DOCKETED	
Docket Number:	00-AFC-14C
Project Title:	El Segundo Power Redevelopment Project Compliance
TN #:	237187
Document Title:	ESEC Uprate ID115663 U5 U7 SCAQMD Complete Application Package 031121
Description:	Permit Application - Gas Turbine Uprate to SCAQMD
Filer:	Heather Mostert
Organization:	Walnut Creek Energy, LLC
Submitter Role:	Applicant
Submission Date:	3/16/2021 4:01:55 PM
Docketed Date:	3/16/2021

El Segundo Energy Center LLC
301 Vista Del Mar
El Segundo, CA 90245
Phone: 310-615-6030
Fax: 310-615-6060

March 11, 2021

Christian Aviles
Air Quality Engineer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Subject: **Permit Application - Gas Turbine Uprate**
El Segundo Energy Center (Facility ID 115663)
Units 5 and 7 (Devices D67 and D68)

Dear Mr. Aviles:

El Segundo Energy Center LLC (ESEC) is pleased to submit the enclosed permit application to the South Coast Air Quality Management District (SCAQMD) for the uprate of gas turbine Units 5 and 7 at El Segundo Energy Center (Facility). The uprate of these turbines will not necessitate physical modifications; rather the fuel input on an hourly basis would increase, resulting in an increase in output of the respective gas turbines. No additional output from the respective steam turbines will incur. The increase in the fuel input would allow an increase of the heat input rate to a more representative maximum heat input rating for each turbine, which will increase the corresponding output of each turbine. The maximum output of the Facility would increase from 573.4 MW to 580.4 MW, while the net output would increase to 560 MW, which is the output described in the air permit and CA Energy Commission license. The uprate project is proposed as a minor modification. No changes are proposed to pollutant concentrations nor annual emissions. A daily maximum fuel input will be added to the permit conditions that will minimize daily mass emission increases of NOx, CO and VOCs.

Improvements in logic controls would enable ESEC to increase the Facility's nominal output, increasing net generation to the grid by more than 30 MW. ESEC is seeking modifications of the Facility Permit to Operate to increase the fuel input and the corresponding output of the facility in time for summer 2021. The increase in output from El Segundo Energy Center is integral in addressing the State of California's urgent need for additional capacity. Southern California Edison has contracted ESEC for the increased output starting June 1, 2021 in response to the California Public Utilities Commission's ruling (Rulemaking 20-11-003, dated December 28, 2020) directing the State's three large electric investor-owned utilities to seek contracts for additional power capacity.

The application includes the requisite SCAQMD forms. Due to the urgency for incremental generation, ESEC is requesting Expedited Permit Processing (400-XPP). A check for $53,702.75 is enclosed.

If you have any questions or need further information, please don't hesitate to contact me at (760) 707-6833 or Steve Odabashian at (310) 529-3281.

Best Regards,
On behalf of El Segundo Energy Center LLC

George L. Piantka, PE
Senior Director, Environmental

cc: Michael Murphy, El Segundo Energy Center LLC
Ken Riesz, El Segundo Energy Center LLC
Steven Odabashian, EL Segundo Energy Center LLC
Tim Sisk, EL Segundo Energy Center LLC

1805
CLEARWAY WEST O&M EXPENSE ACC
PAYMENT PER REQUEST
INVOICE: 3524-02162021
PURPOSE: EMISSIONS/SERVICES FEES
PER TRANSFER DATE DIRECTION
DATED FEBRUARY 19, 2021

DATE
2/26/21

AMOUNT
53,702.75

SOUTH COAST AIR QUALITY MANAGEMENT
PO BOX 4943
DIAMOND BAR, CA 91765-0943

PLEASE DETACH BEFORE PRESENTING FOR PAYMENT

THIS CHECK WILL NOT BE CASHED IF THE FACE OF THIS DOCUMENT APPEARS TO BE ALTERED IN ANY WAY.

MUFG Union Bank, N.A.
TRUST DEPARTMENT
P.O.BOX 85602, SAN DIEGO, CA, 92186-5602

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PAYMENT PER REQUEST
INVOICE: 3524-02162021

PAY ONLY FIVE THREE SEVEN ZERO TWO CTS CTS 53702 75

DATE	CHECK NUMBER
2/26/21	3653824

AMOUNT

*$53,702.75

PAY
FIFTY-THREE THOUSAND SEVEN HUNDRED TWO DOLLARS AND SEVENTY-FIVE CENTS **********

TO THE ORDER OF
SOUTH COAST AIR QUALITY MANAGEMENT
PO BOX 4943
DIAMOND BAR, CA 91765-0943

VOID AFTER 90 DAYS

Authorized Signature

THE ORIGINAL DOCUMENT HAS A REFLECTIVE WATERMARK ON THE BACK. HOLD AT AN ANGLE TO VIEW WHEN CHECKING THE ENDORSEMENT.

⑈3653824⑈ ⑆122000496⑆ 020500003⑈

El Segundo Energy Center, LLC

301 Vista Del Mar
El Segundo, CA 90245

SCAQMD Facility ID: 115663

March 2021

Prepared by:

Yorke ENGINEERING, LLC
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Office Locations:
Los Angeles, Orange County, Riverside,
San Diego, Ventura, Fresno, Berkeley, Bakersfield

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Applications for Modification: Increase Turbine Heat Input Rating

Applications for Modification: Increase Turbine Heat Input Rating

Prepared for:

El Segundo Energy Center, LLC
301 Vista Del Mar
El Segundo, CA 90245
SCAQMD Facility ID: 115663

March 2021

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Acronyms and Abbreviations

AQIA	Air Quality Impacts Analysis
BACT	Best Available Control Technology
BARCT	Best Available Retrofit Control Technology
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CCGT	Combined Cycle Gas Turbine
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
CO_2	Carbon Dioxide
EPA	U.S. Environmental Protection Agency
ESEC	El Segundo Energy Center, LLC
HAP	Hazardous Air Pollutants
HHV	Higher Heating Value
HI	Hazard Index
HRA	Health Risk Assessment
Lb	Pound
MICR	Maximum Individual Cancer Risk
MMBtu	Million British thermal units
MMscf	Million Standard Cubic Feet
Mo	Month
MW	Megawatts
MWh	Megawatt-hour
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NH_3	Ammonia
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides
NSPS	New Source Performance Standards
O_2	Oxygen
PM_{10}	Particulate Matter Less than 10 Micron
ppmv	Parts per Million by Volume
PTC	Permit to Construct
PTO	Permit to Operate
PUC	Public Utilities Commission

RECLAIM	Regional Clean Air Incentives Market
RTC	RECLAIM Trading Credit
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCR	Selective Catalytic Reduction
SO_2	Sulfur Dioxide
SOx	Sulfur Oxides
TAC	Toxic Air Contaminant
VOC	Volatile Organic Compound

Applications for Modification: Increase Turbine Heat Input Rating

1.0 INTRODUCTION

1.1 Application Overview

El Segundo Energy Center, LLC (ESEC) is submitting this application package to request modifications to the Permits to Operate for its two (2) natural gas-fired Combined Cycle Gas Turbines (CCGT) [A/N's 596833 and 596834; Device ID Nos. D67 and D68] to increase the allowable heat rate to be more representative of 'maximum' heat input rating of the equipment. The turbines were described in former permit actions using a nominal heat rate rather than the maximum rate. The facility is currently dispatched to serve peak power demand and needs to be permitted to operate at the maximum possible load to service that demand. The Equipment Description for each turbine currently lists the heat rate as 2,096 million British thermal units (MMBtu) per hour with a generating capacity of 219 megawatts (MW). With this application, ESEC is requesting that the heat rate be updated to 2,250 MMBtu per hour with a generating capacity of 222.5 MW for each unit. This will increase the facility's generating capacity from 573.4 MW to 580.4 MW. There are no physical modifications to the turbines proposed by this application.

The increase in hourly heat rate would result in an increase in the hourly of nitrogen oxides (NOx), sulfur oxides (SOx), carbon monoxide (CO), volatile organic compounds (VOC) and particulate matter less than 10 micron (PM_{10}) emissions. However, in addition to the increase to the hourly heat input rating, ESEC is requesting a throughput limit of 51,162 MMBtu per day. This daily limit will result in a daily emission increase for NOx, CO, and VOC. PM_{10} and SOx emissions will not increase. Best Available Control Technology (BACT) requirements for NOx would apply, as that will be the only criteria pollutant with an emission increase of one pound per day or more. The current permitted emission limit for NOx already achieves BACT for gas turbines, so BACT is satisfied for the CCGT. BACT is not triggered for CO, VOC, SOx or PM_{10}. ESEC will continue to operate under the monthly and annual emission limits established in Conditions F2.1 and A63.2. Because monthly and annual emissions will not change, offsets are not required for this modification.

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 descriptions (Section 2.0), emission calculations (Section 3.0), and rule applicability and compliance determinations (Section 4.0). Recommended permit wording and permit conditions are included in Section 5.0. Application forms, supporting documentation, and emission calculations are provided in the appendices.

ESEC is requesting Expedited Permit Processing for these applications. A Form 400-XPP is included in Appendix A and additional fees are submitted.

1.2 Facility Information

1.2.1 Facility Contact Information

Facility contact information is listed in Table 1-1.

Table 1-1: Facility Contact Information

Applicant's Name:	El Segundo Energy Center, LLC
Applicant Contact Information:	Mr. Steve Odabashian Environmental Specialist Ph.: (310) 615-6331 e-mail: Steve.Odabashian@nrg.com
Applicant Responsible Official:	Mr. Ken Riesz, Sr. Plant Manager Ph.: (310) 615-6030 e-mail: Ken.Riesz@nrg.com
Facility ID:	115663
RECLAIM:	Yes
Title V:	Yes
Mailing Address:	301 Vista Del Mar El Segundo, CA 90245
Equipment Location:	301 Vista Del Mar El Segundo, CA 90245

1.2.2 Background Information

Southern California Edison (SCE) previously owned and operated a power plant at this location. The original Permits to Operate (PTO) for the four steam boiler generators were issued for the equipment that was built in the 1950s (Units 1 and 2 at 175 MW each) and 1960s (Units 3 and 4 at 335 MWs each). A Change of Operator application was submitted to transfer ownership from SCE to NRG in 1998. In 2000, ESEC submitted applications to South Coast Air Quality Management District (SCAQMD) and the California Energy Commission (CEC) for permits to construct the El Segundo Power Redevelopment Project. As part of the proposed redevelopment project, Units 1 and 2 were to be demolished and replaced with two CCTGs. The CEC issued its Commission Decision in 2005 approving the El Segundo project and SCAQMD issued the Permit to Construct. The El Segundo Power Redevelopment Project was not contracted by a load serving entity at that time; therefore, demolition of Units 1 and 2 and construction of the El Segundo project did not commence following the permit approvals.

In 2007, ESEC submitted a Petition to Amend the CEC Commission Decision and an air permit application to modify the El Segundo Power Redevelopment Project from a two-on-one (2x1) CCGT that would rely on ocean cooling to two 1x1 CCGTs that incorporate fast-start capabilities and that would rely on air-cooling. The project change was necessary due to the then pending State Water Resources Control Board rulemaking to phase-out legacy steam boiler plants and newer combined cycle plants that rely on once-through cooling in the steam generation process. The El Segundo project's proposed capacity decreased from 647 MW to 573 MW and the gas turbines changed from General Electric

7FA to fast-start, air-cooled Siemens SGT6-5000 F. The air permit was modified to comply with SCAQMD Rule 1304 solely for offsetting the new generation through the retirement of Units 1-3, or approximately 685 MW of steam generation to construct the 573 MW, two 1x1 CCGTs, since the Rule 1309 was no longer available for offsetting replacement electricity generation. The project was renamed as El Segundo Energy Center in 2008 and the CEC amendment and air permit modifications were approved in 2010.

Demolition of Units 1 and 2 was completed in 2011 and the construction of ESEC was completed in 2013. Unit 3 was retired in 2013 to align with the completion of ESEC. The two 1x1 CCGT were identified as Units 5 and 6, and Units 7 and 8, respectively, with each power block including the Siemens gas turbine, heat recovery steam generator and steam turbine. Selective catalytic reduction (SCR) systems and oxidation catalysts are utilized for control of NOx and CO/VOC emissions, respectively. One 20,000-gallon underground storage tank storing 29% aqueous ammonia (NH_3) supplies the NOx reducing agent in the SCR.

1.2.3 Location

ESEC is located at 301 Vista Del Mar in the city of El Segundo. The facility occupies a total of approximately 32.8 acres and is bordered by industrial facilities on the east and north, the Pacific Ocean to the west, and by residential properties to the south. The nearest residential property is a home approximately 20 meters south-southeast of the facility property boundary, and approximately 670 meters from the nearest CCGT stack. The nearest school to the facility is the Richmond Street Elementary School at 615 Richmond St., El Segundo, approximately 1,400 meters to the northeast of the facility. An aerial photograph depicting the facility and the surrounding properties is provided as Figure 1.

1.3 Summary of Proposed Actions

The purpose of this application is to request a PTC/PTO for modifications to each of the two CCGT's. The following specific changes are proposed:

- Modification to update the maximum heat input rating shown in the Equipment Description for device D67 from 2,096 MMBtu per hour to 2,250 MMBtu per hour, and update the electrical output from 219 MW to 222.5 MW;
- Modification to update the maximum heat input rating shown in the Equipment Description for device D68 from 2,096 MMBtu per hour to 2,250 MMBtu per hour, and update the electrical output from 219 MW to 222.5 MW;
- Change of condition to add a throughput limit of 51,162 MMBtu per day for each of the two CCGTs; and
- Title V Facility permit amendment.

This application package contains the application forms necessary for application processing. A summary of the application forms is provided in Table 1-2; the application forms are included in Appendix A.

Table 1-2: SCAQMD Forms Accompanying this Application

Equipment Description	Requested Permit Action	Form No. - Title
Gas Turbine No. 5; Device ID No. D67	Alteration/Modification	400-A - Application for Permit or Plan Approval 400-E-12 – Gas Turbine 400-PS - Plot Plan and Stack Information Form
Gas Turbine No. 7; Device ID No. D68	Alteration/Modification	400-A - Application for Permit or Plan Approval 400-E-12 – Gas Turbine 400-PS - Plot Plan and Stack Information Form
RECLAIM/Title V Permit	RECLAIM/Title V Facility Permit Amendment	400-A - Application for Permit or Plan Approval
Project	Application Processing	400-CEQA - California Environmental Quality Act (CEQA) Applicability
Project	Application Processing	400-XPP - Express Permit Processing Request
RECLAIM/Title V Facility Permit	Facility Permit Amendment	500-A2 - Title V Application Certification
		500-C1 - Compliance Status Report
		500-F1 (Title V) - Title IV - Acid Rain Phase II Facility Information Summary

1.4 Application Preparation

This permit application was prepared by Joseph Steirer and Russ Kingsley, with Peer Review by Greg Wolffe of Yorke Engineering, LLC. If there are technical questions regarding this application, please use the contact information provided in Table 1-3.

Table 1-3: Application Preparers

Name:	Joseph Steirer CPP #M61004	Russ Kingsley CPP #A1606	Greg Wolffe CPP #D11338
Role:	Application Preparation	Application Review	Application Review
Phone:	(949) 248-8490	(805) 293-7756	(949) 248-8490
Cellular:	(949) 606-3645	(805) 844-7491	(714) 315-9049
Email:	JSteirer@YorkeEngr.com	RKingsley@YorkeEngr.com	GWolffe@YorkeEngr.com

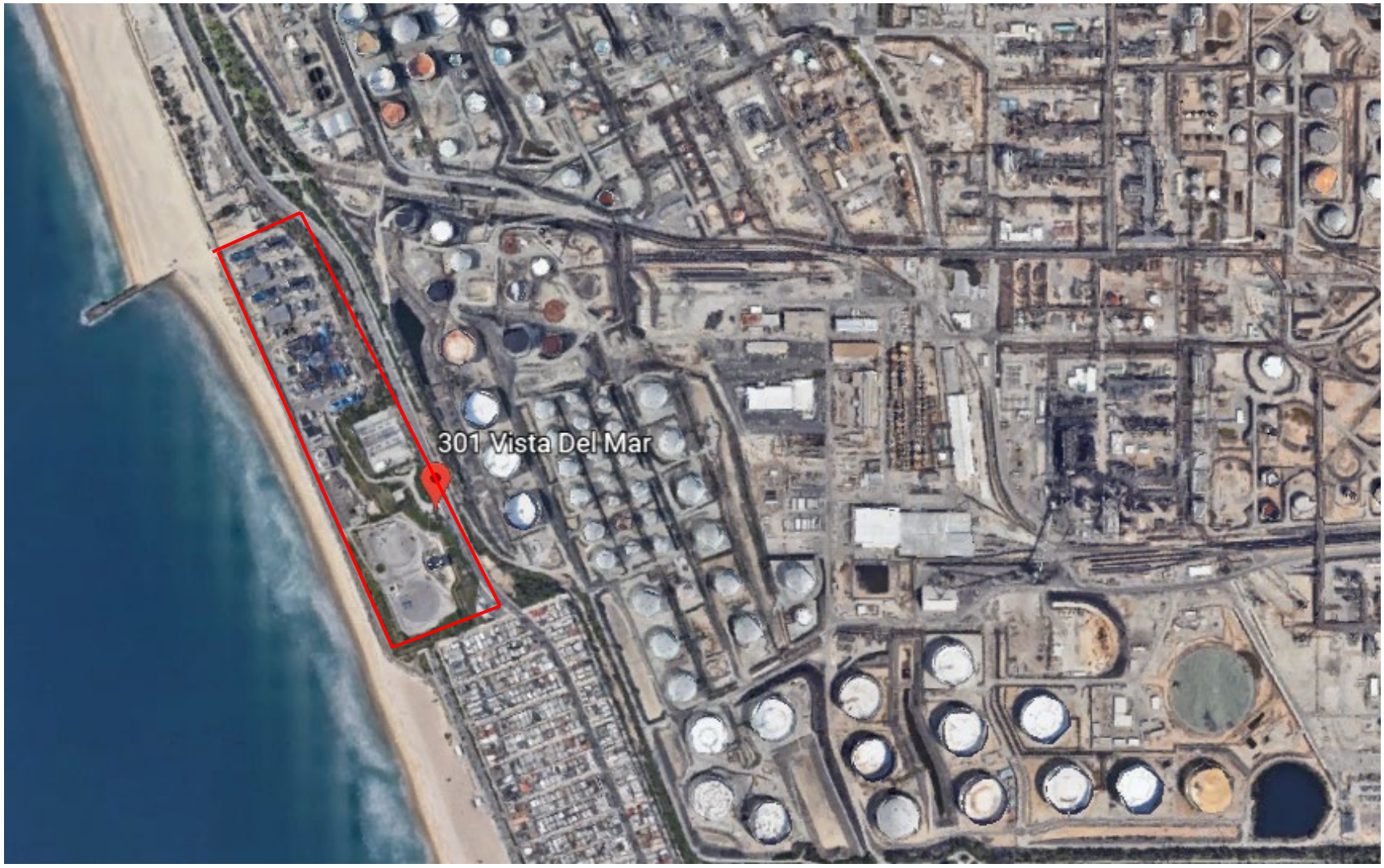

Figure 1: Location Diagram for ESEC and Surrounding Area

2.0 PROCESS AND EQUIPMENT DESCRIPTION

Project and equipment details are provided in this section.

2.1 Process Description

ESEC provides power to the grid during periods of peak electrical demand. ESEC operates two CCGTs. There is a heat recovery steam generator and steam turbine associated with each power block, but no duct burners at this plant. Each CCGT is equipped with an inlet air filter, an inlet air-cooling system and steam power augmentation, arranged in a one-on-one configuration. SCR systems and CO oxidation catalysts are utilized for control of NOx and CO/VOC emissions, respectively. One 20,000-gallon underground storage tank stores 29% aqueous ammonia for use in the SCRs.

2.2 Equipment Description

The equipment affected by this application is identified in Table 2-1. The information in Table 2-1 is the current equipment description: one purpose of this application is to change the heat rate portion of the equipment description for each of the CCGTs. Please see Section 5 for the proposed/revised equipment description.

Table 2-1: Equipment Summary

Basic Equipment	NOx Control Equipment	CO/VOC Control Equipment
Gas Turbine, Unit No. 5, Natural Gas, Siemens, Model SGT6-5000F, Rapid-Response, combined cycle, 2,096 MMBtu/hr at 78 Degrees F, with dry low-NOx Combustors with Generator, Heat Recovery Steam, Unfired Turbine, Steam, 67.7 MW, Generator, 219 MW.	Selective Catalytic Reduction, Unit No. 5, Cormetech, Model CM21HT, with 2,050 cubic feet of total catalyst volume, width: 25 ft; Height: 70 ft; Length: 24 ft 3 in with ammonia injection grid.	CO oxidation catalyst, Unit No. 5, BASF, 290 cubic feet of total catalyst volume
Gas Turbine, Unit No. 7, Natural Gas, Siemens, Model SGT6-5000F, Rapid-Response, combined cycle, 2,096 MMBtu/hr at 78 Degrees F, with dry low-NOx Combustors with Generator, Heat Recovery Steam, Unfired Turbine, Steam, 67.7 MW, Generator, 219 MW.	Selective Catalytic Reduction, Unit No. 7, Cormetech, Model CM21HT, with 2,050 cubic feet of total catalyst volume, width: 25 ft; Height: 70 ft; Length: 24 ft 3 in with ammonia injection grid.	CO oxidation catalyst, Unit No. 7, BASF, 290 cubic feet of total catalyst volume

2.3 Process Operating Parameters

ESEC is proposing to increase the hourly heat rate to 2,250 MMBtu per hour and increase the generator capacity to 222.5 MW for each unit. ESEC also proposes a new permit condition to limit the fuel input to 51,162 MMBtu per day, per turbine.

The pre-and post-project operating parameters are summarized in Table 2-2.

Table 2-2: Operating Parameters

Process Parameter	Pre-Project	Post-Project
Turbine Heat Rate (MMBtu/hr)	2,096	2,250
Monthly Fuel Usage (MMscf/mo)	1,500	1,500
Annual Fuel Usage (MMscf/yr)	11,211.6	11,211.6
Maximum 'Normal Operating' hours per day	20	20
Maximum 'Normal Operating' hours per month	606	606
Starts/stops per day	2	2
Starts/stops per month	62	62
Starts/stops per year	200	200
Startup Duration (minutes)	60	60
Shutdown Duration (minutes)	60	60
HHV (natural gas) (Btu/scf)	1,020	1,050

3.0 EMISSIONS

The equipment description currently lists the heat rate of each CCGT as 2,096 MMBtu per hour. With this application, ESEC is requesting that the heat rate be updated to 2,250 MMBtu per hour. The increase in hourly heat rate with a daily heat input rate cap would result in an increase in the hourly increase of NOx, CO, VOC, SOx and PM_{10} and daily increase of NOx, CO and VOC emissions. Additionally, ESEC is requesting a fuel input limit of 51,162 MMBtu per day, per turbine.

3.1 Criteria Pollutants

ESEC is proposing an increase in the maximum hourly heat input rating for each of the two CCGT's. This will result in a corresponding increase in maximum hourly emissions. Each CCGT will accept a daily fuel use limit of 51,162 MMBtu, which will increase daily emissions for NOx, CO and VOCs. In addition to the new daily limit, ESEC will also continue to operate under the fuel use/emission limits of Conditions F2.1 and A63.2; as a result, 30-day average and annual emissions are unchanged compared to the currently permitted operations.

3.1.1 Emission factors

The emission factors used to calculate pre-project and post-project emissions are summarized in Table 3-1. Note the following changes:

- For the pre-project emission calculations, the emission factors (lb/MMscf) for NOx, CO, and VOC are calculated using a higher heating value (HHV) of natural gas of 1,020 Btu/scf, consistent with prior permit actions; and
- For the post-project emission calculations, the emission factors (lb/MMscf) for NOx, CO, and VOC are calculated using a HHV of natural gas of 1,050 Btu/scf, consistent with RECLAIM requirements.

Table 3-1: Summary of Emission Factors

Pollutant	Unit of measure	Pre-Project	Post-Project
NOx	ppmv @ 15% O_2	2.0	2.0
	lb/MMscf	7.57	7.74
CO	ppmv @ 15% O_2	2.0	2.0
	lb/MMscf	4.61	4.71
VOC	ppmv @ 15% O_2	2.0	2.0
	lb/MMscf	2.63	2.69
SOx	lb/MMscf	0.71	0.71
PM_{10}	lb/MMscf	4.66	4.66

3.1.2 Summary of Emissions

Hourly emissions are summarized in Table 3-2 (normal operations only, i.e., excluding startup and shutdowns); daily emissions are summarized in Table 3-3; monthly emissions are summarized in Table 3-4; and 30-day average daily emissions are summarized in Table 3-5. All tables present emissions data per CCGT. Emission calculation worksheets are provided in Appendix B.

Table 3-2: Summary of Normal Operating Hourly Emissions – per CCGT

Pollutant	Pre-Project (lb/hr)	Post-Project (lb/hr)	Change (lb/hr)
NOx	15.45	16.59	1.13
CO	9.41	10.09	0.68
VOC	5.38	5.76	0.38
SOx	1.46	1.52	0.06
PM_{10}	9.58	9.99	0.41

Table 3-3: Summary of Daily Emissions – per CCGT

Pollutant	Operating Mode	Pre-Project (lb/day)	Post-Project (lb/day)	Change (lb/day)
NOx	Normal Operations	309.06	310.79	1.74
	Startup	112.06	112.06	0.00
	Shutdown	71.00	71.00	0.00
	Total	**492.12**	**493.85**	**1.74**
CO	Normal Operations	188.23	189.13	0.90
	Startup	834.84	834.84	0.00
	Shutdown	442.36	442.36	0.00
	Total	**1,465.43**	**1,466.33**	**0.90**
VOC	Normal Operations	107.68	108.02	0.34
	Startup	34.60	34.60	0.00
	Shutdown	19.48	19.48	0.00
	Total	**161.76**	**162.10**	**0.34**
SOx	Normal Operations	29.18	28.51	-0.67
	Startup	2.92	3.04	0.12
	Shutdown	2.92	3.04	0.12
	Total	**35.02**	**34.60**	**-0.42**
PM_{10}	Normal Operations	191.52	187.12	-4.40
	Startup	19.15	19.97	0.82
	Shutdown	19.15	19.97	0.82
	Total	**229.82**	**227.06**	**-2.76**

Table 3-4: Summary of Monthly Emissions – per CCGT

Pollutant	Operating Mode	Pre-Project (lb/mo)	Post-Project (lb/mo)	Change (lb/mo)
NOx	Normal Operations	9,364.43	9,553.99	189.56
	Startup	3,473.86	3,473.86	0.00
	Shutdown	2,201.00	2,201.00	0.00
	Total	**15,039.29**	**15,228.85**	**189.56**
CO	Normal Operations	5,703.34	5,813.86	110.52
	Startup	25,880.04	25,880.04	0.00
	Shutdown	13,713.16	13,713.16	0.00
	Total	**45,296.54**	**45,407.06**	**110.52**
VOC	Normal Operations	3,262.61	3,320.44	57.83
	Startup	1,072.60	1,072.60	0.00
	Shutdown	603.88	603.88	0.00
	Total	**4,939.09**	**4,996.92**	**57.83**
SOx	Normal Operations	884.14	876.40	-7.74
	Startup	90.46	94.33	3.87
	Shutdown	90.46	94.33	3.87
	Total	**1,065.06**	**1,065.06**	0.00
PM_{10}	Normal Operations	5,802.96	5,752.14	-50.82
	Startup	593.70	619.11	25.41
	Shutdown	593.70	619.11	25.41
	Total	**6,990.37**	**6,990.37**	0.00

Table 3-5: Summary of 30-day Average Daily Emissions – per CCGT

Pollutant	Pre-Project (lb/day)	Post-Project (lb/day)	Change (lb/day)
NOx	501.3	507.6	6.3
CO	1509.9	1513.6	3.7
VOC	164.6	166.6	1.9
SOx	35.5	35.5	0.0
PM_{10}	233.0	233.0	0.0

3.2 Toxic Air Contaminants

This project will result in an increase in maximum hourly emissions of Toxic Air Contaminants (TAC). TAC emissions are estimated from the pre-project and post-project heat input ratings, a HHV of 1,050 Btu/scf, consistent with RECLAIM requirements, and the SCAQMD default emission factors for combustion of natural gas in a combustion turbine. Ammonia emissions are estimated based on ammonia slip of 5 parts per million by volume (ppmv), as specified in

Condition A195.11. TAC emissions are summarized in Table 3-5. Detailed emission calculations are provided in the spreadsheets in Appendix B.

Table 3-6: Summary of TAC Emissions – per CCGT

TAC	CAS	Pre-Project MHC (lb/hr)	Post-Project MHC (lb/hr)	Change MHC (lb/hr)	Pre-Project MAC (lb/yr)	Post-Project MAC (lb/yr)	Change MAC (lb/yr)
Benzene	71432	6.84E-03	7.14E-03	2.93E-04	3.73E+01	3.73E+01	0.00E+00
1,3-Butadiene	106990	9.02E-04	9.41E-04	3.86E-05	4.92E+00	4.92E+00	0.00E+00
Formaldehyde	50000	7.54E-01	7.86E-01	3.23E-02	4.11E+03	4.11E+03	0.00E+00
Naphthalene	91203	2.73E-03	2.85E-03	1.17E-04	1.49E+01	1.49E+01	0.00E+00
Total PAHs (excluding Naphthalene)	1151	1.89E-03	1.97E-03	8.07E-05	1.03E+01	1.03E+01	0.00E+00
Acetaldehyde	75070	8.38E-02	8.74E-02	3.59E-03	4.57E+02	4.57E+02	0.00E+00
Acrolein	107028	7.58E-03	7.91E-03	3.25E-04	4.14E+01	4.14E+01	0.00E+00
Ammonia	7664417	1.43E+01	1.53E+01	1.04E+00	7.79E+04	8.02E+04	2.24E+03
Ethylbenzene	100414	6.70E-02	6.99E-02	2.87E-03	3.65E+02	3.65E+02	0.00E+00
Propylene oxide	75569	6.08E-02	6.34E-02	2.60E-03	3.32E+02	3.32E+02	0.00E+00
Toluene	108883	2.73E-01	2.85E-01	1.17E-02	1.49E+03	1.49E+03	0.00E+00
Xylene	1330207	1.34E-01	1.40E-01	5.74E-03	7.32E+02	7.32E+02	0.00E+00

4.0 RULE COMPLIANCE EVALUATION

A review of the applicable requirements and a description of how the equipment and emissions will comply with applicable requirements are provided in this section.

4.1 Regulation II - Permits; 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 1.2.3 and shown in Figure 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. The daily emission increases are compared to the Rule 212(g) thresholds in Table 4-1. As shown, the daily emission increases are less than the rule limits.

Table 4-1: Rule 212(g) Threshold Comparison

Pollutant	Rule 212(g) Threshold (lb/day)	Project Increase (lb/day)	Exceed Threshold? (Yes/No)
NOx	40	3.47	No
CO	220	1.8	No
VOC	30	0.68	No
SOx	60	-0.84	No
PM_{10}	30	-5.52	No

As shown in Table 3-4, the proposed project does not result in an increase in annual emissions of TACs, except ammonia[1]. Therefore, this project would not 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 public notice, public notice is not required for the project.

[1] Ammonia is acutely toxic and exhibits chronic toxicity but does not exhibit carcinogenic toxicity.

4.2 Regulation III - Fees; Rule 301 - Permit Fees

The application processing fees were determined using Rule 301 and are summarized in Table 4-2. The applicant is requesting expedited permit processing; additional fees are provided in accordance with Rule 301(v).

Table 4-2: Application Processing Fees

Equipment	Rule 301 Table IA/IB Description	Schedule	Requested Permit Action	Fee
Gas Turbine No. 5; Device ID No. D67	Gas Turbine, > 50 MW, other fuel	G	Alteration/Modification Title V FY2020-21	$22,654.61
Gas Turbine No. 7; Device ID No. D68	Gas Turbine, > 50 MW, other fuel	G Identical Equipment Discount	Alteration/Modification Title V FY2020-21	$11,327.31
			Subtotal	$33,981.92
			RECLAIM & Title V Facility Permit Amendment Fee – Rule 301, Table VII	$2,729.86
			Expedited Permit Processing - 301(v)	$16,990,97
			Total	**$53,798.78**

4.3 Regulation IV - Prohibitions

4.3.1 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 following implementation of the project. Visible emissions are not expected.

4.3.2 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 following implementation of the project. Nuisance emissions are not expected.

4.3.3 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.

4.3.4 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 which 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.

4.3.5 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 which will ensure compliance with this rule.

4.3.6 Rule 431.1 - Sulfur Content of Gaseous Fuels

The purpose of this rule is to reduce SOx 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.

4.3.7 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]. Prior source test results demonstrate that neither CCGT exceeds the rule limits. The proposed modifications are not expected to change the

PM_{10} emission rate from the equipment; therefore, continued compliance with the Rule 475 emission limits is expected.

4.4 Regulation IX - Standards of Performance for New Stationary Sources

Regulation IX incorporates federal New Source Performance Standards (NSPS) by reference. One standard of performance under NSPS is applicable to the subject equipment, as explained below. Subpart A establishes the administrative requirements under the NSPS; the proposed project does not trigger any new of different requirements under subpart A, so subpart A is not discussed further.

4.4.1 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 NOx and SO_2.

The rule limits NOx emissions from new, modified, or reconstructed turbines firing natural gas with a heat rate 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 discussed in this application operate with SCR to control NOx emissions to 2 ppmv; therefore, compliance with the NOx limits of Subpart KKKK are satisfied. The CCGTs combust PUC-quality pipeline natural gas that complies with the sulfur limits of Rule 431.1; therefore, compliance with the sulfur limits of Subpart KKKK are satisfied.

The rule imposes a number of other requirements on the CCGTs and facility, including monitoring, recordkeeping, and reporting requirements. ESEC complies with these requirements. The proposed project will not adversely impact continued compliance.

4.5 Regulation X - National Emission Standards for Hazardous Air Pollutants

Regulation X incorporates the federal National Emission Standards for Hazardous Air Pollutants (NESHAP) by reference. There are no federal NESHAP rules applicable to the proposed project or equipment.

Subpart YYYY - National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines applies to combustion turbines at major sources of hazardous air pollutants (HAP). ESEC is not a major source of HAP; therefore, Subpart YYYY is not applicable to the facility. There are no other NESHAP applicable to combustion turbines.

4.6 Regulation XI - Source-Specific Standards

4.6.1 Rule 1134 - Emissions of Oxides of Nitrogen from Stationary Gas Turbines

The purpose of this rule is to reduce emissions of NOx from stationary gas turbines. The provisions of this rule apply to all stationary gas turbines, 0.3 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; gas turbines located at petroleum refineries, landfills, or publicly owned treatment works; or gas turbines fueled by landfill gas. Because the CCGTs are subject to Rule 1135, they are not subject to Rule 1134.

4.6.2 Rule 1135 - Emissions of Oxides of Nitrogen from Electricity Generating Facilities

The purpose of this rule is to reduce emissions of NOx 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 NOx and ammonia emissions limits listed in Table 1 of the rule: Emissions Limits for Boilers and Gas Turbines. For a CCGT, the NOx limit is 2.0 ppmv and the ammonia slip concentration limit is 5 ppmv, both at 15% excess O_2. The CCGTs already comply with NOx and ammonia slip limits pursuant to current permit conditions. Therefore, compliance is expected.

ESEC will comply with the remaining applicable provisions of the rule in a timely manner. For example, paragraph (d)(7) of the November 2, 2018 version of the rule requires that a change of conditions application must be submitted by July 1, 2022 to reconcile permit conditions with Rule 1135 requirements. Paragraph (d)(3) requires the SCAQMD permit to include "… limitations for duration, mass emissions, and number of start-ups, shutdowns, and, if applicable, tunings …" by January 1, 2024.

4.7 Regulation XIII - New Source Review; Rule 1303, Requirements

The purpose of this regulation is to achieve no net increases of nonattainment air contaminants or their precursors from new or modified permitted sources. Since ESEC is a RECLAIM facility, New Source Review for NOx is addressed under Regulation XX.

4.7.1 BACT

Provided that the proposed daily fuel usage limit is imposed on the facility, as requested, the increase in CO, VOC, SOx, CO, and PM_{10} will not exceed 1 pound per day for any pollutant. Therefore, BACT is not triggered.

4.7.2 Offsets

The proposed project would increase the hourly heat rate of each CCGT, but ESEC is proposing a new daily heat rate of 51,162 MMBtu per day. As a result of this daily fuel limit, offsets are required only for VOC emissions. ESEC will purchase 5 pounds of VOC offsets to cover the 30-day average increase of VOC emissions of 1.9 pounds per day for each CCGT (please refer to Table 3-5) and applying a 1.2 offset ratio per Rule 1303(b)(2)(A) (1.9 lb/day/CCGT x 2 CCGT x 1.2 offset ratio = 4.56 lb/day, which rounds to 5 lb/day). The increase in the 30-day average emissions of PM_{10} and SOx do not exceed 1 pound per day; therefore, offsets are not required for these pollutants. Offsets are not required for CO emissions.

4.7.3 Air Quality Impacts Analysis (AQIA)

The AQIA evaluates non-attainment criteria pollutant emissions over 1-hour, 8-hour, 24-hour, and Annual averaging periods, as appropriate for each California Ambient Air Quality Standard (CAAQS) and National Ambient Air Quality Standard (NAAQS). The AQIA assumes that the pre-project emissions are part of background and considers only emission increases. The criteria pollutant emissions evaluated for Rule 1303 modeling are summarized in Table 4-3.

Table 4-3: AQIA Emissions Increases (per CCGT)

Pollutant	Averaging Period	Emissions Increase (lb/Avg. Period)
CO	1-Hr	0.68
	8-Hr	0.90
SO_2	1-Hr	0.06
	24-Hr	No Increase
	Annual	No Increase
PM_{10}	24-Hr	No Increase
	Annual	No Increase

Since the South Coast Air Basin (SCAB) is in attainment for CO and SO_2, no AQIA assessment is needed for these pollutants. Additionally, the Project is not requesting an increase in the daily or annual PTE for PM_{10}. There is no increase in non-attainment pollutant emissions, thus no modeling is required for Rule 1303.

4.8 Regulation XIV - Toxics and Other Non-Criteria Pollutants

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.

As discussed in Section 3, the proposed changes would result in an increase in hourly emissions because the heat rate of the CCGTs will increase. However, ESEC is proposing no changes to the monthly or annual fuel consumption for the CCGTs, so the only expected increase in annual TAC emissions are due to ammonia slip. Since ammonia is not a listed carcinogen, the HRA does not evaluate cancer risk.

The health risk impact of an increase in hourly and annual TAC emissions is evaluated using the emissions presented in Table 3-6 and the Tier 3 Health Risk Assessment (HRA) methodology as prescribed in the Risk Assessment Procedures, Version 8.1, dated September 1, 2017; Procedures, Equations, and Assumptions Effective On or After October 1, 2017. The results are summarized in Table 4-4. As shown, the proposed project complies with the risk threshold of Rule 1401. The HRA analysis worksheet is provided in Appendix C.

Table 4-4: Summary of Results - Health Risk Assessment

Risk Parameter	Result (Target Organ)	Rule 1401 Threshold	Exceed Threshold? (Yes/No)
HIA	1.68E-03 (EYE)	1.0	No
HIC	9.55E-06 (RESPIRATORY SYSTEM)	1.0	No

4.9 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. As determined under the BACT analysis provided in Section 4.7.1, BACT was not triggered for any attainment pollutants, such as CO.

A Major Stationary Source is a stationary source that falls under one of the listed source categories from Rule 1702(m)(1) and has the potential to emit 100 tons per year or more of any air contaminant regulated by the Clean Air Act (CAA), or a stationary source that does not fall under one of the listed source categories from Rule 1702(m)(1) and has the potential to emit 250 tons per year or more of any air contaminant regulated by the CAA. Rule 1702(m)(1) lists 'fossil fuel-fired steam electric plants of more than 250 MMBtu per hour input,' and 'fossil fuel boilers (or combinations thereof) totaling more than 250 MMBtu per hour heat input.' ESEC operates CCGT's. CCGT's are not 'fossil fuel-fired steam electric plants' as US EPA defines a fossil fuel fired steam generating unit as a furnace or boiler used in the process of burning fossil fuel for the purpose of producing steam by heat transfer. Since the CCGTs does not consist of a furnace or boiler, the potential to emit threshold for PSD applicability is 250 tons per year or more.

Table 4-5 summarizes the annual emissions for the facility. The emissions for each pollutant are less than 250 tons per year and, since this project does not propose an increase in annual emissions, ESEC is not considered to be a Major Stationary Source and further review of Regulation XVII is not required.

Table 4-5: Potential Annual Emissions - PSD Major Stationary Source Determination

Pollutant	Annual Emissions (ton/yr)	Basis
NOx	98.45	Calculated based on 2.0 ppmv (Condition A99.7)
CO	176.49	Calculated based on 2.0 ppmv (Condition A99.8)
VOC	33.26	Condition A63.2
SOx	7.96	Condition A63.2
PM_{10}	52.25	Condition A63.2

4.10 Regulation XX - RECLAIM

RECLAIM is a market-based incentive program designed to allow facilities flexibility in achieving emission reduction requirements for NOx and SOx under the Air Quality Management Plan using methods which include, but are not limited to add-on controls, equipment modifications, reformulated products, operational changes, shutdowns, and the purchase of excess emission reductions.

Rule 2005 establishes the New Source Review Requirements for RECLAIM facilities. Rule 2005 requires that a new or modified source meet BACT, prohibits a new or modified source from causing a violation or making significantly worse an existing violation of the state or national ambient air quality standard at any receptor location in the District for NO_2 and requires that the facility holds sufficient RECLAIM Trading Credits (RTCs) to offset the total facility emissions for the first year of operation at a 1-to-1 ratio.

BACT

ESEC NOx emissions will have an increase of at least one pound a day, which will trigger BACT for NOx for each CCGT. Currently, each unit is permitted with a NOx limit of 2.0 ppm @ 15% O_2, which is the current BACT standard for CCGTs. Therefore, the CCGTs meet NOx BACT and are compliant with requirements under Regulation XX.

Modeling

Dispersion modeling was conducted to predict project impacts to ambient air. The air dispersion model used for this Project is AERSCREEN, a screening dispersion model. AERSCREEN is based on AERMOD and is the screening dispersion model currently recommended by the Environmental Protection Agency (EPA). The Lakes Environmental Software (Lakes) implementation/user interface, AERSCREEN View™, Version 2.7.0, was used for this project. This version of AERSCREEN View™ implements the newest version of AERMOD (version 19191).

The AQIA evaluates NOx criteria pollutant emissions over 1-hour and Annual averaging periods, as appropriate for each Significant Change in Air Quality (SCAQ) threshold from Rule 2005. The AQIA assumes that the pre-project emissions are part of background and considers only emission increases. The NOx emissions used in the AQIA are summarized in Table 4-6.

Table 4-6: AQIA Emissions Increases (per CCGT)

Pollutant	Averaging Period	Emissions Increase (lb/Avg. Period)
NO_2	1-Hr	1.13
	Annual	2,013.40

The project emissions were used in conjunction with the AERSCREEN output to calculate the worst-case impacts to ambient air quality for comparison with the SCAQ thresholds from Rule 2005. As shown in Table 4-7, the Project is not expected to cause or make worse an exceedance of an ambient air quality standard. Details of the modeling assessment are shown in Appendix C.

Table 4-7: Significant Change in Air Quality Analysis (per CCGT)

Pollutant	Averaging Period	Project Impact (ug/m^3)	Significant Change in Air Quality (ug/m^3)	Exceeds Standard?
NO_2	1-Hr	0.0401	20	No
	Annual	0.0008	1	No

Offsets

The proposed project will result in a net increase in NOx emissions on a monthly and annual basis due to the higher hourly heat rating proposed for each turbine. The annual increase for each turbine is calculated to be 2,014 pounds of NOx per CCGT per year. As a consequence, per Rule 2005(c)(2), the facility is required to hold at least 4,028 pounds of NOx RECLAIM Trading Credits (RTCs) to offset the annual emissions increase for the first year of operation. Since ESEC NO_X RTC holdings are currently 65,667 per Section B of the facility permit, it has enough RTCs to offset the NOx emissions increase.

4.11 Regulation XXX - Title V Permits

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

As shown in Table 4-8, the proposed change in maximum CCGT heat rate will not increase maximum daily emissions above the Title V Significant Permit Revision threshold for any pollutant. Because the facility is a RECLAIM facility, the NOx increase is evaluated against the RECLAIM allocation to determine the Title V significance. Since the NOx increase is less than ESEC starting allocation, the proposed permit actions do not constitute a Significant Permit Revision for NOx.

Because the proposed project is not a significant permit revision, the project should be evaluated as a de minimis significant permit revision under Title V. Per Rule 3003, the application will be processed by SCAQMD within 180 days following submittal of a complete application.

Table 4-8: Title V Significant Permit Revision Threshold Evaluation

Pollutant	Project Emission Increase (lb/day)	Title V Significant Permit Revision Threshold (lb/day)
CO	0.90	220
VOC	0.34	30
SOx	-0.42	60
PM_{10}	-2.76	30

4.12 California Environmental Quality Act (CEQA)

The proposed permit actions are ministerial. The equipment and operations are consistent with existing activities, zoning limitations and Conditional Use Permit limitations. Additional review under CEQA is not required. A Form 400-CEQA is provided in Appendix A.

5.0 PERMIT WORDING AND CONDITIONS

5.1 Proposed Permit Wording

ESEC suggests the following changes to the equipment descriptions (~~deletions~~ **additions**) as given in Table 5-1. The requested changes reflect the maximum heat rate for each of the CCGT of 2,250 MMBtu per hour.

Table 5-1: ESEC Suggested Changes to Equipment Descriptions for CCGTs

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* and Requirements	Conditions
GAS TURBINE, UNIT NO. 5, NATURAL GAS, SIEMENS, MODEL SGT6-5000F RAPID RESPONSE, COMBINED CYCLE, ~~2,096~~ **2,250** MMBTU/HR AT ~~78~~ **68** DEGREES F, WITH DRY LOW-NOX COMBUSTORS WITH A/N: ~~596833~~ **TBD** GENERATOR, HEAT RECOVERY STEAM, UNFIRED TURBINE, STEAM, 67.7 MW GENERATOR, ~~219~~ **222.5** MW	D67	C75	NOX: MAJOR SOURCE**	CO: 2 PPMV NATURAL GAS (4) [RULE 1703(a)(2) – PST-BACT, 10-7-1988]; CO: 2000 PPMV NAUTRAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2 PPMV NAUTRAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; *RULE 1303(a)(1)-BACT, 12-6-2002*; RULE 1703(a)(2) - PSD-BACT, 10-7-1988]; NOX: 15 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM: 0.01 GRAINS/SCF NATURAL GAS (5) [RULE 475, 10-8-1976; *RULE 475, 8-7-1978*]; PM: 0.1 GRAINS/SCF NATURAL GAS (5A) [RULE 409, 8-7-1981]; PM: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; *RULE 475, 8-7-1978*]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SOX: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; *RULE 1303(a)(1)-BACT, 12-6-2002*]	A63.2, **A63.3,** A99.7, A99.8, A99.9, A195.8, A195.9, A195.10, A327.1, A433.1, B61.2, D12.10, D29.8, D29.9, D82.4, D82.5, E193.2, K40.4, K67.5
GAS TURBINE, UNIT NO. 7, NATURAL GAS, SIEMENS, MODEL SGT6-5000F RAPID RESPONSE, COMBINED CYCLE, ~~2,096~~ **2,250**	D68	C79	NOX: MAJOR SOURCE**	CO: 2 PPMV NATURAL GAS (4) [RULE 1703(a)(2) – PST-BACT, 10-7-1988]; CO: 2000 PPMV NAUTRAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2 PPMV NAUTRAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996;	A63.2, **A63.3,** A99.7, A99.8, A99.9, A195.8, A195.9,

MMBTU/HR AT ~~78~~ **68** DEGREES F, WITH DRY LOW-NOX COMBUSTORS WITH A/N: ~~596834~~ **TBD** GENERATOR, HEAT RECOVERY STEAM, UNFIRED TURBINE, STEAM, 67.7 MW GENERATOR, ~~219~~ **222.5** MW				*RULE 1303(a)(1)-BACT, 12-6-2002*; RULE 1703(a)(2) - PSD-BACT, 10-7-1988]; NOX: 15 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM: 0.01 GRAINS/SCF NATURAL GAS (5) [RULE 475, 10-8-1976; *RULE 475, 8-7-1978*]; PM: 0.1 GRAINS/SCF NATURAL GAS (5A) [RULE 409, 8-7-1981]; PM: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; *RULE 475, 8-7-1978*]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SOX: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; *RULE 1303(a)(1)-BACT, 12-6-2002*]	A195.10, A327.1, A433.1, B61.2, D12.10, D29.8, D29.9, D82.4, D82.5, E193.2, K40.4, K67.5

5.2 Permit Conditions

ESEC suggests the addition of a new permit condition with the following wording (~~deletions~~ **additions**).

This new permit condition reflects the request to add a daily fuel consumption limit to each CCGT.

A63.3 The operator shall limit daily fuel consumption not to exceed 51,162 MMBtu per day.

[RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: D67, D68]

APPENDIX A - SCAQMD APPLICATION FORMS

Equipment Description	Requested Permit Action	Form No. - Title
Gas Turbine No. 5; Device ID No. D67	Alteration/Modification	400-A - Application for Permit or Plan Approval 400-E-12 – Gas Turbine 400-PS - Plot Plan and Stack Information Form
Gas Turbine No. 7; Device ID No. D68	Alteration/Modification	400-A - Application for Permit or Plan Approval 400-E-12 – Gas Turbine 400-PS - Plot Plan and Stack Information Form
RECLAIM/Title V Permit	RECLAIM/Title V Facility Permit Amendment	400-A - Application for Permit or Plan Approval
Project	Permit Processing	400-XPP - Express Permit Processing Request
Project	Permit Processing	400-CEQA - California Environmental Quality Act (CEQA) Applicability
RECLAIM/Title V Facility Permit	Facility Permit Amendment	500-A2 - Title V Application Certification
		500-C1 - Compliance Status Report
		500-F1 (Title V) - Title IV - Acid Rain Phase II Facility Information Summary

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):
El Segundo Energy Center, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD):
115663

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.)

301 Vista Del Mar
Street Address

El Segundo , CA 90245
City Zip

Steve Odabashian — Environmental Specialist
Contact Name — Title

(310) 615-6030 — Ext. — Fax #
Phone #

E-Mail: Steve.Obabashian@nrg.com

Section C - Permit Mailing Address

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

301 Vista Del Mar
Address

El Segundo , CA 90245
City State Zip

Steve Odabashian — Environmental Specialist
Contact Name — Title

(310) 615-6030 — Ext. — Fax #
Phone #

E-Mail: Steve.Obabashian@nrg.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:
596833

* 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):
06/01/2021

9. Description of Equipment or Reason for Compliance Plan (list applicable rule):
Increase Heat Input Rating for Gas Turbine

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?
Electricity Generation

14. What is your business primary NAICS Code? (North American Industrial Classification System)
221111

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:
Ken Riesz Sr.

18. Title of Responsible Official:
Plant Manager

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

20. Print Name:
Ken Riesz, Sr.

21. Date:
10 MAR 2021

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

23. Check List: [ ] Authorized Signature/Date [ ] Form 400-CEQA [ ] Supplemental Form(s) (ie., Form 400-E-xx) [ ] 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-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): El Segundo Energy Center, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

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.)

301 Vista Del Mar
Street Address

El Segundo , CA 90245
City Zip

Steve Odabashian — Environmental Specialist
Contact Name — Title

(310) 615-6030 — Ext. — Fax #
Phone #

E-Mail: Steve.Obabashian@nrg.com

Section C - Permit Mailing Address

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

301 Vista Del Mar
Address

El Segundo , CA 90245
City State Zip

Steve Odabashian — Environmental Specialist
Contact Name — Title

(310) 615-6030 — Ext. — Fax #
Phone #

E-Mail: Steve.Obabashian@nrg.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: 596834

* 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): 06/01/2021

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Increase Heat Input Rating for Gas Turbine

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? Electricity Generation

14. What is your business primary NAICS Code? (North American Industrial Classification System): 221111

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: Ken Riesz Sr

18. Title of Responsible Official: Plant Manager

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

20. Print Name: Ken Riesz, Sr.

21. Date: 10 MAR 2021

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

23. Check List: [ ] Authorized Signature/Date [ ] Form 400-CEQA [ ] Supplemental Form(s) (ie., Form 400-E-xx) [ ] 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-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):
El Segundo Energy Center, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD):
115663

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.)

301 Vista Del Mar
Street Address

El Segundo , CA 90245
City Zip

Steve Odabashian — Environmental Specialist
Contact Name — Title

(310) 615-6030 — Ext. — Fax #
Phone #

E-Mail: Steve.Obabashian@nrg.com

Section C - Permit Mailing Address

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

301 Vista Del Mar
Address

El Segundo , CA 90245
City State Zip

Steve Odabashian — Environmental Specialist
Contact Name — Title

(310) 615-6030 — Ext. — Fax #
Phone #

E-Mail: Steve.Obabashian@nrg.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 *

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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): 06/01/2021

9. Description of Equipment or Reason for Compliance Plan (list applicable rule):
RECLAIM and Title V 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#:

Section E - Facility Business Information

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18. Title of Responsible Official:
Plant Manager

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

20. Print Name:
Ken Riesz, Sr.

21. Date: 10 MAR 2021

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

23. Check List: [ ] Authorized Signature/Date [ ] Form 400-CEQA [ ] Supplemental Form(s) (ie., Form 400-E-xx) [ ] 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-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): El Segundo Energy Center, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

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

Section B - Equipment Location Address

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(For equipment operated at various locations, provide address of initial site.)

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Street Address

El Segundo , CA 90245
City Zip

Steve Odabashian — Environmental Specialist
Contact Name — Title

(310) 615-6030 — Ext. — Fax #
Phone #

E-Mail: Steve.Obabashian@nrg.com

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City State Zip

Steve Odabashian — Environmental Specialist
Contact Name — Title

(310) 615-6030 — Ext. — Fax #
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E-Mail: Steve.Obabashian@nrg.com

Section D - Application Type

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- ( ) Alteration/Modification without Prior Approval *
- ( ) Change of Condition
- ( ) Change of Condition without Prior Approval *
- ( ) Change of Location
- ( ) Change of Location without Prior Approval *
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8b. Estimated End Date of Construction (mm/dd/yyyy):

8c. Estimated Start Date of Operation (mm/dd/yyyy): 06/01/2021

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): RECLAIM and Title V 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#:

Section E - Facility Business Information

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

14. What is your business primary NAICS Code? (North American Industrial Classification System) 221111

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

Section F - Authorization/Signature

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17. Signature of Responsible Official: Ken Riesz

18. Title of Responsible Official: Plant Manager

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

20. Print Name: Ken Riesz, Sr.

21. Date: 10 MAR 2021

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

23. Check List: [ ] Authorized Signature/Date [ ] Form 400-CEQA [ ] Supplemental Form(s) (ie., Form 400-E-xx) [ ] 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-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): El Segundo Energy Center, LLC

2. SCAQMD Facility ID: 115663

3. Project Description: Application to increase heat input rating for two 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: Ken Riesz Sr		2. Title of Responsible Official of Firm: Plant Manager	
3. Print Name of Responsible Official of Firm: Ken Riesz, Sr.		4. Date Signed: 10 Mar 2021	
5. Phone # of Responsible Official of Firm: (310) 615-6030	6. Fax # of Responsible Official of Firm:	7. Email of Responsible Official of Firm: Ken.Riesz@nrg.com	
8. Signature of Preparer, (If prepared by person other than responsible official of firm): Joseph J. Steirer		9. Title of Preparer: Senior Engineer	
10. Print Name of Preparer: Joseph Steirer		11. Date Signed: 3/11/21	
12. Phone # of Preparer: (949) 248-8490	13. Fax # of Preparer: (949) 248-8499	14. Email of Preparer: JSteirer@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-E-12
Gas Turbine

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

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 A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): El Segundo Energy Center, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

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): 301 Vista Del Mar, El Segundo, CA 90245

(•) Fixed Location ( ) Various Locations

Section B - Equipment Description

Turbine

Manufacturer: Siemens **Model:** SGT6-5000F **Serial No.:**

Size (based on Higher Heating Value - HHV):

Manufacturer Maximum Input Rating: 2,250.00 MMBTU/hr _____ kWh

Manufacturer Maximum Output Rating: _____ MMBTU/hr 222,500.00 kWh

Function (Check all that apply)

[X] Electrical Generation [ ] Driving Pump/Compressor [ ] Emergency Peaking Unit
[ ] 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: 67.7 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 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		2	
NOx	9		2	
CO	4		2	
PM_{10}				
SOx				
NH_3			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: 210 ft._____ in. Stack Diameter: 20 ft. 11 in.

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

Exhaust Flow Rate:_____ 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: 2 No. of Startups per year: 200 Duration of each startup: 1 hrs.

Shutdown Data

No. of Shutdowns per day: 2 No. of Shutdowns per year: 200 Duration of each Shutdown: 1 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: _____

CEMS Model: _____

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: 24 hours/day 7 days/week 52 weeks/yr

Maximum: 24 hours/day 7 days/week 52 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: Joseph J. Steirer Date: 3/1/21

Title: Senior Engineer Company Name: Yorke Engineering, LLC

Name: Joseph Steirer

Phone #: (949) 248-8490 Fax #: (949) 248-8499

Email: JSteirer@YorkeEngr.com

Contact Info

Name: Steve Odabashian

Title: Env Specialist Company Name: NRG Energy

Phone #: (310) 615-6030 Fax #:

Email: Steve.Obabashian@nrg.com

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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-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): El Segundo Energy Center, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

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): 301 Vista Del Mar, El Segundo, CA 90245

(•) **Fixed Location** ( ) **Various Locations**

Section B - Equipment Description

Turbine

Manufacturer: Siemens **Model:** SGT6-5000F **Serial No.:**

Size (based on Higher Heating Value - HHV):

Manufacturer Maximum Input Rating: 2,250.00 MMBTU/hr _____ kWh

Manufacturer Maximum Output Rating: _____ MMBTU/hr 222,500.00 kWh

Function (Check all that apply)

[X] **Electrical Generation** [ ] **Driving Pump/Compressor** [ ] **Emergency Peaking Unit**
[ ] **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: 67.7 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 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		2	
NOx	9		2	
CO	4		2	
PM_{10}				
SOx				
NH_3			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: 210 ft. _____ in. Stack Diameter: 20 ft. 11 in.

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

Exhaust Flow Rate: _____ 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: 2 No. of Startups per year: 200 Duration of each startup: 1 hrs.

Shutdown Data

No. of Shutdowns per day: 2 No. of Shutdowns per year: 200 Duration of each Shutdown: 1 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: _____

CEMS Model: _____

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: 24 hours/day 7 days/week 52 weeks/yr

Maximum: 24 hours/day 7 days/week 52 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: Joseph J. Steirer Date: 3/11/21

Title: Senior Engineer Company Name: Yorke Engineering, LLC

Name: Joseph Steirer

Phone #: (949) 248-8490 Fax #: (949) 248-8499

Email: JSteirer@YorkeEngr.com

Contact Info

Name: Steve Odabashian

Title: Env Specialist Company Name: NRG Energy

Phone #: (310) 615-6030 Fax #:

Email: Steve.Obabashian@nrg.com

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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): El Segundo Energy Center, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

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): 301 Vista Del Mar, El Segundo, CA 90245

(•) 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: 210.00 feet (above ground level) **What is the height of the closest building nearest the stack?** 87 feet

Stack Inside Diameter: 251.00 inches **Stack Flow:** 803,493 acfm **Stack Temperature:** 361 °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: _____ **Building #/Name:** _____

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*: 2,254 feet

Distance to nearest business: 550 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
Joseph J. Steirer	Senior Engineer	Preparer's Email: JSteirer@YorkeEngr.com

Contact Person:	Contact's Phone#: (310) 615-6331	Date Signed:
Steve Odabashian		3/11/21
Contact's Email: Steve.Odabashian@nrg.com	Contact's Fax#:	

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South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

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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): El Segundo Energy Center, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

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): 301 Vista Del Mar, El Segundo, CA 90245

(•) 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.

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

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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

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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.)

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

Section C - Emission Release Parameters - Stacks, Vents

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Building #/Name: _____ **Building #/Name:** _____

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*: 2,254 feet

Distance to nearest business: 550 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: Joseph J. Steirer	**Title of Preparer:** Senior Engineer	**Preparer's Phone #:** (949) 248-8490 **Preparer's Email:** JSteirer@YorkeEngr.com
Contact Person: Steve Odabashian **Contact's Email:** Steve.Odabashian@nrg.com	**Contact's Phone#:** (310) 615-6331 **Contact's Fax#:**	**Date Signed:** 3/11/21

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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 - 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): El Segundo Energy Center, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

Section B - Equipment Location Address

3. (●) **Fixed Location** ( ) **Various Location**
(For equipment operated at various locations, provide address of initial site.)

301 Vista Del Mar
Street Address

El Segundo, CA 90245
City State Zip

Steve Odabashian — Environmental Speciali
Contact Name — Title

(310) 615-6030 — — —
Phone # Ext. Fax #

Steve.Obabashian@nrg.com
E-Mail

Section C - Permit Mailing Address

4. Permit and Correspondence Information:
☑ Check here if same as equipment location address

301 Vista Del Mar
Address

El Segundo, CA 90245
City State Zip

Steve Odabashian — Environmental Speciali
Contact Name — Title

(310) 615-6030 — — —
Phone # Ext. Fax #

Steve.Obabashian@nrg.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:
Ken Riesz Sr	Plant Manager
7. Print Name of Responsible Official:	**8. Date:**
Ken Riesz, Sr.	10 MAR 2021
9. Phone #:	**10. Fax #:**
(310) 615-6030	

AQMD USE ONLY	APPLICATION TRACKING #	TYPE B C	EQUIPMENT CATEGORY CODE	FEE SCHEDULE $		VALIDATION
ENG. DATE A R	ENG. DATE A R	CLASS I III	ASSIGNMENT Unit Engineer	CHECK/MONEY ORDER #	AMOUNT $	TRACKING #

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): El Segundo Energy Center, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

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:
Ken Riesz Sr	Plant Manger
3. Print Name:	**4. Date:**
Ken Riesz, Sr.	10 MAR 2021
5. Phone #:	**6. Fax #:**
(310) 615-6030	

7. Address of Responsible Official:

Street #	City	State	Zip
301 Vista Del Mar	El Segundo	CA	90245

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: Ken Riesz Sr	2. Title of Designated Representative or Alternate: Plant Manager
3. Print Name of Designated Representative or Alternate: Ken Riesz, Sr.	4. Date: 10 MAR 2021
5. Phone #: (310) 615-6030	6. Fax #:
7. Address of Designated Representative or Alternate: 301 Vista Del Mar (Street #) / El Segundo (City) / CA (State) / 90245 (Zip)	

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): El Segundo Energy Center, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

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
☐ 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

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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		

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**
☐ 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 1178 (04/07/06) ☐ 40 CFR63 SUBPART F ☐ 40 CFR63 SUBPART G ☐ 40 CFR63 SUBPART H ☐ 40 CFR63 SUBPART I ☐ 40 CFR60 SUBPART K ☐ 40 CFR60 SUBPART Ka ☐ 40 CFR60 SUBPART Kb ☐ 40 CFR63 SUBPART R ☐ 40CFR63 SUBPART BBBBBB ☐ 40 CFR63 SUBPART CC	☐ Rule 463(g) ☐ Rule 1178(i) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 463(e)(5) ☐ Rule 1178(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart 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 475 (08/07/78) ☐ 40 CFR60 SUBPART GG ☑ 40 CFR60 SUBPART KKKK ☐ 40 CFR63 SUBPART YYYY	☐ Rule 1134(e) & (g) ☐ AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 1134(d) & (f) See Applicable Subpart 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
		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
		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
		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
		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 500-F1 (Title V)

Title IV - Acid Rain Phase II Facility Information Summary

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

This form shall be completed by Acid Rain facilities ONLY and shall accompany all requests for Phase II permit actions unique to Acid Rain facilities. Also attach a completed Form 500-A2. In addition, if an initial Title V permit, permit renewal, or permit revision is requested, attach Form 500-A1 and any supplemental Acid Rain forms (Forms 500-F2, 500-F3, and 500-F4), as appropriate.

Section I - General Information

1. Facility Name (Business Name of Operator That Appears On Permit): El Segundo Energy Center, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

3. ORIS Code (5-Digit): 330

4. This is an application for a (Check all that apply to the facility):

- **a.** ☑ Phase II Acid Rain Permit or Revision (Complete Section II of this form)
- **b.** ☐ Repowering Extension Plan or Revision (Complete Form 500-F2)
- **c.** ☐ New Unit Exemption or Revision (Complete Form 500-F3)
- **d.** ☐ Retired Unit Exemption or Revision (Complete Form 500-F4)

5. The requested permit action involves a(n) (Check one):

- **a.** ○ Administrative Permit Revision
- **b.** ○ Significant Permit Revision
- **c.** ○ Fast Track Permit Revision
- **d.** ○ Automatic Permit Revision
- **e.** ◉ Other (specify): _____

6. For all applications requesting a permit revision, provide a general description of the proposed changes (Attach additional sheets as necessary):

Increase Heat Input Rating of Units No. 5 and No. 7.

Section II - Phase II Acid Rain Device Summary

1. The following information is (Check one): **a.** ○ New **b.** ◉ Revised

AQMD Device #	EPA Unit #	Will device need a Repowering Extension Plan?	Has device started operations on or after 11/15/90?	Device Operations Start Date (mo/day/yr)	For devices starting-up after 11/15/90, provide date when Monitoring Certification will begin (mo/day/yr)
D67	Unit 5	○ Yes ◉ No	◉ Yes ○ No	12/01/2009	01/01/2010
D68	Unit 7	○ Yes ◉ No	◉ Yes ○ No	12/01/2009	01/01/2010
		○ Yes ○ No	○ Yes ○ No		
		○ Yes ○ No	○ Yes ○ No		
		○ Yes ○ No	○ Yes ○ No		

To complete this application, type or print the information in the appropriate blanks.

Section I - General Information

1. **Facility Name:** Provide the name of the legal entity that operates the facility.

   AQMD Facility ID: Complete only if the facility has been issued a 6-digit identification or ID number by AQMD. If not, leave these boxes blank. An ID number will be assigned when the application is submitted.

   ORIS Code: Provide the 5-digit code that has been assigned to facility by Department of Energy.

2. Check all applicable boxes to indicate the type of Acid Rain application filed. If box 1a. is checked, complete Section II of this form. If box 1b. is checked, complete and attach Form 500-F2 - Title IV Phase II Acid Rain Repowering Extension Plan. If box 1c. is checked, complete and attach Form 500-F3 - Title IV Phase II Acid Rain New Unit Exemption Request. If box 1d. is checked, complete and attach Form 500-F4 - Title IV Phase II Acid Rain Retired Unit Exemption Request.

3. Check one box that best represents the type of permit action requested. If box 1e. is checked, in the space provided identify any additional elements regarding the application or the facility that need to be considered during the processing of this application (i.e., Initial Title V Permit Application).

4. If the application is a revision request, describe in general terms the changes that are proposed in the application revision request. Attach additional sheets as necessary.

Section II - Phase II Acid Rain Device Summary

1. Before completing this section, check one box to indicate whether this is a new application or a revision.

AQMD Device #:	Provide the identification number for each AQMD-assigned device subject to Phase II requirements.
EPA Unit #:	Provide the identification number for each EPA-assigned device subject to Phase II requirements.
Will device need a Repowering Extension Plan?:	Indicate with a "yes" or "no" if the device is or will be participating under a Repowering Extension Plan.
Has device started operations on or after 11/15/90?:	Indicate with a "yes" or "no" if the device was source tested or started operating on or after November 15, 1990.
Device Operations Start Date:	Complete this column only if the device was source tested or started operating on or after November 15, 1990. Provide the date (mo/day/yr) when the device started or will start operating. Note: If the date of beginning operations changes, an administrative permit revision application will be required.
For Devices starting-up after 11/15/90, provide date when Monitoring Certification will begin:	Complete this column only if the device was source tested or started operating on or after November 15, 1990. Provide the date (mo/day/yr) when compliance with the monitoring procedures for the device will begin. Refer to 40 CFR Part 75.4 to determine this date. Note: If the monitoring certification date changes, an administrative permit revision application will be required.

APPENDIX B - EMISSION CALCULATIONS

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Facility: El Segundo Energy Center, LLC
Facility ID: 115663

El Segundo Energy Center, LLC
Application for Increase to Heat Input Rating

Appendix B - Emission Calculations

Table B.1 - Fuel Usage & Criteria Pollutant Emissions (per Turbine)

NO = Normal Operations ; SU = Start-up ; SD = Shutdown

	Start-ups per Day		Shutdowns per Day		Start-ups per Month		Shutdowns per Month		Start-ups per Year		Shutdowns per Year	
Pre-/Post-	Count	Hours per Day	Count	Hours per Day	Count	Hours per Month	Count	Hours per Month	Count	Hours per Year	Count	Hours per Year
Pre-	2	2.0	2	2.0	62	62.0	62	62.0	200	200.0	200	200.0
Post-	2	2.0	2	2.0	62	62.0	62	62.0	200	200.0	200	200.0

Pre-Project

Hourly Heat Input Ratings		Maximum Daily Operations			Monthly Operations			Annual Operations		
Heat Input Rating (mmBtu/hr)	Hourly Fuel Usage (mmscf/hr)	Normal Operations Hours per Day	Total Hours per Day	Daily Fuel Usage (mmscf/day)	Normal Operations Hours per Month	Total Hours per Month	Monthly Fuel Usage (mmscf/mo)	Normal Operations Hours per Year	Total Hours per Year	Annual Fuel Usage (mmscf/yr)
2,096.0	2.0549	20.0	24.0	49.32	606.0	730.0	1500.08	5,056.0	5,456.0	11,211.55

Pre-Project hours of operation and fuel usage per A/N 470652

Post-Project

	Hourly Heat Input Ratings		Maximum Daily Operations				Monthly Operations				Annual Operations			
	Heat Input Rating (mmBtu/hr)	Hourly Fuel Usage (mmscf/hr)	Daily Heat Input (mmBtu/day)	Daily Fuel Use NO (mmscf/day)	Daily Fuel Use SU (mmscf/day)	Daily Fuel Use SD (mmscf/day)	Monthly Fuel Use (mmscf/mo)	Monthly Fuel Use NO (mmscf/mo)	Monthly Fuel Use SU (mmscf/mo)	Monthly Fuel Use SD (mmscf/mo)	Annual Fuel Use (mmscf/yr)	Annual Fuel Use NO (mmscf/yr)	Annual Fuel Use SU (mmscf/yr)	Annual Fuel Use SD (mmscf/yr)
D1	2,250	2.1429	51,162	40.1543	4.2857	4.2857	1500.08	1,234.3657	132.8571	132.8571	11,211.55	10,354.4022	428.5714	428.5714

SU/SD Fuel Use (mmscf/Time) = Total Event Hours per Time x Heat Input Rating (mmBtu/hr) / HHV

NO Fuel Use (mmscf/Time) = Fuel Use (mmscf/Time) - SU Fuel Use (mmscf/Time) - SD Fuel Use (mmscf/Time)

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Facility: El Segundo Energy Center, LLC
Facility ID: 115663

El Segundo Energy Center, LLC
Application for Increase to Heat Input Rating

Appendix B - Emission Calculations

Table B.1 - Fuel Usage & Criteria Pollutant Emissions (per Turbine)

NO = Normal Operations ; SU = Start-up ; SD = Shutdown

Emissions

				Peak Hourly NO Emissions			Maximum Daily Emissions			Monthly Emissions			Annual Emissions		
Pollutant	Operating Mode	Pre-Project Emission Factor (NO = lb/hr) (SU/SD = lb/event)	Post-Project Emission Factor (NO = lb/hr) or (NO = lb/mmscf) (SU/SD = lb/event)	Pre-Project (lb/hr)	Post-Project (lb/hr)	Change (lb/hr)	Pre-Project (lb/day)	Post-Project (lb/day)	Change (lb/day)	Pre-Project (lb/mo)	Post-Project (lb/mo)	Change (lb/mo)	Pre-Project (lb/yr)	Post-Project (lb/yr)	Change (lb/yr)
NOx	Normal Operations (lb/hr)	15.45	16.59	15.45	16.59	1.13	309.06	--	1.74	9,364.43		189.56	78,129.67	--	2,013.40
	Normal Operations (lb/mmscf)	--	7.74	--	--	--	--	310.79		--	9,553.99		--	80,143.07	
	Startup	56.03	56.03	--	--	--	112.06	112.06	0.00	3,473.86	3,473.86	0.00	11,206.00	11,206.00	0.00
	Shutdown	35.50	35.50	--	--	--	71.00	71.00	0.00	2,201.00	2,201.00	0.00	7,100.00	7,100.00	0.00
			NOx Totals			**1.13**	492.12	493.85	**1.74**	15,039.29	15,228.85	**189.56**	96,435.67	98,449.07	**2,013.40**
CO	Normal Operations (lb/hr)	9.41	10.09	9.41	10.09	0.68	188.23	--	0.90	5,703.34	--	110.52	47,584.30	--	1,184.94
	Normal Operations (lb/mmscf)	--	4.71	--	--	--	--	189.13		--	5,813.86		--	48,769.23	
	Startup	417.42	417.42	--	--	--	834.84	834.84	0.00	25,880.04	25,880.04	0.00	83,484.00	83,484.00	0.00
	Shutdown	221.18	221.18	--	--	--	442.36	442.36	0.00	13,713.16	13,713.16	0.00	44,236.00	44,236.00	0.00
			CO Totals			**0.68**	1,465.43	1,466.33	**0.90**	45,296.54	45,407.06	**110.52**	175,304.30	176,489.23	**1,184.94**
VOC	Normal Operations (lb/hr)	5.38	5.76	5.38	5.76	0.38	107.68	--	0.34	3,262.61	--	57.83	27,220.71	--	632.63
	Normal Operations (lb/mmscf)	--	2.69	--	--	--	--	108.02		--	3,320.44		--	27,853.34	
	Startup	17.30	17.30	--	--	--	34.60	34.60	0.00	1,072.60	1,072.60	0.00	3,460.00	3,460.00	0.00
	Shutdown	9.74	9.74	--	--	--	19.48	19.48	0.00	603.88	603.88	0.00	1,948.00	1,948.00	0.00
			VOC Totals			**0.38**	161.76	162.10	**0.34**	4,939.09	4,996.92	**57.83**	32,628.71	33,261.34	**632.63**
SOx	Normal Operations (lb/hr)	1.46	1.52	1.46	1.52	0.06	29.18	--	-0.67	884.14	--	-7.74	7,376.60	--	-24.98
	Normal Operations (lb/mmscf)	0.71	0.71	--	--	--	--	28.51		--	876.40		--	7,351.63	
	Startup	1.46	1.52	--	--	--	2.92	3.04	0.12	90.46	94.33	3.87	291.80	304.29	12.49
	Shutdown	1.46	1.52	--	--	--	2.92	3.04	0.12	90.46	94.33	3.87	291.80	304.29	12.49
			SOx Totals			**0.06**	35.02	34.60	-0.42	1,065.06	1,065.06	**0.00**	7,960.20	7,960.20	0.00
PM 10	Normal Operations (lb/hr)	9.58	9.99	9.58	9.99	0.41	191.52	--	-4.40	5,802.96	--	-50.82	48,415.46	--	-163.95
	Normal Operations (lb/mmscf)	4.66	4.66	--	--	--	--	187.12		--	5,752.14		--	48,251.51	
	Startup	9.58	9.99	--	--	--	19.15	19.97	0.82	593.70	619.11	25.41	1,915.17	1,997.14	81.97
	Shutdown	9.58	9.99	--	--	--	19.15	19.97	0.82	593.70	619.11	25.41	1,915.17	1,997.14	81.97
			PM 10 Totals			**0.41**	229.82	227.06	-2.76	6,990.37	6,990.37	**0.01**	52,245.80	52,245.80	0.00

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Facility ID: 115663

El Segundo Energy Center, LLC
Application for Increase to Heat Input Rating

Appendix B - Emission Calculations

Table B.1 - Fuel Usage & Criteria Pollutant Emissions (per Turbine)

NO = Normal Operations ; SU = Start-up ; SD = Shutdown

Constants

	Pre-Project	Post-Project	
HHV	1,020	1,050	mmBtu/mmscf
F-Factor (68)	8,710	dscf/mmBtu	
Ref O2	15		
Molar Volume (68)	385	scf/lbmol	
NOx MW	46		
CO MW	28		
VOC MW	16		Number of Turbines 2
NH3 MW	17		

Emission Factors

NOx, CO, VOC

Emission Factor = ppmv @ 15% O2 x 20.9 / (20.9 - Ref O2) x HHV x F-Factor (68) x MW / Molar Volume (68) x 10^{-6}

	Pre-Project	Post-Project		
NOx ppmv	2	2	ppmv @ 15% O2	(Condition A 99.7)
NOx EF	7.52	7.74	lb/mmscf	
CO ppmv	2	2	ppmv @ 15% O2	(Conditions A 99.8 and A 195.6)
CO EF	4.58	4.71	lb/mmscf	**(BACT may be 1.5 ppmv now)**
VOC ppmv	2	2.00	ppmv @ 15% O2	(Conditions A 99.9 and A 195.5)
VOC EF	2.62	2.69	lb/mmscf	**Test result under 1.0 ppmv**
SOx EF	0.71	0.71	lb/mmscf	(Condition A 63.2)
PM 10 EF	4.66	4.66	lb/mmscf	(Condition A 6 **Test result under 4 lb/mmscf**

Start-ups

Please refer to Page 17 of 48, Table 16 (Divide by 2 per unit) for Eng. Eval for A/N 470652/6, rev. 5-14-2010.

NOx	56.03	lb/start-up
CO	417.42	lb/start-up
VOC	17.3	lb/start-up
Pre-Project	60	min
Post-Project	60	min

Shutdowns

Please refer to Page 17 of 48, Table 16 (Divide by 2 per unit) for Eng. Eval for A/N 470652/6, rev. 5-14-2010.

NOx	35.5	lb/start-up
CO	221.18	lb/start-up
VOC	9.74	lb/start-up
Pre-Project	60	min
Post-Project	60	min

Equations

Pre-Project

NO (lb/hr)	Heat Input Rating / HHV x Emission Factor
NO (lb/Time)	NO (lb/hr) x NO Hours per Time
SU (lb/Event)	Assumed to be one hour for each event with 12 minutes of uncontrolled emissions and 48 minutes of controlled emissions per EE for A/N 470652/6, pg 16 of 48, Table 16, for NOx, CO, and VOC. Same emission factor for controlled and uncontrolled for PM and SOx.
SU (lb/Time)	SU (lb/Event) x SU Events per Time
SD (lb/Event)	Assumed to be one hour for each event with 7 minutes of uncontrolled emissions and 53 minutes of controlled emissions per EE for A/N 470652/6, pg 16 of 48, Table 16, for Nox, CO, and VOC. Same emission factor for controlled and uncontrolled for PM and SOx.
SD (lb/Time)	SD (lb/Event) x SD Events per Time

Post-Project

NO (lb/mmscf)	Per 'Emission Factors' Calculations

Rule 212(g) - Public Notice

Pollutant	Project (lb/day)	Threshold (lb/day)
NOx	3.47	40
CO	1.8	220
VOC	0.68	30
SOx	- 0.84	60
PM 10	- 5.52	30

Project Exceeds Thresholds? No

Offsets (lb/day)

Pollutant	30DA Increase
VOC	1.93
PM 10	0.00

30DA VOC x 2 x 1.2 - - : **4.63**
30DA PM 10 x 2 x 1.2 - 0.00

30-Day Average Emissions

Pollutant	Pre-Project	Post-Project	Change
NOx	501.3	507.6	6.3
CO	1509.9	1513.6	3.7
VOC	164.6	166.6	1.9
SOx	35.5	35.5	0.0
PM 10	233.0	233.0	0.0

Facility PTE (tpy)

Pollutant	Pre-Project	Post-Project
NOx	96.44	98.45
CO	175.30	176.49
VOC	32.63	33.26
SOx	7.96	7.96
PM 10	52.25	52.25

Facility: El Segundo Energy Center, LLC
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Appendix B - Emission Calculations

Table B.1 - Fuel Usage & Criteria Pollutant Emissions (per Turbine)

NO = Normal Operations ; SU = Start-up ; SD = Shutdown

NO (lb/Time)	NO (lb/mmscf) x Fuel Use (mmscf/Time)
SU (lb/Event)	Assumed to be one hour for each event with 12 minutes of uncontrolled emissions and 48 minutes of controlled emissions per EE for A/N 470652/6, pg 16 of 48, Table 16, for Nox, CO, and VOC. Same emission factor for controlled and uncontrolled for PM and SOx.
SU (lb/Time)	SU (lb/Event) x SU Events per Time
SD (lb/Event)	Assumed to be one hour for each event with 7 minutes of uncontrolled emissions and 53 minutes of controlled emissions per EE for A/N 470652/6, pg 16 of 48, Table 16, for Nox, CO, and VOC. Same emission factor for controlled and uncontrolled for PM and SOx.
SD (lb/Time)	SD (lb/Event) x SD Events per Time

Facility: El Segundo Energy Center, LLC
Facility ID: 115663

El Segundo Energy Center, LLC
Application for Increase to Heat Input Rating

Appendix B - Emission Calculations

Table B.2 - Toxic Air Contaminant (TAC) Emission Calculations (per Turbine)

Pollutant	CAS No.	Emission Factor (lb/mmscf)	Maximum Hourly TAC Emissions			Annual TAC Emissions		
			Pre-Project[1] (lb/hr)	Post-Project[2] (lb/hr)	Increase (lb/hr)	Pre-Project[1] (lb/yr)	Post-Project[2] (lb/yr)	Increase (lb/yr)
Benzene[b] (1.22e-2)	71432	3.33E-03	6.84E-03	7.14E-03	2.93E-04	3.73E+01	3.73E+01	0.00E+00
1,3-Butadiene[a]	106990	0.000439	9.02E-04	9.41E-04	3.86E-05	4.92E+00	4.92E+00	0.00E+00
Formaldehyde[b] (0.724)	50000	3.67E-01	7.54E-01	7.86E-01	3.23E-02	4.11E+03	4.11E+03	0.00E+00
Naphthalene[a]	91203	0.00133	2.73E-03	2.85E-03	1.17E-04	1.49E+01	1.49E+01	0.00E+00
Total PAHs (excluding Naphthalene)[a]	1151	0.000918	1.89E-03	1.97E-03	8.07E-05	1.03E+01	1.03E+01	0.00E+00
Acetaldehyde[a]	75070	0.0408	8.38E-02	8.74E-02	3.59E-03	4.57E+02	4.57E+02	0.00E+00
Acrolein[b] (0.00653)	107028	3.69E-03	7.58E-03	7.91E-03	3.25E-04	4.14E+01	4.14E+01	0.00E+00
Ammonia[c]	7664417	--	1.43E+01	1.53E+01	1.04E+00	7.79E+04	8.02E+04	2.24E+03
Ethylbenzene[a]	100414	0.0326	6.70E-02	6.99E-02	2.87E-03	3.65E+02	3.65E+02	0.00E+00
Propylene oxide[a]	75569	0.0296	6.08E-02	6.34E-02	2.60E-03	3.32E+02	3.32E+02	0.00E+00
Toluene[a]	108883	0.133	2.73E-01	2.85E-01	1.17E-02	1.49E+03	1.49E+03	0.00E+00
Xylene[a]	1330207	0.0653	1.34E-01	1.40E-01	5.74E-03	7.32E+02	7.32E+02	0.00E+00

Constants

	Pre-Project	Post-Project	
HHV	1,020	1,050	mmBtu/mmscf
F-Factor (68)	8,710	dscf/mmBtu	
Ref O2	15		
Molar Volume (68)	385		
Ammonia MW	17		

Emission Factors

[a] Emission Factors from: SCAQMD Supplemental Instructions - Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emission Inventory, December 2016
Table B-1 - Source: Turbine
https://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/supplemental-instructions-for-ab2588-facilities.pdf?sfvrsn=12

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Application for Increase to Heat Input Rating

Appendix B - Emission Calculations

[b] Emission Factors from: USEPA - Emission Factor Documentation for AP-42 Section 3.1 Stationary Gas Turbines, April 2000
Table 3.4-1 - Control Method: CO Catalyst
https://www3.epa.gov/ttn/chief/ap42/ch03/bgdocs/b03s01.pdf

[c] Ammonia Slip

	Pre-Project	Post-Project	
	5	5	ppmv @ 15% O2

Ammonia EF = Ammonia Slip x 20.9 / (20.9 - Ref O2) x HHV x F-Factor (68) x Ammonia MW / Molar Volume (68) x 10^{-6}

Ammonia EF	6.95	7.15	lb/mmscf

Calculations

[1] Pre-Project (lb/hr) = Heat Input Rating / HHV x Emission Factor
Pre-Project (lb/yr) = Annual Fuel Use x Emission Factor

Heat Input Rating	2096	mmBtu/hr
Annual Fuel Use	11,211.55	mmscf/yr

[2] Post-Project (lb/hr) = Heat Input Rating / HHV x Emission Factor
Post-Project (lb/yr) = Annual Fuel Use x Emission Factor

Heat Input Rating	2,250.0	mmBtu/hr
Annual Fuel Use	11,211.55	mmscf/yr

Rule 1401 Tier 1 Sreening Emission Level for Ammonia	
7.20E+03	lb/yr, @ 25m
Estimated Increase in Annual Ammonia Emissions	
2.24E+03	lb/yr
Ammonia Emission Increase Less than Conservative Tier 1 Screening Emission Level?	
Yes	

Date Printed: 2/23/2021

APPENDIX C - AMBIENT AIR QUALITY AND HEALTH RISK MODELING

Appendix C: Health Risk Assessment & Air Quality Impact Analysis

Prepared in Support of Application to Increase Turbine Heat Input Rating

Prepared for:

El Segundo Energy Center, LLC
301 Vista Del Mar
El Segundo, CA 90245
SCAQMD Facility ID: 115663

February 2021

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Appendix C: Health Risk Assessment & Air Quality Impact Analysis

1.0 INTRODUCTION

Yorke Engineering, LLC (Yorke) has prepared this Health Risk Assessment (HRA) and Air Quality Impact Analysis (AQIA) support of the application to the SCAQMD for the proposed Project.

1.1 Project Overview

El Segundo Energy Center, LLC (ESEC) is submitting applications to request modifications to two (2) natural gas-fired Combined Cycle Gas Turbines (CCGT) (Device ID Nos. D67 and D68) to increase the allowable heat rate to be more representative of 'maximum' heat input rating of the equipment. The turbines were described in former permit actions using a nominal heat rate rather than the maximum rate. The facility is currently dispatched to serve peak power demand and needs to be able to operate at the maximum possible load to service the peak demand. The Equipment Description for each turbine currently lists the heat rate as 2,096 million British thermal units (MMBtu) per hour with a generating capacity of 219 megawatts (MW). ESEC is requesting that the heat rate be updated to 2,250 MMBtu per hour with a generating capacity of 222.5 MW for each unit. There are no physical modifications to the turbines proposed.

The proposed increase to the maximum hourly heat input rating for each of the CCGTs will result in an increase in the maximum hourly emission rate for all criteria pollutants. There will be an increase in the maximum daily emissions of NOx, CO, and VOC. The increase in heat rate also results in an increase in the maximum hourly emissions of Toxic Air Contaminants (TAC).

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 detailed calculation tables; Attachment 2 contains reference materials.

1.2 Facility Location

ESEC is located at 301 Vista Del Mar in the city of El Segundo. The facility occupies a total of approximately 32.8 acres and is bordered by industrial facilities on the east and north, the Pacific Ocean to the west, and by residential properties to the south. The nearest residential property is a home approximately 20 meters south-southeast of the facility property boundary, and approximately 670 meters from the nearest CCGT stack. The nearest school to the facility is the Richmond Street Elementary School at 615 Richmond St., El Segundo, approximately 1,400 meters to the northeast of the facility. An aerial photograph depicting the facility and the surrounding properties is provided as Figure 1-1.

Figure 1-1 also shows the approximate facility boundary and the locations of the two exhaust stacks.

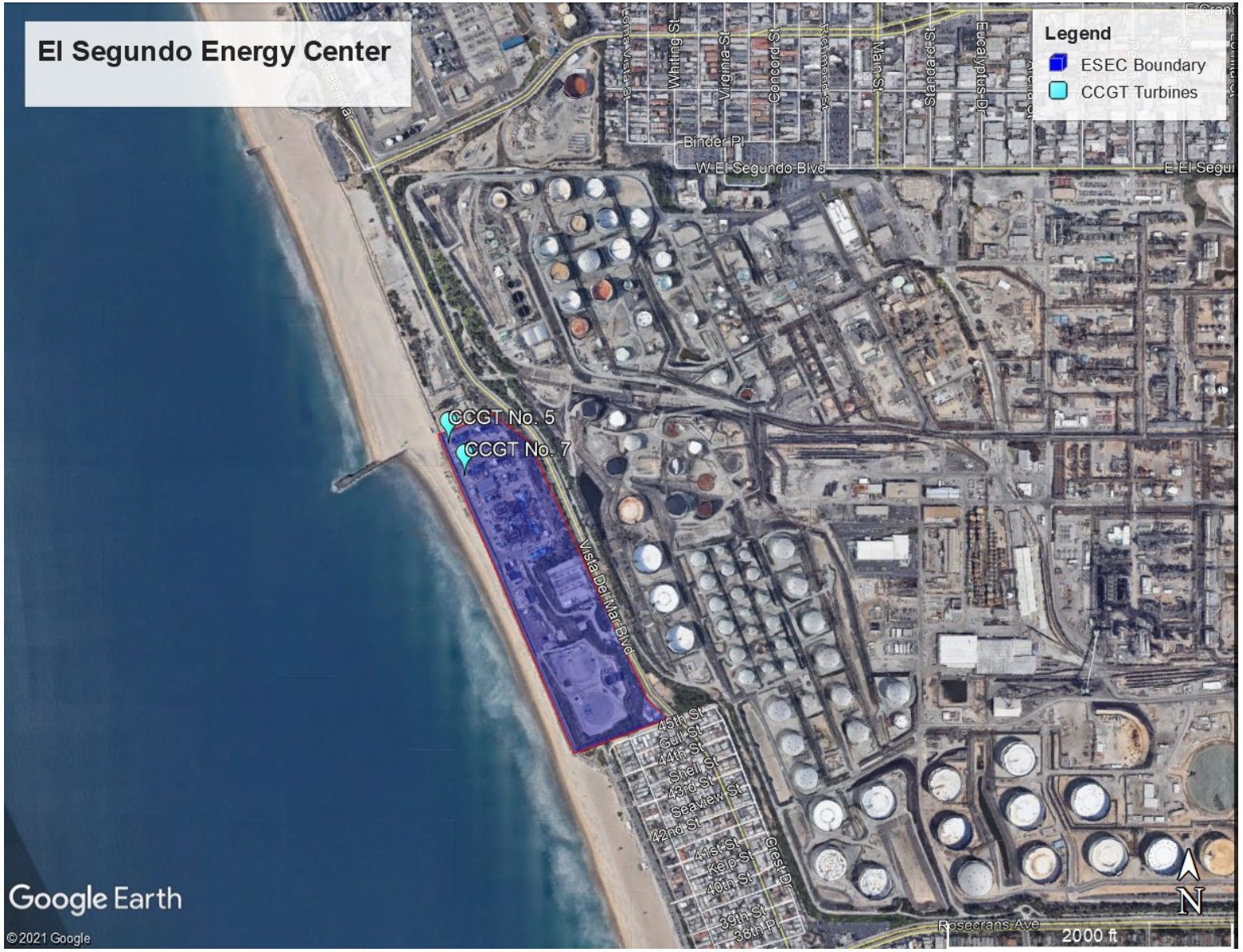

Figure 1-1: Aerial Photograph of Facility and Surrounding Area

2.0 EQUIPMENT AND EMISSION INFORMATION

2.1 Equipment

The emission sources associated with the Project are the two CCGT's described in Table 2-1.

Table 2-1: Equipment Summary

Basic Equipment	NOx Control Equipment	CO/VOC Control Equipment
Gas Turbine, Unit No. 5, Natural Gas, Siemens, Model SGT6-5000F, Rapid-Response, combined cycle, 2,096 MMBtu/hr at 78 Degrees F, with dry low-NOx Combustors with Generator, Heat Recovery Steam, Unfired Turbine, Steam, 67.7 MW, Generator, 219 MW.	Selective Catalytic Reduction, Unit No. 5, Cormetech, Model CM21HT, with 2,050 cubic feet of total catalyst volume, width: 25 ft; Height: 70 ft; Length: 24 ft 3 in with ammonia injection grid.	CO oxidation catalyst, Unit No. 5, BASF, 290 cubic feet of total catalyst volume
Gas Turbine, Unit No. 7, Natural Gas, Siemens, Model SGT6-5000F, Rapid-Response, combined cycle, 2,096 MMBtu/hr at 78 Degrees F, with dry low-NOx Combustors with Generator, Heat Recovery Steam, Unfired Turbine, Steam, 67.7 MW, Generator, 219 MW.	Selective Catalytic Reduction, Unit No. 7, Cormetech, Model CM21HT, with 2,050 cubic feet of total catalyst volume, width: 25 ft; Height: 70 ft; Length: 24 ft 3 in with ammonia injection grid.	CO oxidation catalyst, Unit No. 7, BASF, 290 cubic feet of total catalyst volume

2.2 Emissions

2.2.1 Criteria Pollutants

The AQIA requires the evaluation of criteria pollutant emissions over 1-Hour, 8-Hour, 24-Hour, and Annual averaging periods, as appropriate for each California Ambient Air Quality Standard (CAAQS) and National Ambient Air Quality Standard (NAAQS). The AQIA assumes that the pre-project emissions are part of background and considers only emission increases.

The methodologies used to estimate emissions from the Project sources are presented in Section 3.0 of the application. Additionally, since there is a permit condition that limits daily emissions, the daily maximum emission rate for CO is lower than operating at the 1-hour emission rate for 8 hours; thus, the daily CO emissions were used for the 8-hour averaging period. The criteria pollutant emissions used in the AQIA are summarized in Table 2-2. Emission calculation details are provided in Tables C.5, C.6, and C.7 in Attachment 1.

Table 2-2: Criteria Pollutant Emissions Increases (per CCGT)

Pollutant	Averaging Period	Emissions Increase (lb/Avg. Period)
NO_2	1-Hr	1.13
	Annual	2,013.40
CO	1-Hr	0.68
	8-Hr	0.90
SO_2	1-Hr	0.06
	24-Hr	No Increase
	Annual	No Increase
PM_{10}	24-Hr	No Increase
	Annual	No Increase

2.2.2 Toxic Air Contaminants

Rule 1401(f)(3) allows long-term health risks [Maximum Individual Cancer Risk (MICR) and noncancer chronic health index (HIC)] to be evaluated based on the difference between post-project emissions and permitted pre-project emissions when pre-project emissions are limited by permit condition. A permit condition is proposed to limit the daily fuel usage to 51,162 MMBtu per day, thus limiting the annual fuel use and TAC emissions. As such, the Project will not result in a change in annual TAC emissions for combustion contaminants. However, annual emissions of ammonia are expected to increase due to the proposed modification due to ammonia slip from the SCR.

Rule 1401(f)(4) requires the noncancer acute health index (HIA) to be estimated from post-project emissions for a permit unit rather than the project increase (i.e., post-project minus pre-project).

The TAC emission estimates used in the HRA are summarized Table 2-3.

Table 2-3: Rule 1401 HRA - Hourly TAC Emissions (per CCGT)

Pollutant	CAS No.	Post-Project Emissions (lb/hr)	Project Change in Emissions (lb/yr)
Benzene	71432	7.14E-03	0.00E+00
1,3-Butadiene	106990	9.41E-04	0.00E+00
Formaldehyde	50000	7.86E-01	0.00E+00
Naphthalene	91203	2.85E-03	0.00E+00
Total PAHs (excluding Naphthalene)	1151	1.97E-03	0.00E+00
Acetaldehyde	75070	8.74E-02	0.00E+00
Acrolein	107028	7.91E-03	0.00E+00
Ammonia	7664417	1.53E+01	2.24E+03

Pollutant	CAS No.	Post-Project Emissions (lb/hr)	Project Change in Emissions (lb/yr)
Ethylbenzene	100414	6.99E-02	0.00E+00
Propylene oxide	75569	6.34E-02	0.00E+00
Toluene	108883	2.85E-01	0.00E+00
Xylene	1330207	1.40E-01	0.00E+00

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 is AERSCREEN, a screening dispersion model. AERSCREEN is based on AERMOD and is the screening dispersion model currently recommended by EPA.

The Lakes Environmental Software (Lakes) implementation/user interface, AERSCREEN View™, Version 2.7.0, was used for this project. This version of AERSCREEN View™ implements the newest version of AERMOD (version 19191).

AERSCREEN was run with a single source emitting unit emissions [1 gram per second (g/s)] to obtain the "Chi/Q" (*X*/Q) values that are necessary for subsequent calculations.

3.1.1 Scenario Options

The "Urban" option was used for modeling. The facility is located in the County of Los Angeles. The population of the County of Los Angeles as of the 2010 census was 9,818,605. This value was used as the population of the urban area.

3.1.2 Terrain Data

Digital elevation data was imported into AERSCREEN and elevations were assigned to receptors, buildings, and emission sources, as necessary. Shuttle Radar Topography Mission 1 (SRTM1) elevation data was obtained through the AERSCREEN View™ WebGIS import feature. This dataset has a resolution of approximately 30 meters.

3.1.3 Source Parameters

The CCGT's are subject to triennial source testing. The last triennial tests were conducted in 2019. Source parameters are based on data from the 2019 triennial tests.

An AERSCREEN scenario can only be run using a single emission source. EPA guidance allows for more than one stack to be "combined" into a single stack for modeling purposes, as long as the worst-case stack parameters are used. For this analysis, the representative stack used stack parameter from CCGT No. 7; since the stack heights are the same and the exit temperatures are very similar, the lower exit velocity of CCGT No. 7 makes it the more conservative dispersion release. The source parameter calculations are shown in detail in Table C.1 in Attachment 1 and summarized in Table 3-1. The coordinates are the approximate midpoint between the two stacks.

Table 3-1: Source Parameters (CCGT No. 7)

UTM E (m)	UTM N (m)	Stack Diameter (ft)	Release Height (ft)	Stack Temperature (Deg F)	Exit Velocity (fps)
368,234	3,753,206	21.325	210	337.4	68.00

3.1.4 Building Downwash

Nearby buildings can affect the dispersion of point sources by inducing aerodynamic turbulence on pollutant emissions, causing emissions to mix rapidly towards the ground and resulting in higher localized ground-level concentrations. EPA recommends analyzing building downwash effects from a local building on a stack if the stack height is less than the General Engineering Practice (GEP) height recommended by EPA; the GEP stack height can be calculated using Equation 1.

$$GEP\ Height = H + 1.5 * L \quad \text{(Eq. 1)}$$

Where:

GEP Height	=	Recommended minimum stack height for point sources (ft.)
H	=	Height of building, from stack elevation (ft.)
L	=	Width of building (ft.)

On-site buildings at ESEC were included in the AERSCREEN analysis for building downwash. Additionally, since the base elevation of the nearby Chevron Products facility is much higher than the base elevation of the CCGT stacks, tanks located on the western end of the Chevron site were included in this analysis.

3.1.5 Meteorology

AERSCREEN View™ requires the user to input a set of Meteorology Parameters and select from one of three Surface Characteristic options. Meteorology Parameters are shown in Table 3-2. Temperature data from the Los Angeles International Airport (LAX) meteorological station was obtained from the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service website.

Table 3-2: Meteorology Parameters

Parameter	Value	Reference
Minimum Temperature (Deg F)	27	Record Low for LAX
Maximum Temperature (Deg F)	110	Record High for LAX
Minimum Wind Speed (m/s)	0.5	Default
Anemometer Height (m)	10	Default
Adjust Surface Friction Velocity (ADJ_U*)	Yes	

User-specified Surface Characteristics were applied for this modeling effort. The District provides values for these parameters (Albedo, Bowen Ratio, and Surface Roughness) for each of its meteorological stations. SCAQMD parameters for the Los Angeles International Airport MET station were used as the Surface Characteristics for this Project. Surface Characteristics are shown in Table 3-3.

Table 3-3: Surface Characteristics

Parameter	Value
Albedo	0.18
Bowen Ratio	1.25

Parameter	Value
Surface Roughness (m)	0.099

3.1.6 Receptors

The facility boundary is within a hundred meters of Chevron Products, and the CCGT stacks are located approximately two hundred feet from the Chevron site boundary. Impacts were evaluated every 25 meters from the emission source out to a maximum of 3,000 meters, to account for all downwind receptors.

3.1.7 Fumigation Options

The District recommends evaluation of the effects of Inversion Break-up Fumigation and Shoreline Fumigation for projects located on the Pacific Coast shoreline. The minimum distance to the shoreline in the Shoreline Fumigation scenario was entered as 100 meters, the shortest distance from the emission source to the ocean.

3.1.8 AERSCREEN Scenarios

AERSCREEN Scenarios are summarized in Table 3-4.

Table 3-4: AERSCREEN Scenarios

Scenario No.	Receptors	Fumigation Options
1	Ground-Level	Inversion Break-up and Shoreline Fumigation

3.2 Dispersion Model Output

Results from Scenario 1 were used in the Rule 1401 HRA and the AQIA. The results comparison is shown in detail in Table C.2 in Attachment 1 and summarized in Table 3-5.

Table 3-5: AERSCREEN Output

Averaging Period	Maximum Impact ($\mu g/m^3$ per g/s)
1-Hour	2.804E-01
8-Hour	2.524E-01
Annual	2.804E-02

4.0 AIR QUALITY IMPACT ANALYSIS

ESEC is a NOx RECLAIM facility. Rule 2005 requires an AQIA when a project results in an increase in the maximum emissions for a RECLAIM pollutant; since the Project is expected to result in an increase of the maximum hourly NOx emissions, an AQIA assessment is required.

Modeling for the AQIA is not required if the hourly emissions are below screening thresholds in Rule 2005, Appendix A, Table A-1. Although the Project emissions meet the emissions limit for the largest MMBtu per hour category in Table A-1, the table only shows screening limits for equipment up to 40 MMBtu per hour. For a conservative approach, a screening modeling assessment was performed to compare against the Significant Change in Air Quality (SCAQ) standard in Table A-2 of Rule 2005, Appendix A. The analysis was performed assuming 100% conversion of NOx into NO_2.

Per Rule 1303(b), an AQIA is required when a project results in an increase of any nonattainment pollutant emissions from a permit unit. Since the South Coast Air Basin (SCAB) is in attainment for CO and SO_2, no AQIA assessment is needed for these pollutants. Additionally, since Clearway is proposing a daily fuel limit, there will be no increase in daily or annual PM_{10} emissions. The Project is not requesting an increase in the daily or annual PTE for PM_{10}, and all other pollutants subject to Rule 1303 are in attainment, so no modeling is required for Rule 1303.

4.1 Significant Change in Air Quality Analysis (per CCGT)

The emissions from Table 2-2 were combined with the AERSCREEN output from Table 3-5 to calculate the worst-case impacts to ambient air quality for comparison with the SCAQ thresholds from Rule 2005. This calculation is shown in detail in Table C.8 in Attachment 1 and summarized in Table 5-1.

As shown in Table 5-1, the proposed Project is not expected to cause a significant change in air quality for any of the listed pollutants over their respective averaging periods.

Table 5-1: Significant Change in Air Quality Analysis (per CCGT)

Pollutant	Averaging Period	Project Impact (ug/m^3)	Significant Change in Air Quality (ug/m^3)	Exceeds Standard?
NO_2	1-Hr	0.0401	20	No
	Annual	0.0008	1	No

5.0 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.

Health risk estimates were calculated in accordance with the BAAQMD's Air Toxics NSR Program HRA Guidelines, dated December 2016. Estimates of residential risk assume potential exposure to annual average TAC concentrations occur 350 days per year, for 30 years. In addition, residential risk estimates assume a 95th percentile breathing rate for age groups younger than two

years old, and 80th percentile breathing rate for age groups that are older than or equal to two years of age. Risk estimates for offsite workers assume potential exposure occurs 8 hours per day, 250 days per year, for 25 years. For offsite workers, the 95th percentile 8-hour breathing rate based on moderate activity was assumed. For students at school sites, exposure is assumed to occur 180 days per year (or 36 weeks/year) for 9 years. In addition, the 95th percentile 8-hour breathing rate based on moderate activity (for age 2<16 years; 520 L/kg-8 hours) was assumed. Residential and student cancer risk estimates include age sensitivity factors (ASFs) and fraction of time at home (FAH) adjustments. The ASFs are age-specific weighting factors used in calculating cancer risks from exposures of infants, children and adolescents, to reflect their anticipated special sensitivity to carcinogens. The estimated health risks for this permit application are presented in the table below.

As discussed in Section 2.0, the proposed Project is expected to result in an increase in maximum hourly TAC emissions. The total post-Project hourly TAC emissions from Table 2-3 and the 1-Hour AERSCREEN output from Table 3-5 were used to calculate the HIA.

The proposed Project is also expected to result in an increase in maximum annual ammonia emissions. The Project change in annual ammonia emissions from Table 2-3 and the annual AERSCREEN output from Table 3-5 were used to calculate the HIC. A conversion factor of 0.1 was used to convert the 1-hour concentration to an annual concentration, per SCAQMD screening guidance. HIC is typically estimated at the location of the maximum residential and worker receptors (MICR and MEIW); however, for this assessment, the HIC was calculated at the receptor distance with the highest predicted concentration and is an overly conservative estimate of health impacts.

As shown in Table 5-1, the chronic and acute HI's are less than the Rule 1401 limits of 1.0. The proposed Project complies with Rule 1401. The HIC and HIA calculations for all organs are shown in Tables C.3 and C.4 in Attachment 1.

Table 5-1: Rule 1401 HRA Summary (per CCGT)

Health Risk	HI	Target Organ	SCAQMD Rule 1401 Threshold	HI < Limit?
Chronic Hazard Index (unitless)	4.53E-06	Respiratory System	1.0	Yes
Acute Hazard Index (unitless)	7.96E-04	Eye	1.0	Yes

ATTACHMENT 1 - CALCULATION TABLES

Table No.	Title
C.1	AERSCREEN Stack Parameters
C.2	AERSCREEN Output
C.3	Rule 1401 HIA Calculation
C.4	Rule 1401 HIC Calculation
C.5	AQIA Emission Rates - 1-Hour (per CCGT)
C.6	AQIA Emission Rates - 24-Hour (per CCGT)
C.7	AQIA Emission Rates - Annual (per CCGT)
C.8	Rule 2005/1303 Significant Change in Air Quality Analysis (per CCGT)

ATTACHMENT 2 - REFERENCES

Page Nos.	Contains	Used For
1-4 of 42	2019 Triennial Test Data	Stack Parameters Table C.1
5-6 of 42	LAX Temperature Data	AERSCREEN
7 of 42	Surface Characteristics for Los Angeles International Airport Population of County of Los Angeles	AERSCREEN
8-23 of 42	OEHHA's Consolidated Table	Tables C.3/C.4
24-42 of 42	OEHHA's Target Organ Tables	Tables C.3/C.4

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Facility: El Segundo Energy Center, LLC
Facility ID: 115663

El Segundo Energy Center, LLC
Application for Increase to Heat Input Rating

Appendix C - HRA & AQIA

Table C.1 - AERSCREEN Stack Parameters

Unit	Device ID	Stack Area (ft^2)[1]	Stack Temperature (Deg F)	Exit Velocity (fps)[2]	Stack Diameter[1] (ft)	Release Height from Permit (ft)	Triennial Source Test Report 2018[3] (acfm)	Avg Fuel Use During 2018 Triennial Test[4] (mscfh)	Avg Heat Input During 2019 Triennial Test[5] (mmBtu/hr)	Scaled Exhaust Flow[6] (acfm)	Scaled Exit Velocity[7] (fps)	Merged Stack Parameter[8] M
CCGT No. 5	D67	357.16	334.5	71.6902322	21.32487364	210	1,536,293	2,036.9	2,138.7	1,616,209	75.42	113,530,612,119
CCGT No. 7	D68	357.16	337.4	68.00168925	21.32487364	210	1,457,249	1,979.3	2,078.3	1,577,667	73.62	111,784,022,468

[1] Stack Diameter (ft) = Sqrt(Stack Area x 4/pi)

[3] Exit Velocity (fps) = Exhaust Flow (acfm) / Stack Area (ft2) / 60

[4] From 1-hr average CEMS data

[5] Avg Heat Input During Test (mmBtu/hr) = Avg Fuel Use During Test (mscfh) / 1,000 x HHV

HHV 1,050 mmBtu/mmscf

[6] Scaled Exhaust Flow (acfm) = Exhaust Flow During Test (acfm) x Post-Project Heat Input Rating (mmBtu/hr) / Avg Heat Input During Test (mmBtu/hr)

Post-Project HI Rating 2,250

[7] Scaled Exit Velocity (fps) = Scaled Exhaust Flow (acfm) / 60 / Stack Area (ft^2)

[8] M = Release Height x Scaled Exhaust Flow x Stack Temperature / Emission Rate

The stacks have identical pollutant emission rates and will be modeled using unitized emission rates.

M = Release Height x Scaled Exhaust Flow x Stack Temperature

CCGT No. 7 has the lowest value of M and is therefore the worst-case stack. AERSCREEN will use the stack parameters for CCGT. 7

Stack Diameter (ft)	Release Height (ft)	Stack Temperature (Deg F)	Exit Velocity (fps)
21.325	210	334.5	71.69

Table C.2 - AERSCREEN Output

Averaging Period	Ground-Level Receptors Impact[1] (ug/m^3 per g/s)	Modeled Receptor Impact[2] (ug/m^3 per g/s)
1-Hr	2.804E-01	2.804E-01
24-Hr	1.683E-01	1.683E-01
Annual	2.804E-02	2.804E-02

Scalars

24-Hr	0.60
Annual	0.10

[1] AERSCREEN Scnarios 1. All receptors are at ground-level elevation.

[2] The modeled receptor is the receptor with the highest impact.

TITLE: SCENARIO 1

********** STACK PARAMETERS **********

SOURCE EMISSION RATE:	1.0000	g/s	7.937	lb/hr
STACK HEIGHT:	64.01	meters	210.00	feet
STACK INNER DIAMETER:	6.498	meters	255.84	inches
PLUME EXIT TEMPERATURE:	442.8	K	337.4	Deg F
PLUME EXIT VELOCITY:	68.000	m/s	223.10	ft/s
STACK AIR FLOW RATE:	4778662	ACFM		
STACK BASE LONGITUDE:	-118.4253	deg	368234.	Easting
STACK BASE LATITUDE:	33.9110	deg	3753206.	Northing
STACK BASE UTM ZONE:			11	
REFERENCE DATUM (NADA):			4	
STACK BASE ELEVATION:	0.15	meters	0.49	feet
RURAL OR URBAN:	URBAN			
POPULATION:	9818605			

DIGITAL ELEVATION MAP(S) "long_beach-e.dem"

"los_angeles-e.dem"

INITIAL PROBE DISTANCE = 3000. meters 9843. feet

********** BUILDING DOWNWASH PARAMETERS **********

USER DEFINED BPIPPRM INPUT FILE: AERSCREEN.BPI

MAXIMUM BUILDING HEIGHT:	36.6	meters	120.0	feet
MAXIMUM BUILDING LENGTH:	110.2	meters	361.6	feet
MINIMUM BUILDING WIDTH:	68.7	meters	225.3	feet

********** FLOW SECTOR ANALYSIS **********

25 meter receptor spacing: 40. meters - 3000. meters

FLOW SECTOR	BUILD WIDTH	BUILD LENGTH	XBADJ	YBADJ	MAXIMUM 1-HR CONC (ug/m3)	IMPACT DIST (m)	RECEPTOR HEIGHT (m)	TEMPORAL PERIOD
10	0.00	0.00	0.00	0.00	0.2158	875.0	29.85	ANN
20	0.00	0.00	0.00	0.00	0.2158	875.0	29.85	ANN
30	0.00	0.00	0.00	0.00	0.2158	875.0	29.85	ANN
40	0.00	0.00	0.00	0.00	0.2158	875.0	29.85	ANN
50	0.00	0.00	0.00	0.00	0.2158	875.0	29.85	ANN
60	0.00	0.00	0.00	0.00	0.2158	875.0	29.85	ANN
70	0.00	0.00	0.00	0.00	0.2163	900.0	30.96	ANN
80	0.00	0.00	0.00	0.00	0.2168	900.0	31.85	ANN
90	0.00	0.00	0.00	0.00	0.2169	875.0	31.83	ANN
100	0.00	0.00	0.00	0.00	0.2168	900.0	31.85	ANN
110	0.00	0.00	0.00	0.00	0.2164	900.0	31.18	ANN
120	0.00	0.00	0.00	0.00	0.2158	875.0	29.85	ANN
130	0.00	0.00	0.00	0.00	0.2158	875.0	29.85	ANN
140	0.00	0.00	0.00	0.00	0.2158	875.0	29.85	ANN
150	0.00	0.00	0.00	0.00	0.2129	925.0	22.83	ANN
160	0.00	0.00	0.00	0.00	0.2130	950.0	-0.11	ANN
170	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
180	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
190	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
200	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
210	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
220	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
230	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
240	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
250	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
260	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
270	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
280	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
290	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
300	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
310	0.00	0.00	0.00	0.00	0.2130	950.0	-0.15	ANN
320	91.91	110.23	-229.98	44.24	0.2673	1100.0	-0.15	ANN
330	78.00	102.83	-231.53	13.13	0.2573	1075.0	-0.15	ANN
340	68.66	99.15	-229.41	-17.01	0.2575	1025.0	7.10	ANN
350*	83.65	108.36	-228.09	-47.99	0.2804	1050.0	21.58	ANN
360	0.00	0.00	0.00	0.00	0.2158	900.0	29.83	ANN

* = worst case flow sector

********** MAKEMET METEOROLOGY PARAMETERS **********

MIN/MAX TEMPERATURE: 270.4 / 316.5 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: USER ENTERED

ALBEDO: 0.18
BOWEN RATIO: 1.25
ROUGHNESS LENGTH: 0.099 (meters)

SURFACE FRICTION VELOCITY (U*) ADJUSTED

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR	MO	DY	JDY	HR
10	03	05	5	13

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
98.89	0.877	1.200	0.020	679.	1890.	-663.6	0.099	1.25	0.18	10.00

HT	REF TA	HT
10.0	316.5	2.0

WIND SPEED AT STACK HEIGHT (non-downwash):   13.6 m/s
STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 64.0 meters
ESTIMATED FINAL PLUME RISE (non-downwash):   296.0 meters
ESTIMATED FINAL PLUME HEIGHT (non-downwash):   360.0 meters

METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

YR	MO	DY	JDY	HR
10	03	04	5	12

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
237.91	0.102	1.800	0.020	2174.	75.	-1.0	0.099	1.25	0.18	0.50

HT	REF TA	HT
10.0	316.5	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.7 m/s
STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 64.0 meters
ESTIMATED FINAL PLUME RISE (non-downwash): 1880.4 meters
ESTIMATED FINAL PLUME HEIGHT (non-downwash): 1944.4 meters

********** AERSCREEN AUTOMATED DISTANCES **********
OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	RECEPTOR HEIGHT (m)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	RECEPTOR HEIGHT (m)
40.00	0.4215E-01	1.37	1525.00	0.2008	-0.15
50.00	0.4398E-01	2.47	1550.00	0.1960	-0.15
75.00	0.4507E-01	5.34	1575.00	0.1913	-0.15
100.00	0.4407E-01	8.52	1600.00	0.1868	-0.15
125.00	0.4241E-01	12.00	1625.00	0.1824	-0.15
150.00	0.4055E-01	15.56	1650.00	0.1781	-0.15
175.00	0.3871E-01	19.05	1675.00	0.1740	-0.15
200.00	0.3696E-01	22.36	1700.00	0.1701	-0.15
225.00	0.3728E-01	24.96	1725.00	0.1664	-0.15
250.00	0.5001E-01	27.39	1750.00	0.1629	-0.15
275.00	0.6400E-01	29.65	1775.00	0.1593	-0.15
300.00	0.7789E-01	29.85	1800.00	0.1557	-0.15
325.00	0.9095E-01	29.85	1825.00	0.1523	51.18
350.00	0.1027	29.85	1850.00	0.1533	51.60
375.00	0.1130	29.85	1875.00	0.1541	52.01
400.00	0.1218	29.85	1900.00	0.1549	52.43
425.00	0.1293	29.85	1925.00	0.1553	52.65
450.00	0.1358	29.85	1950.00	0.1553	52.67
475.00	0.1413	29.85	1975.00	0.1559	53.09
500.00	0.1461	29.85	2000.00	0.1565	53.51
525.00	0.1502	29.85	2025.00	0.1570	53.94
550.00	0.1622	29.85	2050.00	0.1574	54.36
575.00	0.1731	29.85	2075.00	0.1577	54.78
600.00	0.1809	29.85	2100.00	0.1580	55.20

625.00	0.1878	29.85	2125.00	0.1583	55.63
650.00	0.1939	29.85	2150.00	0.1584	56.05
675.00	0.1992	29.85	2175.00	0.1586	56.46
700.00	0.2035	29.85	2200.00	0.1581	56.44
725.00	0.2069	29.85	2225.00	0.1576	56.34
750.00	0.2096	29.85	2250.00	0.1572	56.38
775.00	0.2118	29.85	2275.00	0.1579	57.42
800.00	0.2241	20.04	2300.00	0.1583	58.28
825.00	0.2362	20.64	2325.00	0.1583	58.81
850.00	0.2463	20.77	2350.00	0.1582	59.37
875.00	0.2550	20.97	2375.00	0.1581	59.85
900.00	0.2625	21.23	2400.00	0.1575	59.85
925.00	0.2686	21.46	2425.00	0.1569	59.85
950.00	0.2732	21.49	2450.00	0.1562	59.84
975.00	0.2767	21.51	2475.00	0.1556	59.85
1000.00	0.2789	21.53	2500.00	0.1554	59.65
1025.00	0.2801	21.56	2525.00	0.1557	59.58
1050.00	0.2804	21.58	2550.00	0.1559	59.60
1075.00	0.2797	21.60	2575.00	0.1562	59.68
1100.00	0.2783	21.54	2600.00	0.1564	59.82
1125.00	0.2762	21.64	2625.00	0.1565	59.85
1150.00	0.2736	21.81	2650.00	0.1567	59.85
1175.00	0.2704	21.98	2675.00	0.1568	59.85
1200.00	0.2667	22.14	2700.00	0.1569	59.85
1225.00	0.2623	21.62	2725.00	0.1570	59.85
1250.00	0.2577	21.11	2750.00	0.1570	59.85
1275.00	0.2526	20.64	2775.00	0.1570	59.85
1300.00	0.2473	20.28	2800.00	0.1571	59.85
1325.00	0.2419	20.24	2825.00	0.1571	59.85
1350.00	0.2364	20.20	2850.00	0.1571	59.85
1375.00	0.2308	20.16	2875.00	0.1570	59.85
1400.00	0.2258	-0.15	2900.00	0.1570	59.85
1425.00	0.2207	-0.15	2925.00	0.1570	59.85
1450.00	0.2157	-0.15	2950.00	0.1569	59.85
1475.00	0.2107	-0.15	2975.00	0.1568	59.85
1500.00	0.2057	-0.15	3000.00	0.1568	59.84

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
ELEVATED TERRAIN	0.2804	0.2804	0.2524	0.1683	0.2804E-01

DISTANCE FROM SOURCE   1045.00 meters directed toward 350 degrees
RECEPTOR HEIGHT   21.57 meters

IMPACT AT THE
AMBIENT BOUNDARY   0.4215E-01 0.4215E-01 0.3794E-01 0.2529E-01 0.4215E-02

DISTANCE FROM SOURCE   40.00 meters directed toward 80 degrees
RECEPTOR HEIGHT   1.37 meters

**********   AERSCREEN FUMIGATION SUMMARY   **********

NO METEOROLOGICAL HOURS FITTING FUMIGATION CRITERIA...
NO FUMIGATION CALCULATIONS MADE

Facility: El Segundo Energy Center, LLC
Facility ID: 115663

El Segundo Energy Center, LLC
Application for Increase to Heat Input Rating

Appendix C - HRA & AQIA

Table C.3 - Rule 1401 HIA Calculation

Rule 1401(f)(4) requires acute health risk for modifications to be based on the total emissions from a permit unit.

						Target Organ									
Pollutant	CAS No.	Post-Project (lb/hr)	Post-Project [1] (g/s)	Acute REL (ug/m^3)	HIA [2] (ug/m^3)	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Benzene	71432	7.14E-03	9.00E-04	2.70E+01	9.35E-06			x			x	x	x		
1,3-Butadiene	106990	9.41E-04	1.19E-04	6.60E+02	5.04E-08			x					x		
Formaldehyde	50000	7.86E-01	9.92E-02	5.50E+01	5.06E-04				x						
Naphthalene	91203	2.85E-03	3.59E-04	--	--										
Total PAHs (excluding Naphthalene)	1151	1.97E-03	2.48E-04	--	--										
Acetaldehyde	75070	8.74E-02	1.10E-02	4.70E+02	6.58E-06				x					x	
Acrolein	107028	7.91E-03	9.97E-04	2.50E+00	1.12E-04				x					x	
Ammonia	7664417	1.53E+01	1.93E+00	3.20E+03	1.69E-04				x					x	
Ethylbenzene	100414	6.99E-02	8.81E-03	--	--										
Propylene oxide	75569	6.34E-02	8.00E-03	3.10E+03	7.24E-07			x	x				x	x	
Toluene	108883	2.85E-01	3.59E-02	5.00E+03	2.02E-06				x			x		x	
Xylene	1330207	1.40E-01	1.76E-02	2.20E+04	2.25E-07				x			x		x	

[1] Post-Project (g/s) = Post-Project (lb/hr) x 454 / 3,600

[2] Post-Project (g/s) x Unitized GLC (ug/m^3) / Acute REL (ug/m^3)

Unitized GLC 0.28043 ug/m^3

		Target Organ									
Pollutant	CAS No.	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Benzene	71432			9.35E-06			9.35E-06	9.35E-06	9.35E-06		
1,3-Butadiene	106990			5.04E-08					5.04E-08		
Formaldehyde	50000				5.06E-04						
Naphthalene	91203										
Total PAHs (excluding	1151										
Acetaldehyde	75070				6.58E-06					6.58E-06	
Acrolein	107028				1.12E-04					1.12E-04	
Ammonia	7664417				1.69E-04					1.69E-04	
Ethylbenzene	100414										
Propylene oxide	75569			7.24E-07	7.24E-07				7.24E-07	7.24E-07	
Toluene	108883				2.02E-06			2.02E-06		2.02E-06	
Xylene	1330207				2.25E-07			2.25E-07		2.25E-07	
		0.00E+00	0.00E+00	1.01E-05	7.96E-04	0.00E+00	9.35E-06	1.16E-05	1.01E-05	2.91E-04	0.00E+00

Acute Reference Exposure Levels are from OEHHA's Consolidated Table, Last Updated October 2, 2020
https://ww2.arb.ca.gov/sites/default/files/classic//toxics/healthval/contable.pdf
Target Organs are from OEHHA's Target Organs Tables, Last Updated August 21, 2020
https://ww2.arb.ca.gov/sites/default/files/classic//toxics/healthval/totables.pdf

Facility: El Segundo Energy Center, LLC
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Appendix C - HRA & AQIA

Table C.4 - Rule 1401 HIC Calculation

Rule 1401(f)(3) requires chronic health risk for modifications to be based on the total emissions increase from a permit unit.

						Target Organ									
Pollutant	CAS No.	Post-Project (lb/yr)	Post-Project [1] (g/s)	Chronic REL (ug/m^3)	HIC [2] (ug/m^3)	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Ammonia	7664417	2.24E+03	3.23E-02	2.00E+02	4.53E-06									x	

[1] Post-Project (g/s) = Post-Project (lb/hr) x 454 / 3,600

[2] Post-Project (g/s) x Unitized GLC (ug/m^3) / Acute REL (ug/m^3)

Unitized GLC 2.80E-02 ug/m^3

		Target Organ									
Pollutant	CAS No.	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Ammonia	7664417									4.53E-06	
		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.53E-06	0.00E+00

Chronic Reference Exposure Levels are from OEHHA's Consolidated Table, Last Updated October 2, 2020
https://ww2.arb.ca.gov/sites/default/files/classic//toxics/healthval/contable.pdf
Target Organs are from OEHHA's Target Organs Tables, Last Updated August 21, 2020
https://ww2.arb.ca.gov/sites/default/files/classic//toxics/healthval/totables.pdf

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Table C.5 - AQIA Emission Rates - 1-Hour (per CCGT)

Pollutant	Pre-Project (lb/hr)	Post-Project (lb/hr)	Increase (lb/hr)	Increase[1] (g/s)
NO2	15.45	16.59	1.13	1.43E-01

[1] Increase (g/s) = Increase (lb/hr) x 454 / 3,600

Table C.6 - AQIA Emission Rates - 24-Hour (per CCGT)

Pollutant	Pre-Project[1] (lb/24-hr)	Post-Project[2] (lb/24-hr)	Increase (lb/24-hr)	Increase[3] (g/s)
PM 10	--	--	No Increase	No Increase

[1] Calculated in Table B.1

[2] Calculated in Table B.1

[3] No daily emissions increase due to a permit limit.

Table C.7 - AQIA Emission Rates - Annual (per CCGT)

Pollutant	Pre-Project (lb/yr)	Post-Project (lb/yr)	Increase (lb/yr)	Increase[1] (g/s)
NO2	96,435.67	98,449.07	2,013.40	2.90E-02
PM 10	--	--	No Increase	No Increase

[1] Increase (g/s) = Increase (lb/yr) / 8760 x 454 / 3,600

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Table C.8 - Rule 2005 Significant Change in Air Quality Analysis (per SCGT)

Pollutant	Averaging Period	Increase (g/s)	Unitized Ground-Level Concentration (ug/m^3)	Ground-Level Impact[1] (ug/m^3)	Significant Change in Air Quality (ug/m^3)	Exceeds Standard?
NO2	1-Hr	1.43E-01	2.804E-01	0.0401	20	No
NO2	Annual	2.90E-02	2.804E-02	0.0008	1	No
PM 10	24-Hr	No Increase	--	No Increase	2.5	No Increase
PM 10	Annual	No Increase	--	No Increase	1	No Increase

[1] Ground-Level Impact (ug/m^3) = Increase (g/s) x Unitized Ground-Level Concentration (ug/m^3)