool (ADMRT, version 21081). HARP2 model options are shown in Table 4-1.

Table 4-1: HARP2 Model Options

Parameter	Assumptions				Comments
Multi-Pathway					
Inhalation	Res/Sen	☒	Work	☒	–
Soil	Res/Sen	☒	Work	☒	–
Dermal	Res/Sen	☒	Work	☒	"Warm" climate
Mother's Milk	Res/Sen	☒	Work	☐	–
Drinking Water	Res/Sen	☐	Work	☐	–
Fish	Res/Sen	☐	Work	☐	–
Homegrown Produce	Res/Sen	☒	Work	☐	Households that Garden defaults
Beef/Dairy	Res/Sen	☐	Work	☐	–
Pigs, Chickens, and/or Eggs	Res/Sen	☐	Work	☐	–
Deposition Velocity	0.02 m/s				Particulate matter from all sources is < 2.5 µg/m^3
Residential Cancer Risk Assumptions					
Exposure Duration	30 years				–
Fraction of Time at Home	3rd Trimester to 16 years: On 16 years to 30 years: On				There are no schools within the 1E-06 isopleth with both parameters set to Off
Inhalation Rate Basis	RMP				–
Analysis Option	RMP Using the Derived Method				–
Worker Cancer Risk Assumptions					
Exposure Duration	25 years				–
Analysis Option	OEHHA Derived Method				–
Inhalation Rate Basis	8-hr breathing rates, moderate intensity				–
Worker Adjustment Factor	1.0				24 hours/day, 7 days/week
Residential and Worker Non-Cancer Risk Assumptions					
Analysis Option	OEHHA Derived Method				–
Inhalation Rate Basis	Long-term 24-hour (resident) Moderate 8-hour (worker)				–
Residential Cancer Burden Risk Assumptions					
Exposure Duration	70 years				–
Fraction of Time at Home	3rd Trimester to 16 years: Off 16 years to 30 years: Off				–
Inhalation Rate Basis	RMP				–
Analysis Option	RMP Using the Derived Method				–

4.1 HRA Results

HRA results are shown in Table 4-2. The HRA results shown in Table 4-2 represent the combined risk from both CCGTs. Since the combined risk is less than the applicable standards, the risk from each CCGT is also less than the applicable standards and compliance is demonstrated.

The locations of the receptors identified in Table 4-2 are shown in Figures 4-1 and 4-2. Figure 4-3 shows that there are no residential receptors exposed to an increase in 70-year residential cancer risk greater than 1 in a million; therefore, cancer burden has not been calculated.

Table 4-2: HRA Results

Health Risk	Maximally Exposed Individual Resident (MEIR)	Sensitive Receptor (Edison High School)	Maximally Exposed Individual Worker (MEIW)
Cancer Risk (in a Million) Standard: 1.0 without T-BACT; 10 with T-BACT	0.68	0.59	0.02
Chronic Hazard Index Standard: 1.0	9.86E-04	8.60E-04	8.60E-04

Figure 4-1: HRA Results - MICR

Legend:

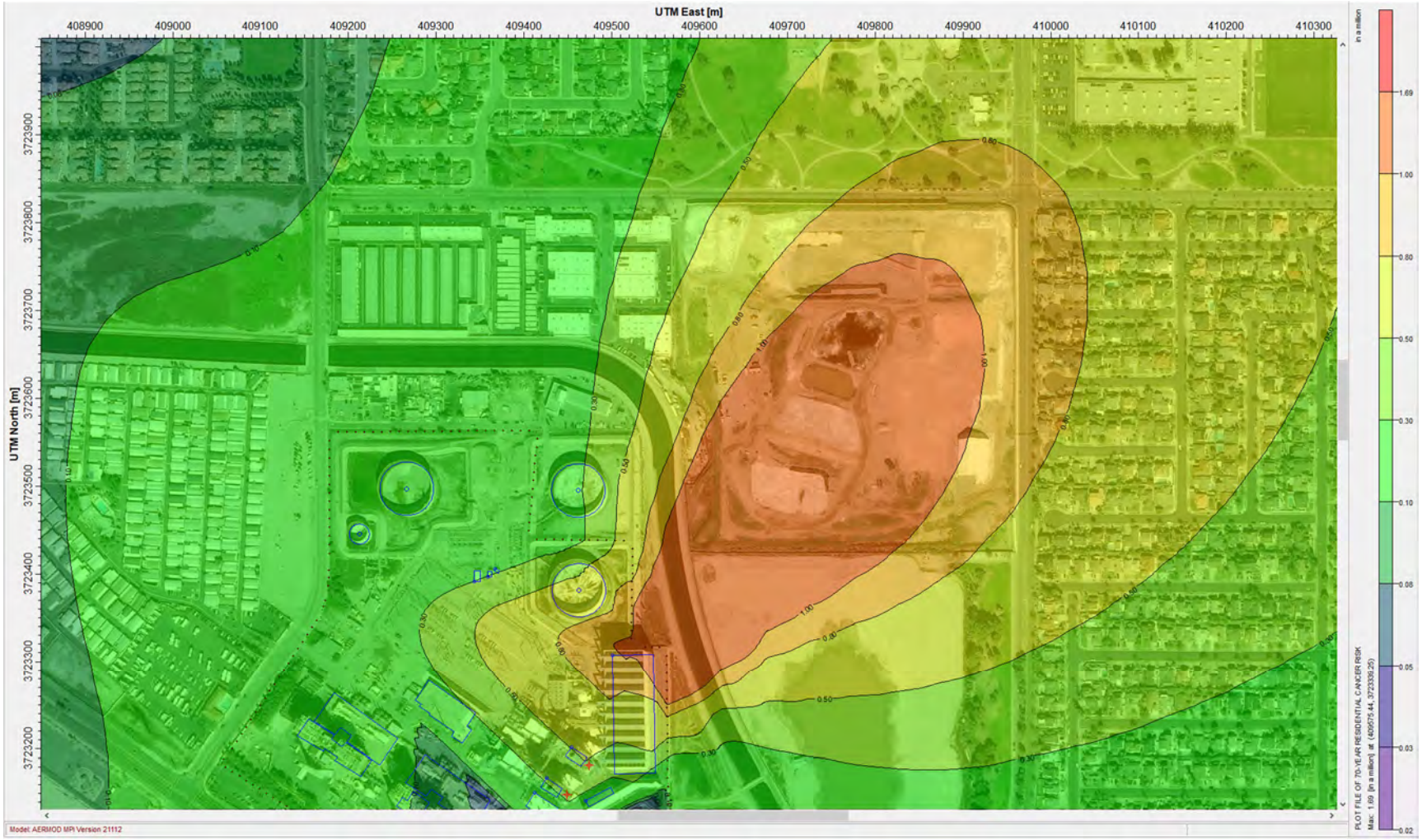
Orange Circle.....MEIR
Blue Triangle.....MEIW, Highest Sensitive Receptor

Figure 4-2: HRA Results - HIC

Legend:

Orange Circle.....MEIR
Blue Triangle.....MEIW, Highest Sensitive Receptor

Figure 4-3: HRA Results - 70-Year Residential Cancer Risk



5.0 AIR QUALITY IMPACT ANALYSIS

The AQIA includes:

- A comparison of Project impacts + background concentrations to the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS);
- A comparison of Project impacts to the Class II SILs; and
- A comparison of Project impacts to the Class I SILs.

5.1 Project Impacts + Background vs. CAAQS and NAAQS

The comparison of Project impacts + background concentrations to the CAAQS and the NAAQS was made for NO_2, PM_{10}, and $PM_{2.5}$. This analysis is shown in Table 5-1.

Table 5-1: Project Impacts + Background vs. CAAQS and NAAQS

Pollutant	2018 (ug/m3)	2019 (ug/m3)	2020 (ug/m3)	Project Impact (ug/m3)	Project + Background (ug/m3)	Federal Standard (ug/m3)	Exceeds Federal Standard?	California Standard (ug/m3)	Exceeds California Standard?
NO_2	**20.8 39.13 ug/m3**	19.2	18.8	1.31	40.4	100	No	57	No
PM_{10}	**19**	16.6	16.8	0.698	19.7	--	--	20	No
$PM_{2.5}$	8.31	7.11	**8.81**	0.698	9.5	12	No	12	No

For NO_2, background data is the highest of Station 17 – North Central Orange County and I-5 Near Road.

For PM_{10} and $PM_{2.5}$, background data is from Station 19 – Saddleback Valley.

Project impacts represent the post-application emissions for the CCGTs and auxiliary boiler shown in Table 2-2 since the equipment has not been in commercial operation for a full three years. For the Rule 2005 source-specific modeling demonstration, the highest impacts for each CCGT are less than 1 ug/m3 and each individual CCGT is not expected to cause or make worse, a violation of the annual ambient air quality standards for NO_2.

5.2 Project Impacts vs. Class II SILs

Per Section 4.10 of the application, the Project may result in a Major Modification for NO_2 and PM_{10}. Project impacts are compared to the Class II SILs in Table 5-2.

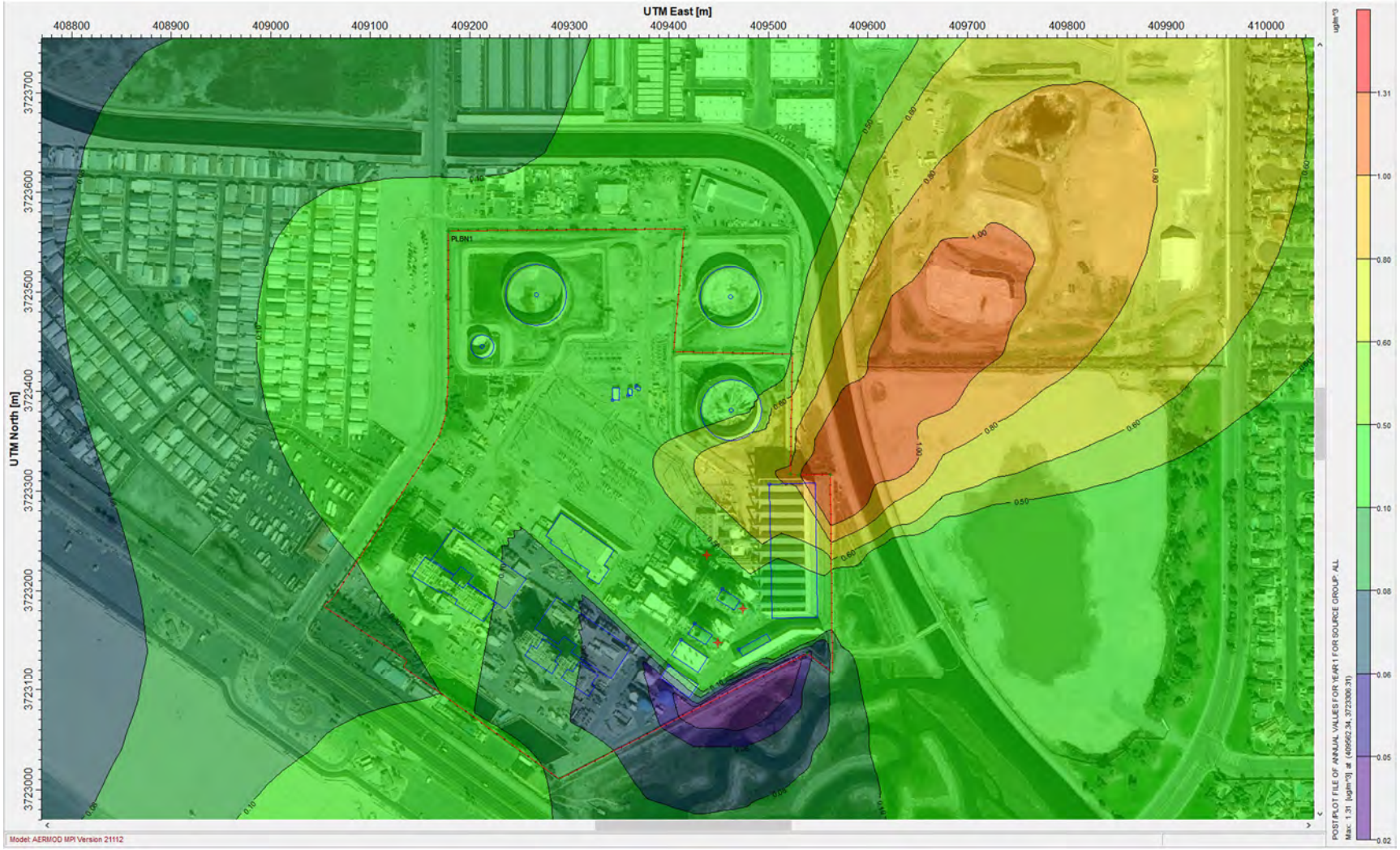
Table 5-2: Project Impacts vs. Class II SILs

Pollutant	Project Impact (ug/m3)	SIL (ug/m3)	Exceeds SIL?
PM_{10}	0.7	1	No
NO_2	1.31	1	Yes[2]

The highest impact for NO_2 exceeds the Class II SIL. This is likely due to building downwash caused by the cooling tower as shown in Figure 5-1. AES suggests that Table 5-1, which presents the Project impacts + background data compared to the CAAQS and NAAQS for NO_2, is sufficient for demonstrating that an analysis of cumulative sources + background data would be less than the annual ambient air quality standards for NO_2 and no additional analyses are necessary.

[2] Refined modeling using Ozone Limiting Methodology may be performed at the District's request.

Figure 5-1: Project Impacts vs. Class II SILs - NO_2



5.3 Project Impacts vs. Class I SILs

Per Section 4.10 of the application, the Project may result in a Major Modification for NO_2 and PM_{10}. Project impacts are compared to the Class I SILs in Table 5-3.

Table 5-3: Project Impacts vs. Class I SILs

Pollutant	Project Impact (ug/m3)	SIL (ug/m3)	Exceeds SIL?
PM_{10}	0.0048	0.2	No
NO_2	0.0093	0.1	No

ATTACHMENT 1 – BACKGROUND CONCENTRATION DATA

2018 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2018

Source/Receptor Area No.	Location	Station No.	Carbon Monoxide a)			Ozone b)										Nitrogen Dioxide c)				Sulfur Dioxide d)		
										No. Days Standard Exceeded												
			No. Days of Data	Max Conc. in ppm 1-hour	Max Conc. in ppm 8-hour	No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	Fourth High Conc. ppm 8-hour	Old Federal > 0.124 ppm 1-hour	Current Federal > 0.070 ppm 8-hour	2008 Federal > 0.075 ppm 8-hour	1997 Federal > 0.084 ppm 8-hour	Current State > 0.09 ppm 1-hour	Current State > 0.070 ppm 8-hour	No. Days of Data	Max Conc. in ppb 1-hour	98th Percentile Conc. ppb 1-hour	Annual Average AAM Conc. ppb	No. Days of Data	Max. Conc. in ppb 1-hour	99th Percentile Conc. ppb 1-hour
LOS ANGELES COUNTY																						
1	Central LA	087	365	2.0	1.7	359	0.098	0.073	0.071	0	4	0	0	2	4	365	70.1	57.2	18.5	358	17.9	2.8
2	Northwest Coastal LA County	091	359	1.6	1.3	364	0.094	0.073	0.068	0	2	0	0	0	2	242	64.7	46.1	12.6	--	--	--
3	Southwest Coastal LA County	820	342	1.8	1.5	365	0.074	0.065	0.060	0	0	0	0	0	0	338	59.6	49.8	9.2	365	11.5	5.3
4	South Coastal LA County 1	072	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	South Coastal LA County 2	077	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	South Coastal LA County 3	033	364	4.7	2.1	363	0.074	0.063	0.053	0	0	0	0	0	0	359	85.3	62.7	17.3	365	10.5	9.4
4	I-710 Near Road##	032	--	--	--	--	--	--	--	--	--	--	--	--	--	355	90.3	79.1	22.3	--	--	--
6	West San Fernando Valley	074	359	3.4	2.1	362	0.120	0.101	0.094	0	49	23	12	14	49	365	57.2	50.1	12.1	--	--	--
8	West San Gabriel Valley	088	365	2.0	1.4	365	0.112	0.090	0.085	0	19	8	4	8	19	364	68.2	54.4	14.4	--	--	--
9	East San Gabriel Valley 1	060	365	1.4	1.0	364	0.139	0.099	0.097	3	42	23	10	24	42	363	70.8	56.8	14.9	--	--	--
9	East San Gabriel Valley 2	591	365	1.0	0.8	365	0.140	0.104	0.102	5	46	27	10	32	46	349	55.2	44.2	9.7	--	--	--
10	Pomona/Walnut Valley	075	365	2.1	1.8	362	0.112	0.092	0.081	0	10	8	3	7	10	365	67.9	60.4	19.4	--	--	--
11	South San Gabriel Valley	085	344	2.0	1.8	352	0.115	0.082	0.074	0	5	2	0	3	5	356	76.8	59.7	18.3	--	--	--
12	South Central LA County	112	357	4.7	3.5	365	0.075	0.063	0.058	0	0	0	0	0	0	335	68.3	55.6	15.0	--	--	--
13	Santa Clarita Valley	090	365	1.0	0.8	365	0.132	0.106	0.097	3	52	36	12	21	52	365	58.9	37.9	10.9	--	--	--
ORANGE COUNTY																						
16	North Orange County	3177	365	3.0	1.4	365	0.111	0.077	0.071	0	4	3	0	3	4	365	67.1	50.4	13.0	--	--	--
17	Central Orange County	3176	358	2.3	1.9	365	0.112	0.071	0.065	0	1	0	0	1	1	365	66.0	54.5	13.7	--	--	--
17	I-5 Near Road##	3131	320	2.7	2.2	--	--	--	--	--	--	--	--	--	--	348	61.7	55.8	20.8	--	--	--
18	North Coastal Orange County	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	3812	300	1.2	0.9	365	0.121	0.088	0.074	0	9	2	2	2	9	--	--	--	--	--	--	--
RIVERSIDE COUNTY																						
22	Corona/Norco Area	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	365	2.2	2.0	365	0.123	0.101	0.096	0	53	34	14	22	53	364	55.4	50.5	14.3	360	1.7	1.6
23	Metropolitan Riverside County 3	4165	358	2.6	2.4	355	0.129	0.107	0.097	1	57	32	12	21	57	358	54.5	50.4	13.7	--	--	--
24	Perris Valley	4149	--	--	--	365	0.117	0.103	0.095	0	67	47	19	31	67	--	--	--	--	--	--	--
25	Lake Elsinore	4158	361	1.1	0.8	365	0.116	0.095	0.089	0	30	26	7	16	30	359	41.3	36.4	8.5	--	--	--
26	Temecula Valley	4031	--	--	--	363	0.107	0.085	0.077	0	15	5	1	2	15	--	--	--	--	--	--	--
29	San Gorgonio Pass	4164	--	--	--	363	0.119	0.106	0.100	0	69	43	22	33	69	344	50.6	46.5	8.5	--	--	--
30	Coachella Valley 1**	4137	349	1.1	0.8	362	0.111	0.099	0.093	0	56	22	10	11	56	364	42.6	35.4	6.8	--	--	--
30	Coachella Valley 2**	4157	--	--	--	359	0.106	0.091	0.089	0	49	28	8	4	49	--	--	--	--	--	--	--
30	Coachella Valley 3**	4032	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																						
32	Northwest San Bernardino Valley	5175	365	1.7	1.2	363	0.133	0.111	0.106	6	52	32	14	25	52	355	58.7	48.9	14.7	--	--	--
33	I-10 Near Road##	5035	339	1.6	1.3	--	--	--	--	--	--	--	--	--	--	339	88.3	67.7	27.2	--	--	--
33	CA-60 Near Road##	5036	--	--	--	--	--	--	--	--	--	--	--	--	--	357	79.4	71.3	30.4	--	--	--
34	Central San Bernardino Valley 1	5197	365	1.9	1.1	365	0.141	0.111	0.106	7	69	47	18	38	69	365	63.0	55.9	18.3	362	2.9	2.5
34	Central San Bernardino Valley 2	5203	362	2.7	2.5	362	0.138	0.116	0.107	7	102	71	33	63	102	362	57.3	49.9	15.8	--	--	--
35	East San Bernardino Valley	5204	--	--	--	365	0.136	0.114	0.111	4	94	66	26	53	94	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	362	0.142	0.125	0.105	3	113	91	46	57	113	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	DISTRICT MAXIMUM			4.7	3.5		0.142	0.125	0.111	7	113	91	46	63	113		90.3	79.1	30.4		17.9	9.4
	SOUTH COAST AIR BASIN			4.7	3.5		0.142	0.125	0.111	10	141	108	59	84	141		90.3	79.1	30.4		17.9	9.4

** Salton Sea Air Basin -- Pollutant not monitored ppm - Parts Per Million parts of air, by volume ppb – Parts Per Billion parts of air, by volume
AAM = Annual Arithmetic Mean ## Four near-road sites measuring one or more of the pollutants $PM_{2.5}$, CO and/or NO_2 are operating near freeways: I-5, I-10, I-710 and CA-60.

a) - The federal and state 8-hour CO standards (9 ppm and 9.0 ppm) and the federal and state 1-hour CO standards (35 ppm and 20 ppm) were not exceeded.
b) - The current (2015) O_3 federal standard was revised effective December 28, 2015.
c) - The NO_2 federal 1-hour standard is100 ppb and the federal annual standard is 53.4 ppb. The state 1-hour and annual standards are 0.18 ppm and 0.030 ppm, respectively.
d) – The federal SO_2 1-hour standard is 75 ppb (0.075 ppm). The state 1-hour SO standard is 0.25 ppm (250 ppb) and the state 24-hour SO_2 standard is 0.04 ppm (40 ppb).

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4182
www.aqmd.gov

For information on the current standard levels and most recent revisions please refer to "Appendix II – Current Air Quality" of the "2016 AQMP" which can be accessed athttps://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp . Maps showing the source/receptor area boundaries can be accessed via the Internet by entering your address in the South Coast AQMD Current Hourly Air Quality Map, at https://www.aqmd.gov/aqimap. A printed map or copy of the AQMP Appendix II is also available free of charge from the South Coast AQMD Public Information Center at 1-800-CUT-SMOG.

2018 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2018

Source/Receptor Area No.	Location	Station No.	Suspended Particulates PM10 e)+ No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standards Federal > 150 µg/m³ 24-hour	State > 50 µg/m³ 24-hour	Annual. Average Conc. f) (AAM) µg/m³	Fine Particulates PM2.5 g)# No. Days of Data	Max. Conc. in µg/m³ 24-hour	98th Percentile Conc. in µg/m³ 24-hour	No (%) Samples Exceeding Federal Std. > 35 µg/m³ 24-hour	Annual. Average Conc. h) (AAM) µg/m³	Lead i)++ Max. Monthly Average Conc. µg/m³	Max. 3-Months Rolling Averages µg/m³	PM10 Sulfate j) No. Days of Data	Max. Conc. in µg/m³ 24-hour
LOS ANGELES COUNTY																
1	Central LA	087	363	81	0	31 (9%)	34.1	344	43.80	30.50	3 (0.9%)	12.58	0.011	0.011	53	4.5
2	Northwest Coastal LA County	091	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Southwest Coastal LA County	820	48	45	0	0	20.5	--	--	--	--	--	0.005	0.004	48	5.2
4	South Coastal LA County 1	072	--	--	--	--	--	342	46.40	29.80	2 (0.6%)	10.99	--	--	--	--
4	South Coastal LA County 2	077	58	55	0	1 (2%)	23.9	330	47.10	27.70	2 (0.6%)	11.15	0.006	0.007	58	4.0
4	South Coastal LA County 3	033	57	84	0	4 (7%)	32.3	--	--	--	--	--	--	--	57	5.0
4	I-710 Near Road##	032	--	--	--	--	--	359	46.10	31.90	4 (1.1%)	12.75	--	--	--	--
6	West San Fernando Valley	074	--	--	--	--	--	106	31.00	22.60	0	10.32	--	--	--	--
8	West San Gabriel Valley	088	--	--	--	--	--	121	32.50	29.50	0	10.28	--	--	--	--
9	East San Gabriel Valley 1	060	60	78	0	10 (17%)	32.2	119	30.20	25.90	0	10.35	--	--	60	4.0
9	East San Gabriel Valley 2	591	317	101	0	20 (6%)	27.1	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	085	--	--	--	--	--	113	35.40	28.10	0	12.31	0.009	0.009	--	--
12	South Central LA County	112	--	--	--	--	--	117	43.00	34.20	1 (0.9%)	12.96	0.009	0.011	--	--
13	Santa Clarita Valley	090	54	49	0	0	23.4	--	--	--	--	--	--	--	54	3.5
ORANGE COUNTY																
16	North Orange County	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	3176	320	129	0	13 (4%)	27.2	353	54.10	28.90	3 (0.8%)	11.02	--	--	61	4.1
17	I-5 Near Road##	3131	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18	North Coastal Orange County	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	3812	59	55	0	1 (2%)	19.0	107	20.80	18.50	0	8.31	--	--	59	4.0
RIVERSIDE COUNTY																
22	Corona/Norco Area	4155	58	100	0	3 (5%)	30.2	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	356	126	0	132 (37%)	44.0	354	50.70	26.30	2 (0.6%)	12.41	0.009	0.007	117	4.1
23	Metropolitan Riverside County 3	4165	354	148	0	168 (47%)	49.4	349	64.80	32.80	4 (1.1%)	13.87	--	--	59	3.5
24	Perris Valley	4149	60	64	0	3 (5%)	29.7	--	--	--	--	--	--	--	60	3.2
25	Elsinore Valley	4158	342	104	0	9 (3%)	22.4	--	--	--	--	--	--	--	--	--
26	Temecula Valley	4031	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	San Gorgonio Pass	4164	61	39	0	0	19.4	--	--	--	--	--	--	--	61	2.9
30	Coachella Valley 1**	4137	359	117	0	7 (2%)	21.0	122	30.20	14.30	0	6.02	--	--	61	2.7
30	Coachella Valley 2**	4157	353	146	0	43 (12%)	33.2	122	28.70	17.00	0	8.32	--	--	118	3.7
30	Coachella Valley 3**	4032	352	274	2 (1%)	63 (18%)	38.8	--	--	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																
32	Northwest San Bernardino Valley	5175	322	73	0	14 (4%)	32.3	--	--	--	--	--	--	--	--	--
33	I-10 Near Road##	5035	--	--	--	--	--	--	--	--	--	--	--	--	--	--
33	CA-60 Near Road##	5036	--	--	--	--	--	357	47.90	30.40	5 (1.4%)	14.31	--	--	--	--
34	Central San Bernardino Valley 1	5197	56	64	0	9 (16%)	34.1	110	29.20	26.80	0	11.13	--	--	56	3.9
34	Central San Bernardino Valley 2	5203	355	129	0	25 (7%)	30.2	114	30.10	22.90	0	11.17	0.008	0.008	58	3.8
35	East San Bernardino Valley	5204	59	74	0	2 (3%)	25.9	--	--	--	--	--	--	--	59	3.6
37	Central San Bernardino Mountains	5181	59	78	0	1 (2%)	19.5	--	--	--	--	--	--	--	59	2.4
38	East San Bernardino Mountains	5818	--	--	--	--	--	54	17.30	16.00	0	6.80	--	--	--	--
	DISTRICT MAXIMUM			148	0	168	49.4		64.8	34.2	5	14.31	0.011	0.011		5.2
	SOUTH COAST AIR BASIN			148	0	185	49.4		64.8	34.2	11	14.31	0.011	0.011		5.2

** Salton Sea Air Basin µg/m3 – Micrograms per cubic meter of air AAM – Annual Arithmetic Mean -- Pollutant not monitored

\+ High PM10 (≥ 155 µg/m3) data recorded in the Coachella Valley and the Basin attributed to high winds are excluded because they likely meet the exclusion criteria specified in the U.S. EPA Exceptional Event Rule. Exceptional event demonstrations will be submitted to U.S. EPA for events that have regulatory significance.

\# PM2.5 concentrations above the 24-hour standard attributed to wildfire smoke and fireworks are excluded because they likely meet the exclusion criteria specified in the U.S. EPA Exceptional Event Rule. Exceptional event demonstrations will be submitted to U.S. EPA for events that have regulatory significance.

++ Higher lead concentrations were recorded at near-source monitoring sites immediately downwind of stationary lead sources. Maximum monthly and 3-month rolling averages recorded were 0. 096 µg/m3 and 0.059 µg/m3, respectively.

Four near-road sites measuring one or more of the pollutants PM2.5, CO and/or NO2 are operating near the following freeways: I-5, I-10, CA-60 and I-710.

e) PM10 statistics listed above are based on combined Federal Reference Method (FRM) and Federal Equivalent Method (FEM) data.

f) State annual average (AAM) PM10 standard is 20 µg/m3. Federal annual PM10 standard (50 µg/m3) was revoked in 2006.

g) PM2.5 statistics listed above are for the FRM data only. FEM PM2.5 continuous monitoring instruments were operated at some of the above locations for real-time alerts and forecasting only.

h) The federal and state annual standards are 12.0 µg/m3.

i) Federal lead standard is 3-months rolling average > 0.15 µg/m3; state standard is monthly average ³ 1.5 µg/m3. Lead standards were not exceeded.

j) State sulfate standard is 24-hour ³ 25 µg/m3. There is no federal standard for sulfate.

2019 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2019

Source/Receptor Area No.	Location	Station No.	Carbon Monoxide [a]			Ozone [b]										Nitrogen Dioxide [c]				Sulfur Dioxide [d]		
										No. Days Standard Exceeded												
			No. Days of Data	Max Conc. in ppm 1-hour	Max Conc. in ppm 8-hour	No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	Fourth High Conc. ppm 8-hour	Old Federal > 0.124 ppm 1-hour	Current Federal > 0.070 ppm 8-hour	2008 Federal > 0.075 ppm 8-hour	1997 Federal > 0.084 ppm 8-hour	Current State > 0.09 ppm 1-hour	Current State > 0.070 ppm 8-hour	No. Days of Data	Max Conc. in ppb 1-hour	98th Percentile Conc. ppb 1-hour	Annual Average AAM Conc. ppb	No. Days of Data	Max. Conc. in ppb 1-hour	99th Percentile Conc. ppb 1-hour
LOS ANGELES COUNTY																						
1	Central LA	87	364	2.0	1.6	364	0.085	0.080	0.065	0	2	1	0	0	2	365	69.7	55.5	17.7	365	10.0	2.3
2	Northwest Coastal LA County	91	364	1.9	1.2	360	0.086	0.075	0.064	0	1	0	0	0	1	365	48.8	43.0	9.7	--	--	--
3	Southwest Coastal LA County	820	364	1.8	1.3	365	0.082	0.067	0.060	0	0	0	0	0	0	363	56.6	48.9	9.5	365	8.2	3.7
4	South Coastal LA County 1	72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	South Coastal LA County 2	77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	South Coastal LA County 3	33	340	3.0	2.1	343	0.074	0.064	0.055	0	0	0	0	0	0	255	71.8	56.3	16.2	344	8.9	7.7
4	I-710 Near Road##	32	--	--	--	--	--	--	--	--	--	--	--	--	--	365	97.7	78.3	22.8	--	--	--
6	West San Fernando Valley	74	363	2.6	2.2	267	0.101	0.087	0.076	0	6	4	1	1	6	365	64.4	43.8	10.7	--	--	--
8	West San Gabriel Valley	88	361	1.5	1.2	302	0.120	0.098	0.086	0	12	8	4	4	12	361	59.1	50.6	13.2	--	--	--
9	East San Gabriel Valley 1	60	361	1.6	1.1	362	0.123	0.094	0.090	0	39	21	10	34	39	365	59.7	49.8	13.7	--	--	--
9	East San Gabriel Valley 2	591	360	1.2	0.8	356	0.130	0.102	0.097	1	58	38	17	46	58	360	52.9	36.5	8.6	--	--	--
10	Pomona/Walnut Valley	75	364	1.7	1.3	365	0.096	0.083	0.077	0	12	4	0	1	12	365	64.4	57.8	17.9	--	--	--
11	South San Gabriel Valley	85	364	1.9	1.5	364	0.108	0.091	0.073	0	7	3	1	5	7	364	61.8	55.1	17.6	--	--	--
12	South Central LA County	112	363	3.8	3.2	363	0.100	0.079	0.064	0	1	1	0	1	1	363	70.0	52.8	14.1	--	--	--
13	Santa Clarita Valley	90	359	1.5	1.2	359	0.128	0.106	0.101	1	56	42	17	34	56	357	46.3	35.3	9.1	--	--	--
ORANGE COUNTY																						
16	North Orange County	3177	364	2.6	1.2	364	0.107	0.094	0.074	0	6	3	1	2	6	362	59.4	44.5	12.1	--	--	--
17	Central Orange County	3176	363	2.4	1.3	365	0.096	0.082	0.064	0	1	1	0	1	1	365	59.4	49.2	12.7	--	--	--
17	I-5 Near Road##	3131	350	2.6	1.6	--	--	--	--	--	--	--	--	--	--	365	59.4	50.4	19.2	--	--	--
18	North Coastal Orange County	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	3812	363	1.0	0.8	365	0.106	0.087	0.082	0	11	7	1	3	11	--	--	--	--	--	--	--
RIVERSIDE COUNTY																						
22	Corona/Norco Area	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	364	1.5	1.2	360	0.123	0.096	0.092	0	59	37	15	24	59	365	56.0	52.8	13.5	365	1.8	1.4
23	Metropolitan Riverside County 3	4165	364	2.0	1.3	365	0.131	0.099	0.096	2	64	42	19	26	64	346	56.0	49.4	12.2	--	--	--
24	Perris Valley	4149	--	--	--	365	0.118	0.095	0.090	0	64	38	13	26	64	--	--	--	--	--	--	--
25	Lake Elsinore	4158	364	1.6	0.7	365	0.108	0.089	0.079	0	28	11	1	4	28	365	38.0	33.3	6.8	--	--	--
26	Temecula Valley	4031	--	--	--	365	0.091	0.079	0.074	0	6	2	0	0	6	--	--	--	--	--	--	--
29	San Gorgonio Pass	4164	--	--	--	365	0.119	0.096	0.093	0	59	37	11	24	59	364	56.0	43.3	7.5	--	--	--
30	Coachella Valley 1**	4137	360	1.3	0.7	364	0.100	0.084	0.083	0	34	17	0	5	34	361	41.4	32.2	7.3	--	--	--
30	Coachella Valley 2**	4157	--	--	--	365	0.103	0.087	0.083	0	43	15	2	4	43	--	--	--	--	--	--	--
30	Coachella Valley 3**	4032	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																						
32	Northwest San Bernardino Valley	5175	337	1.5	1.1	338	0.131	0.107	0.097	1	52	34	13	31	52	328	57.9	46.4	14.0	--	--	--
33	I-10 Near Road##	5035	364	1.5	1.1	--	--	--	--	--	--	--	--	--	--	346	86.3	70.5	27.6	--	--	--
33	CA-60 Near Road##	5036	--	--	--	--	--	--	--	--	--	--	--	--	--	364	87.7	73.9	29.0	--	--	--
34	Central San Bernardino Valley 1	5197	359	2.7	1.0	364	0.124	0.109	0.097	0	67	46	20	41	67	365	76.1	57.7	17.2	358	2.4	1.9
34	Central San Bernardino Valley 2	5203	352	1.3	1.1	354	0.127	0.114	0.103	2	96	73	37	63	96	352	59.3	46.3	14.3	--	--	--
35	East San Bernardino Valley	5204	--	--	--	364	0.137	0.117	0.106	8	109	88	63	73	109	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	365	0.129	0.112	0.106	2	99	79	44	53	99	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	DISTRICT MAXIMUM[e]			3.8	3.2		0.137	0.117	0.106	8	109	88	63	73	109		97.7	78.3	29.0		10.0	7.7
	SOUTH COAST AIR BASIN[f]			3.8	3.2		0.137	0.117	0.106	10	126	101	71	82	126		97.7	78.3	29.0		10.0	7.7

*Incomplete Data ** Salton Sea Air Basin -- Pollutant not monitored ppm - Parts Per Million parts of air, by volume ppb – Parts Per Billion parts of air, by volume

AAM = Annual Arithmetic Mean ## Four near-road sites measuring one or more of the pollutants $PM_{2.5}$, CO and/or NO_2 are operating near freeways: I-5, I-10, I-710 and CA-60.

a) - The federal and state 8-hour CO standards (9 ppm and 9.0 ppm) and the federal and state 1-hour CO standards (35 ppm and 20 ppm) were not exceeded.

b) - The current (2015) O_3 federal standard was revised effective December 28, 2015.

c) - The NO_2 federal 1-hour standard is100 ppb and the federal annual standard is 53.4 ppb. The state 1-hour and annual standards are 0.18 ppm and 0.030 ppm.

d) - The federal SO_2 1-hour standard is 75 ppb (0.075 ppm). The state 1-hour SO standard is 0.25 ppm (250 ppb) and the state 24-hour SO_2 standard is 0.04 ppm (40 ppb).

e) - District Maximum is the maximum value calculated at any station in the South Coast AQMD Jurisdiction

f) - Concentrations are the maximum value observed at any station in the South Coast Air Basin. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the South Coast Air Basin.

For information on the current standard levels and most recent revisions please refer to "Appendix II – Current Air Quality" of the "2016 AQMP" which can be accessed at https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp . Maps showing the source/receptor area boundaries can be accessed via the Internet by entering your address in the South Coast AQMD Current Hourly Air Quality Map, at https://www.aqmd.gov/aqimap. A printed map or copy of the AQMP Appendix II is also available free of charge from the South Coast AQMD Public Information Center at 1-800-CUT-SMOG.

2019 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2019

Source/Receptor Area No.	Location	Station No.	Suspended Particulates PM10 e)+ No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standards Federal > 150 µg/m³ 24-hour	State > 50 µg/m³ 24-hour	Annual. Average Conc. f) (AAM) µg/m³	Fine Particulates PM2.5 g)# No. Days of Data	Max. Conc. in µg/m³ 24-hour	98th Percentile Conc. in µg/m³ 24-hour	No (%) Samples Exceeding Federal Std. > 35 µg/m³ 24-hour	Annual. Average Conc. h) (AAM) µg/m³	Lead i)++ Max. Monthly Average Conc. µg/m³	Max. 3-Months Rolling Averages µg/m³	PM10 Sulfate j) No. Days of Data	Max. Conc. in µg/m³ 24-hour
LOS ANGELES COUNTY																
1	Central LA	087	9	62	0	3 (6%)	25.5	360	43.50	28.30	1 (0.3%)	10.85	0.012	0.010	55	5.1
2	Northwest Coastal LA County	091	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Southwest Coastal LA County	820	59	62	0	2 (3%)	19.2	--	--	--	--	--	0.004	0.004	--	--
4	South Coastal LA County 1	072	--	--	--	--	--	159	28.00	20.70	0	9.23	--	--	--	--
4	South Coastal LA County 2	077	60	72	0	2 (3%)	21.0	354	30.60	23.20	0	9.22	0.006	0.005	--	--
4	South Coastal LA County 3	033	58	74	0	3 (5%)	26.9	--	--	--	--	--	--	--	59	5.8
4	I-710 Near Road##	032	--	--	--	--	--	365	36.70	26.40	1 (0.3%)	10.99	--	--	--	--
6	West San Fernando Valley	074	--	--	--	--	--	118	30.00	26.30	0	9.16	--	--	--	--
8	West San Gabriel Valley	088	--	--	--	--	--	118	30.90	24.60	0	8.90	--	--	--	--
9	East San Gabriel Valley 1	060	61	82	0	4 (7%)	28.1	120	28.30	21.20	0	9.18	--	--	61	6.2
9	East San Gabriel Valley 2	591	308	97	0	3 (1%)	20.8	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	085	--	--	--	--	--	119	29.60	24.40	0	10.34	0.009	0.007	--	--
12	South Central LA County	112	--	--	--	--	--	303	39.50	26.60	1 (0.3%)	10.87	0.009	0.007	--	--
13	Santa Clarita Valley	090	60	62	0	1 (2%)	18.4	--	--	--	--	--	--	--	--	--
ORANGE COUNTY																
16	North Orange County	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	3176	364	127	0	13 (4%)	21.9	346	36.10	23.30	3 (0.9%)	9.32	--	--	60	5.1
17	I-5 Near Road##	3131	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18	North Coastal Orange County	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	3812	60	45	0	0	16.6	111	20.80	14.70	0	7.11	--	--	--	--
RIVERSIDE COUNTY																
22	Corona/Norco Area	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	120	99	0	21 (18%)	34.4	352	46.70	31.80	4 (1.1%)	11.13	0.008	0.007	121	14.6
23	Metropolitan Riverside County 3	4165	362	143	0	130 (36%)	43.1	356	46.70	36.20	9 (2.5%)	12.53	--	--	--	--
24	Perris Valley	4149	61	97	0	4 (7%)	25.3	--	--	--	--	--	--	--	--	--
25	Elsinore Valley	4158	301	93	0	5 (2%)	18.7	--	--	--	--	--	--	--	--	--
26	Temecula Valley	4031	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	San Gorgonio Pass	4164	56	63	0	2 (4%)	17.9	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	4137	346	75	0	5 (1%)	19.5	119	15.50	12.40	0	6.05	--	--	--	--
30	Coachella Valley 2**	4157	361	141	0	27 (7%)	27.8	118	15.00	13.50	0	7.37	--	--	119	3.2
30	Coachella Valley 3**	4032	324	154	0	44 (14%)	33.3	--	--	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																
32	Northwest San Bernardino Valley	5175	306	125	0	7 (2%)	28.1	--	--	--	--	--	--	--	--	--
33	I-10 Near Road##	5035	--	--	--	--	--	--	--	--	--	--	--	--	--	--
33	CA-60 Near Road##	5036	--	--	--	--	--	364	41.30	30.70	5 (1.4%)	12.70	--	--	--	--
34	Central San Bernardino Valley 1	5197	61	88	0	12 (20%)	34.8	114	46.50	29.70	2 (1.8%)	10.84	--	--	62	5.2
34	Central San Bernardino Valley 2	5203	269	112	0	36 (13%)	29.9	97	34.80	33.00	0	10.06	0.013	0.011	--	--
35	East San Bernardino Valley	5204	59	44	0	0	21.2	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	54	38	0	0	16.1	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	46	31.00	31.00	0	5.94	--	--	--	--
	DISTRICT MAXIMUM k)			154	0	130	43.1		46.7	36.2	9	12.70	0.013	0.011		14.6
	SOUTH COAST AIR BASIN m)			143	0	137	43.1		46.7	36.2	10	12.70	0.013	0.011		14.6

* Incomplete data due to the site improvement. ** Salton Sea Air Basin µg/m³ – Micrograms per cubic meter of air AAM – Annual Arithmetic Mean -- Pollutant not monitored

\+ High PM10 (≥ 155 µg/m3) data recorded in the Coachella Valley and the Basin (due to high winds) are excluded because they likely meet the exclusion criteria specified in the U.S. EPA Exceptional Event Rule. Exceptional event demonstrations will be submitted to U.S. EPA for events that have regulatory significance.

\# PM2.5 concentrations above the 24-hour standard attributed to wildfire smoke and fireworks are excluded because they likely meet the exclusion criteria specified in the U.S. EPA Exceptional Event Rule. Exceptional event demonstrations will be submitted to U.S. EPA for events that have regulatory significance.

e) PM10 statistics listed above are based on combined Federal Reference Method (FRM) and Federal Equivalent Method (FEM) data.

f) State annual average (AAM) PM10 standard is > 20 µg/m3. Federal annual PM10 standard (AAM > 50 µg/m3) was revoked in 2006.

g) PM2.5 statistics listed above are for the FRM data only. FEM PM2.5 continuous monitoring instruments were operated at some of the above locations for real-time alerts and forecasting only.

h) Both Federal and State standards are annual average (AAM) > 12.0 µg/m3.

i) Federal lead standard is 3-months rolling average > 0.15 µg/m3; state standard is monthly average ³ 1.5 µg/m3. Lead standards were not exceeded.

j) State sulfate standard is 24-hour ³ 25 µg/m3. There is no federal standard for sulfate.

k) District Maximum is the maximum value calculated at any station in the South Coast AQMD Jurisdiction

m) Concentrations are the maximum value observed at any station in the South Coast Air Basin. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the South Coast Air Basin.

++ Higher lead concentrations were recorded at near-source monitoring sites immediately downwind of stationary lead sources. Maximum monthly and 3-month rolling averages recorded were 0. 021 µg/m3 and 0.017 µg/m3, respectively.

Four near-road sites measuring one or more of the pollutants PM2.5, CO and/or NO2 are operating near the following freeways: I-5, I-10, CA-60 and I-710.

2020 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2020

Source/Receptor Area No.	Location	Station No.	Carbon Monoxide [a]			Ozone [b]				Number of Days Standard Exceeded						Nitrogen Dioxide [c]				Sulfur Dioxide [d]		
			No. Days of Data	Max Conc. in ppm 1-hour	Max Conc. in ppm 8-hour	No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	Fourth High Conc. ppm 8-hour	Old Federal > 0.124 ppm 1-hour	Current Federal > 0.070 ppm 8-hour	2008 Federal > 0.075 ppm 8-hour	1997 Federal > 0.084 ppm 8-hour	Current State > 0.09 ppm 1-hour	Current State > 0.070 ppm 8-hour	No. Days of Data	Max Conc. in ppb 1-hour	98th Percentile Conc. ppb 1-hour	Annual Average AAM Conc. ppb	No. Days of Data	Max. Conc. in ppb 1-hour	99th Percentile Conc. ppb 1-hour
LOS ANGELES COUNTY																						
1	Central LA	087	359	1.9	1.5	332	0.185	0.118	0.093	1	22	16	6	14	22	364	61.8	54.7	16.9	333	3.8	3.3
2	Northwest Coastal LA County	091	365	2.0	1.2	357	0.134	0.092	0.078	1	8	5	1	6	8	360	76.6	43.9	10.6	--	--	--
3	Southwest Coastal LA County	820	364	1.6	1.3	350	0.117	0.074	0.066	0	2	0	0	1	2	364	59.7	50.9	9.5	361	6.0	3.3
4	South Coastal LA County 1	072	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	South Coastal LA County 2	077	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--
4	South Coastal LA County 3	033	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.4
4	South Coastal LA County 4	039	--	--	--	332	0.105	0.083	0.071	0	4	2	0	4	4	357	75.3	56.3	12.8	--	--	--
4	I-710 Near Road##	032	--	--	--	--	--	--	--	--	--	--	--	--	--	355	90.3	79.1	22.3	--	--	--
6	West San Fernando Valley	074	349	2.0	1.7	345	0.142	0.115	0.097	0	49	23	12	14	49	365	57.2	50.1	12.1	--	--	--
7	East San Fernando Valley	200	--	--	--	359	0.133	0.108	0.102	5	49	33	20	31	49	357	60.4	52.4	14.5	--	--	--
8	West San Gabriel Valley	088	361	2.6	2.2	354	0.163	0.115	0.108	9	60	44	21	41	60	354	61.2	49.7	13.6	--	--	--
9	East San Gabriel Valley 1	060	349	2.4	2.0	347	0.168	0.125	0.105	11	61	43	19	53	61	347	64.8	54.1	13.6	--	--	--
9	East San Gabriel Valley 2	591	310	2.3	1.9	348	0.173	0.138	0.124	17	97	71	32	76	97	366	50.4	41.9	8.5	--	--	--
10	Pomona/Walnut Valley	075	363	1.5	1.1	353	0.180	0.124	0.106	10	84	53	29	51	84	355	67.9	59.8	18.3	--	--	--
11	South San Gabriel Valley	085	362	3.1	1.7	356	0.169	0.114	0.089	3	23	15	7	20	23	365	69.2	57.8	17.8	--	--	--
12	South Central LA County	112	364	4.5	3.1	354	0.152	0.115	0.072	1	4	3	2	3	4	362	72.3	60.5	14.5	--	--	--
13	Santa Clarita Valley	090	363	1.2	0.8	348	0.148	0.122	0.106	10	73	56	29	44	73	361	46.3	35.9	9.4	--	--	--
ORANGE COUNTY																						
16	North Orange County	3177	347	2.1	1.2	340	0.171	0.113	0.088	3	23	19	6	15	23	347	57.2	50.1	12.7	--	--	--
17	Central Orange County	3176	361	2.3	1.7	356	0.142	0.097	0.079	2	15	4	3	6	15	364	70.9	52.1	13.3	--	--	--
17	I-5 Near Road##	3131	359	2.4	2.0	--	--	--	--	--	--	--	--	--	--	365	69.9	52.6	18.8	--	--	--
19	Saddleback Valley	3812	366	1.7	0.8	364	0.171	0.122	0.090	1	32	25	10	20	32	--	--	--	--	--	--	--
RIVERSIDE COUNTY																						
22	Corona/Norco Area	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	361	1.9	1.4	348	0.143	0.115	0.102	6	81	59	27	46	81	359	66.4	54.1	13.6	356	2.2	1.7
23	Metropolitan Riverside County 3	4165	359	1.8	1.5	350	0.140	0.117	0.103	7	89	62	32	51	89	352	58.1	49.9	12.3	--	--	--
24	Perris Valley	4149	--	--	--	358	0.125	0.106	0.097	1	74	48	14	34	74	--	--	--	--	--	--	--
25	Elsinore Valley	4158	358	0.9	0.7	355	0.130	0.100	0.093	1	52	30	10	18	52	345	43.6	37.9	7.4	--	--	--
26	Temecula Valley	4031	--	--	--	364	0.108	0.091	0.084	0	37	20	2	5	37	--	--	--	--	--	--	--
29	San Gorgonio Pass	4164	--	--	--	358	0.150	0.115	0.104	3	68	48	21	29	68	363	51.1	47.1	8.5	--	--	--
30	Coachella Valley 1**	4137	365	0.8	0.5	360	0.119	0.094	0.089	0	49	28	5	9	49	365	47.4	34.3	6.6	--	--	--
30	Coachella Valley 2**	4157	--	--	--	358	0.097	0.084	0.081	0	42	17	0	2	42	--	--	--	--	--	--	--
30	Coachella Valley 3**	4032	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																						
32	Northwest San Bernardino Valley	5175	364	1.5	1.1	360	0.158	0.123	0.116	15	114	87	43	82	114	364	55.4	44.8	13.9	--	--	--
33	I-10 Near Road##	5035	363	1.5	1.2	--	--	--	--	--	--	--	--	--	--	345	94.2	75.1	28.7	--	--	--
33	CA-60 Near Road##	5036	--	--	--	--	--	--	--	--	--	--	--	--	--	346	101.6	78.0	29.1	--	--	--
34	Central San Bernardino Valley 1	5197	358	1.7	1.2	348	0.151	0.111	0.105	8	89	65	27	56	89	360	66.4	57.9	18.7	363	2.5	1.7
34	Central San Bernardino Valley 2	5203	360	1.9	1.4	359	0.162	0.128	0.122	15	128	110	60	89	128	365	54.0	45.6	14.9	--	--	--
35	East San Bernardino Valley	5204	--	--	--	361	0.173	0.136	0.125	16	141	127	78	104	141	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	--	--	--	364	0.159	0.139	0.117	7	118	97	55	69	118	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--
	DISTRICT MAXIMUM [e]			4.5	3.1		0.185	0.139	0.125	17	141	127	78	104	141		101.6	86.3	29.1		6.0	3.3
	SOUTH COAST AIR BASIN [f]			4.5	3.1		0.185	0.139	0.125	27	157	142	97	132	157		101.6	86.3	29.1		6.0	3.3

* Incomplete data. ** Salton Sea Air Basin -- Pollutant not monitored ppm - Parts Per Million parts of air, by volume ppb – Parts Per Billion parts of air, by volume AAM = Annual Arithmetic Mean

a) The federal and state 8-hour CO standards (9 ppm and 9.0 ppm) and the federal and state 1-hour CO standards (35 ppm and 20 ppm) were not exceeded.
b) The current (2015) O_3 federal standard was revised effective December 28, 2015.
c) The NO_2 federal 1-hour standard is100 ppb annual standard is annual arithmetic mean NO2 > 0.0534 ppm (53.4 ppb). The state 1-hour and annual standards are 0.18 ppm and 0.030 ppm.
d) The federal SO_2 1-hour standard is 75 ppb (0.075 ppm). The state standards are 1-hour average SO2 > 0.25 ppm (250 ppb) and 24-hour average SO2 > 0.04 ppm (40 ppb).
e) District Maximum is the maximum value calculated at any station in the South Coast AQMD Jurisdiction
f) Concentrations are the maximum value observed at any station in the South Coast Air Basin. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the South Coast Air Basin
Four near-road sites measuring one or more of the pollutants $PM_{2.5}$, CO and/or NO_2 are operating near the following freeways: I-5, I-10, CA-60 and I-710.

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4182
www.aqmd.gov

For information on the current standard levels and most recent revisions please refer to "Appendix II – Current Air Quality" of the "2016 AQMP" which can be accessed at http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-ii.pdf?sfvrsn=4. Maps showing the source/receptor area boundaries can be accessed via the Internet by entering your address in the South Coast AQMD Air Quality Forecast Map at www.aqmd.gov/forecast. A printed map or copy of the AQMP Appendix II is also available free of charge from the South Coast AQMD Public Information Center at 1-800-CUT-SMOG.

2020 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2020

Source/Receptor Area No.	Location	Station No.	Suspended Particulates PM10 e) k) +					Fine Particulates PM2.5 g) #					Lead i) ++		PM10 Sulfate j)	
			No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standards: Federal > 150 µg/m³ 24-hour	No. (%) Samples Exceeding Standards: State > 50 µg/m³ 24-hour	Annual. Average Conc. f) (AAM) µg/m³	No. Days of Data	Max. Conc. in µg/m³ 24-hour	98th Percentile Conc. in µg/m³ 24-hour	No (%) Samples Exceeding Federal Std. > 35 µg/m³ 24-hour	Annual. Average Conc. h) (AAM) µg/m³	Max. Monthly Average Conc. µg/m³	Max. 3-Months Rolling Averages µg/m³	No. Days of Data	Max. Conc. in µg/m³ 24-hour
LOS ANGELES COUNTY																
1	Central LA	087	337	77	0	24 (7%)	23.0	353	47.30	28.00	2 (1%)	12.31	0.013	0.011	45	3.3
2	Northwest Coastal LA County	091	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Southwest Coastal LA County	820	37	43	0	0	22.5	--	--	--	--	--	0.008	0.005	--	--
4	South Coastal LA County 1	072	--	--	--	--	--	117	28.10	26.10	0	11.26	--	--	--	--
4	South Coastal LA County 2	077	42	59	0	2 (5%)	24.9	357	39.00	28.00	1 (0%)	11.38	0.008	0.006	--	--
4	South Coastal LA County 3	033	12	54	0	2 (17%)	27.8	--	--	--	--	--	--	--	14	2.3
4	South Coastal LA County 4	039	--	--	--	--	--	--	--	--	--	--				
4	I-710 Near Road##	032	--	--	--	--	--	356	44.00	31.50	2 (1%)	12.93	--	--	--	--
6	West San Fernando Valley	074	--	--	--	--	--	116	27.60	26.40	0	10.13	--	--	--	--
7	East San Fernando Valley	200	--	--	--	--	--	--	--	--	--	--				
8	West San Gabriel Valley	088	--	--	--	--	--	117	34.90	31.20	0	11.06	--	--	--	--
9	East San Gabriel Valley 1	060	43	95	0	8 (19%)	37.7	116	33.00	25.80	0	11.13	0.010	0.007	45	3.1
9	East San Gabriel Valley 2	591	333	105	0	9 (3%)	25.2	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	085	--	--	--	--	--	116	35.40	30.50	0	13.22	0.012	0.011	--	--
12	South Central LA County	112	--	--	--	--	--	352	43.20	34.10	7 (2%)	13.57	0.010	0.009	--	--
13	Santa Clarita Valley	090	36	48	0	0	22.5	--	--	--	--	--	--	--	--	--
ORANGE COUNTY																
16	North Orange County	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	3176	329	120	0	13 (4%)	23.9	355	41.40	27.10	1 (0%)	11.27	--	--	44	3.3
17	I-5 Near Road##	3131	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	3812	42	53	0	1 (2%)	16.8	120	35.00	32.70	0	8.81	--	--	--	--
RIVERSIDE COUNTY																
22	Corona/Norco Area	4155	44	100	0	10 (23%)	39.1	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	4144	320	104	0	110 (34%)	30.0	357	41.00	29.60	4 (1%)	12.63	0.016	0.010	84	5.2
23	Metropolitan Riverside County 3	4165	304	124	0	154 (51%)	52.2	358	38.70	34.70	5 (1.%)	14.03	--	--	--	--
24	Perris Valley	4149	37	77	0	6 (16%)	35.9	--	--	--	--	--	--	--	--	--
25	Elsinore Valley	4158	334	84	0	7 (2%)	22.0	--	--	--	--	--	--	--	--	--
26	Temecula Valley	4031	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	San Gorgonio Pass	4164	42	46	0	0	19.2	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	4137	251	48	0	0	20.4	122	23.90	16.90	0	6.42	--	--	--	--
30	Coachella Valley 2**	4157	317	77	0	8 (3%)	29.1	121	25.60	20.20	0	8.41	--	--	89	2.7
30	Coachella Valley 3**	4032	320	259	1 (0%)	69 (22%)	38.0	--	--	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																
32	Northwest San Bernardino Valley	5175	305	63	0	12 (4%)	30.5	--	--	--	--	--	--	--	--	--
33	I-10 Near Road##	5035	--	--	--	--	--	--	--	--	--	--	--	--	--	--
33	CA-60 Near Road##	5036	--	--	--	--	--	356	53.10	33.70	4 (1%)	14.36	--	--	--	--
34	Central San Bernardino Valley 1	5197	40	61	0	6 (15%)	35.8	117	46.10	27.40	1 (1%)	11.95	--	--	44	3.0
34	Central San Bernardino Valley 2	5203	320	80	0	81 (25%)	38.7	115	25.70	24.70	0	11.66	0.010	0.009	--	--
35	East San Bernardino Valley	5204	40	57	0	1 (3%)	23.4	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	5181	40	51	0	1 (3%)	18.1	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	5818	--	--	--	--	--	58	24.30	20.40	0	7.62	--	--	--	--
	DISTRICT MAXIMUM l)			259	1	154	52.2		53.1	34.1	7	14.36	0.016	0.011		5.2
	SOUTH COAST AIR BASIN m)			124	0	173	52.2		53.1	34.1	13	14.36	0.016	0.011		5.2

* Incomplete data due to the site improvement. ** Salton Sea Air Basin µg/m³ – Micrograms per cubic meter of air AAM – Annual Arithmetic Mean -- Pollutant not monitored

\+ High PM10 (≥ 155 µg/m³) data recorded in the Coachella Valley and the Basin attributed to high winds are excluded because they likely meet the exclusion criteria specified in the U.S. EPA Exceptional Event Rule. Exceptional event demonstrations will be submitted to U.S. EPA for events that have regulatory significance.

\# PM2.5 concentrations above the 24-hour standard attributed to wildfire smoke and fireworks are excluded because they likely meet the exclusion criteria specified in the U.S. EPA Exceptional Event Rule. Exceptional event demonstrations will be submitted to U.S. EPA for events that have regulatory significance.

e) PM10 statistics listed above are based on combined Federal Reference Method (FRM) and Federal Equivalent Method (FEM) data.

f) State annual average (AAM) PM10 standard is 20 µg/m³. Federal annual PM10 standard (50 µg/m³) was revoked in 2006.

g) PM2.5 statistics listed above represent FRM data only with the exception of Central Orange County, I-710 Near Road, Metropolitan Riverside County 1 and 3, CA-60 Near Road, and South Coastal LA County 2 where FEM PM2.5 measurements are used to supplement missing FRM measurements because they pass the screening criteria in the South Coast AQMD Continuous Monitor Comparability Assessment and Request for Waiver dated July 1, 2021.

h) The Federal and State annual standards are 12.0 µg/m³.

i) Federal lead standard is 3-months rolling average > 0.15 µg/m³; state standard is monthly average ³ 1.5 µg/m³. Lead standards were not exceeded.

j) State sulfate standard is 24-hour ³ 25 µg/m³. There is no federal standard for sulfate.

k) Filter-based measurements for PM10 from March 28, 2020 to June 26, 2020 are not available due the COVID-19 Pandemic

l) District Maximum is the maximum value calculated at any station in the South Coast AQMD Jurisdiction

m) Concentrations are the maximum value observed at any station in the South Coast Air Basin. Number of daily exceedances are the total number of days that the indicated concentration is exceeded at any station in the South Coast Air Basin

++ Higher lead concentrations were recorded at near-source monitoring sites immediately downwind of stationary lead sources. Maximum monthly and 3-month rolling averages recorded were 0. 096 µg/m³ and 0.059 µg/m³, respectively.

Four near-road sites measuring one or more of the pollutants PM2.5, CO and/or NO2 are operating near the following freeways: I-5, I-10, CA-60 and I-710.