Application for a Determination of Compliance and Permit to Construct for the El Segundo Power Redevelopment Project (Facility ID No. 115663)

June 21, 2007

Submitted to:
South Coast Air Quality Management District

NRG

El Segundo Power II LLC
1819 Aston Avenue, Suite 105
Carlsbad, CA 92008

Direct Phone: 760.710.2144

June 21, 2007

Mr. Ken Coats
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765

Re: El Segundo Power Redevelopment Project (Facility ID No. 115663)- Application for Permit to Construct and Permit to Operate

Dear Mr. Coats:

El Segundo Power II LLC ("ESP") hereby submits the enclosed application for a Permit to Construct and Permit to Operate. This application is being submitted as part of a Petition to Amend ("Petition") process initiated with the California Energy Commission ("CEC") on June 19, 2007. The Petition was submitted to make amendments to the CEC's Final Decision approving the El Segundo Power Redevelopment Project ("ESPR"). This process will ultimately amend the CEC's Final Decision of the ESPR project as part of 00-AFC-14, which was an Application for Certification initially submitted to the CEC on December 21, 2000 and certified by the CEC on February 2, 2005.

The CEC's Final Decision provided for the conversion of Units 1 and 2 of the El Segundo Generating Station to a combined-cycle facility, which would have, among other things, used an existing system to draw sea water from the Santa Monica Bay for once-through cooling. Modifications identified in the CEC Petition will result in the elimination of once-through cooling. Additionally four other modifications to the project are proposed: 1) modification of the plant design to Rapid Response Combined Cycle technology ("R2C2") from Siemens Corporation; 2) modification of the method of delivery of oversized equipment to include delivery by barge over El Segundo Beach; 3) addition of an offsite laydown area for equipment staging and construction employee parking; and, 4) modification of the plant's access road configuration.

Only the first modification described above, change of design to R2C2, requires evaluation and action by the South Coast Air Quality Management District (District). The project change involves converting from the previously permitted two-on-one (two combustion gas turbines and one steam turbine) power block configuration to the proposed dual-train one-on-one (two individual combustion gas turbines connected to individual steam turbines) combined cycle power block configuration. The new technology will allow for rapid gas turbine startups and delivery of electrical power to the electrical grid within 10 minutes. This rapid start feature is unique to this highly efficient combined cycle configuration from Siemens, representing maximum flexibility to respond to peak electrical demand situations and provide efficient and

clean power to the region. The new design has the added benefit of significantly reduced air emissions during gas turbine startups as compared with traditional combined cycle units, due to the substantially shorter gas turbine startup duration.

This submittal represents a complete, new PTC application including all relevant forms, filing fee check, emissions summary tables and calculations, BACT summary, offsets summary, and air dispersion modeling results. The existing open Application Nos. 378766, 378767, 378769, 378771, 378773, 379904, and 379905 for the ESPR project will replaced, and/or enhanced where relevant, by these new application forms and information. The original and expected amendment of the CEC Decision for 00-AFC-14 will remain the basis of environmental review complying with the California Environmental Quality Act for this new PTC application.

It is expected that the process of evaluation and approval of the CEC Petition to Amend will be expedited due to the limited nature of the project changes and reduction in environmental impacts relative to the original project. Therefore, ESP requests expedited review from the District and the necessary Expedited Review Fees are included as part of this application to help accomplish that goal. A check in the amount of $34,387.94 is included with this application, based on the enclosed Fee Calculation Worksheet.

With approval of this design change to the R2C2 configuration, the ESPR project will bring additional enhancements to the already permitted project, including modernization of the existing, less efficient 1950s steam plant (Units 1 & 2) and provide much needed additional power in the western Southern California Edison load center.

On behalf of ESP II LLC, we look forward to your review of this application and the process toward its approval.

Sincerely,
El Segundo Power II LLC

Tim Hemig
Director, Environmental & New Business

cc: Christopher Meyer, California Energy Commission

Application to the South Coast AQMD for a Determination of Compliance and Permit to Construct for the El Segundo Power Redevelopment Project

prepared for:

El Segundo Power, LLC

June 2007

prepared by:

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APPLICATION TO THE SOUTH COAST AQMD FOR A DETERMINATION OF COMPLIANCE AND PERMIT TO CONSTRUCT FOR THE EL SEGUNDO POWER REDEVELOPMENT PROJECT

prepared for:

El Segundo Power, LLC

June 2007

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APPLICATION TO THE SOUTH COAST AQMD FOR A DETERMINATION OF COMPLIANCE AND PERMIT TO CONSTRUCT FOR THE EL SEGUNDO POWER REDEVELOPMENT PROJECT

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EL SEGUNDO POWER REDEVELOPMENT PROJECT
573 MW PROJECT

COMPANY NAME AND ADDRESS

El Segundo Power, LLC
301 Vista Del Mar
El Segundo, CA 90245

Contact: Mr. Steve Odabashian (310) 615-6331
AQMD Facility ID: 115663

EQUIPMENT LOCATION

Same as mailing address

BACKGROUND

The El Segundo Generating Station (ESGS) is located on a 32.8-acre site in El Segundo, CA. The facility is bordered on the west by Santa Monica Bay, on the east by Vista Del Mar, on the north by the Chevron marine terminal, and on the south by 45th Street in the City of Manhattan Beach.

The ESGS has been operating as an electric generating station since May 1955. The facility was originally owned and operated as a public utility by the Southern California Edison (SCE) Company. In 1998, SCE sold the facility to El Segundo Power, LLC as part of deregulation. El Segundo Power, LLC currently owns and operates the facility.

For the proposed construction of the ESPR project, the District received five permit applications from El Segundo Power, LLC on December 20, 2000, for the new construction of two new gas turbines (CTGs) two associated SCRs, an emergency fire pump and a modification to the ammonia storage tank, and a Title V significant revision. On January 17, 2001, the applicant was informed that they also needed permit applications for a significant Title V permit revision and an application to modify the existing ammonia storage tank. The District received the additional two applications on January 18, 2001, and the District deemed the application package complete on January 19, 2001.

The application numbers for the ESPR project are listed below.

A/N	ESPR Project Description
378766	Gas Turbine/HRSG Unit No. 5 (new construction)
378767	Gas Turbine/HRSG Unit No. 7 (new construction)
378769	Emergency Fire Pump Engine (new construction)
378771	SCR for Gas Turbine/HRSG Unit No. 5 (new construction)
378773	SCR for Gas Turbine/HRSG Unit No. 7 (new construction)
379904	Ammonia Storage Tank (modification, previous A/N 340505)
379905	Title V Significant Permit Revision)

The El Segundo Generating Station is an existing power generating facility that consisted of four (4) utility boilers, with units 1 & 2 each rated at 1,785 MMBtu/hr and units 3 & 4 rated at 3,350 MMBtu/hr. Each unit consists of a steam turbine and generator. The four boilers are primarily fired with natural gas and/or refinery gas, and they can also be fired with fuel oil in the event of a natural gas curtailment. The NOx emissions from boilers 3 and 4 are controlled by SCR equipment. Units 1 & 2 are not equipped with any type of air pollution control system(s).

With the proposed construction of the new CTGs, the ESPR project involves the demolition and removal of existing units 1 & 2 on the El Segundo Generating Station site. The intent is for the new CTGs (units 5 & 7) to replace units 1 & 2 as part of the ESPR project, and also it is further intended that one steam turbine electric generator (unit 6) will be added to the new combined cycle configuration. Units 3 & 4 will continue to operate after the shutdown of units 1 & 2.

NEW CTGs

As discussed above, the ESPR project included the installation of two new CTGs. The permitted units include two General Electric 7FA combined cycle gas turbines each equipped with vertical flow Heat Recovery Steam Generators (HRSGs). The HRSGs were equipped with 600 MMBtu/hr duct burners. The gas turbines/HRSGs included the use of dry low-NOx combustors, selective catalytic reduction (SCR), and oxidation catalysts. The permitted project also included the installation of an emergency firepump Diesel engine.

El Segundo Power, LLC is proposing to change the CTGs from two General Electric 7FA combined cycle gas turbines to two Siemens SGT6-5000F rapid response combined cycle gas turbines. The modified ESPR project no longer includes the use of duct burners, or the installation of an emergency firepump engine. The proposed gas turbines/HRSGs will use dry low-NOx combustors, SCR systems, and oxidation catalysts. Finally, the modified project will use horizontal rather then vertical flow HRSGs.

In addition, the modified project includes the use of air-cooled condensers. Two air-cooled condensers (also referred to as dry cooling, or steam turbine fin/fan cooler, or air-cooled back pressure heat exchangers) are utilized for steam turbine exhaust steam heat rejection. This system will replace the previously approved once through cooling system. Steam exhausted from the steam turbine is condensed in the air-cooled back pressure heat exchanger (BPHX). The BPHX is comprised of a number of cells arranged in rows. The modules consist of horizontal fin tube bundles. The tube bundles are complete with inlet and outlet headers and piped to distribute the wet low pressure steam being condensed and slightly sloped to aid drainage of the saturated water exiting the bundles. Fans force cooler ambient air over tube bundles to condense exhaust steam. The condensate is collected in the condensate receiver tank. With this system there is no direct contact between the steam/water being cooled and the ambient air.

For the modified ESPR project, each of the CTGs will drive an electrical generator rated at 219.0 MW (nominal - gross). Of this generating capacity, approximately 15 MW (nominal - gross) is provided by steam power augmentation. During peak CTG operation, steam is injected downstream of the CTG combustors. The addition of this steam increases the mass throughput of the CTG which thereby increases the power output. The steam power augmentation is only used periodically when peak CTG output is necessary. In addition, each CTG is equipped with an unfired heat recovery steam generator (HRSG) that drives an electric generator rated at 67.7 MW (nominal - gross). The total nominal gross generating capacity of the modified ESPR project is 573 MW. The modified ESPR

project is expected to have an annual capacity factor ranging from 40-60%, depending on weather-related customer demand, load growth, hydro-electric supplies, generating unit retirements, and other factors.

Each of the proposed CTGs will be equipped with dry low-NOx combustors (DLN combustors), a selective catalytic reduction (SCR) system for the control of NOx emissions, and oxidation catalyst for the control of CO and VOCs. The existing 20,000-gallon ammonia (NH_3) storage tank at the facility (storing 29% aqueous ammonia) will be used to supply aqueous ammonia to the CTG SCR systems.

California Energy Commission (CEC) Jurisdiction

The CEC issued an approval of the ESPR project in February 2005. On June 19, 2007, El Segundo Power, LLC submitted an amendment petition to the CEC to allow for the project changes discussed above (i.e., change from General Electric to Siemens gas turbines, elimination of duct burners, use of dry cooling, etc). Consequently, the CEC will continue its jurisdiction over the ESPR project and will incorporate in its final decision on the amendment to the ESPR project the SCAQMD's revised final determination of compliance (FDOC) for this project. Therefore, this project is recognized as an amendment to the initial and original CEC Application for Certification (AFC) decision on the project and not as a new project AFC.

Enclosed as Appendix A are the SCAQMD application forms for the requested modifications to the ESPR project. The existing El Segundo Generating Station is subject to the federal Acid Rain and Title V requirements. In addition, the existing facility is a NOx Major Source and is in the NOx RECLAIM program. Consequently, these regulatory programs are addressed in this engineering evaluation.

Processing Fee Summary

El Segundo Power, LLC is submitting applications for two identical gas turbines/HRSGs and two identical SCR systems. While the modified ESPR project also includes two identical oxidation catalysts, these are dealt with as part of the SCR systems for fee purposes. Consequently, the identical equipment receives a 50% discount off of the original processing fee. The applicant also included a signed form 400-XPP and the appropriate fees for expedited permit processing. The total fees include the normal processing fees multiplied by 1.5 for expedited processing. A fee summary is shown in Table 1 below.

Table 1 – Summary of Permit Processing Fees

Equipment	Rule 301 Permit Processing Fee Schedule	Permit Processing Fee	Expedited Review Fee Multiplier	Total Amount
Gas turbine/HSRG number 1	G - Permit Processing	$11,671.96	1.5	$17,507.94
Gas turbine/HRSG number 2*	G - Permit Processing	$5,835.98	1.5	$8,753.97
SCR number 1	C - Permit Processing	$2,681.75	1.5	$4,022.63
SCR number 2*	C - Permit Processing	$1,340.88	1.5	$2,011.31
RECLAIM/Title V Permit Fee**		$1,394.73	1.5	$2,092.10
Total =				$34,387.94

Notes:
(*) Includes identical equipment 50% discount as allowed under Rule 301.c.1.F.
(**) Per Rule 301.k.5.

PROCESS DESCRIPTION

As discussed above, the requested changes to the ESPR project include the installation of two Siemens SGT6-5000F rapid response combined cycle gas turbines. Each unit will be equipped with an inlet air filter, an inlet air-cooling system, and steam power augmentation. The following table lists the technical specifications for the Siemens CTGs. Note the specifications in Table 2 below are for a single CTG.

Table 2 – Siemens SGT6-5000F Combustion-Turbine Generator Specifications

Parameter	Specifications
Manufacturer/Refurbishing Company	Siemens
Model	SGT6-5000F
Fuel Type	CPUC[1] Quality Natural Gas
Natural Gas Heating Value	1,027.7 BTU/scf
Gas Turbine Heat Input (HHV)	2096.0 MMBTU/hr at 77.8ºF ambient (peak load)
Fuel Consumption	2.0395 MMSCF/hr[2]
Gas Turbine Exhaust Flow	803,493 DSCFM at 77.8ºF ambient (peak load)
Gas Turbine Exhaust Temperature	361ºF at 77.8ºF ambient (peak load)
Gas Turbine Power Generation	219 MW (nominal - gross)

Definition of a Peaking Unit in Rule 2012

A traditional peaking unit is defined as a turbine which is used intermittently to produce energy on a demand basis and does not operate more than 1,300 hours per year. This definition is found in Rule 2012-Requirements for Monitoring, Reporting and Recordkeeping for Oxides of Nitrogen (NOx) Emissions, Attachment A-F as amended December 5, 2003. The ESPR project will have the potential to operate for approximately 5,456 hours/year during a non-commissioning year (this number includes start-up, shutdown, and normal operations). Since the annual hours of operation will exceed that which is allowed for a traditional peaking unit under Rule 2012, the Siemens CTGs will not be classified as official peaking units in the equipment descriptions. Each CTG is essentially a NOx Major Source as defined in Rule 2012.

Air Pollution Control (APC) System

The two CTGs will utilize two primary means for the reduction of NOx emissions. The CTGs will be equipped with DLN combustors with 1-hour average NOx concentrations of approximately 9 ppmv on a dry basis at 15% O_2 prior to entry to the selective catalytic reduction (SCR) units. On the back end, an SCR catalyst with ammonia injection will be used downstream of each CTG for further reduction of NOx emissions. As a result, the NOx emissions will be reduced to 2.0 ppmv, 1-hour average, dry basis at 15% O_2. The DLN combustors along with the oxidation

[1] PUC is the acronym for the California Public Utilities Commission
[2] Represents the maximum possible fuel consumption of the CTG, based on 2096.0 MMBTU/hr heat input and 1,027.7 BTU/scf fuel heat content

catalyst are expected to achieve CO emissions of 3.0 ppmv, 1-hour average, dry basis, at 15% O_2. The DLN combustors along with the oxidation catalyst are expected to achieve VOC emissions of 2.0 ppmv, dry basis at 15% O_2. SOx and PM_{10} emissions will be mitigated through the use of PUC-quality natural gas. Detailed descriptions of the air pollution control system are given in the next section. Tables 3 and 4 below show the specifications for the SCR and oxidation catalyst to be used for the CTGs.

Table 3 – Selective Catalytic Reduction Specifications

Catalyst Properties	Specifications
Manufacturer	Cormetech
Catalyst Description	Titanium/Vanadium/Tungsten with homogeneous honeycomb structure
Catalyst Dimensions	25 feet high, 70 feet wide
Catalyst Volume	2,050 ft^3
Catalyst Life	5 years
Space Velocity	23,000 hr^{-1}
Ammonia Injection Rate	88 lb/hr (at 29% NH3)
NOx removal efficiency	>90%
NOx at stack outlet	2.0 ppmv at 15% O_2
Maximum Operating Temperature	750ºF

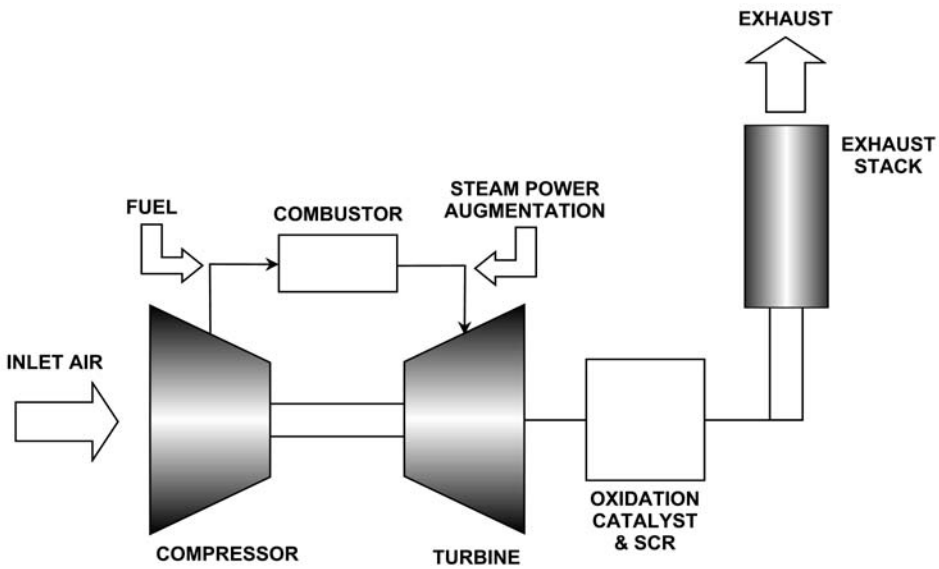
The SCR catalyst will use ammonia injection in the presence of the catalyst to reduce NOx. Diluted ammonia vapor will be injected into the exhaust gas stream via a grid of nozzles located upstream of the catalyst module. The subsequent chemical reaction will reduce NOx to elemental nitrogen (N_2) and water, resulting in NOx concentrations in the exhaust gas at no greater than 2.0 ppmvd at 15% O_2 on a 1-hour average.

Table 4 – Oxidation Catalyst Specifications

Catalyst Properties	Specifications
Manufacturer	Engelhard
Catalyst Description	Pt
Catalyst Dimensions	25 feet high, 70 feet wide
Catalyst Volume	290 ft^3
Catalyst Life	5 years
Space Velocity	218,000 hr^{-1}
Area Velocity	82,000 ft/hr
CO removal efficiency	>70%
CO at stack outlet	3.0 ppmv at 15% O_2
Maximum Operating Temperature	1,000ºF

The exhaust from each catalyst housing will be discharged from a 210-foot tall, 20-foot diameter exhaust stack. Individual CEMS sampling probes will be located in the stacks. Figure 1 below shows the process flow for the CTGs.

Figure 1
CTG Process Flow Diagram



Aqueous Ammonia Storage Tank

The ammonia will be transported to the site in aqueous form and will have a maximum concentration of 29% by weight. The aqueous ammonia will be stored in the existing 20,000-gallon ammonia storage tank at the El Segundo Generating Station (see Appendix B for a copy of the equipment description of this tank).

Heated Ammonia Vaporization Skid

The ammonia vaporization skids will be used to vaporize the 29% aqueous ammonia so that it can be transferred to the ammonia injection grids. The ammonia vaporization equipment will be shop-assembled and skid mounted for easy field installation.

During cold start-up of the CTGs, it will take some time (~10 minutes) before the ammonia injection chamber is hot enough to heat the ammonia for injection. Therefore, each ammonia injection chamber is equipped with an electric pre-heater unit which can be initiated prior to the cold start-ups to ensure that the ammonia is adequately heated prior to injection. The ammonia vaporization skids are typically configured with two dilution air fans (one operating and one spare) and two pre-heater elements (one operating and one spare) housed in a common heater box. In addition,

the aqueous ammonia is typically atomized in the ammonia injection chamber and is then fed to the ammonia distribution header.

Ammonia Distribution Header

A carbon steel ammonia distribution header will be used to receive the hot ammonia/air mixture from the ammonia vaporization skid and deliver it evenly to the ammonia injection grid piping. Typically, the injection grid supply piping is equipped with manual butterfly valves and flow instrumentation used for adequate balancing of ammonia flow.

Performance Warranties for CTGs

Enclosed as Appendix C is a copy of the emission performance confirmation provided by the CTG vendor.

CRITERIA POLLUTANT EMISSIONS

The total emissions for the ESPR project will include the summation of the two CTGs, however, for NSR purposes, the emissions are calculated on a per gas turbine basis. The emissions are based on the following formula and assumptions:

$$\text{EF(lb/MMBTU)} = \text{ppmvd} \times \text{MW} \times \left(\frac{1}{\text{SMV}}\right)\left(\frac{20.9}{5.9}\right) \times F_d$$

where,

ppmvd = Uncontrolled (or controlled) concentration at 15% O_2, dry basis
MW = Molecular weight, lb/lb-mol
SMV = Specific molar volume at 68ºF = 385.3 dscf/lb-mol
F_d = Dry oxygen f-factor for natural gas at 68ºF = 8,710 dscf/MMBTU

Assumptions:

1. Emissions are based on the worst case operating scenario
2. PM_{10} emissions are based on 9.5 lb/hr
3. SO_2 to SO_3 conversion in APC equipment is accounted for in the PM_{10} rate
4. SOx emissions are based on 0.75 grains/100 scf (short-term average) and 0.25 grains/100 scf (long-term average)
5. 30-Day Averages are based on 730 hours/month of operation

Detail of Operating Conditions

The applicant has identified several operating conditions (OC) in which the ambient temperature varies from a low of 41ºF to a high of 83ºF. The associated parameters are listed in the detailed operating information included in Appendix D.

The worst-case scenario from an emissions standpoint during normal operation occurs during periods of maximum fuel consumption (2,096 MMBTU/hr). Based on the information in Table 2, this occurs at peak load (with steam

power augmentation), ambient temperature of 77.8ºF, with evaporative cooler on, an inlet humidity of 49.6%. Therefore, to address the worst-case short-term (monthly, daily, hourly) normal operating scenario, the facility's NSR emissions will be based on these operating parameters. For annual emission estimates, the following operating scenario is used: baseload (no steam power augmentation), 1951 MMBtu/hr, temperature of 77.8ºF, with evaporative cooler on, an inlet humidity of 49.6%

There are essentially four modes of operation for the CTGs. Emissions from the four operating modes are distinctly different and must be calculated independently. The following table gives more detail of the four operating modes.

Table 5 – Operating Modes of the CTGs

Mode	Description
Commissioning	The process of fine-tuning each of the CTGs. Facility follows a systematic approach to optimize performance of the CTGs and the associated control equipment. Emissions are expected to be greater during commissioning than during normal operation for some pollutants. This mode affects only the initial year of operation.
Start-up	The applicant has indicated that there will be up to a maximum of two hours per day that could include a startup sequence for each CTG. Startup emissions are higher due to the fact that the control equipment has not reached optimal temperature to begin the chemical reactions needed to convert NOx to elemental nitrogen and water.
Normal Operation	Normal operation occurs after the CTGs and the control equipment are working optimally, at their designated levels, i.e. NOx emissions are controlled to 2.0 ppmvd at 15% O_2, CO emissions to 3.0 ppmv at 15% O_2, and VOC to 2.0 ppmvd at 15% O_2. Emissions may vary due to ambient conditions.
Shutdown	The applicant has indicated that there will be up to a maximum of two hours per day that could include a shutdown sequence for each CTG. Shutdown occurs at the initiation of the turbine shutdown sequence and ends with the cessation of CTG firing. Typically, the shutdown process will emit less than the start-up process but may emit slightly greater than during normal operation because NH_3 injection into the SCR reactor have ceased during part of this operation.

Commissioning Period

Gas turbine commissioning consists of zero load, partial load and full load testing performed immediately after construction for the purposes of optimizing gas turbine combustors and optimizing and testing of the SCR systems. Several parameters such as gas turbine load, degree of combustor tuning, and degree of SCR control may be varied simultaneously during testing at the discretion of the applicant. Emissions during the commissioning year (usually the first year of operation) may be higher than those during a non-commissioning year for some pollutants due to the fact that the combustors may not be optimally tuned and the SCR systems may be only partially operational or not operational at all. The applicant has allocated up to 415 operating hours of total commissioning per CTG. The

commissioning schedule will comprise five (5) distinct phases in which each of the CTGs will be operated at zero, 50% and full load while varying the degree of SCR and oxidation catalyst system control. It will be assumed that the commissioning of the units will be simultaneous to address the worst-case scenario. However, it may turn out that each unit is commissioning separately with the commissioning period for the second CTG beginning when the commissioning schedule for the first CTG is ending. The detailed commissioning schedule for each CTG is included as Appendix G.

Start-Up and Shutdown Emissions

The applicant expects that there will be up to 200 hours per year during which a CTG startup will occur. During a CTG startup, there are approximately 12 minutes with elevated emissions (emissions higher then during normal operation). Consequently, the hourly emission rates during CTG startups are based on 12 minutes of elevated emissions followed by 48 minutes of normal operating emission levels. The applicant has also indicated that there will be up to 200 hours per year during which a CTG shutdown will occur. During a CTG shutdown, there are approximately seven minutes with elevated emissions (emissions higher then during normal operation). Consequently, the hourly emission rates during CTG shutdowns are based on 53 minutes of normal operating emission levels followed by seven minutes of elevated emission levels. The applicant also expects that periodically there could be an hour when both a startup and shutdown occurs. For this hour, there would be 12 minutes of elevated emissions due to the startup, 41 minutes of normal operation emissions, followed by seven minutes of elevated emissions due to a shutdown. While this situation is expected to occur very infrequently, from an hourly emission standpoint this would represent worst case hourly emissions, and as such it is included in the ambient air impact analysis for the proposed project. The detailed CTG startup hourly emission calculations are shown in Appendix H. The applicant expects that there could be as many as two startup hours and two shutdown hours per day per CTG. During start-up/shutdown operations, the CTG is assumed to operate at elevated NOx and CO average concentration rates due to the phased-in effectiveness of the DLN combustors, SCR systems, and oxidation catalysts. Included as Appendix I are the CTG vendor supplied startup/shutdown emission levels for the Siemens CTGs.

Normal Operations

The emissions during normal operations are assumed to be fully controlled to Best Available Control Technology (BACT) levels, and exclude emissions due to commissioning, startup and shutdown periods, which are not subject to BACT levels. Hourly, monthly, annual, and 30-day averages are calculated and shown in Appendices D, E, and F.

Emissions During A Commissioning Year

Tables 6 through 8 below show the cumulative emissions during a commissioning year for the two CTGs which include commissioning, startup, shutdown and normal operation. Enclosed as Appendices D, E, and F are the detailed hourly, monthly, and annual emission calculations.

Table 6 – Mass Emission Rates, lb/hr (Commissioning Year)

Gas Turbine Cumulative Hourly Mass Emission Rates, lbs/hr (Commissioning Year)						
	NOx	CO	VOC	SOx	PM10	NH3
Normal Operations	30.88	28.20	10.74	8.74	19.00	28.53
Startup	149.41	1113.12	34.59	8.74	19.00	28.53
Shutdown	94.56	589.82	19.49	8.74	19.00	28.53
Commissioning	400.25	7625.25	327.50	8.74	19.00	28.53
Maximum =	400.25	7625.25	327.50	8.74	19.00	28.53

Table 7 – Mass Emission Rates, lb/month (Commissioning Year)

Gas Turbine Cumulative Monthly Mass Emission Rates, lbs/month (Commissioning Year)						
	CO	NOx	VOC	PM10	SOx	NH3
Startup	0.00	0.00	0.00	0.00	0.00	0.00
Commissioning	236,290.00	15,730.00	10,922.00	3,350.00	518.61	5,078.95
Normal	0.00	0.00	0.00	0.00	0.00	0.00
Shutdown	0.00	0.00	0.00	0.00	0.00	0.00
Total =	236,290.00	15,730.00	10,922.00	3,350.00	518.61	5,078.95

Table 8 – Mass Emission Rates, lb/year (Commissioning Year)

Gas Turbine Cumulative Annual Mass Emission Rates, lbs/year (Commissioning Year)						
	CO	NOx	VOC	PM10	SOx	NH3
Startup	166,967.5	22,412.0	6,918.7	3,800.0	582.7	5,706.7
Commissioning	260,674.0	24,956.0	13,904.0	7,822.0	1,209.1	11,841.4
Normal	121,812.4	133,413.6	24,966.4	88,179.0	12,586.2	123,262.6
Shutdown	88,472.4	14,184.1	3,897.8	3,800.0	582.7	5,706.7
Total =	637,926.3	194,965.6	49,686.8	103,601.0	14,960.7	146,517.3
Total (tons/year) =	319.0	97.5	24.8	51.8	7.5	73.3

Emissions During A Non-Commissioning Year

Tables 9 through 11 below show the cumulative emissions during a non-commissioning year for the two CTGs which include startup, shutdown and normal operation. Enclosed as Appendices D, E, and F are the detailed hourly, monthly, and annual emission calculations.

Table 9 – Mass Emission Rates, lb/hr (Non-Commissioning Year)

Gas Turbine Cumulative Hourly Mass Emission Rates, lbs/hr (Non-Commissioning Year)						
	NOx	CO	VOC	SOx	PM10	NH3
Normal Operations	30.88	28.20	10.74	8.74	19.00	28.53
Startup	149.41	1113.12	34.59	8.74	19.00	28.53
Shutdown	94.56	589.82	19.49	8.74	19.00	28.53
Maximum =	149.41	1113.12	34.59	8.74	19.00	28.53

Table 10 – Mass Emission Rates, lb/month (Non-Commissioning Year)

Gas Turbine Cumulative Monthly Mass Emission Rates, lbs/month (Non-Commissioning Year)						
	CO	NOx	VOC	PM10	SOx	NH3
Startup	25,045.12	3,361.80	1,037.81	570.00	87.41	856.00
Normal	18,892.47	20,691.75	7,197.13	12,730.00	1,952.06	19,117.38
Shutdown	13,270.86	2,127.61	584.66	570.00	87.41	856.00
Total =	57,208.45	26,181.16	8,819.60	13,870.00	2,126.87	20,829.39

Table 11 – Mass Emission Rates, lb/year (Non-Commissioning Year)

Gas Turbine Cumulative Annual Mass Emission Rates, lbs/year (Non-Commissioning Year)						
	CO	NOx	VOC	PM10	SOx	NH3
Startup	166,967.5	22,412.0	6,918.7	3,800.0	582.7	5,706.7
Normal	132,704.9	145,343.5	50,554.3	96,064.0	13,711.7	134,284.7
Shutdown	88,472.4	14,184.1	3,897.8	3,800.0	582.7	5,706.7
Total =	388,144.8	181,939.5	61,370.7	103,664.0	14,877.1	145,698.1
Total (tons/year) =	194.1	91.0	30.7	51.8	7.4	72.8

30-Day Averages

The 30-day average emissions are calculated in Appendix E for both a commissioning and non-commissioning year for the worst-case normal operating scenario. The hourly emission levels for the worst-case normal operating scenario are shown in Appendix D (77.8ºF ambient temperature, peak load).

Table 12 is a comparison of the 30-day averages *for a single permit unit* for both a commissioning year and a non-commissioning year. The maximum 30-day averages for each pollutant are shown in bold. Offset calculations will be based on the numbers shown in this table, and are shown later in this evaluation.

Table 12 – 30-Day Average (Permit unit)

	NOx[3]	CO	VOC	SOx	PM_{10}
30 Day Average – lbs/day (Commissioning Year)		**3,938**	**182**	9	56
30 Day Average – lbs/day (Non-Commissioning Year)		953	147	**35**	**231**

SCHOOL LOCATIONS

The El Segundo Generating Station is located at 301 Vista Del Mar Blvd., in El Segundo. The school located nearest to the facility, Richmond Elementary School, is approximately 0.8 miles away (well beyond 1,000 feet) from the site as measured by the Mapquest program found at *http://www.mapquest.com*. Five other schools that are located in the general vicinity of the facility are located even further away from the site, as shown in the table below.

[3] Since the ESPR project is an existing NOx RECLAIM facility, 30-day average emission levels are not applicable to NOx (annual NOx RTCs will be calculated for the project).

Table 13 – Schools in Project Area

Name of School	Address	Distance (Miles)
El Segundo High School	640 Main St., El Segundo	0.9
St. Anthony Catholic School	233 Lomita St., El Segundo	1.1
El Segundo Middle School	332 Center St., El Segundo	1.3
Center Street Elementary School	700 Center St., El Segundo	1.4
Grandview Elementary School	455 24th St., Manhattan Beach	1.8

PROHIBITORY RULE EVALUATION

RULE 212-Standards for Approving Permits

Rule 212 requires that a person shall not build, erect, install, alter, or replace any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants without first obtaining written authorization for such construction from the Executive Officer. Rule 212(c) states that a project requires written notification if there is an emission increase for ANY criteria pollutant in excess of the daily maximums specified in Rule 212(g), if the equipment is located within 1,000 feet of the outer boundary of a school, or if the MICR is equal to or greater than one in a million (1EE-6) during a lifetime (70 years) for facilities with more than one permitted unit, source under Regulation XX, or equipment under Regulation XXX, unless the applicant demonstrates to the satisfaction of the Executive Officer that the total facility-wide maximum individual cancer risk is below ten in a million (10EE-6) using the risk assessment procedures and toxic air contaminants specified under Rule 1402; or, ten in a million (10EE-6) during a lifetime (70 years) for facilities with a single permitted unit, source under Regulation XX, or equipment under Regulation XXX. The total facility wide residential MICR is expected to be less than 10EE-6, and the facility is located more than 1,000 feet from a school, however, since the emissions of criteria pollutants for the facility exceed the thresholds in Rule 212(g), a public notice is required in accordance with the requirements of Rule 212. A public notice will be issued followed by a 30-day public comment period prior to issuance of a permit.

RULE 401-Visible Emissions

This rule limits visible emissions to an opacity of less than 20% (Ringlemann No.1), as published by the United States Bureau of Mines. It is unlikely, with the use of natural gas, DLN combustors, and SCR systems that there will be visible emissions. However, in the unlikely event that visible emissions do occur, anything greater than 20% opacity is not expected to last for greater than three minutes. During normal operation, no visible emissions are expected. Therefore, based on the above and on experience with other CTGs, compliance with this rule is expected.

RULE 402-Nuisance

This rule requires that a person not discharge from any source whatsoever 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 cause, or have a natural tendency to cause injury or damage to business or property. The two new CTGs will be operated with natural gas, DLN combustors, and SCR systems to comply with BACT and are not expected to create a public nuisance based on experience with similar CTGs. Therefore, compliance with Rule 402 is expected.

RULE 403-Fugitive Dust

The purpose of this rule is to reduce the amount of particulate matter entrained in the ambient air as a result of man-made fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. The provisions of this rule apply to any activity or man-made condition capable of generating fugitive dust. This rule prohibits emissions of fugitive dust beyond the property line of the emission source. The applicant will be taking steps to prevent and/or reduce or mitigate fugitive dust emissions from the project site. Such measures include covering loose material on haul vehicles, watering, and using chemical stabilizers when necessary. The installation and operation of the CTGs is expected to comply with this rule.

RULE 407-Liquid and Gaseous Air Contaminants

This rule limits CO emissions to 2,000 ppmvd and SO_2 emissions to 500 ppmvd, averaged over 15 minutes. For CO, the CTGs will be required to meet the BACT limit of 3.0 ppmvd at 15% O_2, 1-hr average, and will be conditioned as such. For SO_2, equipment which complies with Rule 431.1 is exempt from the SO_2 limit in Rule 407. The applicant will be required to comply with Rule 431.1 and thus the SO_2 limit in Rule 407 will not apply.

RULE 409-Combustion Contaminants

This rule restricts the discharge of contaminants from the combustion of fuel to 0.23 grams per cubic meter (0.1 grain per cubic foot) of gas, calculated to 12% CO_2, averaged over 15 minutes. The equipment is expected to meet this limit based on the calculations shown below:

Estimated exhaust gas	=	803,057 DSCFM = 48.2 mmscf/hr (77.8ºF, peak load)
Maximum PM_{10} Emissions	=	9.5 lb/hr
Estimated CO_2 in exhaust	=	3%

$$\text{Grain Loading} = \frac{(9.5\ \text{lb/hr})(7000\ \text{gr/lb})}{48.2\text{EE6 scf/hr}} \times \frac{12}{3} = 0.0014\ \text{gr/dscf} << 0.1\ \text{gr/dscf}$$

RULE 431.1-Sulfur Content of Gaseous Fuels

The facility will use pipeline quality natural gas which will comply with the 16 ppmv sulfur limit, calculated as H_2S, specified in this rule. Natural gas supplied by the Gas Company also has a sulfur content of less than 0.75 gr/100 scf on a short-term basis and 0.25 gr/100scf on a long-term basis, which is equivalent to a sulfur concentration ranging from approximately 12 to 4 ppmv. Accordingly, compliance is expected.

RULE 474-Fuel Burning Equipment-Oxides of Nitrogen

Superseded by NOx RECLAIM.

RULE 475-Electric Power Generating Equipment

This rule applies to power generating equipment rated greater than 10 MW installed after May 7, 1976. Requirements specify that the equipment must comply with a PM_{10} mass emission limit of 11 lbs/hr or a PM_{10} concentration limit of 0.01 grains/dscf. Compliance is demonstrated if either the mass emission limit or the concentration limit is met. The PM_{10} mass emissions from each CTG is estimated to be 9.5 lbs/hr. The estimated grain loading is less than 0.01 grain/dscf (see calculations under Rule 409 analysis). Therefore, compliance is expected. Compliance will be verified through performance tests.

NEW SOURCE REVIEW (NSR) ANALYSIS

The following section describes the NSR analysis for the proposed installation of the two new CTGs. The facility can comply with NSR either by qualifying for various exemptions from or by demonstrating compliance with the following rules. Since the proposed new CTGs will be treated as installation of new equipment, there are no exemptions from any portions of NSR. Therefore each of the following NSR rules will apply. Each individual permit unit (in this case a permit unit is defined as one CTG) is evaluated for compliance with the rules in the table below.

Table 14 - Applicable NSR Rules for ESPR Project

Applicable NSR Rules for Non-RECLAIM Pollutants (CO, SOx, VOC, PM_{10})	Applicable NSR Rules for RECLAIM Pollutants (NOx)
Rule 1303(a)-BACT	Rule 2005(b)(1)(A)-BACT
Rule 1303(b)(1)-Modeling	Rule 2005(b)(1)(B)-Modeling
Rule 1303(b)(2)-Offsets	Rule 2005(b)(2)-Offsets
Rule 1303(b)(3)-Sensitive Zone Requirements	Rule 2005(e)-Trading Zone Restrictions
Rule 1303(b)(4)-Facility Compliance	Rule 2005(g)(1)-Statewide Compliance
	Rule 2005(g)(3)-Compliance through CEQA
	Rule 2005(h)-Public Notice
	Rule 2005(i)-Rule 1401 Compliance
	Rule 2005(j)-Compliance with Fed/State NSR

RULE 1303(a) and Rule 2005(b)(1)(A)-BACT – CTGs

Both rules state that the Executive Officer shall deny the Permit to Construct for any new source which results in an emission increase of any non-attainment air contaminant, any ozone depleting compound, or ammonia unless the applicant can demonstrate that BACT is employed for the new source. The new CTGs proposed for the ESPR project are new sources with a potential for an increase in emissions and therefore, BACT is required. As of the date of this evaluation, BACT for combined cycle gas turbines is shown in Table 15 below.

Table 15 - BACT Requirements for Combined Cycle Gas Turbines

NOx	CO	VOC	PM_{10}/SOx	NH_3
2.0 ppmvd, at 15% O_2, 1-hour average	3.0 ppmvd, at 15% O_2, 1-hour average	2.0 ppmvd, at 15% O_2, 1-hour average	Pipeline quality natural gas w/ S content ≤ 1 grain/100 scf	5.0 ppmvd at 15% O_2, 1-hour average

This information was based on a search of the District BACT Clearinghouse database. With the exception of CO, the new CTGs proposed for the ESPR project will therefore be required to comply with the above limits. For CO, on June 11, 2007 the SCAQMD was designated as a federal CO attainment area. As an attainment pollutant, the SCAQMD NSR rules would no longer require BACT for CO. While, BACT may not be required for CO under the NSR regulations, a CO level of 3 ppmvc is included in the design of the ESPR project.

A NOx CEMS will be used to verify compliance with the NOx BACT limit and a CO CEMS will be used to verify compliance with the CO limit. The new CTGs are expected to comply with BACT and will be verified by performance tests performed after the commissioning phase of the project is complete.

RULE 1303(b)(1) and Rule 2005(b)(1)(B) - Modeling

The air dispersion modeling was conducted using the EPA Industrial Source Complex Short Term (ISCST3) air dispersion model, version 02035. The modeling analysis considered the effects of both simple and complex terrain, inversion break-up and shoreline fumigation impacts were also considered. Building downwash effects were also taken into account in the analysis by implementing the Building Profile Input Program (BPIP). Surface meteorological data including hourly wind speeds and direction collected at the Lennox Monitoring Station during 1981 was used for the analysis. Upper air meteorological data including atmospheric stability and mixing heights collected from the Los Angeles Airport monitoring station was also used for the analysis. The most stringent ambient air quality standards are shown in the following table. This table also includes the allowable change in concentration for each pollutant shown in Table A-2 of AQMD Rule 1303. The appropriate averaging times are also listed in this table.

Table 16 - Most Stringent Ambient Air Quality Standard and Allowable Change in Concentration For Each Air Contaminant/Averaging Time Combination

Air Contaminant	Averaging Time	Most Stringent Air Quality Standard		Significant Change in Air Quality Concentration	
Nitrogen Dioxide	1-hour	0.18 ppm	338 μg/m^3	1 ppm	20 μg/m^3
	Annual	0.03 ppm	56 μg/m^3	0.05 ppm	1 μg/m^3
Carbon Monoxide	1-hour	20 ppm	23,000 μg/m^3	1 ppm	1,100 μg/m^3
	8-hour	9.0 ppm	10,000 μg/m^3	0.45 ppm	500 μg/m^3
Sulfur Dioxide	1-hour	0.25 ppm	650 μg/m^3	N/A	N/A
	3-hour	0.5 ppm	1,300 μg/m^3	N/A	N/A
	24-hour	0.04 ppm	109 μg/m^3	N/A	N/A
	Annual	0.03 ppm	80 μg/m^3	N/A	N/A
Suspended Particulate Matter <10μm (PM_{10})	24-hour		50 μg/m^3		2.5 μg/m^3
	Annual		20 μg/m^3		1 μg/m^3
Sulfate	24-hour		25 μg/m^3		1 μg/m^3
Fine Particulate Matter < 2.5μm ($PM_{2.5}$)	24-hour[4]		35 μg/m^3		N/A
	Annual		12 μg/m^3		N/A

The applicant is required under Rule 1303(b)(1) to demonstrate compliance with one of the following requirements: (a) The most stringent air quality standard shown in Table 16 above, or (b) The significant change in air quality concentration standards shown in Table 16 above, if the most stringent air quality standards are exceeded. The applicant has provided the following modeled maximum project impacts for each individual CTG. Therefore, the numbers in the table below are on a permit unit basis. Each individual CTG plus the background concentration is less than the most stringent standard.

[4] Based on 98th percentile.

Table 17 - Maximum Project Impacts for Attainment Pollutants

	Average	Impact CTG No.1 (Unit 5) ($\mu g/m^3$)	Impact CTG No.2 (Unit 7) ($\mu g/m^3$)	Bkgrnd ($\mu g/m^3$)	Combined CTG No.1 (Unit 5) ($\mu g/m^3$)	Combined CTG No.2 (Unit 7) ($\mu g/m^3$)	Most Stringent Standard ($\mu g/m^3$)	Comply (Yes/No)
NO_2	1-hr	58.8	59.2	162	221	221	338	Yes
	Annual	0.14	0.15	38	38	38	56	Yes
SO_2	1-hr	1.52	1.52	110	112	112	655	Yes
	3-hr	0.79	0.79	87	88	88	1,300	Yes
	24-hr	0.15	0.15	31	31	31	105	Yes
	Annual	0.01	0.01	13	13	13	80	Yes
CO	1-hr	1,120	1,128	4,600	5,720	5,728	23,000	Yes
	8-hr	524	504	2,645	3,169	3,149	10,000	Yes
$PM_{2.5}$	24-hr	0.64	0.63	46	47	47	35	Yes[5]
	Annual	0.085	0.087	18	18	18	12	Yes

Since PM_{10} is a non-attainment pollutant, it is required to comply with the 24-hour and annual PM_{10} significance levels in the table below. This table shows that the impacts on a per unit basis for the CTGs are below the 24-hour and the annual significance levels.

Table 18 - Significance Modeling for Non-Attainment Pollutants, ($\mu g/m^3$)

Equipment	24-hour PM_{10} Concentration	24-hour PM_{10} Significance Level	Annual PM_{10} Concentration	Annual PM_{10} Significance Level	Comply (Yes/No)
CTG No. 1 (Unit 5)	0.64	2.5	0.085	1	Yes
CTG No. 2 (Unit 7)	0.63	2.5	0.087	1	Yes

RULE 1303(b)(2) and Rule 2005(b)(2)-Offsets

The ESPR project will be required to provide offsets for any criteria pollutants for which the facility shows an increase above the limits in Rule 1304(d)(1). NOx RTCs will also be required for this project in the amounts shown in the analysis below. The amount shown below for the 1st year must be secured prior to the issuance of the revised ESPR Facility Permit. Note that for NOx RTCs, the offset ratio is on a 1-to-1 basis. Enclosed as Appendix J are the detailed NOx RTC calculations.

[5] For this pollutant existing background ambient levels exceed the most stringent standards. The project impacts alone are well below the standards. In addition, the project impacts are well below the SCAQMD significance levels for PM_{10} of 2.5 $\mu g/m^3$ (24-hour avg.) and 1.0 $\mu g/m^3$ (annual avg.).

Table 19 - Required NOx RTCs (1st Year)

Operating Condition 100	Hours per Year	NOx (lb/hr)	NOx (lb/year) per device	NOx (lb/year) cumulative
CTGs				
Startup	200	56.03	11,205.99	22,411.97
Shutdown	200	35.46	7,092.03	14,184.05
Normal Operation	4,641	14.37	66,706.80	133,413.59
Commissioning	415	30.07	12,478.00	24,956.00
CTG Totals			97,482.81	194,965.62
Total 1st Year Emissions (lb/year)			97,482.81	194,965.62
Offset Ratio			1.00	1.00
1st year RTCs (lb/year)			**97,482.81**	**194,965.62**

Table 20 - Required NOx RTCs (2nd Year)

Operating Condition 100	Hours per Year	NOx (lb/hr)	NOx (lb/year) per device	NOx (lb/year) cumulative
CTGs				
Startup	200	56.03	11,205.99	22,411.97
Shutdown	200	35.46	7,092.03	14,184.05
Normal Operation	5,056	14.37	72,671.74	145,343.49
Commissioning	0	47.89	0.00	0.00
CTG Totals			90,969.76	181,939.51
Total 2nd Year Emissions (lb/year)			90,969.76	181,939.51
Offset Ratio			1.00	1.00
2nd year RTCs (lb/year)			**90,969.76**	**181,939.51**

The following tables summarize the amount of ERC's that have been acquired for the operation of the ESPR project.

Table 21 – SO_2 ERCs Purchased

Certificate Number	Amount (lbs/day)	Pollutant
AQ003333	17	SO_2
AQ003336	19	SO_2
AQ006561	9	SO_2
Total =	45	SO_2

Table 22 – VOC ERCs Purchased

Certificate Number	Amount (lbs/day)	Pollutant
AQ006559	6	VOC
AQ004686	25	VOC
AQ004580	20	VOC
AQ003722	95	VOC
Total =	146	VOC

Table 23 – PM_{10} ERCs Purchased

Certificate Number	Amount (lbs/day)	Pollutant
AQ003352	6	PM_{10}
AQ003462	2	PM_{10}
AQ003550	2	PM_{10}
AQ003568	3	PM_{10}
AQ004145	1	PM_{10}
AQ004322	5	PM_{10}
AQ004323	3	PM_{10}
AQ004326	2	PM_{10}
Total =	24	PM_{10}

Compliance with offset requirements of Rules 1303(b)(2) must be demonstrated prior to issuance of a revised Facility Permit for the El Segundo Generating Station. The amounts in Table 24 are required to fully offset the emission increases and satisfy the requirements of Rule 1303(b)(2): Offsets are based upon the 30-day averages from individual permit units. Thus, the amounts shown in Table 24 are on a permit unit basis. Since the El Segundo Generating Station is an existing NOx RECLAIM facility, the proposed project's NOx emissions will be offset with RTCs, and are not shown in Table 24. Offsets for the remaining pollutants will come from the ERCs obtained for the ESPR project. Any additional ERCs that are needed will be obtained from the SCAQMD's Priority Reserve.

The transactions are shown for each CTG in Table 24. As with the ESPR project when permitted in 2001, the ERCs required for the proposed new Siemens CTGs are based the provisions of Rule 1304.a.2 for the replacement of utility boilers with combined cycle gas turbine technology. Enclosed as Appendix K are the detailed ERC calculations which are based on the provisions of Rule 1304.a.2.

Table 24 – Offset Analysis (lb/day)

CTG No. 1 (Unit 5) (Commissioning Month)

	NOx	CO	VOC	SOx	PM_{10}
Maximum 30 Day Average		1,533	71	3	22
Offset Ratio		1.2	1.2	1.2	1.2
Required offsets		1,840	85	4	26
ERCs obtained for project		0	146	45	24
ERC Surplus/Shortfall		1,840	-61	-41	2
ERCs Needed from SCAQMD Priority Reserve		0	0	0	2
Remaining ERCs to Acquire		0	0	0	0

CTG No. 2 (Unit 7) (Commissioning Month)

	NOx	CO	VOC	SOx	PM_{10}
Maximum 30 Day Average		1,533	71	3	22
Offset Ratio		1.2	1.2	1.2	1.2
Required offsets		1,840	85	4	26
ERCs obtained for project		0	61	41	0
ERC Surplus/Shortfall		1,840	24	-37	26
ERCs Needed from SCAQMD Priority Reserve		0	0	0	26
Remaining ERCs to Acquire		0	24	0	0

CTG No. 1 (Unit 5) (Non-Commissioning Month)

	NOx	CO	VOC	SOx	PM_{10}
Maximum 30 Day Average		371	57	14	90
Offset Ratio		1.2	1.2	1.2	1.2
Required offsets		445	68	17	108
ERCs obtained for project		0	146	45	24
ERC Surplus/Shortfall		445	-78	-28	84
ERCs Needed from SCAQMD Priority Reserve		0	0	0	84
Remaining ERCs to Acquire		0	0	0	0

CTG No. 2 (Unit 7) (Non-Commissioning Month)

	NOx	CO	VOC	SOx	PM_{10}
Maximum 30 Day Average		371	57	14	90
Offset Ratio		1.2	1.2	1.2	1.2
Required offsets		445	68	17	108
ERCs obtained for project		0	78	28	0
ERC Surplus/Shortfall		445	-10	-11	108
ERCs Needed from SCAQMD Priority Reserve		0	0	0	108
Remaining ERCs to Acquire		0	0	0	0

The total amount of offsets required for the project will be the sum of the required offsets for the two individual CTGs. The VOC increase will be offset with the 146 lb/day of ERCs procured for the ESPR project. For VOC, the commissioning period results in the maximum VOC ERC requirement. During this period there will be a VOC ERC shortfall of approximately 24 lbs/day. Since this shortfall is temporary and only occurs during the commissioning period, the required additional VOC ERCS will be obtained by the purchase of short-term ERCs either available on the open market or created at an NRG power plant. The PM_{10} increase will be offset with the 24 lbs/day of ERCs obtained for the ESPR project. For PM_{10}, the non-commissioning period results in the maximum PM_{10} ERC requirement. During this period there will be a PM_{10} ERC deficit of 192 lbs/day that will be procured from the SCAQMD Priority Reserve. The SOx increase will be offset with the 45 lbs/day of ERCs procured for the ESPR project. For SOx, the non-commissioning period results in the maximum SOx ERC requirement. There is no SOx ERC shortfall for the proposed project. For CO, the commissioning period results in the maximum CO ERC requirement. For the CO increase, while the above table shows calculated ERCs amounts, the required amount is set to zero due to the recent change in the federal CO attainment status for the SCAQMD. On June 11, 2007 the SCAQMD was designated as a federal CO attainment area. As an attainment pollutant, the SCAQMD NSR rules would no longer require CO emission offsets.

In July 2007 the SCAQMD board is expected to approve an amended version of Rule 1309.1 (Priority Reserve). Under the amended version of Rule 1309.1, the ESPR project will continue to qualify as an Electrical Generating Facility (EGF) based on the version of Rule 1309.1 in effect when the permit application package for the ESPR project was deemed complete by the SCAQMD (January 19, 2001). Also under the amended version of Rule 1309.1 the priority reserve mitigation fees will be based on the version of Rule 1309.1 in effect when the ESPR project was issued the SCAQMD permit (FDOC for ESPR project issued on February 14, 2002). Accordingly, the main impact of the amendment to Rule 1309.1 for the ESPR project is that the offset ratio for credits obtained from the SCAQMD Priority Reserve will increase from 1.0 to 1.0 to 1.2 to 1.0. The above emission offset summary table accounts for this change to the Priority Reserve offset ratio. Enclosed as Appendix L is a copy of an email from the SCAQMD confirming how the ESPR project qualifies for the various allowances under the amended version of Rule 1309.1. Further, because the ESPR project is an amendment of the original CEC Application for Certification and a project modification of the original application for a Permit to Construct with the District, both initially submitted in December 2000, the appropriate Priority Reserve Mitigation Fees for the ESPR project are as stated in Rule 1309.1(g)(1)(A).

Offset Summary

The applicant has indicated that the required amounts of offsets will be provided for each CTG prior to issuance of the revised Facility Permit for the El Segundo Generating Station. Therefore, compliance with offset requirements of Rules 1303(b)(2) is expected.

RULES 1303(b)(3)-Sensitive Zone Requirements and 2005(e)-Trading Zone Restrictions

Both rules state that credits must be obtained from the appropriate trading zone. In the case of Rule 1303(b)(3), facilities located in the South Coast Air Basin are subject to the Sensitive Zone requirements specified in Health & Safety Code Section 40410.5. The El Segundo Generating Station is located in Zone 1a and is therefore eligible to obtain its ERCs from Zone 1 only. Similarly in the case of Rule 2005(e), the facility, because of its location may obtain RTCs from Zone 1 only. Compliance is expected because the ERCs and RTCs obtained for the EPSR project were from Zone 1 sources.

RULE 1303(b)(4)-Facility Compliance

The new facility will comply with all applicable Rules and Regulations of the AQMD.

RULE 1303(b)(5)-Major Polluting Facility

Compliance with these requirements is discussed below under Rule 2005.g.

Rule 1401 – New Source Review of Toxic Air Contaminants

This rule specifies limits for maximum individual cancer risk (MICR), acute hazard index (HIA), chronic hazard index (HIC) and cancer burden (CB) from new permit units, relocations, or modifications to existing permits which emit toxic air contaminants. Rule 1401 requirements are summarized as follows:

Table 25 – Rule 1401 Requirements

Parameters and Specifications	Rule 1401 Requirements
MICR, without T-BACT	$\leq 1x10^{-6}$
MICR, with T-BACT	$\leq 1x10^{-5}$
Acute Hazard Index	≤ 1.0
Chronic Hazard Index	≤ 1.0
Cancer Burden	≤ 0.5

Enclosed as Appendix M are the detailed non-criteria pollutant emission calculations for the new CTGs. Based on these emission rates, the applicant performed a Tier 4 health risk assessment using the Hot Spots Analysis and Reporting Program (HARP). The analysis included an estimate of the MICR for the nearest residential and commercial receptors, and the acute and chronic hazard indices on a per unit basis. Table 26 below is a summary of

the cancer and non-cancer risk assessment results on a per CTG basis. The cancer burden is not calculated for the individual unit impacts because the MICR is less than 1 x 10^{-6} for both residential and commercial receptors.

Table 26 – Rule 1401 Modeled Results

Risk Parameter	Residential	Commercial	Rule 1401 Requirements	Compliance (Yes/No)
CTG 1 (Unit 5)				
MICR	4.00 x 10^{-8}	1.28 x 10^{-8}	≤ 1 x 10^{-6}	Yes
HIA	1.53 x 10^{-2}	1.53 x 10^{-2}	≤ 1.0	Yes
HIC	2.42 x 10^{-3}	4.02 x 10^{-3}	≤ 1.0	Yes
CTG 2 (Unit 7)				
MICR	4.05 x 10^{-8}	1.31 x 10^{-8}	≤ 1 x 10^{-6}	Yes
HIA	1.54 x 10^{-2}	1.54 x 10^{-2}	≤ 1.0	Yes
HIC	2.45 x 10^{-3}	4.13 x 10^{-3}	≤ 1.0	Yes

Table 26 shows that ESPR project will comply with the applicable requirements of Rule 1401. Enclosed as Appendix Q, are the complete results of the HARP modeling along with figures showing the locations of the HARP impacts.

Rule 2005(g) – Additional Requirements

As with Rule 1303(b)(5) for the Non-RECLAIM pollutants, the applicant has addressed the alternative analysis, statewide compliance, protection of visibility, and CEQA compliance requirements of this rule for NOx. These requirements are summarized below.

Rule 2005(g)(1) – Statewide Compliance
The applicant submitted a letter to the AQMD on June 13, 2007 stating that any and all facilities that El Segundo Power, LLC owns or operates in the State of California (including the proposed ESPR project) are in compliance or are on a schedule for compliance with all applicable emission limitations and standards under the Clean Air Act. Therefore, compliance is expected. This letter is attached as Appendix R.

Rule 2005(g)(2) – Alternative Analysis
Requires the applicant to conduct an analysis of alternative sites, sizes, production processes, environmental control techniques for the ESPR project and to demonstrate that the benefits of the proposed project outweigh the environmental and social costs associated with this project. The ESPR project is exempt from this requirement per Rule 2005(g)(3)(C).

Rule 2005(g)(3) – Compliance through CEQA
The California Energy Commission (CEC) is the lead agency for this project and will be conducting their CEQA analysis with input from interested parties/agencies. As part of this CEQA analysis, they will be issuing an amendment to the CEC Decision for the ESPR project. Compliance is expected.

Rule 2005(g)(4) – Protection of Visibility
Modeling is required if the source has a NOx potential to emit (PTE) exceeding 40 TPY and is located within specific distances from several Federal Class I areas in and around the South Coast Air Basin. These distances are listed in Table 4-1 of Rule 2005. Since the Federal Class I areas are located well beyond the distances specified in Table 4-1, modeling for plume visibility is not required for this project.

Rule 2005(h) – Public Notice

The applicant will comply with the requirements for Public Notice found in Rule 212. Therefore compliance with Rule 2005(h) is demonstrated.

Rule 2005(i) – Rule 1401 Compliance.

The applicant will comply with Rule 1401 as demonstrated in the Tier 4 analysis and subsequently reviewed and found to be satisfactory by AQMD modeling staff. Compliance is expected.

Rule 2005(j) – Compliance with State and Federal NSR.

The applicant will comply with the provisions of this rule by having demonstrated compliance with AQMD NSR Regulations XIII (non-RECLAIM) and Rule 2005-(RECLAIM).

REGULATION XVII-Prevention of Significant Deterioration

The District Governing Board in its action on February 7, 2003, authorized the Executive Officer, upon withdrawal of the EPA PSD delegation, not to request any further delegation and to allow the EPA to terminate the AQMD's PSD delegation agreement and for EPA to become the permitting agency for PSD sources in the AQMD. The Board determined that Regulation XVII is inactive upon EPA's withdrawal of delegation and shall remain inactive unless and until the EPA provides the AQMD with new delegation of authority to act either in full or on a Facility/Permit-Specific basis. The delegation was rescinded on March 3, 2003 by EPA.

The District Governing Board in its April 1, 2005 meeting reaffirmed its previous action on February 7, 2003 to relinquish PSD analysis back to federal government and render Regulation XVII inactive unless the District receives new delegation in part or in full from the EPA.

Based on the Governing Board's actions, this rule is ineffective and no analysis is required for any pollutant subject to federal PSD requirement. The AQMD has sent the applicant a notification to contact the EPA directly for applicability of PSD to the proposed project. The applicant expects the ESPR project to be exempt from PSD review for the following reason.

The proposed ESPR project is a modification to an existing major facility. Therefore, to determine whether the ESPR project will trigger PSD review, it is necessary to compare the net emission changes associated with the ESPR project to the PSD significant levels. Since a final PSD permit has not yet been issued for the ESPR project, the ESPR permit application package submitted to the SCAQMD in December 2000 remains an open permit application package for PSD purposes. Accordingly, the net emission change calculations for PSD applicability purposes needs to include any increases or decreases in emissions that occurred at the El Segundo Generating Station during the

period starting on December 1995 (i.e., five years prior to the submittal date of the ESPR project PSD permit application) and ending when construction begins on the new CTGs. This time period includes the shutdown of existing boiler Units 1 and 2 which occurred at the end of 2002. Consequently, the emission reductions from the shutdown of Units 1 and 2 is included in the PSD net emission change calculations. The PSD net emission changes are summarized below in Table 27. As shown in this table, the ESPR project will not have a significant net emission increase for any pollutant. Consequently, the ESPR project is not subject to PSD review. Because the project area is classified as a federal nonattainment area for PM_{10} and ozone, the PSD regulations do not apply to PM_{10} or VOC emissions. Enclosed as Appendix N are the detailed baseline emission calculations for Units 1 and 2.

Table 27 – Net Emission Change for PSD Purposes (tons/year)

	NOx	SOx	CO	VOC	PM_{10}
ESPR Project	91.0	7.4	194.1	N/A	N/A
Emission Decrease for Units 1 and 2	-396.2	-1.8	-223.2	N/A	N/A
Net Emission Change	-305.2	-5.6	-29.1	N/A	N/A
PSD Significance Levels[6]	40	40	100	N/A	N/A
PSD Review Required?	No	No	No	N/A	N/A

INTERIM PERIOD EMISSION FACTORS

RECLAIM requires that a NOx emission factor be used for reporting emissions during the interim reporting period. The interim period is defined as a period typically 12 months in duration, when the CEMS has not been certified. During this period, the emissions cannot be accurately or officially quantified, monitored, or verified. The interim reporting period can be broken down into the two parts which includes (a) the commissioning period in which an uncontrolled[7] emission rate is assumed, and (b) the remaining period at which controlled rates at BACT are assumed.

Since the El Segundo Generating Station is an existing NOx RECLAIM facility, an interim period emission factor for NOx will be determined. Although not a RECLAIM pollutant, a CO emission factor will also be calculated so that the applicant may use it to report emissions during the interim period when the CEMS is not yet certified for CO. In the event CEMS data is not available, NOx, and CO emissions during the interim period will be calculated using monthly fuel usage and the emission factors derived below. There will be two interim period emission factors calculated for NOx and two interim period emission factors calculated for CO. The first factor will be for use during commissioning stage when the CTGs are assumed to be operating at uncontrolled levels and the second factor will be for use after commissioning is complete and the CTGs are assumed to operate at BACT levels and the CEM system has not yet achieved preliminary certification. The specific calculations are shown in Appendix O and the results are shown in the Tables 28 and 29 below.

[6] Per 40 CFR 52.21.b.23.
[7] The emission factor for the commissioning period is an average for the entire 415 hour commissioning period (per CTG). During this period, the CTG may be uncontrolled, partially controlled, or 100% controlled.

Table 28 – Emission Factors During Commissioning Period, Per Unit

Pollutants	NOx	CO
Total emissions (lbs)	12,478	130,337
Total Fuel (mmscf)	754	754
Emission Factor (lb/mmscf)	**16.55**	**172.89**

Table 29 – Emission Factors During Non-Commissioning Period, Per Unit

Pollutants	NOx	CO
Total emissions (lbs/year)	90,970	194,072
Total Fuel (mmscf/year)	10,041	10,041
Emission Factor (lb/mmscf)	**9.06**	**19.33**

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The California Energy Commission is the lead agency for this project, and will be addressing CEQA compliance.

40CFR Part 60 Subpart GG – NSPS for Stationary Gas Turbines

The CTGs proposed for installation at the El Segundo Generating Station are subject to the requirements of 40CFR60 Subpart KKKK, and are exempt from 40CFR60 Subpart GG per 40 CFR60 Subpart KKKK, §60.4305 (b).

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

Subpart KKKK establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines with a heat input greater than 10 MMBTU/hr (10.7 gigajoules per hour), based on higher heating value, which commenced construction, modification or reconstruction after February 18, 2005.

§60.4320(a) Each CTG is natural gas-fired and has a heat input > 850 MMBTU/hr, therefore, it is subject to a NOx emission limit of 15 ppmv @ 15% O_2 from Table 1 of this subpart. The CTGS are required to comply with BACT for NOx which is officially at 2.0 ppmv at 15% O_2, dry basis for a combined cycle unit. It is anticipated that the CTGs will meet a NOx level of 2.0 ppmv or less at 15% O_2 on a 1-hour average which is more stringent than this subpart. Therefore, compliance with this section is expected.

§60.4330(a)(2) Natural gas fuel burned in the CTGs results in SOx emission factors of 0.00209 lb-SO_2/MMBtu (short-term 0.75 gr/100 scf) and 0.00069 lb-SO_2/MMBtu (long-term 0.25 gr/100 scf), which are less than 0.06 lb-SO_2/MMBTU (26 ng-SO_2/J) required by this section. Therefore, compliance with the sulfur dioxide limits of this section is expected.

§60.4335 The CTGs will use DLN combustors and SCR systems to reduce NOx to compliance levels. Monitoring is required and will be accomplished with a CEMS; therefore, compliance with this section is expected with a certified CEMS.

§60.4345 The CEMS is required to be certified according to the Performance Specification 2 (PS 2) in appendix B to this part. SCE will be required to file a CEMS application package with Source Test Engineering to certify the CEMS to meet the requirements of Rule 218 or 40CFR60 appendix B. Therefore, compliance with this section is expected.

§60.4400(a) An initial source test will be required per §60.8. The annual source testing requirement for NOx will be satisfied through the annual RATAs performed on the CEMS. Compliance with the source testing requirements is expected.

40CFR Part 72 – Acid Rain Provisions

The El Segundo Generating Station is subject to the requirements of the federal Acid Rain program because the electricity generated will be rated at greater than 25 MW. This program is similar to RECLAIM in that facilities are required to cover SO_2 emissions with SO_2 allowances that are similar in concept to RTC's. SO_2 allowances are however, not required in any year when the unit emits less than 1,000 lbs of SO_2. Facilities with insufficient allowances are required to purchase SO_2 credits on the open market. In addition, both NOx and SO_2 emissions will be monitored and reported directly to USEPA. Based on the above, compliance with this rule is expected.

REGULATION XXX – Title V

The El Segundo Generating Station is a Title V facility because the cumulative emissions will exceed the Title V major source thresholds and because it is also subject to the federal acid rain provisions. The ESPR project will require a modification to the Title V permit for the El Segundo Generating Station. This Title V modification will be processed and the required public notice will be sent along with the Rule 212(g) Public Notice, which is also required for this project. EPA is afforded the opportunity to review and comment on the project within a 45-day review period.

OVERALL EVALUATION / RECOMMENDATION(S)

Issue a Facility Permit to Construct for the proposed ESPR project.

ESPR PROJECT
List of Appendices

- **APPENDIX A – SCAQMD FORMS**
- **APPENDIX B – AMMONIA TANK DESCRIPTION**
- **APPENDIX C – CTG VENDOR EMISSION LETTER**
- **APPENDIX D – HOURLY EMISSION CALCULATIONS**
- **APPENDIX E – MONTHLY EMISSION CALCULATIONS**
- **APPENDIX F – ANNUAL EMISSION CALCULATIONS**
- **APPENDIX G – CTG COMMISSIONING SCHEDULE**
- **APPENDIX H – CTG STARTUP/SHUTDOWN EMISSION CALCULATIONS**
- **APPENDIX I – CTG VENDOR STARTUP/SHUTDOWN EMISSIONS**
- **APPENDIX J – NOx RTC CALCULATIONS**
- **APPENDIX K – ERC CALCULATIONS**
- **APPENDIX L – SCAQMD RULE 1309.1 EMAIL**
- **APPENDIX M – NON-CRITERIA POLLUTANT EMISSION CALCULATIONS**
- **APPENDIX N – BOILER UNITS 1 AND 2 BASELINE EMISSION CALCULATIONS**
- **APPENDIX O – EMISSION FACTOR CALCULATIONS**
- **APPENDIX P – AIR QUALITY IMPACT ANALYSIS**
- **APPENDIX Q – HARP MODELING RESULTS**
- **APPENDIX R – 2005(g)(1) COMPLIANCE CERTIFICATION**

APPENDIX A

SCAQMD APPLICATION FORMS

South Coast Air Quality Management District

Form 400-A

Application For Permit To Construct and Permit To Operate

Mail Application To:
P.O. Box 4944
Diamond Bar, CA 91765

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

Section A: Operator Information

1. Business Name of Operator To Appear On The Permit: El Segundo Power, LLC

2. Valid AQMD Facility ID (Available on Permit or Invoice issued by AQMD): 115663

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

Section B: Equipment Location

4. Equipment Location Address:
For equipment operated at various locations in AQMD's jurisdiction, provide address of initial site

301 Vista Del Mar
Street Address

El Segundo — CA, — 90245
City — State — Zip Code

County: (•) Los Angeles ( ) Orange ( ) San Bernardino ( ) Riverside

Contact Name: Steve Odabashian (steven.odabashian@)

Contact Title: Envir. Engineer — Phone: (310) 615-6331

Fax: (310) 615-6060 — E-Mail: see above @nrgenergy.com

Section C: Permit Mailing Address

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

Street Address

City — State — Zip Code

Contact Name:

Contact Title: — Phone:

Fax: — E-Mail:

Section D: Application Type

The facility is in ( ) RECLAIM ( ) Title V (•) RECLAIM & Title V Program (please check if applicable)

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

- (•) New Construction (Permit to Construct)
- ( ) Equipment Operating Without A Permit or Expired Permit*
- ( ) Administrative Change
- ( ) Equipment On-Site But Not Constructed or Operational
- ( ) Title V Application (Initial, Revisions, Modifications, etc.)
- ( ) Compliance Plan
- ( ) Facility Permit Amendment
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

- ( ) Permitted Equipment Altered/ Modified Without Permit Approval*
- ( ) Proposed Alteration/Modification to Permitted Equipment
- ( ) Change of Condition For Permit To Operate
- ( ) Change of Condition For Permit To Construct
- ( ) Change of Location—Moving to New Site

Existing Or Previous Permit/Application Number:
(If you checked any of the items in this column, you MUST provide a existing Permit/ Application Number)

* A Higher Permit Processing Fee applies to those items with an asterisk (Rule 301 (c) (1) (D)

7. Estimated Start Date of Operation/Construction (MM/DD/YYYY): 12/01/2007

8. Description of Equipment:
CTG 2 (Unit 7) -- SCR and oxidation catalyst systems

9. Is this equipment portable AND will it be operated at different locations within AQMD's jurisdiction? (•) No ( ) Yes

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

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

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

Section E: Facility Business Information

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

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

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

16. Are there any schools (K-12) within a 1000-ft. radius of the equipment physical location? (•) No ( ) Yes

Section F: Authorization/Signature

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

17. Signature of Responsible Official: Keith A Richards

18. Title: President

19. Print Name: Keith Richards

20. Date: 6/13/07

Check List

- [X] Form(s) signed and dated by authorized official
- [X] Supplemental Equipment Form (400-E-XX or 400-E-GEN)
- [X] CEQA Form (400-CEQA) attached
- [X] Payment for permit processing fee attached

Your application will be rejected if any of the above items are missing.

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

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South Coast Air Quality Management District

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Section B: Equipment Location

4. Equipment Location Address:
For equipment operated at various locations in AQMD's jurisdiction, provide address of initial site

301 Vista Del Mar
Street Address

El Segundo — CA, — 90245
City — State — Zip Code

County: (•) Los Angeles ( ) Orange ( ) San Bernardino ( ) Riverside

Contact Name: Steve Odabashian (steven.odabashian@)

Contact Title: Envir. Engineer — Phone: (310) 615-6331

Fax: (310) 615-6060 — E-Mail: see above @nrgenergy.com

Section C: Permit Mailing Address

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

Street Address

City — State — Zip Code

Contact Name:

Contact Title: — Phone:

Fax: — E-Mail:

Section D: Application Type

The facility is in ( ) RECLAIM ( ) Title V (•) RECLAIM & Title V Program (please check if applicable)

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

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(If you checked any of the items in this column, you MUST provide a existing Permit/ Application Number)

* A Higher Permit Processing Fee applies to those items with an asterisk (Rule 301 (c) (1) (D)

7. Estimated Start Date of Operation/Construction (MM/DD/YYYY): 12/01/2007

8. Description of Equipment:
CTG 2 (Unit 7) -- Siemens SGT6-5000F, Dry Low NOx combustion, steam injection power augmentation, 2,096 MMBtu/hr

9. Is this equipment portable AND will it be operated at different locations within AQMD's jurisdiction? (•) No ( ) Yes

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

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

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

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16. Are there any schools (K-12) within a 1000-ft. radius of the equipment physical location? (•) No ( ) Yes

Section F: Authorization/Signature

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

17. Signature of Responsible Official: Keith A Richards

18. Title: President

19. Print Name: Keith Richards

20. Date: 6/13/07

Check List
- [X] Form(s) signed and dated by authorized official
- [X] Supplemental Equipment Form (400-E-XX or 400-E-GEN)
- [X] CEQA Form (400-CEQA) attached
- [X] Payment for permit processing fee attached

Your application will be rejected if any of the above items are missing.

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

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Street Address

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County: (•) Los Angeles ( ) Orange ( ) San Bernardino ( ) Riverside

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

Street Address

City State Zip Code

Contact Name:

Contact Title: Phone:

Fax: E-Mail:

Section D: Application Type

The facility is in ( ) RECLAIM ( ) Title V (•) RECLAIM & Title V Program (please check if applicable)

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

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- ( ) Permitted Equipment Altered/ Modified Without Permit Approval*
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- ( ) Change of Condition For Permit To Construct
- ( ) Change of Location—Moving to New Site

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(If you checked any of the items in this column, you MUST provide a existing Permit/ Application Number)

* A Higher Permit Processing Fee applies to those items with an asterisk (Rule 301 (c) (1) (D)

7. Estimated Start Date of Operation/Construction (MM/DD/YYYY): 12/01/2007

8. Description of Equipment:
Title V modification - installation of Units 5 and 7

9. Is this equipment portable AND will it be operated at different locations within AQMD's jurisdiction? (•) No ( ) Yes

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

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

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

Section E: Facility Business Information

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

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

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

16. Are there any schools (K-12) within a 1000-ft. radius of the equipment physical location? (•) No ( ) Yes

Section F: Authorization/Signature

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

17. Signature of Responsible Official: Keith A Richards

18. Title: President

19. Print Name: Keith Richards

20. Date: 6/13/07

Check List
- [X] Form(s) signed and dated by authorized official
- [X] Supplemental Equipment Form (400-E-XX or 400-E-GEN)
- [X] CEQA Form (400-CEQA) attached
- [X] Payment for permit processing fee attached

Your application will be rejected if any of the above items are missing.

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

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South Coast Air Quality Management District

Form 400-A

Application For Permit To Construct and Permit To Operate

Mail Application To:
P.O. Box 4944
Diamond Bar, CA 91765

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

Section A: Operator Information

1. Business Name of Operator To Appear On The Permit: El Segundo Power, LLC

2. Valid AQMD Facility ID (Available on Permit or Invoice issued by AQMD): 115663

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

Section B: Equipment Location

4. Equipment Location Address:
For equipment operated at various locations in AQMD's jurisdiction, provide address of initial site

301 Vista Del Mar
Street Address

El Segundo — CA, — 90245
City — State — Zip Code

County: (•) Los Angeles ( ) Orange ( ) San Bernardino ( ) Riverside

Contact Name: Steve Odabashian (steven.odabashian@)

Contact Title: Envir. Engineer — Phone: (310) 615-6331

Fax: (310) 615-6060 — E-Mail: see above @nrgenergy.com

Section C: Permit Mailing Address

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

Street Address

City — State — Zip Code

Contact Name:

Contact Title: — Phone:

Fax: — E-Mail:

Section D: Application Type

The facility is in ( ) RECLAIM ( ) Title V (•) RECLAIM & Title V Program (please check if applicable)

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

- (•) New Construction (Permit to Construct)
- ( ) Equipment Operating Without A Permit or Expired Permit*
- ( ) Administrative Change
- ( ) Equipment On-Site But Not Constructed or Operational
- ( ) Title V Application (Initial, Revisions, Modifications, etc.)
- ( ) Compliance Plan
- ( ) Facility Permit Amendment
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

- ( ) Permitted Equipment Altered/ Modified Without Permit Approval*
- ( ) Proposed Alteration/Modification to Permitted Equipment
- ( ) Change of Condition For Permit To Operate
- ( ) Change of Condition For Permit To Construct
- ( ) Change of Location—Moving to New Site

Existing Or Previous Permit/Application Number:
(If you checked any of the items in this column, you MUST provide a existing Permit/ Application Number)

* A Higher Permit Processing Fee applies to those items with an asterisk (Rule 301 (c) (1) (D)

7. Estimated Start Date of Operation/Construction (MM/DD/YYYY): 12/01/2007

8. Description of Equipment:
CTG 1 (Unit 5) -- SCR and oxidation catalyst systems

9. Is this equipment portable AND will it be operated at different locations within AQMD's jurisdiction? (•) No ( ) Yes

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

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

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

Section E: Facility Business Information

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

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

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

16. Are there any schools (K-12) within a 1000-ft. radius of the equipment physical location? (•) No ( ) Yes

Section F: Authorization/Signature

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

17. Signature of Responsible Official: Keith Richards

18. Title: President

19. Print Name: Keith Richards

20. Date: 6/13/07

Check List
- [X] Form(s) signed and dated by authorized official
- [X] Supplemental Equipment Form (400-E-XX or 400-E-GEN)
- [X] CEQA Form (400-CEQA) attached
- [X] Payment for permit processing fee attached

Your application will be rejected if any of the above items are missing.

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

© South Coast Air Quality Management District, Form 400-A (2006.02)

South Coast Air Quality Management District

Form 400-A

Application For Permit To Construct and Permit To Operate

Mail Application To:
P.O. Box 4944
Diamond Bar, CA 91765

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

Section A: Operator Information

1. Business Name of Operator To Appear On The Permit: El Segundo Power, LLC

2. Valid AQMD Facility ID (Available on Permit or Invoice issued by AQMD): 115663

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

Section B: Equipment Location

4. Equipment Location Address:
For equipment operated at various locations in AQMD's jurisdiction, provide address of initial site

301 Vista Del Mar
Street Address

El Segundo — CA, — 90245
City — State — Zip Code

County: (•) Los Angeles ( ) Orange ( ) San Bernardino ( ) Riverside

Contact Name: Steve Odabashian (steven.odabashian@)

Contact Title: Envir. Engineer — Phone: (310) 615-6331

Fax: (310) 615-6060 — E-Mail: see above @nrgenergy.com

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

Street Address

City — State — Zip Code

Contact Name:

Contact Title: — Phone:

Fax: — E-Mail:

Section D: Application Type

The facility is in ( ) RECLAIM ( ) Title V (•) RECLAIM & Title V Program (please check if applicable)

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

- (•) New Construction (Permit to Construct)
- ( ) Equipment Operating Without A Permit or Expired Permit*
- ( ) Administrative Change
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- ( ) Title V Application (Initial, Revisions, Modifications, etc.)
- ( ) Compliance Plan
- ( ) Facility Permit Amendment
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

- ( ) Permitted Equipment Altered/ Modified Without Permit Approval*
- ( ) Proposed Alteration/Modification to Permitted Equipment
- ( ) Change of Condition For Permit To Operate
- ( ) Change of Condition For Permit To Construct
- ( ) Change of Location—Moving to New Site

Existing Or Previous Permit/Application Number:
(If you checked any of the items in this column, you MUST provide a existing Permit/ Application Number)

* A Higher Permit Processing Fee applies to those items with an asterisk (Rule 301 (c) (1) (D)

7. Estimated Start Date of Operation/Construction (MM/DD/YYYY): 12/01/2007

8. Description of Equipment:
CTG 1 (Unit 5) -- Siemens SGT6-5000F, Dry Low NOx combustion, steam injection power augmentation, 2,096 MMBtu/hr

9. Is this equipment portable AND will it be operated at different locations within AQMD's jurisdiction? (•) No ( ) Yes

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

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

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

Section E: Facility Business Information

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

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

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

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19. Print Name: Keith Richards

20. Date: 6/13/07

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

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South Coast Air Quality Management District

Form 400 CEQA

California Environmental Quality Act (CEQA) Applicability

Mail Application To:
P.O. Box 4944
Diamond Bar, CA 91765

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)].[2] Refer to the attached instructions for guidance in completing this form.[3] 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 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Lori Inga at (909) 396-3109.

FACILITY INFORMATION

Business Name of Operator to Appear on the Permit:	Facility ID (6-Digit):
El Segundo Power, LLC	115663

Project Description:

Installation of two gas turbines at an existing power plant.

REVIEW FOR EXEMPTION FROM FURTHER CEQA ACTION

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
A.	◉	○	**A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project?** If yes, a permit cannot be issued until a Final CEQA document and Notice of Determination is submitted.
B.	○	○	**A request for a change of permittee only (without equipment modifications)?**
C.	○	○	**Equipment certification or equipment registration** (qualifies for Rule 222)**?**
D.	○	○	**A functionally identical permit unit replacement with no increase in rating or emissions?**
E.	○	○	**A change of daily VOC permit limit to a monthly VOC permit limit?**
F.	○	○	**Equipment damaged as a result of a disaster during state of emergency?**
G.	○	○	**A Title V** (i.e., Regulation XXX) **permit renewal (without equipment modifications)?**
H.	○	○	**A Title V administrative permit revision?**
I.	○	○	**The conversion of an existing permit into an initial Title V permit?**

If **"Yes"** is checked for any question above, your application does not require additional evaluation for CEQA applicability. Skip to page 2, "SIGNATURES" and sign and date this form.

REVIEW OF IMPACTS WHICH MAY TRIGGER CEQA

Complete Sections I-VI by checking "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	Section I – General
1.	○	○	**Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project?** Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	○	○	**Is this project part of a larger project?**
			Section II – Air Quality
3.	○	○	**Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?**
4.	○	○	**Does this project include the open outdoor storage of dry bulk solid materials that could generate dust?** If Yes, include a plot plan with the application package.

[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] To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

[3] To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

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	Yes	No	
5.	○	○	**Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements?** For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 – Nuisance.
6.	○	○	**Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?**
7.	○	○	**Will the proposed 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 on the attached Table 1?**[4]
			Section III – Water Resources
8.	○	○	**Will the project increase demand for water at the facility by more than 5,000,000 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) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	○	○	**Will the project require construction of new water conveyance infrastructure?** Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
			Section IV – Transportation/Circulation
10.			**Will the project result in** (Check all that apply):
	○	○	**a. the need for more than 350 new employees?**
	○	○	**b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?**
	○	○	**c. increase customer traffic by more than 700 visits per day?**
			Section V – Noise
11.	○	○	**Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?**
			Section VI – Public Services
12.			**Will the project create a permanent need for new or additional public services in any of the following areas** (Check all that apply):
	○	○	**a. Solid waste disposal?** Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	○	○	**b. Hazardous waste disposal?** Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).

REMINDER: *For each "Yes" checked in the sections above, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.*

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.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: Keith A Richards	TITLE OF RESPONSIBLE OFFICIAL OF FIRM: President	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: Keith Richards	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: (760) 7102-146	DATE Signed: 6/13/07
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:	TITLE OF PREPARER: Environmental Director	
TYPE OR PRINT NAME OF PREPARER: Tim Hemig	PREPARER'S TELEPHONE NUMBER: (760) 7102-144	DATE Signed: 6/13/07

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND THE ATTACHMENTS WITH FORM 400-A.

[4] Table 1 – Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.

South Coast Air Quality Management District

FORM 400 E-5
SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM, OXIDATION CATALYST, AND AMMONIA CATALYST

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

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

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

Permit to be issued to (Business name of operator to appear on permit):
El Segundo Power, LLC

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 Vists Del Mar, El Segundo, California 90245 ◉ Fixed Location ○ Various Locations

SECTION A: EQUIPMENT INFORMATION

	SELECTIVE CATALYTIC REDUCTION (SCR)	
SCR Catalyst	**Manufacturer:** Cormetech	**Catalyst Active Material:** Titanium/Vanadium/Tungsten
	Model Number: tbd	**Type:** homogeneous honeycomb
	Size of Each Layer or Module: Length: ft. in. Width: 25 ft. in. Height: 70 ft. in.	
	No. of Layers or Modules: Total Volume: 2050.000 cu.ft. Total Weight: lbs.	
Reducing Agent	○ Urea ○ Anhydrous Ammonia ◉ Aqueous Ammonia 19.00 %	**Injection Rate:** 135.200 lb/hr.
Reducing Agent Storage	**Diameter:** ft. in. **Height:** ft. in. **Capacity:** gal **Pressure Setting:** psia	
Space Velocity	**Gas Flow Rate/Catalyst Volume:** 23000.00 hr^{-1}	
Area Velocity	**Gas Flow Rate/Wetted Catalyst Surface Area:** 82021.00 ft/hr	
Manufacturer's Guarantee	**NOx:** 2.000 ppm **%O_2:** 15.00 **NOx:** gm/bhp-hr **Ammonia Slip:** 5.000 ppm @ 15.00 % O_2	
Catalyst Life	5 years (expected)	
Cost	**Capital Cost:** $1000000.00 **Installation Cost:** $275000.00 **Catalyst Replacement Cost:** $800000.00	
	OXIDATION CATALYST	
Oxidation Catalyst	**Manufacturer:** Engelhard	**Catalyst Active Material:** Platinum
	Model Number: tbd	**Type:** homogeneous honeycomb
	Size of Each Layer or Module: Length: ft. in. Width: 25 ft. in. Height: 70 ft. in.	
	No. of Layers or Modules: Total Volume: 290.000 cu.ft. Total Weight: lbs.	
Space Velocity	**Gas flow rate/Catalyst Volume:** 218000 hr^{-1}	
Manufacturer's Guarantee	**VOC** 2.000 ppm **VOC** gm/bhp-hr **CO** 3.000 ppm **CO** gm/bhp-hr % O_2 15.00 % O_2 15.00	
Catalyst Life	5 years (expected)	
Cost	**Capital Cost:** $800000.00 **Installation Cost:** $100000.00 **Catalyst Replacement Cost:** $700000.00	

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AMMONIA CATALYST		
Ammonia Catalyst	Manufacturer: N/A	Catalyst Active Material:
	Model Number:	Type:
	Size of Each Layer or Module: Length: ft. in. Width: ft. in. Height: ft. in.	
	No. of Layers or Modules: Total Volume: cu.ft. Total Weight: lbs.	
Space Velocity	Gas flow rate/Catalyst Volume: hr^{-1}	
Manufacturer's Guarantee	NH3 ppm % O_2	
Catalyst Life	years (expected)	
Cost	Capital Cost: Installation Cost: Catalyst Replacement Cost:	

SECTION B: OPERATION INFORMATION	
Operating Temperature	Minimum Inlet Temperature: 400.00 °F (from cold start) Maximum Temperature: 750.00 °F
	Warm-up Time: hr. 15 min. (maximum)
Operating Schedule	Normal: 24 hours/day 7 days/week 52 weeks/yr.
	Maximum: 24 hours/day 7 days/week 52 weeks/yr.

SECTION C: APPLICANT CERTIFICATION STATEMENT		
I hereby certify that all information contained herein and information submitted with this application is true and correct.		
SIGNATURE OF PREPARER:	TITLE OF PREPARER: Env. Director	PREPARER'S TELEPHONE NUMBER: (760) 710-2144 PREPARER'S E-MAIL ADDRESS: tim.hemig@nrgenergy.com
CONTACT PERSON FOR INFORMATION ON THIS EQUIPMENT: Steve Odabashian-steven.odabashian@ E-MAIL ADDRESS: @ergenergy.com	CONTACT PERSON'S TELEPHONE NUMBER: (310) 615-6331 FAX NUMBER: (310) 615-6060	DATE SIGNED: 6/13/07

CONFIDENTIAL INFORMATION

Under the California Public Records Act, all information in your permit application will be considered a matter of public record and may be disclosed to a third party. If you wish to keep certain items as confidential, please complete the following steps:

(a) Make a copy of any page containing confidential information blanked out. Label this page "public copy."
(b) Label the original page "confidential." Circle all confidential items on the page.
(c) Prepare a written justification for the confidentiality of each confidential item. Append this to the confidential copy.

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South Coast Air Quality Management District

FORM 400 E-5
SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM, OXIDATION CATALYST, AND AMMONIA CATALYST

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

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

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

Permit to be issued to (Business name of operator to appear on permit):
El Segundo Power, LLC

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, California 90245 — (●) Fixed Location ( ) Various Locations

SECTION A: EQUIPMENT INFORMATION

	SELECTIVE CATALYTIC REDUCTION (SCR)	
SCR Catalyst	**Manufacturer:** Cormetech	**Catalyst Active Material:** Titanium/Vanadium/Tungsten
	Model Number: tbd	**Type:** homogeneous honeycomb
	Size of Each Layer or Module: Length: ft. in. Width: 25 ft. in. Height: 70 ft. in.	
	No. of Layers or Modules: Total Volume: 2050.000 cu.ft. Total Weight: lbs.	
Reducing Agent	( ) Urea ( ) Anhydrous Ammonia (●) Aqueous Ammonia 19.00 %	Injection Rate: 135.200 lb/hr.
Reducing Agent Storage	Diameter: ft. in. Height: ft. in. Capacity: gal Pressure Setting: psia	
Space Velocity	Gas Flow Rate/Catalyst Volume: 23000.00 hr^{-1}	
Area Velocity	Gas Flow Rate/Wetted Catalyst Surface Area: 82021.00 ft/hr	
Manufacturer's Guarantee	NOx: 2.000 ppm $\%O_2$: 15.00 NOx: gm/bhp-hr Ammonia Slip: 5.000 ppm @ 15.00 $\%O_2$	
Catalyst Life	5 years (expected)	
Cost	Capital Cost: $1000000.00 Installation Cost: $275000.00 Catalyst Replacement Cost: $800000.00	
	OXIDATION CATALYST	
Oxidation Catalyst	**Manufacturer:** Engelhard	**Catalyst Active Material:** Platinum
	Model Number: tbd	**Type:** homogeneous honeycomb
	Size of Each Layer or Module: Length: ft. in. Width: 25 ft. in. Height: 70 ft. in.	
	No. of Layers or Modules: Total Volume: 290.000 cu.ft. Total Weight: lbs.	
Space Velocity	Gas flow rate/Catalyst Volume: 218000 hr^{-1}	
Manufacturer's Guarantee	VOC 2.000 ppm VOC gm/bhp-hr CO 3.000 ppm CO gm/bhp-hr	
	$\%O_2$ 15.00 $\%O_2$ 15.00	
Catalyst Life	5 years (expected)	
Cost	Capital Cost: $800000.00 Installation Cost: $100000.00 Catalyst Replacement Cost: $700000.00	

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AMMONIA CATALYST		
Ammonia Catalyst	Manufacturer: N/A	Catalyst Active Material:
	Model Number:	Type:
	Size of Each Layer or Module: Length: ft. in. Width: ft. in. Height: ft. in.	
	No. of Layers or Modules: Total Volume: cu.ft. Total Weight: lbs.	
Space Velocity	Gas flow rate/Catalyst Volume: hr^{-1}	
Manufacturer's Guarantee	NH3 ppm % O_2	
Catalyst Life	years (expected)	
Cost	Capital Cost: Installation Cost: Catalyst Replacement Cost:	

SECTION B: OPERATION INFORMATION	
Operating Temperature	Minimum Inlet Temperature: 400.00 °F (from cold start) Maximum Temperature: 750.00 °F
	Warm-up Time: hr. 15 min. (maximum)
Operating Schedule	Normal: 24 hours/day 7 days/week 52 weeks/yr.
	Maximum: 24 hours/day 7 days/week 52 weeks/yr.

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I hereby certify that all information contained herein and information submitted with this application is true and correct.		
SIGNATURE OF PREPARER:	TITLE OF PREPARER: Env. Director	PREPARER'S TELEPHONE NUMBER: (760) 710-2144 PREPARER'S E-MAIL ADDRESS: tim.hemig@nrgenergy.com
CONTACT PERSON FOR INFORMATION ON THIS EQUIPMENT: Steve Odabashian-steven.odabashian@ E-MAIL ADDRESS: @nrgenergy.com	CONTACT PERSON'S TELEPHONE NUMBER: (310) 615-6331 FAX NUMBER: (310) 615-6060	DATE SIGNED: 6/13/07

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(b) Label the original page "confidential." Circle all confidential items on the page.
(c) Prepare a written justification for the confidentiality of each confidential item. Append this to the confidential copy.

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South Coast Air Quality Management District

FORM 400 E-12
GAS TURBINE

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

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

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

Permit to be issued to (Business name of operator to appear on permit):
El Segundo Power, LLC

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, California 90245 — (•) Fixed Location ( ) Various Locations

SECTION A: EQUIPMENT INFORMATION

Turbine	**Manufacturer:** Siemens **Model No.:** SGT6-5000F — **Serial No.:** tbd **Size (based on Higher Heating Value - HHV):** **Manufacturer Maximum Input Rating:** 2096.000 MMBTU/hr ____ kWh **Manufacturer Maximum Output Rating:** ____ MMBTU/hr 19000.00 kWh
Function (Check all that apply)	[x] Electrical Generation [ ] Driving Pump/Compressor [ ] Emergency Peaking Unit [ ] Steam Generation [ ] Exhaust Gas Recovery [ ] Other (specify):
Cycle Type	( ) Simple Cycle ( ) Regenerative Cycle (•) Combined Cycle ( ) Other (specify):
Combustion Type	( ) Tubular (•) Can-Annular ( ) Annular
Fuel (Turbine)	(•) 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** 67.700 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:** N/A — **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* ( ) Refinery Gas* ( ) Landfill Gas* ( ) Propane ( ) Other* : *(If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).

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: $1000000.00	**Installation Cost:** $275000.00	**Annual Operating Cost:**

Oxidation Catalyst Data (If Applicable)	**Manufacturer:** Engelhard		**Model:** tbd			
	Catalyst Dimensions:	**Length:** ft. in.	**Width:** 70 ft. in.	**Height:** 25 ft. in.		
	Catalyst Cell Density: cells/sq. in.		**Pressure Drop Across Catalyst:** 1.000			
	Manufacturer's Guarantee	**CO Control Efficiency:** 70.00 %	**Catalyst Life:** 5 yrs.			
		VOC Control Efficiency: 30.00 %	**Operating Temp. Range:** 1000.00 °F			
	Space Velocity (gas flow rate/catalyst volume): 218000.000		**Area Velocity (gas flow/wetted catalyst surface area):** 82000.000			
	VOC Concentration into Catalyst: 2.000 PPMVD @ 15 % O_2		**CO Concentration into Catalyst:** 4.000 PPMVD @ 15 % O_2			

SECTION B: OPERATION INFORMATION

	Pollutants	Maximum Emissions Before Control*		Maximum Emissions After Control	
		PPM@15% O_2, dry	lb/Hour	PPM@15% O_2, dry	lb/Hour
On-line Emissions Data	ROG	2.000		2.000	
	NOx	9.000		2.000	
	CO	4.000		3.000	
	PM10		9.500		9.500
	SOx		1.460		1.460
	NH3	0.000		5.000	

* Based on temperature, fuel consumption, and MW output

Reference (attach data):
[X] Manufacturer Emission Data [ ] EPA Emission Factors [ ] AQMD Emission Factors [ ] Source Test

Stack or Vent Data	**Stack Height:** 210 ft. in.		**Stack Diameter:** 20 ft. in.	
	Exhaust Temperature: 361.00 °F		**Exhaust Pressure:** inches water column	
	Exhaust Flow Rate: 03493.00 CFM		**OxygerLevel:** 13.00 %	
Operating Schedule	**Normal:**	24 hours/day	7 days/week	52 weeks/yr
	Maximum:	24 hours/day	7 days/week	52 weeks/yr

Startup Data	No. of Startups per day: 6	No. of Startups per year: 200		Duration of each startup: 1.0 hours	
Shutdown Data	No. of Shutdowns per day: 6	No. of Shutdowns per year: 200		Duration of each shutdown: 1.0 hours	
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		17.300		9.700
	NOx		74.700		47.300
	CO		556.600		294.900
	PM10		9.500		9.500
	SOx		1.460		1.460
	NH3		14.300		14.300

Monitoring and Reporting

Continuous Emission Monitoring System (CEMS)

CEMS Make: tbd

CEMS Model: tbd

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

The following parameters will be continuously monitored:

[x] NOx [x] CO [x] O_2

[x] Fuel Flow Rate [x] Ammonia Injection Rate [ ] Other (specify)

[ ] Ammonia Stack Concentration: Ammonia CEMS Model

Ammonia CEMS Make

SECTION C: APPLICANT CERTIFICATION STATEMENT

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

SIGNATURE OF PREPARER:	TITLE OF PREPARER:	PREPARER'S TELEPHONE NUMBER: (760) 710-2144
	Env. Director	PREPARER'S E-MAIL ADDRESS: tim.hemig@nrgenergy.com

CONTACT PERSON FOR INFORMATION ON THIS EQUIPMENT:	CONTACT PERSON'S	DATE SIGNED:
Steve Odabashian	TELEPHONE NUMBER: (310) 615-6331	6/13/07
E-MAIL ADDRESS: steven.odabashian@nrgener	FAX NUMBER: (310) 615-6060	

CONFIDENTIAL INFORMATION

Under the California Public Records Act, all information in your permit application will be considered a matter of public record and may be disclosed to a third party. If you wish to keep certain items as confidential, please complete the following steps:

(a) Make a copy of any page containing confidential information blanked out. Label this page "public copy."
(b) Label the original page "confidential." Circle all confidential items on the page.
(c) Prepare a written justification for the confidentiality of each confidential item. Append this to the confidential copy.

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South Coast Air Quality Management District

FORM 400 E-12
GAS TURBINE

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

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

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

Permit to be issued to (Business name of operator to appear on permit):
El Segundo Power, LLC

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, California 90245 — (●) Fixed Location ( ) Various Locations

SECTION A: EQUIPMENT INFORMATION

Turbine	**Manufacturer:** Siemens **Model No.:** SGT6-5000F — **Serial No.:** tbd **Size (based on Higher Heating Value - HHV):** **Manufacturer Maximum Input Rating:** 2096.000 MMBTU/hr ____ kWh **Manufacturer Maximum Output Rating:** ____ MMBTU/hr 19000.00 kWh
Function (Check all that apply)	[x] Electrical Generation [ ] Driving Pump/Compressor [ ] Emergency Peaking Unit [ ] Steam Generation [ ] Exhaust Gas Recovery [ ] Other (specify):
Cycle Type	( ) Simple Cycle ( ) Regenerative Cycle (●) Combined Cycle ( ) Other (specify):
Combustion Type	( ) Tubular (●) Can-Annular ( ) Annular
Fuel (Turbine)	(●) 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** 67.700 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:** N/A — **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* ( ) Refinery Gas* ( ) Landfill Gas* ( ) Propane ( ) Other* : *(If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).

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: $1000000.00	**Installation Cost:** $275000.00	**Annual Operating Cost:**
Oxidation Catalyst Data (If Applicable)	**Manufacturer:** Engelhard	**Model:** tbd	
	Catalyst Dimensions: Length: ft. in.	Width: 70 ft. in.	Height: 25 ft. in.
	Catalyst Cell Density: ____ cells/sq. in.	**Pressure Drop Across Catalyst:** 1.000	
	Manufacturer's Guarantee	CO Control Efficiency: 70.00 %	Catalyst Life: 5 yrs.
		VOC Control Efficiency: 30.00 %	Operating Temp. Range: 1000.00 °F
	Space Velocity (gas flow rate/catalyst volume): 218000.000	**Area Velocity (gas flow/wetted catalyst surface area):** 82000.000	
	VOC Concentration into Catalyst: 2.000 PPMVD @ 15 % O_2	**CO Concentration into Catalyst:** 4.000 PPMVD @ 15 % O_2	

SECTION B: 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	2.000		2.000	
NOx	9.000		2.000	
CO	4.000		3.000	
PM10		9.500		9.500
SOx		1.460		1.460
NH3	0.000		5.000	

* Based on temperature, fuel consumption, and MW output

Reference (attach data):
[x] Manufacturer Emission Data [ ] EPA Emission Factors [ ] AQMD Emission Factors [ ] Source Test

Stack or Vent Data	Stack Height: 210 ft. in.	Stack Diameter: 20 ft. in.	
	Exhaust Temperature: 361.00 °F	Exhaust Pressure: ____ inches water column	
	Exhaust Flow Rate: 03493.00 CFM	OxygerLevel: 13.00 %	
Operating Schedule	Normal: 24 hours/day	7 days/week	52 weeks/yr
	Maximum: 24 hours/day	7 days/week	52 weeks/yr

Startup Data	No. of Startups per day: 6	No. of Startups per year: 200		Duration of each startup: 1.0 hours	
Shutdown Data	No. of Shutdowns per day: 6	No. of Shutdowns per year: 200		Duration of each shutdown: 1.0 hours	
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		17.300		9.700
	NOx		74.700		47.300
	CO		556.600		294.900
	PM10		9.500		9.500
	SOx		1.460		1.460
	NH3		14.300		14.300

Monitoring and Reporting

Continuous Emission Monitoring System (CEMS)

CEMS Make: tbd

CEMS Model: tbd

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

The following parameters will be continuously monitored:

[x] NOx [x] CO [x] O_2

[x] Fuel Flow Rate [x] Ammonia Injection Rate [ ] Other (specify)

[ ] Ammonia Stack Concentration: Ammonia CEMS Model

Ammonia CEMS Make

SECTION C: APPLICANT CERTIFICATION STATEMENT

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

SIGNATURE OF PREPARER:	TITLE OF PREPARER: Env. Director	PREPARER'S TELEPHONE NUMBER: (760) 710-2144 PREPARER'S E-MAIL ADDRESS: tim.hemig@nrgenergy.com
CONTACT PERSON FOR INFORMATION ON THIS EQUIPMENT: Steve Odabashian E-MAIL ADDRESS: steven.odabashian@nrgener	CONTACT PERSON'S TELEPHONE NUMBER: (310) 615-6331 FAX NUMBER: (310) 615-6060	DATE SIGNED: 6/13/07

CONFIDENTIAL INFORMATION

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(a) Make a copy of any page containing confidential information blanked out. Label this page "public copy."
(b) Label the original page "confidential." Circle all confidential items on the page.
(c) Prepare a written justification for the confidentiality of each confidential item. Append this to the confidential copy.

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South Coast Air Quality Management District
P. O. Box 4944 Diamond Bar, CA 91765
(909) 396-2000

EXPRESS PERMIT PROCESSING REQUEST FORM
FORM 400 - XPP

Form 400-A, Form 400-CEQA and one or more 400-E-xx form(s) must accompany all submittals.

Print Form

Section I - Facility/Application Information

1. Business Name: El Segundo Power, LLC Facility ID: 115663
2. The requested application is for a(n): Date of Occurrence: 12/1/2007
   a. [X] New Construction b. [ ] Change of Location
   c. [ ] Modification of Equipment/Process d. [ ] Existing Equipment with Expired Permit
   e. [ ] Existing Equipment Operating without a Permit; Initial Operation Date:
   f. [ ] Change of Condition(s); specify the change of condition(s) requested:
   g. [ ] Change of Operator; List previous name of operator and Facility ID #:
3. I hereby request Express Permit Processing for this application.
4. I understand that this request will incur additional fees.
5. This request is not cancelable once engineering review has been initiated.
6. Express Permit Processing neither guarantees action by any specific date nor does I guarantee permit approval.

Section II - Equipment Information

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM:	TITLE OF RESPONSIBLE OFFICIAL OF FIRM:	
Keith A Richards	President	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM:	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER	DATE SIGNED:
Keith Richards	760-710-2146	6/13/07

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER:	TITLE OF PREPARER:	
	Environmental Director	
TYPE OR PRINT NAME OF PREPARER:	PREPARER'S TELEPHONE NUMBER	DATE SIGNED:
Tim Hemig	(760) 710-2144	6/13/07

AQMD USE ONLY	APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: /	FEE SCHEDULE: $	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT $

South Coast Air Quality Management District

Form 500 A2
TITLE V Application Certification

Mail Application To:
P.O. Box 4944
Diamond Bar, CA 91765

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

Section I - Facility Information

1. Permit to be issued to (Business name of operator to appear on permit): El Segundo Power, 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 2
4. Is Form 500-C2 included with this Certification? ( ) Yes (•) No

Section II - Responsible Official Certification Statement

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 statements and information in this document and in all attached application forms and other materials are true, accurate, and complete.

*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). (If Part 2 has not been submitted, you must submit 500-MACT Part 2 with this form.)

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

Keith A Richard — Signature of Responsible Official
6/13/07 — Date

Keith Richards — Type or Print Name of Responsible Official
(760) 710-2146 — Phone

President — Title of Responsible Official
(760) 710-2158 — Fax

301 Vista Del Mar — Address of Responsible Official
El Segundo — City
CA — State
90245 — Zip Code

Acid Rain Facilities Only: Turn page over & complete Section III

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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 III - Designated Representative Certification Statement			
1. *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.			
Keith A Richards		6/13/07	
Signature of Designated Representative or Alternate		Date	
Keith Richards		(760) 710-2146	
Type or Print Name of Designated Representative or Alternate		Phone	
President		(760) 710-2158	
Title of Designated Representative or Alternate		Fax	
301 Vista Del Mar	El Segundo	CA	90245
Address of Designated Representative or Alternate	City	State	Zip Code

Title V
Form 500-C1

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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.

Section I - General Information

1. Facility Name: EL SEGUNDO POWER, LLC Facility ID (6-Digit): 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	☐ Rule 442 (12/15/00)	☐ 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 (04/02/04)	☐ Rule 403(d)(4)	☐ 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 (11/07/03) ☐ 40 CFR63 SUBPART T	☐ Rule 109(g) ☐ Rule 1171(f) 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 (12/05/03) ☒ Rule 2012, App. A (12/05/03)	☐ Rule 2011, App. A (12/05/03) ☒ Rule 2012, App. A (12/05/03)
☐ Abrasive Blasting	☐ Rule 1140 (08/02/85)	☐ Rule 1140(d) & (e), AQMD Visible Emission Method	
☐ Aggregate and Related Operations	☐ Rule 1157 (01/07/05)	☐ 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

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

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
☐ Benzene Emissions, Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, & Coke By-Product Recovery Plants	☐ Rule 1173 (12/06/02) ☐ 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 (05/13/94) ☐ Rule 1146.2 (01/07/05) ☐ 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 (05/13/94) - excluding NOx requirements ☐ 40 CFR63 SUBPART DDDDD	☐ Rule 1146.1(d) See Applicable Subpart	☐ Rule 1146.1(c)(2) & (c)(3) See Applicable Subpart
☐ 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 (11/17/00) ☐ 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 (11/17/00) - excluding NOx requirements ☐ Rule 2011 (12/05/03) <u>or</u> Rule 2012 (12/05/03) ☐ 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 (12/05/03) <u>or</u> Rule 2012, App. A (12/05/03) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 1146(c)(6) & (c)(7) ☐ Rule 2011, App. A (12/05/03) <u>or</u> Rule 2012, App. A (12/05/03) 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)	☐ AQMD TM 100.1 N/A	☐ Rule 218(e) & (f) ☐ Rule 429(d)

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EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
	☐ Rule 431.1 (06/12/98) ☐ Rule 475 (08/07/78) ☐ Rule 1146 (11/17/00) ☐ 40 CFR60 SUBBPART J ☐ 40 CFR63 SUBPART DDDDD	☐ Rule 431.1(f) ☐ AQMD TM 5.1, 5.2, or 5.3 ☐ Rule 1146(d) See Applicable Subpart See Applicable Subpart	☐ Rule 431.1(d) & (e) ☐ Rule 1146(c)(6) & (c)(7) See Applicable Subpart See Applicable Subpart
☐ Boiler, Petroleum Refining (RECLAIM sources)	☐ Rule 1146 (11/17/00) - excluding NOx requirements ☐ Rule 2011 (12/05/03) or Rule 2012 (12/05/03) ☐ 40 CFR60 SUBPART J ☐ 40 CFR63 SUBPART DDDDD	☐ Rule 1146(d) ☐ Rule 2011, App. A (12/05/03) or Rule 2012, App. A (12/05/03) See Applicable Subpart See Applicable Subpart	☐ Rule 1146(c)(6) & (c)(7) ☐ Rule 2011, App. A (12/05/03) or Rule 2012, App. A (12/05/03) 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 (12/05/03) ☐ 40 CFR60 SUBPART Db ☐ 40 CFR63 SUBPART DDDDD	☐ Rule 2012, App. A (12/05/03) See Applicable Subpart See Applicable Subpart	☐ Rule 2012, App. A (12/05/03) 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 EEEE ☐ 40 CFR63 SUBPART GGGGG	☐ 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 (05/02/03)	☐ Rule 1469(e)	☐ Rule 1426(e) ☐ Rule 1469(g), (j) & (k)
☐ Coating Operation, Adhesive Application Operation	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1132 (05/07/04) ☐ Rule 1168 (01/07/05) ☐ Rule 1171 (11/07/03) ☐ 40 CFR60 SUBPART RR	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1132(f) ☐ Rule 1168(f) & (g) ☐ Rule 1171(f) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1132(g) ☐ Rule 1168(e) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Coating Operation, Aerospace Assembly & Component Manufacturing	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02)	☐ Rule 109(g) ☐ Rule 481(d)	☐ Rule 109(c)

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EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
	☐ Rule 1124 (09/21/01)	☐ Rule 1124(e) & (f)	☐ Rule 1124(j)
	☐ Rule 1132 (05/07/04)	☐ Rule 1132(f)	☐ Rule 1132(g)
	☐ Rule 1171 (11/07/03)	☐ Rule 1171(f)	☐ Rule 1171(c)(6)
	☐ 40 CFR63 SUBPART GG	See Applicable Subpart	See Applicable Subpart
☐ Coating Operation, Graphic Arts (Gravure, Letter Press, Flexographic & Lithographic Printing Process, Etc.)	☐ Rule 109 (05/02/03)	☐ Rule 109(g)	☐ Rule 109(c)
	☐ Rule 481 (01/11/02)	☐ Rule 481(d)	
	☐ Rule 1130 (10/08/99)	☐ Rule 1130(h)	☐ Rule 1130(e)
	☐ Rule 1132 (05/07/04)	☐ Rule 1132(f)	☐ Rule 1132(g)
	☐ Rule 1171 (11/07/03)	☐ Rule 1171(f)	☐ Rule 1171(c)(6)
	☐ 40 CFR60 SUBPART QQ	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART RR	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART FFF	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART VVV	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART KK	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART JJJJ	See Applicable Subpart	See Applicable Subpart
☐ Coating Operation, Magnet Wire Coating	☐ Rule 109 (05/02/03)	☐ Rule 109(g)	☐ Rule 109(c)
	☐ Rule 481 (01/11/02)	☐ Rule 481(d)	
	☐ Rule 1126 (01/13/95)	☐ Rule 1126(d)	☐ Rule 1126(c)(4)
	☐ Rule 1132 (05/07/04)	☐ Rule 1132(f)	☐ Rule 1132(g)
	☐ Rule 1171 (11/07/03)	☐ Rule 1171(f)	☐ Rule 1171(c)(6)
☐ Coating Operation, Marine Coating (Except for recreational equipment)	☐ Rule 109 (05/02/03)	☐ Rule 109(g)	☐ Rule 109(c)
	☐ Rule 481 (01/11/02)	☐ Rule 481(d)	
	☐ Rule 1106 (01/13/95)	☐ Rule 1106(e)	☐ Rule 1106(c)(5)
	☐ Rule 1132 (05/07/04)	☐ Rule 1132(f)	☐ Rule 1132(g)
	☐ Rule 1171 (11/07/03)	☐ Rule 1171(f)	☐ Rule 1171(c)(6)
	☐ 40 CFR63 SUBPART II	See Applicable Subpart	See Applicable Subpart
☐ Coating Operation, Metal Coating	☐ Rule 109 (05/02/03)	☐ Rule 109(g)	☐ Rule 109(c)
	☐ Rule 481 (01/11/02)	☐ Rule 481(d)	
	☐ Rule 1107 (11/09/01)	☐ Rule 1107(f)	☐ Rule 1107(k)
	☐ Rule 1132 (05/07/04)	☐ Rule 1132(f)	☐ Rule 1132(g)
	☐ Rule 1171 (11/07/03)	☐ Rule 1171(f)	☐ Rule 1171(c)(6)
	☐ 40 CFR60 SUBPART EE	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART SS	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART NNNN	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART MMMM	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART RRRR	See Applicable Subpart	See Applicable Subpart
☐ Coating Operation, Metal Containers, Closure, & Coil Coating Operations	☐ Rule 109 (05/02/03)	☐ Rule 109(g)	☐ Rule 109(c)
	☐ Rule 481 (01/11/02)	☐ Rule 481(d)	
	☐ Rule 1125 (01/13/95)	☐ Rule 1125(e)	☐ Rule 1125(c)(6)
	☐ Rule 1132 (05/07/04)	☐ Rule 1132(f)	☐ Rule 1132(g)
	☐ Rule 1171 (11/07/03)	☐ Rule 1171(f)	☐ Rule 1171(c)(6)
	☐ 40 CFR60 SUBPART TT	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR60 SUBPART WW	See Applicable Subpart	See Applicable Subpart

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EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
	☐ 40 CFR63 SUBPART SSSS	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 (05/07/04) ☐ Rule 1151 (12/11/98) ☐ Rule 1171 (11/07/03)	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1132(f) ☐ Rule 1151(g) ☐ Rule 1171(f)	☐ Rule 109(c) ☐ Rule 1132(g) ☐ Rule 1151(f) ☐ Rule 1171(c)(6)
☐ Coating Operation, Motor Vehicle Assembly Line	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1115 (05/12/95) ☐ Rule 1132 (05/07/04) ☐ Rule 1171 (11/07/03) ☐ 40 CFR60 SUBPART MM ☐ 40 CFR63 SUBPART IIII	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1115(e) ☐ Rule 1132(f) ☐ Rule 1171(f) 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 (05/07/04) ☐ Rule 1171 (11/07/03) ☐ 40 CFR60 SUBPART VVV ☐ 40 CFR63 SUBPART OOOO	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1128(f) ☐ Rule 1132(f) ☐ Rule 1171(f) 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 (12/03/04) ☐ Rule 1132 (05/07/04) ☐ Rule 1171 (11/07/03) ☐ 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(f) 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 (05/07/04) ☐ Rule 1171 (11/07/03) ☐ 40 CFR63 SUBPART II	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1106.1(e) ☐ Rule 1132(f) ☐ Rule 1171(f) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1106.1(d) ☐ Rule 1132(g) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ Coating Operation, Screen Printing	☐ Rule 109 (05/02/03) ☐ Rule 481 (01/11/02) ☐ Rule 1130.1 (12/13/96) ☐ Rule 1132 (05/07/04) ☐ Rule 1171 (11/07/03) ☐ 40 CFR63 SUBPART KK	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1130.1(g) ☐ Rule 1132(f) ☐ Rule 1171(f) 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 109(g) ☐ Rule 481(d)	☒ Rule 109(c)

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EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
	☒ Rule 1113 (07/09/04) ☐ Rule 1132 (05/07/04) ☒ Rule 1171 (11/07/03)	☒ Rule 1113(e) ☐ Rule 1132(f) ☒ Rule 1171(f)	 ☐ 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 (05/07/04) ☐ Rule 1171 (11/07/03) ☐ 40 CFR63 SUBPART II	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1104(e) ☐ Rule 1132(f) ☐ Rule 1171(f) 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 (05/07/04) ☐ Rule 1136 (06/14/96) ☐ Rule 1171 (11/07/03) ☐ 40 CFR63 SUBPART JJ	☐ Rule 109(g) ☐ Rule 481(d) ☐ Rule 1132(f) ☐ Rule 1136(f) ☐ Rule 1171(f) 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
☐ 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	☐ Rule 1127(h)	☐ Rule 1127(g)
☐ Degreasers	☐ Rule 109 (05/02/03) ☐ Rule 1122 (10/01/04) ☐ Rule 1171 (11/07/03) ☐ 40 CFR63 SUBPART T	☐ Rule 109(g) ☐ Rule 1122(h) ☐ Rule 1171(f) 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)

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EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
☐ 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)	☐ Rule 1173(j)	☐ Rule 1173(i)
	☐ 40 CFR61 SUBPART L	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR61 SUBPART V	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, 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 (12/06/02)	☐ 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 (12/06/02)	☐ 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
☐ 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 (12/06/02)	☐ 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)

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

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
	☐ Rule 466.1 (03/16/84) ☐ Rule 467 (03/05/82) ☐ Rule 1173 (12/06/02) ☐ 40 CFR61 SUBPART V ☐ 40 CFR63 SUBPART F ☐ 40 CFR63 SUBPART G ☐ 40 CFR63 SUBPART H ☐ 40 CFR63 SUBPART I ☐ 40 CFR63 SUBPART R ☐ 40 CFR63 SUBPART CC	☐ Rule 466.1(g) ☐ Rule 467(f) ☐ Rule 1173(j) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 466.1(h) ☐ Rule 467(e) ☐ Rule 1173(i) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart 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) ☐ 40 CFR60 SUBPART CC	☐ Rule 1117(c), AQMD TM 7.1 or 100.1 See Applicable Subpart	 See Applicable Subpart
☐ Furnace, Lead Melting, Automotive Batteries	☐ Rule 1101 (10/07/77) ☐ 40 CFR63 SUBPART X	☐ AQMD TM 6.1 See Applicable Subpart	 See Applicable Subpart
☐ Gasoline Transfer & Dispensing Operation	☐ Rule 461 (01/09/04)	☐ 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
☐ 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 (11/17/00) ☐ 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	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	☐ 40 CFR63 SUBPART ZZZZ	See Applicable Subpart	See Applicable Subpart
☐ Kiln, Cement Plant	☐ Rule 1112 (01/06/86) ☐ Rule 1112.1 (02/07/86) ☐ 40 CFR60 SUBPART F	N/A N/A See Applicable Subpart	N/A N/A See Applicable Subpart
☐ Landfills	☐ Rule 1150 (10/15/82)		

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	AQMD Form 500-C1	Rev. 03/05 Page 9 of 17

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

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
	☐ 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, 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
☐ 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 (05/13/94) ☐ 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

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

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
☐ 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 (11/07/03) ☐ 40 CFR63 SUBPART BBBBB	☐ Rule 109(g) ☐ Rule 1164(e) ☐ Rule 1171(f) 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
☐ 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)	☐ 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	☐ Rule 1127(h)	☐ Rule 1127(g)
☐ Marine Tank Vessel Operations	☐ Rule 1142 (07/19/91) ☐ 40 CFR63 SUBPART Y	☐ Rule 1142(e) See Applicable Subpart	☐ Rule 1142(h) 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

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, SO_2 Emissions	☐ 40 CFR60 SUBPART LLL	See Applicable Subpart	See Applicable Subpart
☐ Open Fires	☐ Rule 444 (12/21/01)		
☐ Open Storage, Petroleum Coke	☐ Rule 403 (04/02/04) ☐ Rule 403.1 (04/02/04) ☐ Rule 1158 (06/11/99)	☐ Rule 403(d)(4) ☐ Rule 1158(h)	☐ Rule 403(f) ☐ Rule 403.1(f) ☐ Rule 1158(j)
☐ Open Storage	☐ Rule 403 (04/02/04) ☐ Rule 403.1 (04/02/04)	☐ Rule 403(d)(4)	☐ Rule 403(f) ☐ Rule 403.1(f)
☐ 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	☐ AQMD Visible Emissions, AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart	 See Applicable Subpart
☐ Ozone Depleting Substances (ODS) or Alternative ODS, Use	☐ 40 CFR82 Subpart G	See Applicable Subpart	See Applicable Subpart
☐ Petroleum Refineries	☐ Rule 218 (05/14/99) ☐ Rule 465 (08/13/99) ☐ Rule 468 (10/08/76) ☐ Rule 469 (02/13/81) ☐ Rule 1123 (12/07/90) ☐ Rule 1189 (01/21/00) ☐ 40 CFR60 SUBPART J ☐ 40 CFR63 SUBPART F ☐ 40 CFR63 SUBPART G ☐ 40 CFR63 SUBPART H ☐ 40 CFR63 SUBPART I ☐ 40 CFR63 SUBPART CC ☐ 40 CFR63 SUBPART EEEE ☐ 40 CFR63 SUBPART GGGGG ☐ Title 13 CCR 2250	☐ AQMD TM 100.1 ☐ AQMD TM 6.1 or 6.2 ☐ AQMD TM 6.1 or 6.2 N/A ☐ Rule 1189(f) 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 218(e) & (f) ☐ Rule 1123(c) ☐ Rule 1189(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
☐ Petroleum Refineries, Fugitive Emissions	☐ Rule 1173 (12/06/02) ☐ Rule 466 (10/07/83) ☐ Rule 466.1 (03/16/84) ☐ Rule 467 (03/05/82) ☐ 40 CFR60 SUBPART GGG ☐ 40 CFR61 SUBPART V ☐ 40 CFR63 SUBPART F ☐ 40 CFR63 SUBPART G ☐ 40 CFR63 SUBPART H	☐ Rule 1173(j) ☐ Rule 466(f) ☐ Rule 466.1(g) ☐ Rule 467(f) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	☐ Rule 1173(i) ☐ Rule 466(e) ☐ Rule 466.1(h) ☐ Rule 467(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart

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

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
	☐ 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
☐ Petroleum Refineries, Storage Tanks	☐ Rule 463 (03/11/94)	☐ Rule 463(g)	☐ Rule 463(e)(5)
	☐ Rule 1178 (12/11/01)	☐ 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)
☐ Polyester Resin Operation	☐ Rule 109 (05/02/03)	☐ Rule 109(g)	☐ Rule 109(c)
	☐ Rule 1162 (07/09/04)	☐ Rule 1162(f)	☐ Rule 1162(e)
	☐ Rule 1171 (11/07/03)	☐ Rule 1171(f)	☐ 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		
☐ 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		
☐ 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	See Applicable Subpart	See Applicable Subpart
	☐ 40 CFR63 SUBPART X	See Applicable Subpart	See Applicable Subpart
☐ Soil Decontamination	☐ Rule 1166 (05/11/01)	☐ Rule 1166(e)	☐ Rule 1166(c)(1)(C)
	☐ 40 CFR63 SUBPART GGGGG	See Applicable Subpart	See Applicable Subpart

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

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
☐ 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
☐ Storage Tank, Greater Than 19,815 Gallon Capacity	☐ Rule 463 (03/11/94) ☐ 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 ☐ 40 CFR63 SUBPART CC	☐ Rule 463(g) 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) 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 CFR63 SUBPART YYYY	☐ CEMS Rule 1134(e) & (g) ☒ AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart See Applicable Subpart	☐ Rule 1134(d) & (f) 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		
☐ 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)

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 verifythe 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)
CTG 1	40 CFR 60 KKKK	☒A ☐R	40 CFR 60 KKKK	☒A ☐R	40 CFR 60 KKKK	☒ A ☐ R
CTG 2	40 CFR 60 KKKK	☒A ☐R	40 CFR 60 KKKK	☒A ☐R	40 CFR 60 KKKK	☒ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ R
		☐A ☐R		☐A ☐R		☐ A ☐ 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
218	08/07/81	☐	1140	02/01/80	☐
401	03/02/84	☒	1145	02/14/97	☐
403	12/11/98	☐	1146.2	01/09/98	☐
403.1	01/15/93	☐	1162	11/17/00	☐
431.2	05/04/90	☒	1166	07/14/95	☐
461	04/21/00	☐	1168	10/03/03	☐
466.1	05/02/80	☐	1173	05/13/94	☐
469	05/07/76	☐	1186	09/10/99	☐
475	10/08/76	☒	2001	05/11/01	☐
1112	01/06/84	☐	2002	05/11/01	☐
1113	11/08/96	☐	2007	12/05/03	☐
1121	12/10/99	☐	2010	05/11/01	☐
1122	07/11/97	☐	2011	12/05/03	☐
1132	03/05/04	☐	2012	12/05/03	☒
		☐			☐
		☐			☐
		☐			☐
		☐			☐
		☐			☐
		☐			☐
		☐			☐

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	☒	1170	05/06/88	☐
53 Orange Co.	N/A	☐	1183	03/12/93	☐
53 Riverside Co.	N/A	☐	1186.1	06/04/04	☐
53 San Bernardino Co.	N/A	☐	1191	06/16/00	☐
53A San Bernardino Co.	N/A	☐	1192	06/16/00	☐
218.1	05/14/99	☐	1193	06/06/03	☐
402	05/07/76	☒	1194	10/20/00	☐
429	12/21/90	☐	1195	04/20/01	☐
430	07/12/96	☐	1196	06/04/04	☐
441	05/07/76	☐	1401	03/04/05	☒
473	05/07/76	☐	1402	03/04/05	☐
477	04/03/81	☐	1403	04/08/94	☐
480	10/07/77	☐	1404	04/06/90	☐
1105.1	11/07/03	☐	1405	01/04/91	☐
1109	08/05/88	☐	1406	07/08/94	☐
1110.1	10/04/85	☐	1407	07/08/94	☐
1110.2	11/14/97	☐	1411	03/01/91	☐
1116.1	10/20/78	☐	1414	05/03/91	☐
1118	02/13/98	☐	1415	10/14/94	☐
1127	08/06/04	☐	1418	09/10/99	☐
1148.1	03/05/04	☐	1420	09/11/92	☐
1150	10/15/82	☐	1421	12/06/02	☐
1157	01/07/05	☐	1425	03/16/01	☐
1163	06/07/85	☐	1426	05/02/03	☐

Section V – AQMD Rules That Are Not SIP-Approved (Continued on Following Page)					
1469	05/02/03	☐	1623	05/10/96	☐
1469.1	03/04/05	☐	2009	01/07/05	☐
1470	03/04/05	☐	2009.1	05/11/01	☐
1605	10/11/96	☐	2020	05/11/01	☐
1610	12/06/02	☐	2202	01/11/02	☐
1612	07/10/98	☐	2501	05/09/97	☐
1613	11/14/97	☐	2506	12/10/99	☐
1620	07/10/98	☐			☐
		☐			☐
		☐			☐

South Coast Air Quality Management District

Form 500 F1 (Title V)

Title IV- Acid Rain Phase II Facility Information Summary

Mail Application To:
P.O. Box 4944
Diamond Bar, CA 91765

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. Permit to be issued to (Business name of operator to appear on permit):
El Segundo Power, LLC

2. Valid AQMD Facility ID (Available on Permit or Invoice Issued by AQMD): 115663

3. ORIS Code:(5-Digit): 00330

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):

The installation of two new gas turbine combined cycle units.

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)
tbd	Unit 5	○ Yes ◉ No	◉ Yes ○ No	12/01/2009	01/01/2010
tbd	Unit 7	○ Yes ◉ No	◉ Yes ○ No	12/01/2009	01/01/2010
		○ Yes ○ No	○ Yes ○ No		
		○ Yes ○ No	○ Yes ○ No		
		○ Yes ○ No	○ Yes ○ No		

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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 <u>only</u> 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 <u>only</u> 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.

South Coast Air Quality Management District

Form 500 H (Title V)

Applicability Determination for Initial, Renewal, & Significant Permit Revision

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

This form is required as part of an initial, significant permit revision, or renewal Title V application. If your Title V facility has control devices in use, the CAM rule may apply. Follow the instructions on the reverse side of this form to determine whether your facility is subject to CAM requirements.

Section I – CAM Status Summary for Emission Units

1. **Permit to be issued to (Business name of operator to appear on permit):** El Segundo Power, LLC

2. **Valid AQMD Facility ID (Available on Permit or Invoice Issued by AQMD):** 115663

3. **Based on the criteria in the instructions (check one and attach additional pages as necessary):**

a. ☐ **The emission units identified below are subject to the CAM rule[1] and a CAM plan[2] is attached for each affected emissions unit:**

b. ☒ **There are no emission units with control devices at this Title V facility that are subject to the CAM rule.**

Emission Unit[3] Application, Permit or Device No.	Equipment Description[4]	Uncontrolled Emissions		Connected to Control Unit[3] Application, Permit or Device No.	Equipment[4] Description	Controlled Emissions	
		Pollutant	PTE[5] (tons/year)			Pollutant	PTE[5] (tons/year)

[1] For more detailed information regarding the CAM rule applicability, refer to Title 40, Chapter I, Part 64, Section 64.1 of the Code of Federal Regulations (40 CFR Part 64, Section 64.1). This also can be accessed via the internet at: http://www.access.gpo.gov/nara/cfr/waisidx_99/40cfr64_99.html.

[2] Only one CAM plan is required for a control device that is common to more than one emissions unit, or if an emissions unit is controlled by more than one control device similar in design and operation. If the control devices are not similar in design and operation, one plan is required for each control device.

[3] List all new and existing emission units and the connected control devices either by AQMD application, permit or device number. When the emission unit is new and has not yet been assigned an application number, leave this column blank.

[4] Provide a brief equipment description of the emission units and control devices by indicating equipment type, make, and model and serial numbers as appropriate.

[5] Potential to Emit

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Instructions for Determining Applicability to the CAM Rule

With the exception of emission units that are municipally-owned backup utility power units as described by 40 CFR Part 64, Section 64.2(b)(2)[1], the CAM rule is applicable to each emission unit (existing and new construction) at a Title V facility that meets ALL of the following criteria[2]:

1. The emission unit is subject to an emission limitation or standard[3] (often found in permit conditions);
2. The emission unit uses a control device to achieve compliance with the emission limitation or standard; and,
3. The emission unit has a potential to emit (PTE)[4], either pre-control or post-control depending on the type of Title V application[5], that exceeds or is equivalent to any of Title V major source thresholds shown in the following table:

	CAM Potential to Emit (PTE) Emission Threshold For Individual Emission Units at a Title V Facility (tons per year)		
Pollutant	South Coast Air Basin (SOCAB)	Riverside County Portion of Salton Sea Air Basin (SSAB) and Los Angeles County Portion of Mojave Desert Air Basin (MDAB)	Riverside County Portion of Mojave Desert Air Basin (MDAB)
VOC	10	25	100
NOx	10	25	100
SOx	100	100	100
CO	50	100	100
PM-10	70	70	100
1 HAP[6]	10	10	10
2+ HAPs	25	25	25

[1] The facility must attach the documentation required by 40 CFR Part 64, Section 64.2 (b)(2) to demonstrate that the backup utility power unit only operates during periods of peak demand or emergency situations; and has actual emissions, averaged over the last three calendar years of operation, less than 50% of the major source emission thresholds.

[2] Additional information about the CAM rule can be found on EPA's website at http://www.epa.gov/ttnemc01/cam.html.

[3] Only emission limitations and standards from an "applicable requirement" for emission units with control devices are subject to the CAM rule. Applicable requirements are federally-enforceable requirements that are rules adopted by AQMD or the State that are approved by EPA into the State Implementation Plan (SIP) (i.e. "SIP-approved rules"). Refer to Form 500-C1 for the latest versions of SIP-approved and non-SIP approved rules.

For emissions units with control devices that are subject to following federally enforceable requirements, the CAM rule does NOT apply: 1) NSPS (40 CFR Part 60); 2) NESHAP (40 CFR Parts 61 and 63); 3) Title VI of the Federal Clean Air Act (CAA) for Stratospheric Ozone Protection; 4) Title IV of the CAA and SCAQMD Regulation XXXI for Acid Rain facilities; 5) SCAQMD Regulation XX – RECLAIM; 6) Any emission cap that is federally enforceable, quantifiable, and meets the requirements in 40 CFR Part 70, Section 70.4 (b)(12); and 6) Emission limitation or standards for which a continuous compliance determination method is required.

[4] To calculate the pre-control device and post-control device PTE for emission units at the facility, refer to the Title V Technical Guidance Document Version 2.0, Appendix A (pages A-12 through A-23). The calculations are used to determine the CAM applicability according to 40 CFR Part 64, Section 64.5 of the CAM rule.

[5] For initial Title V or significant permit revision applications submitted after April 20, 1998, use the post-control device PTE emissions to determine CAM applicability. For Title V permit renewal applications (submittals will begin in 2002), the CAM applicability will be based on the pre-control device PTE.

[6] Hazardous Air Pollutant

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APPENDIX B

EXISTING AQUEOUS AMMONIA STORAGE TANK

FACILITY PERMIT TO OPERATE
EL SEGUNDO POWER, LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1 : EXTERNAL COMBUSTION					
GENERATOR, 335 MW					
SELECTIVE CATALYTIC REDUCTION, VANADIUM/TITANIUM CATALYST BED, WITH 4058 CUBIC FEET OF TOTAL CATALYST VOLUME, WIDTH: 28 FT 6 IN; HEIGHT: 17 FT; LENGTH: 68 FT WITH A/N: 340511	C31	D13			A195.4, D12.2, D12.3, D28.1, E73.2, E179.1, K48.2, K67.3
AMMONIA INJECTION, INJECTION GRID WITH 300 NOZZLES	C32				
Process 5 : INORGANIC CHEMICAL STORAGE					
STORAGE TANK, UNDERGROUND, TK-001, AQUEOUS AMMONIA, CARBON STEEL, DOUBLE WALLED, WITH 3 TRANSFER PUMPS AND A PRV SET AT 50 PSIG, 20000 GALS; DIAMETER: 10 FT 2 IN; LENGTH: 37 FT 10 IN A/N: 340505	D30				C157.1, E144.1, E193.2
Process 6 : R219 EXEMPT EQUIPMENT SUBJECT TO SOURCE-SPECIFIC RULE					
RULE 219 EXEMPT EQUIPMENT, ABRASIVE BLASTING EQUIPMENT, GLOVE-BOX, <= 53 FT3, WITH DUST FILTER	E36			**PM:** (9) [*RULE 1140, 8-2-1985;* **RULE 404,2-7-1986;RULE 405,2-7-1986**]	D322.1, D381.1, K67.1

* (1) Denotes RECLAIM emission factor
(2) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B) Denotes 40 CFR limit(e.g. NSPS, NESHAPS,etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

APPENDIX C

CTG VENDOR EMISSIONS LETTER

SIEMENS

June 1, 2007

Mr. Chris Doyle
Regional Development Engineering Manager
NRG West
1819 Aston Avenue, Suite 105
Carlsbad, CA 92008

Subject: El Segundo Plant Air Emissions

Dear Chris,

This letter is to confirm that the natural gas fired two unit Siemens 1x1 SCC6-5000F plant will be designed to meet the following air emissions limits between 60% and 100% gas turbine loads:

- Oxides of Nitrogen (NOx) = 2 ppmvd @ 15% O_2
- Carbon Monoxide (CO) = 3 ppmvd @ 15% O_2
- Volatile Organic Compounds (VOC) = 2 ppmvd @ 15% O_2
- Ammonia Slip (NH_3 Slip) = 5 ppmvd @ 15% O_2
- Particulate Matter less than 10 Microns Diameter (PM10) = 9.5 lbs/hr

Sincerely

James W. Heller
New Generation Sales Manager

Cc: Kevin Hull, SPG

APPENDIX D

HOURLY EMISSION CALCULATIONS

Appendix D - ESPR
CTG Hourly Emissions - Normal Operations

PAGES	PAGE	A/N
BY	DATE	

Data:

Standard Conditions: 29.92 inches Hg and 68 degrees Fahrenheit

Emission Factor (lb/MMBTU) = (ppmvd)*(MW)*(1/SMV)*(20.9/5.9)*(Fd)*(1/1E6)

where,

controlled ppmvd = controlled concentration corrected to 15% O_2

MW = molecular weight (lb/lb-mol)

SMV = specific molar volume at 68 degrees Fahrenheit = 385.3 dscf/lb-mol

Fd = dry oxygen F-factor for natural gas = 8,710 dscf/MMBTU at 68 degrees Fahrenheit

Emission Rate Uncontrolled = Emission Factor Uncontrolled (lb/MMBTU) * Heat Input (MMBTU/hr)

Emission Rate Controlled = Emission Factor Controlled (lb/MMBTU) * Heat Input (MMBTU/hr)

Uncontrolled Emissions from the CTG:

NOx = 9 ppm @ 15% O_2, CO = 4 ppm @ 15% O_2, VOC = 2 ppm, SOx = 0.25 grains/100 scf (long-term avg), 0.75 grains/100 scf (short-term avg)

CO Emissions

Operating Condition	Heat Input (MMBTU/hr)	Pollutant Conc. Uncontrolled (ppmvd)	Pollutant Conc. Controlled (ppmvd)	Molecular Weight (lbs/lb-mole)	Specific Molar Volume (dscf/lb-mole)	Dry Fuel Factor (dscf/MMBTU)	Emission Factor Uncontrolled (lb/MMBTU)	Emission Factor Controlled (lb/MMBTU)	Emission Rate Uncontrolled (lb/hr)	Emission Rate Controlled (lb/hr)
Avg. Base	1,881.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	16.87	12.65
Avg. Base (cooler)	1,951.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	17.50	13.12
Avg. Peak	2,096.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	18.80	14.10
Avg. Low	1,155.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	10.36	7.77
Hot Base	1,851.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	16.60	12.45
Hot Base (cooler)	1,930.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	17.31	12.98
Hot Peak	2,073.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	18.59	13.94
Hot Low	1,139.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	10.22	7.66
Mild Base (cooler)	2,004.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	17.97	13.48
Mild Base	1,974.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	17.70	13.28
Mild Low (60%)	1,352.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	12.13	9.09
Mild Low (50%)	1,203.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	10.79	8.09
Cold Base	2,078.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	18.64	13.98
Cold Low (60%)	1,415.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	12.69	9.52
Cold Low (50%)	1,257.0	4.0	3.0	28	385.3	8,710	0.0090	0.0067	11.27	8.46
Average	**1,690.6**									**11.37**

Appendix D - ESPR
CTG Hourly Emissions - Normal Operations

PAGES	PAGE	

NOx Emissions

Operating Condition	Heat Input (MMBTU/hr)	Pollutant Conc. Uncontrolled (ppmvd)	Pollutant Conc. Controlled (ppmvd)	Molecular Weight (lb/lb-mol)	Specific Molar Volume (dscf/lb-mole)	Dry Fuel Factor (dscf/MMBTU)	Emission Factor Uncontrolled (lb/MMBTU)	Emission Factor Controlled (lb/MMBTU)	Emission Rate Uncontrolled (lb/hr)	Emission Rate Controlled (lb/hr)
Avg. Base	1,881.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	62.36	13.86
Avg. Base (cooler)	1,951.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	64.68	14.37
Avg. Peak	2,096.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	69.49	15.44
Avg. Low	1,155.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	38.29	8.51
Hot Base	1,851.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	61.36	13.64
Hot Base (cooler)	1,930.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	63.98	14.22
Hot Peak	2,073.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	68.72	15.27
Hot Low	1,139.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	37.76	8.39
Mild Base (cooler)	2,004.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	66.44	14.76
Mild Base	1,974.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	65.44	14.54
Mild Low (60%)	1,352.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	44.82	9.96
Mild Low (50%)	1,203.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	39.88	8.86
Cold Base	2,078.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	68.89	15.31
Cold Low (60%)	1,415.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	46.91	10.42
Cold Low (50%)	1,257.0	9.0	2.0	46	385.3	8,710	0.0332	0.0074	41.67	9.26
Average	**1,690.6**									**12.45**

Appendix D - ESPR
CTG Hourly Emissions - Normal Operations

PAGES	PAGE	A/N
BY	DATE	

VOC Emissions

Operating Condition	Heat Input (MMBTU/hr)	Pollutant Conc. Uncontrolled (ppmvd)	Pollutant Conc. Controlled (ppmvd)	Molecular Weight (lb/lb-mol)	Specific Molar Volume (dscf/lb-mol)	Dry Fuel Factor (dscf/MMBTU)	Emission Factor Uncontrolled (lb/MMBTU)	Emission Factor Controlled (lb/MMBTU)	Emission Rate Uncontrolled (lb/hr)	Emission Rate Controlled (lb/hr)
Avg. Base	1,881.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	4.82	4.82
Avg. Base (cooler)	1,951.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	5.00	5.00
Avg. Peak	2,096.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	5.37	5.37
Avg. Low	1,155.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	2.96	2.96
Hot Base	1,851.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	4.74	4.74
Hot Base (cooler)	1,930.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	4.95	4.95
Hot Peak	2,073.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	5.31	5.31
Hot Low	1,139.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	2.92	2.92
Mild Base (cooler)	2,004.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	5.14	5.14
Mild Base	1,974.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	5.06	5.06
Mild Low (60%)	1,352.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	3.46	3.46
Mild Low (50%)	1,203.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	3.08	3.08
Cold Base	2,078.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	5.32	5.32
Cold Low (60%)	1,415.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	3.63	3.63
Cold Low (50%)	1,257.0	2.0	2.0	16	385.3	8,710	0.0026	0.0026	3.22	3.22
Average	**1,690.6**									**4.33**

Appendix D - ESPR
CTG Hourly Emissions - Normal Operations

PAGES	PAGE	A/N
BY	DATE	

PM10 Emissions

Operating Condition	Heat Input (MMBTU/hr)	Emission Factor (lb/MMBTU)	Emission Rate Uncontrolled (lb/hr)	Emission Rate Controlled (lb/hr)
Avg. Base	1,881.0	0.0051	9.50	9.50
Avg. Base (cooler)	1,951.0	0.0049	9.50	9.50
Avg. Peak	2,096.0	0.0045	9.50	9.50
Avg. Low	1,155.0	0.0082	9.50	9.50
Hot Base	1,851.0	0.0051	9.50	9.50
Hot Base (cooler)	1,930.0	0.0049	9.50	9.50
Hot Peak	2,073.0	0.0046	9.50	9.50
Hot Low	1,139.0	0.0083	9.50	9.50
Mild Base (cooler)	2,004.0	0.0047	9.50	9.50
Mild Base	1,974.0	0.0048	9.50	9.50
Mild Low (60%)	1,352.0	0.0070	9.50	9.50
Mild Low (50%)	1,203.0	0.0079	9.50	9.50
Cold Base	2,078.0	0.0046	9.50	9.50
Cold Low (60%)	1,415.0	0.0067	9.50	9.50
Cold Low (50%)	1,257.0	0.0076	9.50	9.50
Average	**1,690.6**		**9.50**	**9.50**

Appendix D - ESPR
CTG Hourly Emissions - Normal Operations

PAGES	PAGE	A/N
BY	DATE	

SOx Emissions

Operating Condition	Heat Input (MMBTU/hr)	Short-Term Emission Factor[1] (lb/MMBTU)	Long-Term Emission Factor[1] (lb/MMBTU)	Short-Term Emission Rate Uncontrolled (lb/hr)	Short-Term Emission Rate Controlled (lb/hr)	Long-Term Emission Rate Uncontrolled (lb/hr)	Long-Term Emission Rate Controlled (lb/hr)
Avg. Base	1,881.0	0.00209	0.00070	3.92	3.92	1.31	1.31
Avg. Base (cooler)	1,951.0	0.00209	0.00070	4.07	4.07	1.36	1.36
Avg. Peak	2,096.0	0.00209	0.00070	4.37	4.37	1.46	1.46
Avg. Low	1,155.0	0.00209	0.00070	2.41	2.41	0.80	0.80
Hot Base	1,851.0	0.00209	0.00070	3.86	3.86	1.29	1.29
Hot Base (cooler)	1,930.0	0.00209	0.00070	4.02	4.02	1.34	1.34
Hot Peak	2,073.0	0.00209	0.00070	4.32	4.32	1.44	1.44
Hot Low	1,139.0	0.00209	0.00070	2.37	2.37	0.79	0.79
Mild Base (cooler)	2,004.0	0.00209	0.00070	4.18	4.18	1.39	1.39
Mild Base	1,974.0	0.00209	0.00070	4.12	4.12	1.37	1.37
Mild Low (60%)	1,352.0	0.00209	0.00070	2.82	2.82	0.94	0.94
Mild Low (50%)	1,203.0	0.00209	0.00070	2.51	2.51	0.84	0.84
Cold Base	2,078.0	0.00209	0.00070	4.33	4.33	1.44	1.44
Cold Low (60%)	1,415.0	0.00209	0.00070	2.95	2.95	0.98	0.98
Cold Low (50%)	1,257.0	0.00209	0.00070	2.62	2.62	0.87	0.87
Average	**1,690.6**			**3.52**	**3.52**	**1.17**	**1.17**

[1] Based on a maximum long-term sulfur content of 0.25 grains/100 scf fuel; 1,050 BTU/scf natural gas; and 7,000 grains/lb, and 1 mole S for 2 moles SO_2

Based on maximum short-term sulfur content of 0.75 grains/100 scf fuel

SOx = (0.25 gr/100scf)(1 scf/1,027.7 BTU)(lb/7,000 gr)(2 mol SO_2/1 mol S)(1,000,000 BTU/MMBTU) = 0.00070 lb/MMBTU

SOx = (0.75 gr/100scf)(1 scf/1,027.7 BTU)(lb/7,000 gr)(2 mol SO_2/1 mol S)(1,000,000 BTU/MMBTU) = 0.00209 lb/MMBTU

Appendix D - ESPR
CTG Hourly Emissions - Normal Operations

PAGES	PAGE	A/N
BY	DATE	

NH3 Emissions

Operating Condition	Heat Input (MMBTU/hr)	Pollutant Conc. Controlled (ppmvd)	Molecular Weight (lb/lb-mol)	Specific Molar Volume (dscf/lb-mol)	Dry Fuel Factor dscf/MMBTU	Emission Factor (lb/MMBTU)	Emission Rate (lb/hr)
Avg. Base	1,881.0	5	17	385.3	8,710	0.0068	12.80
Avg. Base (cooler)	1,951.0	5	17	385.3	8,710	0.0068	13.28
Avg. Peak	2,096.0	5	17	385.3	8,710	0.0068	14.27
Avg. Low	1,155.0	5	17	385.3	8,710	0.0068	7.86
Hot Base	1,851.0	5	17	385.3	8,710	0.0068	12.60
Hot Base (cooler)	1,930.0	5	17	385.3	8,710	0.0068	13.14
Hot Peak	2,073.0	5	17	385.3	8,710	0.0068	14.11
Hot Low	1,139.0	5	17	385.3	8,710	0.0068	7.75
Mild Base (cooler)	2,004.0	5	17	385.3	8,710	0.0068	13.64
Mild Base	1,974.0	5	17	385.3	8,710	0.0068	13.44
Mild Low (60%)	1,352.0	5	17	385.3	8,710	0.0068	9.20
Mild Low (50%)	1,203.0	5	17	385.3	8,710	0.0068	8.19
Cold Base	2,078.0	5	17	385.3	8,710	0.0068	14.14
Cold Low (60%)	1,415.0	5	17	385.3	8,710	0.0068	9.63
Cold Low (50%)	1,257.0	5	17	385.3	8,710	0.0068	8.56
Average	**1,690.6**						**11.51**

APPENDIX E

MONTHLY EMISSION CALCULATIONS

Appendix E - ESPR
CTG - 30 Day Averages[1] - Commissioning Year

PAGES	PAGE	A/N
BY	DATE	

Operating Condition 3	Hours per Month	CO (lb/hr)	PM10 (lb/hr)	VOC (lb/hr)	SOx (lb/hr)	CO (lb/month)	PM10 (lb/month)	VOC (lb/month)	SOx (lb/month)
Unit 5 Startup	0.0	417.42	9.50	17.30	1.46	0	0	0	0
Unit 5 Commissioning	178.0	663.74	9.41	30.68	1.46	118,145	1,675	5,461	259
Unit 5 Normal Operations	0.0	14.10	9.50	5.37	1.46	0	0	0	0
Unit 5 Shutdown	0.0	221.18	9.50	9.74	1.46	0	0	0	0
Unit 7 Startup	0.0	417.42	9.50	17.30	1.46	0	0	0	0
Unit 7 Commissioning	178.0	663.74	9.41	30.68	1.46	118,145	1,675	5,461	259
Unit 7 Normal Operations	0.0	14.10	9.50	5.37	1.46	0	0	0	0
Unit 7 Shutdown	0.0	221.18	9.50	9.74	1.46	0	0	0	0
						lb/month	**lb/month**	**lb/month**	**lb/month**
Unit 5 Total Monthly Emissions (lb/month)						118,145	1,675	5,461	259
Unit 7 Total Monthly Emissions (lb/month)						118,145	1,675	5,461	259
Total =						236,290	3,350	10,922	519
						lb/day	**lb/day**	**lb/day**	**lb/day**
Unit 5 30-Day Average (lb/day)						**3,938**	**56**	**182**	**9**
Unit 7 30-Day Average (lb/day)						**3,938**	**56**	**182**	**9**
Total =						**7,876**	**112**	**364**	**17**

Notes:
[1] NOx will be offset with RTCs, and therefore no entries for NOx are included in the table

Appendix E - ESPR

CTG - 30 Day Averages[1] - Non-Commissioning Year

PAGES	PAGE	A/N
BY	DATE	

Operating Condition 3	Hours per Month	CO (lb/hr)	PM10 (lb/hr)	VOC (lb/hr)	SOx (lb/hr)	CO (lb/month)	PM10 (lb/month)	VOC (lb/month)	SOx (lb/month)
Unit 5 Startup	30.0	417.42	9.50	17.30	1.46	12,523	285	519	44
Unit 5 Commissioning	0.0	2119.04	0.00	0.00	1.46	0	0	0	0
Unit 5 Normal Operations	670.0	14.10	9.50	5.37	1.46	9,446	6,365	3,599	976
Unit 5 Shutdown	30.0	221.18	9.50	9.74	1.46	6,635	285	292	44
Unit 6 Startup	30.0	417.42	9.50	17.30	1.46	12,523	285	519	44
Unit 6 Commissioning	0.0	2119.04	0.00	0.00	1.46	0	0	0	0
Unit 6 Normal Operations	670.0	14.10	9.50	5.37	1.46	9,446	6,365	3,599	976
Unit 6 Shutdown	30.0	221.18	9.50	9.74	1.46	6,635	285	292	44
						lb/month	**lb/month**	**lb/month**	**lb/month**
Unit 5 Total Monthly Emissions (lb/month)						28,604	6,935	4,410	1,063
Unit 6 Total Monthly Emissions (lb/month)						28,604	6,935	4,410	1,063
Total =						57,208	13,870	8,820	2,127
						lb/day	**lb/day**	**lb/day**	**lb/day**
Unit 5 30-Day Average (lb/day)						**953**	**231**	**147**	**35**
Unit 6 30-Day Average (lb/day)						**953**	**231**	**147**	**35**
Total =						**1,907**	**462**	**294**	**71**

Notes:

[1] NOx will be offset with RTCs, and therefore no entries for NOx are included in the table

APPENDIX F

ANNUAL EMISSION CALCULATIONS

Appendix F - ESPR
CTG Annual Emissions - Commissioning Year

PAGES	PAGE	A/N
BY	DATE	

Operating Condition 3	Hours per Year	CO (lbs/hr)	NOx (lbs/hr)	VOC (lbs/hr)	PM10 (lbs/hr)	SOx (lbs/hr)	NH3 (lbs/hr)	CO (lbs/year)	NOX (lbs/year)	VOC (lbs/year)	PM10 (lbs/year)	SOx (lbs/year)	NH3 (lbs/year)
Unit 5 Start-Up	200	417.42	56.03	17.30	9.50	1.46	14.27	83,484	11,206	3,459	1,900	291	2,853
Unit 5 Commissioning1	415	314.07	30.07	16.75	9.42	1.46	14.27	130,337	12,478	6,952	3,911	605	5,921
Unit 5 Normal Operation	4,641	13.12	14.37	5.00	9.50	1.36	13.28	60,906	66,707	1,764	44,090	6,293	61,631
Unit 5 Shutdown	200	221.18	35.46	9.74	9.50	1.46	14.27	44,236	7,092	1,949	1,900	291	2,853
Unit 5 Totals	**5,456**							**318,963**	**97,483**	**14,124**	**51,801**	**7,480**	**73,259**
Unit 7 Start-Up	200	417.42	56.03	17.30	9.50	1.46	14.27	83,484	11,206	3,459	1,900	291	2,853
Unit 7 Commissioning1	415	314.07	30.07	16.75	9.42	1.46	14.27	130,337	12,478	6,952	3,911	605	5,921
Unit 7 Normal Operation	4,641	13.12	14.37	5.00	9.50	1.36	13.28	60,906	66,707	23,202	44,090	6,293	61,631
Unit 7 Shutdown	200	221.18	35.46	9.74	9.50	1.46	14.27	44,236	7,092	1,949	1,900	291	2,853
Unit 7 Totals	**5,456**							**318,963**	**97,483**	**35,563**	**51,801**	**7,480**	**73,259**
Total Annual Emissions (lb/year)								**637,926**	**194,966**	**49,687**	**103,601**	**14,961**	**146,517**

Appendix F - ESPR
CTG Annual Emissions - Non-Commissioning Year

PAGES	PAGE	A/N
BY	DATE	

Operating Condition 3	Hours per Year	CO (lbs/hr)	NOx (lbs/hr)	VOC (lbs/hr)	PM10 (lbs/hr)	SOx (lbs/hr)	NH3 (lbs/hr)	CO (lbs/year)	NOX (lbs/year)	VOC (lbs/year)	PM10 (lbs/year)	SOx (lbs/year)	NH3 (lbs/year)
Unit 5 Start-Up	200	417.42	56.03	17.30	9.50	1.46	14.27	83,484	11,206	3,459	1,900	291	2,853
Unit 5 Normal Operations	5,056	13.12	14.37	5.00	9.50	1.36	13.28	66,352	72,672	25,277	48,032	6,856	67,142
Unit 5 Shutdown	200	221.18	35.46	9.74	9.50	1.46	14.27	44,236	7,092	1,949	1,900	291	2,853
Unit 5 Totals	**5,456**							**194,072**	**90,970**	**30,685**	**51,832**	**7,439**	**72,849**
Unit 6 Start-Up	200	417.42	56.03	17.30	9.50	1.46	14.27	83,484	11,206	3,459	1,900	291	2,853
Unit 6 Normal Operations	5,056	13.12	14.37	5.00	9.50	1.36	13.28	66,352	72,672	25,277	48,032	6,856	67,142
Unit 6 Shutdown	200	221.18	35.46	9.74	9.50	1.46	14.27	44,236	7,092	1,949	1,900	291	2,853
Unit 6 Totals	**5,456**							**194,072**	**90,970**	**30,685**	**51,832**	**7,439**	**72,849**
Total Annual Emissions (lb/year)								**388,145**	**181,940**	**61,371**	**103,664**	**14,877**	**145,698**

APPENDIX G

CTG COMMISSIONING SCHEDULE

Appendix G - CTG Commissioning Schedule

Commissioning Schedule for SGT6-5000F CTGs (Per GT

					Startup/Shutdown Emissions (lbs)				Fuel Use	Running Emissions (lbs)				Fuel Use	Total Emissions (lbs)				Fuel Use	Calculated Hourly Emissions (lbs/hr)			
Day	Activity	Duration (hr)	GT Load (%)	Modeling Load (%)	NOx	CO	VOC	PM	(lbs)	NOx	CO	VOC	PM	(lbs)	NOx	CO	VOC	PM	(lbs)	NOx	CO	VOC	PM
1	GT Testing (FSNL, Excitation Test, Dummy Synch Checks)	8	0	FSNL	6	483	21	1	2474	370	30018	1289	92	153752	376	30501	1310	93	156226	47.0	3812.6	163.8	11.6
2	GT Testing @ 40% load	8	0-40	40	126	3712	105	12	35529	1475	13971	572	90	403519	1601	17683	677	102	439048	200.1	2210.4	84.6	12.8
3	Steam Blow/HRSG Tuning	12	0-25	25	69	2648	77	8	19888	1686	41064	892	136	462406	1755	43712	969	144	482294	146.3	3642.7	80.8	12.0
4	Steam Blow/HRSG Tuning	12	0-50	50	157	3971	120	15	48447	850	5176	593	96	697169	1007	9147	713	111	745616	83.9	762.3	59.4	9.3
5	Steam Blow	12	0-50	50	157	3971	120	15	48447	850	5176	593	96	697169	1007	9147	713	111	745616	83.9	762.3	59.4	9.3
6	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
9	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
13	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
14	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
15	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
16	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
17	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
18	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
19	Steam Blow restoration, install SCR/CO Catalyst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
20	Establish vacuum/HSRG Tuning/BOP Tuning	16	60	60	86	805	73	9	32811	153	104	63	128	1046636	239	908	136	137	1079447	14.9	56.8	8.5	8.6
21	Establish vacuum/BOP Tuning	16	60	60	86	805	73	9	32811	153	104	63	128	1046636	239	908	136	137	1079447	14.9	56.8	8.5	8.6
22	GT Load Test & Bypass Valve Tuning	16	60	60	86	805	73	9	32811	153	104	63	128	1046636	239	908	136	137	1079447	14.9	56.8	8.5	8.6
23	GT Load Test & Bypass Valve Tuning	16	60	60	86	805	73	9	32811	153	104	63	128	1046636	239	908	136	137	1079447	14.9	56.8	8.5	8.6
24	GT Load Test & Bypass Valve Tuning / Safety Valve Testing	12	75	75	87	805	74	10	41264	135	36	18	96	919646	222	842	92	106	960910	18.5	70.2	7.7	8.8
25	GT Base Load / Commissioning of Ammonia system	12	100	100	92	806	74	13	71104	169	46	23	104	1152480	260	852	97	117	1223584	21.7	71.0	8.1	9.8
26	GT Load Test & Bypass Valve Tuning	12	100	100	92	806	74	13	71104	169	46	23	104	1152480	260	852	97	117	1223584	21.7	71.0	8.1	9.8
27	No Operation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
28	Install Emissions Test Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
29	Bypass Operation / STG Initial Roll & Trip Test	10	0-60	60	86	805	73	9	32811	96	65	39	80	654147	182	869	113	89	686958	18.2	86.9	11.3	8.9
30	Bypass Operation / STG Load Test	16	0-60	60	86	805	73	9	32811	153	104	63	128	1046636	239	908	136	137	1079447	14.9	56.8	8.5	8.6
31	GT on Bypass / STG Load Test	16	0-100	100	92	806	74	13	71104	225	61	31	139	1536640	317	867	105	152	1607744	19.8	54.2	6.6	9.5
32	Combine Cycle testing / Drift Test	24	0-100	100	49	524	48	7	36789	338	91	46	208	2304961	386	615	93	215	2341750	16.1	25.6	3.9	9.0
33	Combine Cycle testing / Drift Test	24	100	100	43	282	27	6	34315	338	91	46	208	2304961	380	374	73	214	2339275	15.8	15.6	3.0	8.9
34	Emissions Tuning / Drift Test	12	50-100	100	92	806	74	13	71104	169	46	23	104	1152480	260	852	97	117	1223584	21.7	71.0	8.1	9.8
35	Emissions Tuning / Drift Test	12	50-100	100	92	806	74	13	71104	169	46	23	104	1152480	260	852	97	117	1223584	21.7	71.0	8.1	9.8
36	Pre-performance Testing / Drift Test	12	100	100	92	806	74	13	71104	169	46	23	104	1152480	260	852	97	117	1223584	21.7	71.0	8.1	9.8
37	Pre-performance Testing / Drift Test	12	100	100	92	806	74	13	71104	169	46	23	104	1152480	260	852	97	117	1223584	21.7	71.0	8.1	9.8
38	Pre-performance Testing / Drift Test	12	100	100	92	806	74	13	71104	169	46	23	104	1152480	260	852	97	117	1223584	21.7	71.0	8.1	9.8
39	RATA / Pre-performance Testing / Source Testing	15	100	100	92	806	74	13	71104	211	57	29	130	1440600	303	864	103	143	1511704	20.2	57.6	6.9	9.5
40	Pre-performance Testing / Source Testing	14	100	100	92	806	74	13	71104	197	53	27	122	1344560	289	860	101	134	1415664	20.6	61.4	7.2	9.6
41	Pre-performance Testing / Source Testing	12	50-100	100	92	806	74	13	71104	169	46	23	104	1152480	260	852	97	117	1223584	21.7	71.0	8.1	9.8
42	Remove Emissions Test Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
43	No Operation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
44	Water Wash & Performance preparation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
45	Water Wash & Performance preparation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
46	Performance Testing	24	100	100	92	806	74	13	71104	338	91	46	208	2304961	429	898	120	221	2376064	17.9	37.4	5.0	9.2
47	Performance Testing	24	100	100	92	806	74	13	71104	338	91	46	208	2304961	429	898	120	221	2376064	17.9	37.4	5.0	9.2
48	CALISO Certification	12	50-100	100	92	806	74	13	71104	169	46	23	104	1152480	260	852	97	117	1223584	21.7	71.0	8.1	9.8
49	CALISO Certification	12	100	100	92	806	74	13	71104	169	46	23	104	1152480	260	852	97	117	1223584	21.7	71.0	8.1	9.8
	Total =	415			2,590	33,316	2,140	323	1,530,579	9,902	97,021	4,812	3,589	34,287,432	12,478	130,337	6,952	3,911	35,818,008				
													Average =							30.1	314.1	16.8	9.4
													Maximum =							200.1	3812.6	163.8	12.8

APPENDIX H

CTG STARTUP/SHUTDOWN EMISSION CALCULATIONS

Appendix H - ESPR
CTG Hourly Emissions - Startup/Shutdown Emissions

PAGES	PAGE	A/N
BY	DATE	

CTG Startup, Shutdown, Startup/Shutdown Hourly Emissions

	Startup Hour		Shutdown Hour		Startup/Shutdown Hour	
Pollutant	Max. Hour Emissions (lbs/hr)	Avg. Hour Emissions (lbs/hr)	Max. Hour Emissions (lbs/hr)	Avg. Hour Emissions (lbs/hr)	Max. Hour Emissions (lbs/hr)	Avg. Hour Emissions (lbs/hr)
CO	556.56	417.42	294.91	221.18	823.27	617.45
NOx	74.71	56.03	47.28	35.46	91.10	68.33
VOC	17.30	17.30	9.74	9.74	21.67	21.67
PM10[1]	9.50	9.50	9.50	9.50	9.50	9.50
SOx[1] (short-term)	4.37	N/A	4.37	N/A	4.37	N/A
SOx[1] (long-term)	N/A	1.46	N/A	1.46	N/A	1.46
NH3	14.27	14.27	14.27	14.27	14.27	14.27

[1] Start-ups/shutdowns do not significantly affect SOx, PM10, or NH3 emissions.
Therefore, PM10, SOx, and NH3 during start-up are assumed to be equal to normal operation (average temp. peak)

Appendix H - ESPR
CTG Hourly Emissions - Startup/Shutdown Emissions

PAGES	PAGE	A/N
BY	DATE	

CTG - Hourly Startup Emissions (per GT)							
	Time (minutes)	NOx Emissions (lbs/hr)	CO Emissions (lbs/hr)	VOC Emissions (lbs/hr)	NOx Emissions (lbs)	CO Emissions (lbs)	VOC Emissions (lbs)
Maximum Startup Emissions	12	N/A	N/A	N/A	25.0	267.0	13.0
Maximum Normal Operation Emissions	48	15.4	14.1	5.4	12.4	11.3	4.3
Sub-total =	60				37.4	278.3	17.3
Adjustment Factor (short term) =					2	2	1
Adjustment Factor (long term) =					1.5	1.5	1
Total (short term) =					74.7	556.6	17.3
Total (long term) =					56.0	417.4	17.3

CTG - Hourly Shutdown Emissions (per GT)							
	Time (minutes)	NOx Emissions (lbs/hr)	CO Emissions (lbs/hr)	VOC Emissions (lbs/hr)	NOx Emissions (lbs)	CO Emissions (lbs)	VOC Emissions (lbs)
Maximum Shutdown Emissions	7	N/A	N/A	N/A	10.0	135.0	5.0
Maximum Normal Operation Emissions	53	15.4	14.1	5.4	13.6	12.5	4.7
Sub-total =	60				23.6	147.5	9.7
Adjustment Factor (short term) =					2	2	1
Adjustment Factor (long term) =					1.5	1.5	1
Total (short term) =					47.3	294.9	9.7
Total (long term) =					35.5	221.2	9.7

CTG - Hourly Startup/Shutdown Emissions (per GT)							
	Time (minutes)	NOx Emissions (lbs/hr)	CO Emissions (lbs/hr)	VOC Emissions (lbs/hr)	NOx Emissions (lbs)	CO Emissions (lbs)	VOC Emissions (lbs)
Maximum Startup Emissions	12	N/A	N/A	N/A	25.0	267.0	13.0
Maximum Shutdown Emissions	7	N/A	N/A	N/A	10.0	135.0	5.0
Maximum Normal Operation Emissions	41	15.4	14.1	5.4	10.6	9.6	3.7
Sub-total =	60				45.6	411.6	21.7
Adjustment Factor (short term) =					2	2	1
Adjustment Factor (long term) =					1.5	1.5	1
Total (short term) =					91.1	823.3	21.7
Total (long term) =					68.3	617.5	21.7

APPENDIX I

CTG VENDOR SUPPLIED STARTUP/SHUTDOWN EMISSIONS

SIEMENS

NRG - El Segundo - Total Estimated Startup and Shutdown Emissions
SGT6-5000F in Super Peaker Combined Cycle Operation on Natural Gas @ 62 °F and 41 °F

Mode	~ Time (minutes)	Total Emissions per Event (pounds)			
		NO_X	CO	VOC	PM
Startup on Natural Gas @ 62 °F	12	24	259	12	3
Shutdown on Natural Gas @ 62 °F	7	10	131	5	1
Startup on Natural Gas @ 41 °F	12	25	267	13	3
Shutdown on Natural Gas @ 41 °F	7	10	135	5	1

General Notes

1.) All data is ESTIMATED, NOT guaranteed and is for ONE unit.
2.) Gas fuel must be in compliance with Siemens fuel specifications.
3.) Emissions are at the HRSG exhaust stack outlet and exclude ambient air contributions.
4.) Emissions are based on new and clean conditions.
5.) Please be advised that the information contained in this transmittal has been prepared and is being transmitted per customer request specifically for information purposes only. Such information is not intended to be used for evaluation of plant design and/or performance relative to contractual commitments. Data included in any permit application or Environmental Impact Statement is strictly the customer's responsibility. Siemens is available to review permit application data upon request.

Startup Emissions Notes

1.) Estimated startup (SU) data are from gas turbine (GT) ignition through 100% GT load plus 10 minutes.
2.) Estimated SU and shutdown (SD) data are based on the assumed times noted above and will be higher for longer times.
3.) Estimated SU and SD data are based on the ambient temperatures noted above and will be higher at lower ambient temperatures.
4.) NO_X emissions assume SCR is not in operation (no removal).
5.) CO emissions assume 20% removal from ignition to 100% GT load and 90% removal from 100% GT load on.
6.) SU assumes 5 minutes from turning gear to synchronization.
7.) SD assumes 100% load to FSNL with no cooldown at FSNL.
8.) Operator actions do not extend startup or shutdown.
9.) It is assumed that there is no restriction from the interconnected utility for loading the GT from synchronization to 100% load within the SU times considered.

APPENDIX J

NOX RTC CALCULATIONS

Appendix J - ESPR
CTG - NOx RTC Calculations

		A/N
BY	DATE	

Data: (per turbine)

Operating Schedule (1st Year):			Operating Schedule (2nd Year):		
Startups =	200	hours/year	Startups =	200	hours/year
Shutdowns =	200	hours/year	Shutdowns =	200	hours/year
Normal Operations =	4,641	hours/year	Normal Operations =	5,056	hours/year
Commissioning Period =	415	hours/year	Commissioning Period =	0	hours/year

1st Year NOx RTCs

Operating Condition 100	Hours per Year	NOx (lb/hr)	NOx (lb/year) per device	NOx (lb/year) cumulative
CTGs				
Startup	200	56.03	11,205.99	22,411.97
Shutdown	200	35.46	7,092.03	14,184.05
Normal Operation	4,641	14.37	66,706.80	133,413.59
Commissioning	415	47.89	19,872.40	39,744.80
CTG Totals			104,877.21	209,754.42
Total 1st Year Emissions (lb/year)			104,877.21	209,754.42
Offset Ratio			1.00	1.00
1st year RTCs (lb/year)			**104,877.21**	**209,754.42**

2nd Year NOx RTCs

Operating Condition 100	Hours per Year	NOx (lb/hr)	NOx (lb/year) per device	NOx (lb/year) cumulative
CTGs				
Startup	200	56.03	11,205.99	22,411.97
Shutdown	200	35.46	7,092.03	14,184.05
Normal Operation	5,056	14.37	72,671.74	145,343.49
Commissioning	0	47.89	0.00	0.00
CTG Totals			90,969.76	181,939.51
Total 2nd Year Emissions (lb/year)			90,969.76	181,939.51
Offset Ratio			1.00	1.00
2nd year RTCs (lb/year)			**90,969.76**	**181,939.51**

APPENDIX K

ERC CALCULATIONS

Appendix K
CTG ERC Calculations

PAGES	PAGE	A/N
BY	DATE	

Calculation of Emission Offset Credits - Rule 1304 Method (lbs/day)
(Commissioning Year)

	Emissions			
	CO Emissions	PM10 Emissions	VOC Emissions	SOx Emissions
Uncorrected 30 Day Average Emissions(1)				
Unit 5 =	3,938	56	182	9
Unit 6 =	3,938	56	182	9
Total =	7,876	112	364	17
Rule 1304 Emission Multiplier(2) =	0.3892	0.3892	0.3892	0.3892
Rule 1304 Corrected Net Average Daily Emission Increase				
Unit 5 =	1,533	22	71	3
Unit 6 =	1,533	22	71	3
Total =	3,066	44	142	6
Offset Ratio =	1.2	1.2	1.2	1.2
ERCs Required				
Unit 5 =	1,840	26	85	4
Unit 6 =	1,840	26	85	4
Total =	3,679	52	170	8
ERCs Purchased (4) =	0	24	146	45
Surplus/Shortfall (lbs/day) =	3,679	28	24	-37
Priority Reserve ERCs (lbs/day) =	N/A	28	N/A	N/A
Remaining ERCs to Acquire (lbs/day) =	0[4]	0	24	0

Notes:

1. Based on SCAQMD Regulation XIII requirement to calculate average daily emission based on monthly emissions divided by 30.
2. From Appendix F of SCAQMD Engineering Evaluation, Rule 1304 Methodology Table, November 29, 2001, SCAQMD PDOC for ESPR project (AN 378766). The Rule 1304 multiplier was adjusted for a revised combined rating of the new Siemens CTGs of 573 MW (the combined rating for Boiler Units 1 and 2 remains at 350 MW).
3. ERCs purchased for the ESPR project.
4. Due to reclassification of SCAQMD as a federal attainment area for CO, the NSR regulation no longer required CO ERCs.

Appendix K
CTG ERC Calculations

PAGES	PAGE	A/N
BY	DATE	

Calculation of Emission Offset Credits - Rule 1304 Method (lbs/day)
(Non-Commissioning Year)

	Emissions			
	CO Emissions	PM10 Emissions	VOC Emissions	SOx Emissions
Uncorrected 30 Day Average Emissions(1)				
Unit 5 =	953	231	147	35
Unit 6 =	953	231	147	35
Total =	1,907	462	294	71
Rule 1304 Emission Multiplier(2) =	0.3892	0.3892	0.3892	0.3892
Rule 1304 Corrected Net Average Daily Emission Increase				
Unit 5 =	371	90	57	14
Unit 6 =	371	90	57	14
Total =	742	180	114	28
Offset Ratio =	1.2	1.2	1.2	1.2
ERCs Required				
Unit 5 =	445	108	68	17
Unit 6 =	445	108	68	17
Total =	890	216	136	34
ERCs Purchased (3) =	0	24	146	45
Surplus/Shortfall (lbs/day) =	890	192	-10	-11
Priority Reserve ERCs (lbs/day) =	N/A	192	N/A	N/A
Remaining ERCs to Acquire (lbs/day) =	0[4]	0	0	0

Notes:

1. Based on SCAQMD Regulation XIII requirement to calculate average daily emission based on monthly emissions divided by 30.
2. From Appendix F of SCAQMD Engineering Evaluation, Rule 1304 Methodology Table, November 29, 2001, SCAQMD PDOC for ESPR project (AN 378766). The Rule 1304 multiplier was adjusted for a revised combined rating of the new Siemens CTGs of 573 MW (the combined rating for Boiler Units 1 and 2 remains at 350 MW).
3. ERCs purchased for the ESPR project.
4. Due to reclassification of SCAQMD as a federal attainment area for CO, the NSR regulation no longer required CO ERCs.

APPENDIX L

SCAQMD RULE 1309.1 INTERPRETATION FOR ESPR PROJECT

From: Mohsen Nazemi [mailto:MNazemi1@aqmd.gov]
Sent: Friday, May 11, 2007 11:53 AM
To: Hemig, Tim
Cc: Barry Wallerstein; Kurt Wiese; Barbara Baird; Carol Coy; Laki Tisopulos; Larry Bowen; Susan Nakamura; Mike Mills; John Yee
Subject: RE: El Segundo Power Redevelopment
Importance: High

Hi Tim. Thanks for your e-mail below. The AQMD is happy to be part of the solution to development of new clean and efficient electrical power generation capacity to address the increased demand and projected shortfall in supply of electricity, provided air quality and public health impacts are minimized and appropriately addressed.

I am sorry that I have not gotten back to you since we spoke on the phone a couple of months ago regarding your question below on the NRG's El Segundo Power Redevelopment (ESPR) project. The main reason I have not gotten back to you was that I was waiting to see what the latest proposal for Rule 1309.1 amendments will require prior to responding to you. Since the AQMD released the new revised staff proposal yesterday, and since you seem to need an answer now in order to be able to better prepare your application, I am providing the following response to your e-mail:

Based on your 01/30/07 e-mail below, ESPR project is considering a change in the configuration of the project, in part due to the recent court ruling on the once through cooling for sea water used in the cooling towers at your El Segundo generating station. The potential changes, in a nut shell, consist of the use of different types of gas turbines (two Siemens 501FD3 units instead of two GE 7FA units) with faster start time and higher fuel efficiency but maintain the combined cycle status of the project, and eliminate duct burning and wet cooling. This should overall result in a net reduction in generation capacity from 630 MW to 560 MW and potentially lower emissions.

Based on our evaluation of your proposed project modification and discussions with District Counsel, the ESPR needs to submit complete applications for modifications to the initial proposal and AQMD has to perform a new engineering analysis and determination of compliance for the project. We agree with your conclusion that ESPR project can still use the previous Rule 1304(a)(2) provisions for replacement of utility boilers with combined cycle gas turbines utilizing Rule 1306 calculation methodology and would still qualify to access Rule 1309.1 PR. However, a couple of points of clarification are that the amount of offsets that ESPR intends to obtain from PR will be at a 1.2-to-1.0 offset ratio and pursuant to the latest proposed Rule 1309.1 language released yesterday, although the criteria for qualifying as an Electric Generating Facility (EGF) is based on the version of Rule 1309.1 in effect at the time the application is deemed complete, the criteria for accessing the PR and the cost of PR credits would be in accordance with the version of R-1309.1 in effect at the time of issuance of the AQMD Permits. Of course the final determination of the impact of potential changes to the ESPR project will be based on the final language of rule amendment that our Governing Board adopts (Adoption Hearing is presently scheduled for July 13, 2007).

I am presuming that you are on our distribution list and have received a copy of the proposed amendments to Rule 1309.1. However, if you haven't, please contact Shams Hasan at shasan@aqmd.gov to obtain a copy of the proposed rule language and notice of the next public consultation meeting, which is presently scheduled for May 22, 2007 at 1:30 p.m. at the AQMD. I hope this provide answers to all of your questions. Thanks.

APPENDIX M

NON-CRITERIA POLLUTANT EMISSION CALCULATIONS

Appendix M - ESPR
Non-Criteria Pollutant Emission Calculations

PAGES	PAGE	A/N
BY	DATE	

Annual and Maximum Hourly Non-Criteria Pollutant Emissions For CTGs

Pollutant	Emission Factor(1) lb/MMscf	1 Turbine Max Firing Rate MMBtu/hr	Natural Gas HHV Btu/scf	Turbine Operating Hours hrs/yr	1 Turbine Max Hourly Firing Rate MMscf/hr	1 Turbine Annual Avg Firing Rate MMscf/yr	1 Turbine Max. Hourly Emissions lbs/hr (each)	2 Turbines Max. Hourly Emissions lbs/hr	1 Turbine Annual Emissions tons/yr (each)	2 Turbines Annual Emissions tons/yr	Hourly Emission Rate Per Turbine g/sec (each)	Annual Emission Rate Per Turbine g/sec (each)
Ammonia	(2)	2,096.0	1,027.7	5,456	2.04	11,127	1.43E+01	2.85E+01	36.42	72.85	1.80E+00	1.05E+00
Propylene	7.71E-01	2,096.0	1,027.7	5,456	2.04	11,127	1.57E+00	3.14E+00	4.29	8.58	1.98E-01	1.23E-01
Hazardous Air Pollutants												
Acetaldehyde	4.08E-02	2,096.0	1,027.7	5,456	2.04	11,127	8.32E-02	1.66E-01	0.23	0.45	1.05E-02	6.53E-03
Acrolein	3.69E-03	2,096.0	1,027.7	5,456	2.04	11,127	7.53E-03	1.51E-02	0.02	0.04	9.48E-04	5.91E-04
Benzene	3.33E-03	2,096.0	1,027.7	5,456	2.04	11,127	6.79E-03	1.36E-02	0.02	0.04	8.56E-04	5.33E-04
1,3-Butadiene	4.39E-04	2,096.0	1,027.7	5,456	2.04	11,127	8.95E-04	1.79E-03	0.00	0.00	1.13E-04	7.03E-05
Ethylbenzene	3.26E-02	2,096.0	1,027.7	5,456	2.04	11,127	6.65E-02	1.33E-01	0.18	0.36	8.38E-03	5.22E-03
Formaldehyde	3.67E-01	2,096.0	1,027.7	5,456	2.04	11,127	7.48E-01	1.50E+00	2.04	4.08	9.43E-02	5.87E-02
Hexane	2.59E-01	2,096.0	1,027.7	5,456	2.04	11,127	5.28E-01	1.06E+00	1.44	2.88	6.66E-02	4.15E-02
Naphthalene	1.66E-03	2,096.0	1,027.7	5,456	2.04	11,127	3.39E-03	6.77E-03	0.01	0.02	4.27E-04	2.66E-04
Anthracene	3.38E-05	2,096.0	1,027.7	5,456	2.04	11,127	6.89E-05	1.38E-04	0.00	0.00	8.69E-06	5.41E-06
Benzo(a)anthracene	2.26E-05	2,096.0	1,027.7	5,456	2.04	11,127	4.61E-05	9.22E-05	0.00	0.00	5.81E-06	3.62E-06
Benzo(a)pyrene	1.39E-05	2,096.0	1,027.7	5,456	2.04	11,127	2.83E-05	5.67E-05	0.00	0.00	3.57E-06	2.22E-06
Benzo(b)fluoranthrene	1.13E-05	2,096.0	1,027.7	5,456	2.04	11,127	2.30E-05	4.61E-05	0.00	0.00	2.90E-06	1.81E-06
Benzo(k)fluoranthrene	1.10E-05	2,096.0	1,027.7	5,456	2.04	11,127	2.24E-05	4.49E-05	0.00	0.00	2.83E-06	1.76E-06
Chrysene	2.52E-05	2,096.0	1,027.7	5,456	2.04	11,127	5.14E-05	1.03E-04	0.00	0.00	6.48E-06	4.03E-06
Dibenz(a,h)anthracene	2.35E-05	2,096.0	1,027.7	5,456	2.04	11,127	4.79E-05	9.59E-05	0.00	0.00	6.04E-06	3.76E-06
Indeno(1,2,3-cd)pyrene	2.35E-05	2,096.0	1,027.7	5,456	2.04	11,127	4.79E-05	9.59E-05	0.00	0.00	6.04E-06	3.76E-06
Propylene oxide	2.98E-02	2,096.0	1,027.7	5,456	2.04	11,127	6.08E-02	1.22E-01	0.17	0.33	7.66E-03	4.77E-03
Toluene	1.33E-01	2,096.0	1,027.7	5,456	2.04	11,127	2.71E-01	5.42E-01	0.74	1.48	3.42E-02	2.13E-02
Xylene	6.53E-02	2,096.0	1,027.7	5,456	2.04	11,127	1.33E-01	2.66E-01	0.36	0.73	1.68E-02	1.05E-02
Total HAPs =										10.42		

Notes:
(1) All factors except PAHs, hexane, and propylene from AP-42, Table 3.1-3, 4/00.
Individual PAHs, hexane and proplyene are CATEF mean results as AP-42 does not include factors for these compounds.
(2) Based on 5 ppm ammonia slip from SCR system.

Appendix M - ESPR
Non-Criteria Pollutant Emission Calculations

PAGES	PAGE	A/N
BY	DATE	

Annual and Maximum Hourly Non-Criteria Pollutant Emissions From Boiler Units 3 and 4

Pollutant	Emission Factor (lbs/mmscf)(1	1 Boiler Max Firing Rate MMBtu/hr	Natural Gas HHV Btu/scf	Boiler Operating Hours hrs/yr	1 Boiler Max Hourly Firing Rate MMscf/hr	1 Boiler Annual Avg Firing Rate MMscf/yr	1 Boiler Max. Hourly Emissions lbs/hr (each)	2 Boilers Max. Hourly Emissions lbs/hr	1 Boiler Annual Emissions tons/yr (each)	2 Boilers Annual Emissions tons/yr	Hourly Emission Rate Per Boiler g/sec (each)	Annual Emission Rate Per Boiler g/sec (each)
Ammonia	(2)	3417	1,027.7	8,760	3.32	29,126	1.74E+01	3.48E+01	76.21	152.42	2.19E+00	2.19E+00
Propylene	1.55E-02	3417	1,027.7	8,760	3.32	29,126	5.16E-02	1.03E-01	0.23	0.45	6.51E-03	6.51E-03
Hazardous Air Pollutants												
Acetaldehyde	9.00E-04	3417	1,027.7	8,760	3.32	29,126	2.99E-03	5.98E-03	0.01	0.03	3.77E-04	3.77E-04
Acrolein	8.00E-04	3417	1,027.7	8,760	3.32	29,126	2.66E-03	5.32E-03	0.01	0.02	3.35E-04	3.35E-04
Benzene	1.70E-03	3417	1,027.7	8,760	3.32	29,126	5.65E-03	1.13E-02	0.02	0.05	7.12E-04	7.12E-04
Ethylbenzene	2.00E-03	3417	1,027.7	8,760	3.32	29,126	6.65E-03	1.33E-02	0.03	0.06	8.38E-04	8.38E-04
Formaldehyde	3.60E-03	3417	1,027.7	8,760	3.32	29,126	1.20E-02	2.39E-02	0.05	0.10	1.51E-03	1.51E-03
Hexane	1.30E-03	3417	1,027.7	8,760	3.32	29,126	4.32E-03	8.64E-03	0.02	0.04	5.45E-04	5.45E-04
Naphthalene	3.00E-04	3417	1,027.7	8,760	3.32	29,126	9.97E-04	1.99E-03	0.00	0.01	1.26E-04	1.26E-04
PAHs (excluding Naphtha	4.00E-04	3417	1,027.7	8,760	3.32	29,126	1.33E-03	2.66E-03	0.01	0.01	1.68E-04	1.68E-04
Toluene	7.80E-03	3417	1,027.7	8,760	3.32	29,126	2.59E-02	5.19E-02	0.11	0.23	3.27E-03	3.27E-03
Xylene	5.80E-03	3417	1,027.7	8,760	3.32	29,126	1.93E-02	3.86E-02	0.08	0.17	2.43E-03	2.43E-03
Total HAPs =										0.72		

Notes:
(1) From Ventura County APCD AB2588 Combustion Emission Factors (May 17, 2001)
natural gas fired external combustion equipment greater than 100 MMBtu/hr.
(2) Based on ammonia slip.

APPENDIX N

BOILER UNITS 1 AND 2 EMISSION CALCULATIONS

Appendix N
Units 1 and 2 - Baseline Emission Calculations

PAGES	PAGE	A/N
BY	DATE	

Annual Baseline Emissions - Units 1 and 2

Unit	Operating Period*	Fuel Use* (mmscf)	CO Emission Factor* (lbs/mmscf)	NOx Emission Factor** (lbs/mmscf)	PM10 Emission Factor* (lbs/mmscf)	VOC Emission Factor* (lbs/mmscf)	SOx Emission Factor** (lbs/mmscf)	CO Emissions (tons/yr)	NOx Emissions** (tons/yr)	PM10 Emissions (tons/yr)	VOC Emissions (tons/yr)	SOx Emissions** (tons/yr)
Boiler Unit 1	4/99 to 3/00	2818	75.3	N/A	7.6	5.5	N/A	106.1	191.0	10.7	7.7	0.8
	4/00 to 3/01	3744	75.3	N/A	7.6	5.5	N/A	141.0	269.9	14.2	10.3	1.1
	Average =							123.5	230.5	12.5	9.0	1.0
Boiler Unit 2	4/99 to 3/00	1677	75.3	N/A	7.6	5.5	N/A	63.1	106.9	6.4	4.6	0.5
	4/00 to 3/01	3618	75.3	N/A	7.6	5.5	N/A	136.2	224.6	13.7	9.9	1.1
	Average =							99.7	165.8	10.1	7.3	0.8
Total (average of both units) =								223.2	396.2	22.5	16.3	1.8

Notes:

* From SCAQMD engineering evaluation, ESPR project, November 29, 2001, preliminary determination of compliance, AN378766, Appendix A, page 56.

** From SCAQMD engineering evaluation, ESPR project, November 29, 2001, preliminary determination of compliance, AN378766, Appendix A, page 57.

APPENDIX O

EMISSION FACTOR CALCULATIONS

Appendix O - ESPR
CTG - Emission Factors

PAGES	PAGE	A/N
BY	DATE	

Emission Factors During the Commissioning Period

	CO	NOX	VOC
Unit 5			
Emissions (lbs) =	130,337	12,478	6,952
Fuel Use (MMscf) =	754	754	754
Emission Factor (lbs/MMscf) =	172.89	16.55	9.22
Unit 6			
Emissions (lbs) =	130,337	12,478	6,952
Fuel Use (MMscf) =	754	754	754
Emission Factor (lbs/MMscf) =	172.89	16.55	9.22

Appendix O - ESPR
CTG - Emission Factors

PAGES	PAGE	A/N
BY	DATE	

Emission Factors During Non-Commissioning Period

Operating Condition 3	Hours per Year	Hourly Fuel Use (MMBtu/hr)	Natural Gas HHV (Btu/scf)	Fuel Use (MMscf/yr)	CO (lbs/year)	NOX (lbs/year)	VOC (lbs/year)	PM10 (lbs/year)	SOx (lbs/year)
Unit 5 Start-Up	200	1,139	1,028	222	83,484	11,206	3,459	1,900	291
Unit 5 Normal Operations	5,056	1,951	1,028	9,598	66,352	72,672	25,277	48,032	6,856
Unit 5 Shutdown	200	1,139	1,028	222	44,236	7,092	1,949	1,900	291
Unit 5 Totals	5,456			10,041	194,072	90,970	30,685	51,832	7,439
Unit 6 Start-Up	200	1,139	1,028	222	83,484	11,206	3,459	1,900	291
Unit 6 Normal Operations	5,056	1,951	1,028	9,598	66,352	72,672	25,277	48,032	6,856
Unit 6 Shutdown	200	1,139	1,028	222	44,236	7,092	1,949	1,900	291
Unit 6 Totals	5,456			10,041	194,072	90,970	30,685	51,832	7,439

	CO	**NOX**	**VOC**	**PM10**	**SOx**
Unit 5					
Annual Emissions (lbs/yr) =	194,072	90,970	30,685	51,832	7,439
Annual Fuel Use (MMscf/yr) =	10,041	10,041	10,041	10,041	10,041
Emission Factor (lbs/MMscf) =	19.33	9.06	3.06	5.16	0.74
Unit 6					
Annual Emissions (lbs/yr) =	194,072	90,970	30,685	51,832	7,439
Annual Fuel Use (MMscf/yr) =	10,041	10,041	10,041	10,041	10,041
Emission Factor (lbs/MMscf) =	19.33	9.06	3.06	5.16	0.74

APPENDIX P

AIR QUALITY IMPACT ANALYSIS

Air Quality Impact Analysis

Air Quality Modeling Methodology. An assessment of impacts from the proposed ESPR project on ambient air quality has been conducted using USEPA-approved air quality dispersion models. These models are based on various mathematical descriptions of atmospheric diffusion and dispersion processes in which a pollutant source impact can be calculated over a given area.

The impact analysis was used to determine the worst-case ground-level impacts of the new gas turbines. The results were compared with established state and federal ambient air quality standards. If the standards are not exceeded then it is assumed that, in the operation of the facility, no exceedances are expected under any conditions. In accordance with the air quality impact analysis guidelines developed by USEPA (40 CFR Part 51, Appendix W: Guideline on Air Quality Models) and CARB (Reference Document for California Statewide Modeling Guideline, April 1989), the ground-level impact analysis includes the following assessments:

- Impacts in simple, intermediate, and complex terrain;
- Aerodynamic effects (downwash) due to nearby building(s) and structures; and
- Impacts from inversion breakup (fumigation).

Simple, intermediate, and complex terrain impacts were assessed for all meteorological conditions that would limit the amount of final plume rise. Plume impaction on elevated terrain, such as on the slope of a nearby hill, can cause high ground-level concentrations, especially under stable atmospheric conditions. Another dispersion condition that can cause high ground-level pollutant concentrations is caused by building downwash. Building downwash can occur when wind speeds are high and a building or structure is in close proximity to the emission stack. This can result in building wake effects where the plume is drawn down toward the ground by the lower pressure region that exists in the lee side (downwind) of the building or structure.

Fumigation conditions occur when the plume is emitted into a layer of stable air (inversion) that then becomes unstable from below, resulting in a rapid mixing of pollutants out of the stable layer and towards the ground in the unstable layer underneath. The low mixing height that results from this condition allows little diffusion of the stack plume before it is carried downwind to the ground. Although fumigation conditions are short-term, rarely lasting as long as an hour, relatively high ground-level concentrations may be reached during that period. Fumigation tends to occur under clear skies and light winds, and is more prevalent in summer.

Two types of fumigation were analyzed: inversion breakup and shoreline. Inversion breakup fumigation occurs under low-wind conditions when a rising morning mixing height caps a stack and “fumigates” the air below. Shoreline fumigation occurs when a roughness

boundary (generally a beach) causes turbulent dispersion to be much more enhanced near the ground, once again fumigating the air below.

The basic model equation used in this analysis assumes that the concentrations of emissions within a plume can be characterized by a Gaussian distribution about the centerline of the plume. Concentrations at any location downwind of a point source such as a stack can be determined from the following equation:

$$C(x,y,z,H) = \left(\frac{Q}{2\pi\sigma_y\sigma_z u}\right) * \left(e^{-1/2(y/\sigma_y)^2}\right) * \left[\left\{e^{-1/2(z-H/\sigma_z)^2}\right\} + \left\{e^{-1/2(z+H/\sigma_z)^2}\right\}\right]$$

where

C	=	the concentration in the air of the substance or pollutant in question
Q	=	the pollutant emission rate
$\sigma_y\sigma_z$	=	the horizontal and vertical dispersion coefficients, respectively, at downwind distance x
u	=	the wind speed at the height of the plume center
x,y,z	=	the variables that define the 3-dimensional Cartesian coordinate system used; the downwind, crosswind, and vertical distances from the base of the stack
H	=	the height of the plume above the stack base (the sum of the height of the stack and the vertical distance that the plume rises due to the momentum and/or buoyancy of the plume)

Gaussian dispersion models are approved by USEPA for regulatory use and are based on conservative assumptions (i.e., the models tend to overpredict actual impacts by assuming steady-state conditions, no pollutant loss through conservation of mass, no chemical reactions, etc.). The USEPA models were used to determine if ambient air quality standards would be exceeded, and whether a more accurate and sophisticated modeling procedure would be warranted to make the impact determination. The following sections describe:

- Screening modeling procedures;
- Refined air quality impact analysis;
- Existing ambient pollutant concentrations; and
- Results of the ambient air quality modeling analyses.

The screening and refined air quality impact analyses were performed using the Industrial Source Complex, Short-Term Model ISCST3 (Version 02035). ISCST3 is a Gaussian

dispersion model capable of assessing impacts from a variety of source types in areas of simple, intermediate, and complex terrain. The model can account for settling and dry deposition of particulates; area, line, and volume source types; downwash effects; and gradual plume rise as a function of downwind distance. The model is capable of estimating concentrations for a wide range of averaging times (from one hour to one year).

Inputs required by the ISCST3 model include the following:

- Model options;
- Meteorological data;
- Source data; and
- Receptor data.

Model options refer to user selections that account for conditions specific to the area being modeled or to the emissions source that needs to be examined. Examples of model options include use of site-specific vertical profiles of wind speed and temperature; consideration of stack and building wake effects; and time-dependent exponential decay of pollutants. The model supplies recommended default options for the user. The air quality modeling analysis performed for the proposed project followed the SCAQMD January 24, 2007 guidance "ISCST3 User's Guide," and EPA's "Guideline on Air Quality Models." One of the default options that was used allows the model to automatically calculate dispersion for both simple and complex terrain because some terrain heights exceed the height of the stack. The upper-bound and urban options were turned on and the calm wind processing and regulatory default options were turned off. Additional ISCST3 model options that were used are URBAN and NOCALM. Downwash parameters were determined by implementing the Building Profile Input Program (BPIP).

ISCST3 uses hourly meteorological data to characterize plume dispersion. Following District guidance, 1981 surface meteorological data (i.e., hourly wind speed and direction) from the Lennox monitoring station (located approximately 5 km from the project site) was used for the analysis (as downloaded from the District web site). Upper air meteorological data from the Los Angeles Airport monitoring station were also used for the analysis (also located approximately 5 km from the project site). These are the nearest District-approved surface and upper air meteorological monitoring stations to the project site. There is no intervening terrain between the project site and the monitoring stations that would dictate the use of alternative monitoring stations.

The required emission source data inputs to all models used in this analysis include source locations, source elevations, stack heights, stack diameters, stack exit temperatures and velocities, and emission rates. The source locations are specified for a Cartesian (x,y) coordinate system where x and y are distances east and north in meters, respectively. The Cartesian coordinate system used is the Universal Transverse Mercator Projection (UTM). The stack height that can be used in the model is limited by federal Good Engineering Practice (GEP) stack height restrictions, discussed in more detail below.

For the purposes of modeling, a stack height beyond what is required by Good Engineering Practices is not allowed. However, this requirement does not place a limit on the actual constructed height of a stack. GEP as used in modeling analyses is the height necessary to ensure that emissions from the stack do not result in excessive concentrations of any air pollutant in the immediate vicinity of the source as a result of atmospheric downwash, eddies, or wakes that may be created by the source itself, nearby structures, or nearby terrain obstacles. In addition, the GEP modeling restriction assures that any required regulatory control measure is not compromised by the effect of that portion of the stack that exceeds the GEP. The USEPA guidance ("Guideline for Determination of Good Engineering Practice Stack Height," Revised 6/85) for determining GEP stack height indicates that GEP is the greater of 65 meters or H_g, where H_g is calculated as follows:

$$H_g = H + 1.5L$$

where:

H_g = Good Engineering Practice stack height, measured from the ground-level elevation at the base of the stack

H = height of nearby structure(s) measured from the ground-level elevation at the base of the stack

L = lesser dimension, height or maximum projected width, of nearby structure(s)

In using this equation, the guidance document indicates that both the height and width of the structure are determined from the frontal area of the structure, projected onto a plane perpendicular to the direction of the wind.

For the new gas turbine stacks, the nearby (influencing) structure is the existing boiler building for Units 3 and 4, which is approximately 37 meters high. This building height results in a BPIP calculated GEP stack height of 92.5 meters. The 64-meter stacks proposed for the new gas turbines are below this GEP stack height. Therefore, the proposed stack height for the new gas turbines does not exceed GEP stack height.

For regulatory applications, a building is considered sufficiently close to a stack to cause wake effects when the downwind distance between the stack and the nearest part of the building is less than or equal to five times the lesser of the height or the projected width of the building. Building dimensions for the buildings analyzed as downwash structures were obtained from plot plans. The building dimensions were analyzed using the BPIP to calculate 36 wind-direction-specific building heights and projected building widths for use in building wake calculations. The building dimensions used in the GEP analysis are included in the attached modeling CD.

Screening Procedures. Screening modeling was performed to select the worst-case gas turbine operating mode for each pollutant and averaging period. The modeling used emissions data based on an average project site temperature (77.8°F) and typical maximum and minimum temperatures (83°F and 41°F) at minimum and maximum gas turbine operating load points of 60 and 100 percent. The determination of the worst-case gas turbine operating condition depends on how changes in emissions rates and stack characteristics (plume rise characteristics) interact with terrain features. For example, lower mass emissions resulting from lower load operations may cause higher concentrations than other operating conditions because lower final plume height may have a greater significant interaction with terrain features.

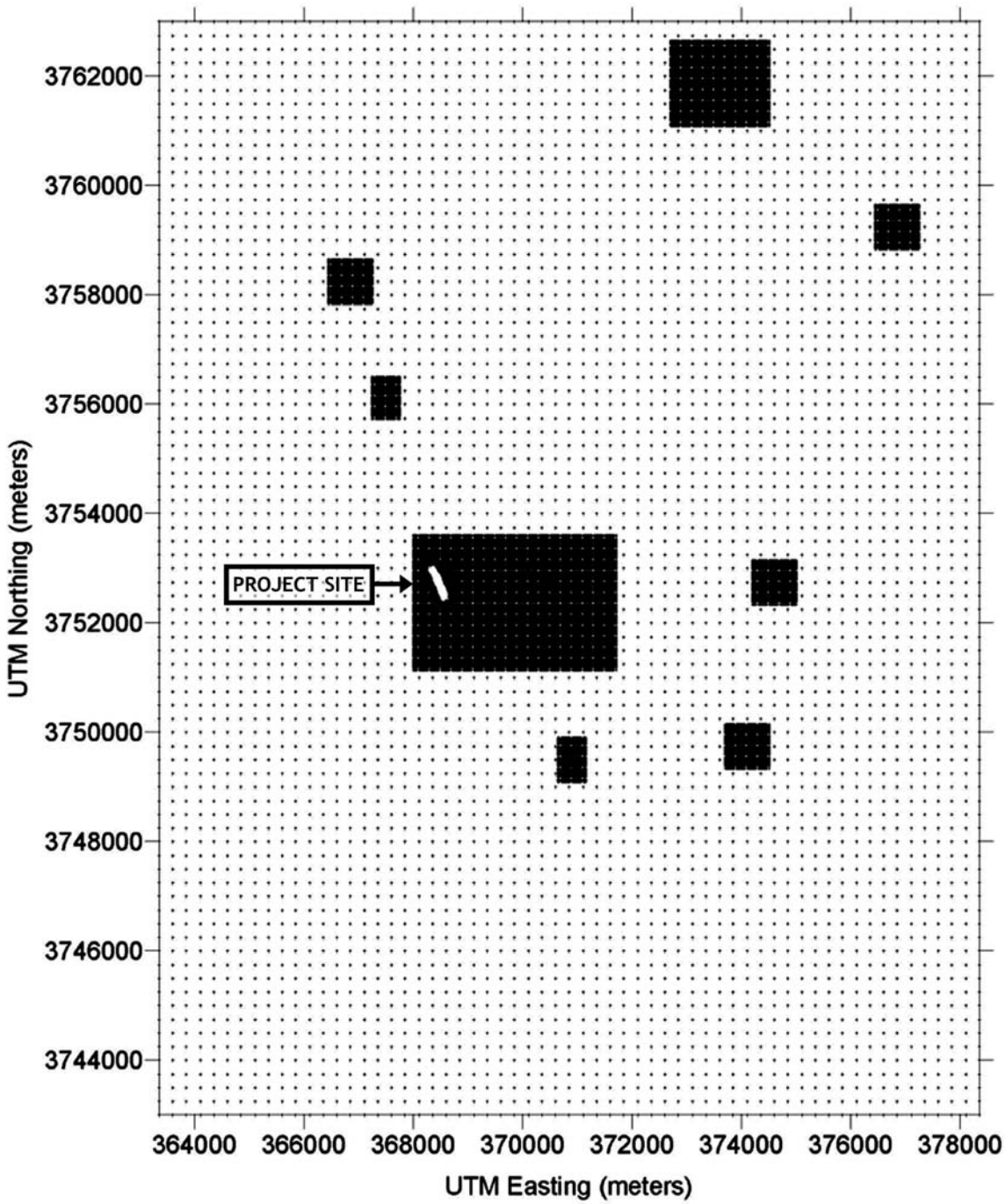
The operating conditions were screened for worst-case ambient impact using the ISCST3 model and the full 1981 meteorological data set described above. The results of the screening analysis are shown on attached Tables A and B. The stack parameters and emission rates corresponding to the operating case that produced the maximum impacts in the gas turbine screening analysis for each pollutant and averaging period were used in the refined modeling analysis to evaluate the impacts of the new gas turbines.

Refined Air Quality Impact Analysis. As with the screening level modeling, the ISCST3 modeling was used for the refined air quality impact analysis. The refined modeling input assumptions for each pollutant and averaging period are shown in attached Table C. As discussed above, the gas turbine stack parameters used in modeling the impacts for each pollutant and averaging period reflect the worst-case gas turbine operating conditions for that pollutant and averaging period identified in the screening analysis.

Refined modeling was performed in two phases: coarse grid modeling and fine grid modeling. Preliminary modeling was performed with the coarse grid to locate the areas of maximum concentration. Fine grids were used to refine the location of the maximum concentrations.

A coarse grid of receptors spaced 250 meters apart was placed from the facility fenceline going out 10 km to the south, east, and north; and 8 km to the west. A refined grid of receptors spaced at 25 meters was used in areas where the coarse grid analyses indicate modeled maxima will be located. Following general California Energy Commission (CEC) guidance, fine grid receptors was placed up to 1,000 meters away from any coarse grid impact, to ensure that all maxima were captured in the fine receptor grids. Receptors will be spaced 25 meters apart along the facility fenceline, and in a tier of receptors four rows deep paralleling the fenceline. Digital Elevation Model (DEM) data will be used to select the receptor elevations. Figure P.1 shows the receptor grids with the coordinate system used for the refined modeling.

Figure P.1
Receptor Grids



Specialized Modeling Analyses.

Fumigation Modeling. Fumigation occurs when a stable layer of air lies a short distance above the release point of a plume and unstable air lies below. Under these conditions, an exhaust plume may be drawn to the ground, causing high ground-level pollutant concentrations. Although fumigation conditions rarely last as long as one hour, relatively high ground-level concentrations may be reached during that time. For this analysis, fumigation was assumed to occur for up to 90 minutes, per EPA guidance. The SCREEN3 model was used to evaluate maximum ground-level concentrations for short-term averaging periods (24 hours or less). Although this modeling analysis is not required by SCAQMD regulations, guidance from the USEPA[1] was followed in evaluating fumigation impacts. The results of this analysis are shown below in Table P.1. The modeling files for this analysis are included in the enclosed CD.

Gas Turbine Startup/Shutdown. Impacts were also evaluated during the simultaneous startup of both of the new gas turbines. Emission rates used for this scenario were based on expected maximum NO_x and CO emission rates during gas turbine startups/shutdowns. Gas turbine exhaust parameters for minimum load operation were used to characterize gas turbine exhaust during startups/shutdowns. The modeling inputs used for this analysis are shown in enclosed Table D. The results of this analysis are shown below in Table P.1. The modeling files for this analysis are included in the enclosed CD.

Gas Turbine Commissioning. There are several high-emissions scenarios possible during the gas turbine commissioning period. Maximum hourly emissions occur during the period prior to oxidation catalyst/SCR system installation, when the combustor is being tuned. During this commissioning phase, NO_x emissions will be high because the SCR system is not installed/functioning and because the combustor will not be tuned for optimum performance. CO emissions will also be high because the oxidation catalyst system is not installed/functioning and because the combustor performance will not be optimized. Commissioning activities and expected emissions are shown in detail in Appendix G. Gas turbine exhaust parameters for minimum load operation were used to characterize gas turbine exhaust during commissioning activities. The maximum hourly NOx and CO emission rates during the commissioning period was also used for this modeling analysis. The modeling inputs used for this analysis are shown in enclosed Table D. The results of this analysis are shown below in Table P.1. The modeling files for this analysis are included in the enclosed CD.

Results of the Ambient Air Quality Modeling Analyses for New Units. The maximum impacts for the new gas turbines, calculated from the refined, fumigation, startup/shutdown, and commissioning modeling analyses described above are summarized in Table P.1 below. The modeling files for this analysis are included in the enclosed CD.

[1] USEPA, October 1992.

TABLE P.1
MODELING RESULTS FOR NEW UNITS

Pollutant	Averaging Time	Normal Operation Refined	Startup/Shutdown	Fumigation Inversion/Shoreline	Commissioning
		Modeled Concentration (µg/m³)			
		Impacts Unit 5 (CTG 1)			
NO_2	1-hour	2.47	26.77	0.86/5.37	58.80
	Annual	0.14	a	C	a
SO_2	1-hour	0.70	b	0.24/1.52	b
	3-hour	0.62	b	0.22/0.79	b
	24-hour	0.15	b	0.097/0.129	b
	Annual	0.01	b	C	b
CO	1-hour	2.25	241.90	0.78/4.90	1120.25
	8-hour	1.05	113.20	0.55/1.09	524.22
$PM_{2.5}/PM_{10}$	24-hour	0.64	b	0.41/0.54	b
	Annual	0.085	b	C	b
		Impacts Unit 7 (CTG 2)			
NO_2	1-hour	2.48	26.95	0.86/5.37	59.21
	Annual	0.15	A	C	A
SO_2	1-hour	0.70	B	0.24/1.52	b
	3-hour	0.62	b	0.22/0.79	b
	24-hour	0.15	b	0.097/0.129	b
	Annual	0.01	b	C	b
CO	1-hour	2.27	243.56	0.78/4.90	1127.96
	8-hour	1.01	108.84	0.55/1.09	504.04
$PM_{2.5}/PM_{10}$	24-hour	0.63	B	0.41/0.54	b
	Annual	0.087	B	C	b
		Combined Impacts Units 5 and 7 (CTGs 1 and 2)			
NO_2	1-hour	4.95	53.72	1.72/10.73	118.00
	Annual	0.29	a	C	a
SO_2	1-hour	1.40	b	0.49/3.04	b
	3-hour	1.25	b	0.44/1.59	b
	24-hour	0.30	b	0.19/0.26	b
	Annual	0.025	b	C	b
CO	1-hour	4.52	485.44	1.57/9.80	2248.09
	8-hour	2.07	222.01	1.10/2.18	1028.13
$PM_{2.5}/PM_{10}$	24-hour	1.25	b	0.82/1.09	b
	Annual	0.17	b	C	b

Notes (Table P.1):

a. Not applicable, because startup/shutdown emissions are included in the modeling for annual average.
b. Not applicable, because emissions are not elevated above normal levels during startup/shutdown or commissioning.
c. Not applicable, because inversion breakup is a short-term phenomenon and as such is evaluated only for short-term averaging periods.

Results of the Ambient Air Quality Modeling Analyses for Entire Facility. The maximum impacts for the new gas turbines along with the maximum impacts for the existing Boilers Units 3 and 4 are summarized in Table P.2 below. The modeling files for this analysis are included in the enclosed CD.

TABLE P.2
MODELING RESULTS FOR ENTIRE FACILITY

		Modeled Concentration (µg/m³)		
Pollutant	Averaging Time	Maximum Combined CTG Impacts	Maximum Combined Boiler Units 3 and 4 Impacts	Maximum Facility-Wide Impacts
NO_2	1-hour	118.0	34.71	152.71
	Annual	0.29	1.15	1.43
SO_2	1-hour	3.04	2.06	5.10
	3-hour	1.59	1.65	3.24
	24-hour	0.30	0.63	0.93
	Annual	0.025	0.070	0.092
CO	1-hour	2248.09	288.12	2536.21
	8-hour	1028.13	175.15	1203.28
$PM_{2.5}/PM_{10}$	24-hour	1.25	8.03	8.26
	Annual	0.17	0.86	1.03

Ambient Air Quality Impact Analyses for New Units and Entire Facility. To determine a project's air quality impacts, the modeled concentrations are added to the maximum background ambient air concentrations and then compared to the applicable ambient air quality standards. To determine the background ambient air concentrations for a project site, it is necessary to review data collected at nearby monitoring stations. For the proposed project, the Hawthorne monitoring station is the nearest SCAQMD ambient monitoring station to the project site. This station is located only approximately 5 miles from the project site. However, data collection at this station ended in December 2004. The next nearest SCAQMD monitoring station for ozone/CO/NO_2 is a station located at the West Los Angeles VA Hospital (approximately 9 miles from the project site). The nearest SCAQMD monitoring station for $PM_{10}/PM_{2.5}/SO_2$ is the station located at North Long Beach (approximately 14 miles from the project site). There are no other District/State/Federal-operated ambient monitoring stations located closer to the project site. Consequently, for background ozone/NO_2/CO levels, data collected at the West Los Angeles monitoring station during the period from 2004 to 2006 were used for this analysis. For background $PM_{10}/PM_{2.5}/SO_2$ levels, data collected at the North Long Beach monitoring station during the period from 2004 to 2006 were used for this analysis. These maximum background ambient concentrations are listed in the following Table P.3.

TABLE P.3
MAXIMUM BACKGROUND CONCENTRATIONS, 2004-2006 (µg/m^3)

Pollutant	Averaging Time	2004	2005	2006	Maximum
NO_2[a]	1-hour	161.5	140.8	146.5	162
	Annual	37.6	31.9	31.9	38
SO_2[b]	1-hour	110.0	107.4	70.7	110
	3-hour	68.1	86.5	60.3	87
	24-hour	34.4	26.2	26.2	31
	Annual	13.1	5.2	5.2	13
CO[a]	1-hour	4,600.0	3,910.0	3,335.0	4,600
	8-hour	2,645.0	2,415.0	2,300.0	2,645
PM_{10}[b]	24-hour	72.0	66.0	78.0	78
	Annual	33.0	30.0	31.0	33
$PM_{2.5}$[b]	24-hour[c]	46.0	41.0	35.0	46
	Annual	17.9	15.9	14.1	18

Notes (Table P.3):
a. West Los Angeles VA Hospital monitoring station.
b. North Long Beach monitoring station
c. $PM_{2.5}$ 24-hr average concentrations shown are 98th percentile values rather than highest values because compliance with the standard is based on 98th percentile readings.

Maximum ground-level impacts due to operation of the new gas turbines are shown in Table P.1. These maximum modeled concentrations are combined with background ambient concentrations and compared with the state and federal ambient air quality standards in Table P.4. The results indicate that the proposed new gas turbines will not cause or contribute to violations of any state or federal air quality standards, with the exception of the state and federal PM_{10} and $PM_{2.5}$ standards. For these pollutants, existing concentrations already exceed the state and federal standards.

TABLE P.4
MODELED MAXIMUM IMPACTS FOR NEW UNITS

Pollutant	Averaging Time	Maximum Impact (µg/m³)	Background (µg/m³)	Total Impact (µg/m³)	State Standard (µg/m³)	Federal Standard (µg/m³)
			Impacts Unit 5 (CTG 1)			
NO_2[a]	1-hour	58.8	162	221	338	-
	Annual	0.14	38	38	56	100
SO_2	1-hour	1.52	110	112	650	-
	3-hour	0.79	87	88	-	1300
	24-hour	0.15	31	31	109	365
	Annual	0.01	13	13	-	80
CO	1-hour	1120.25	4,600	5,720	23,000	40,000
	8-hour	524.22	2,645	3,169	10,000	10,000
PM_{10}	24-hour	0.64	78	79	50	150
	Annual	0.085	33	33	20	50
$PM_{2.5}$	24-hour	0.64	46[a]	47	--	35
	Annual	0.085	18	18	12	15
			Impacts Unit 7 (CTG 2)			
NO_2[a]	1-hour	59.21	162	221	338	-
	Annual	0.15	38	38	56	100
SO_2	1-hour	1.52	110	112	650	-
	3-hour	0.79	87	88	-	1300
	24-hour	0.15	31	31	109	365
	Annual	0.01	13	13	-	80
CO	1-hour	1127.96	4,600	5,728	23,000	40,000
	8-hour	504.04	2,645	3,149	10,000	10,000
PM_{10}	24-hour	0.63	78	79	50	150
	Annual	0.087	33	33	20	50
$PM_{2.5}$	24-hour	0.63	46[a]	47	--	35
	Annual	0.087	18	18	12	15
			Combined Impacts Units 5 and 7 (CTGs 1 and 2)			
NO_2	1-hour	118.0	162	280	338	-
	Annual	0.29	38	38	56	100
SO_2	1-hour	3.04	110	113	650	-
	3-hour	1.59	87	89	-	1300
	24-hour	0.30	31	31	109	365
	Annual	0.025	13	13	-	80
CO	1-hour	2248.09	4,600	6,848	23,000	40,000
	8-hour	1028.13	2,645	3,673	10,000	10,000
PM_{10}	24-hour	1.25	78	79	50	150
	Annual	0.17	33	33	20	50
$PM_{2.5}$	24-hour	1.25	46[a]	47	--	35
	Annual	0.17	18	18	12	15

Notes (Table P.4):
a. 98th percentile.

Maximum ground-level impacts due to operation of the new gas turbines in combination with the existing Boiler Units 3 and 4 are shown in Table P.2. As with the analysis above, these maximum modeled concentrations are combined with background ambient concentrations and compared with the state and federal ambient air quality standards in Table P.5. The results indicate that the proposed project will not cause or contribute to violations of any state or federal air quality standards, with the exception of the state and federal PM_{10} and $PM_{2.5}$ standards. For these pollutants, existing concentrations already exceed the state and federal standards.

TABLE P.5
MODELED MAXIMUM IMPACTS FOR ENTIRE FACILITY

Pollutant	Averaging Time	Maximum Impact (µg/m³)	Background (µg/m³)	Total Impact (µg/m³)	State Standard (µg/m³)	Federal Standard (µg/m³)
NO_2[a]	1-hour	152.71	162	315	338	-
	Annual	1.43	38	39	56	100
SO_2	1-hour	5.10	110	115	650	-
	3-hour	3.24	87	90	-	1300
	24-hour	0.93	31	32	109	365
	Annual	0.092	13	13	-	80
CO	1-hour	2536.21	4,600	7,136	23,000	40,000
	8-hour	1203.28	2,645	3,848	10,000	10,000
PM_{10}	24-hour	8.26	78	86	50	150
	Annual	1.03	33	34	20	50
$PM_{2.5}$	24-hour	8.26	46[a]	54	--	35
	Annual	1.03	18	19	12	15

Notes (Table P.5):
a. 98th percentile.

ATTACHMENTS FOR APPENDIX P

AIR QUALITY IMPACT ANALYSIS

Table A

Screening Modeling Inputs

Data For Each Turbine

Case	Amb Temp deg F	Stack height feet	Stack Height meters	Stack Diam feet	Stack Diam meters	Stack flow wacfm	Stack flow m3/sec	Stack Vel ft/sec	Stack Vel m/sec	Stack Temp deg F	Stack Temp deg K
Avg. Base	77.8	210.0	64.01	20.0	6.10	1,334,893	630.08	70.82	21.59	354.0	452.04
Avg. Base (cooler)	77.8	210.0	64.01	20.0	6.10	1,380,122	651.43	73.22	22.32	358.0	454.26
Avg. Peak	77.8	210.0	64.01	20.0	6.10	1,464,182	691.11	77.68	23.68	361.0	455.93
Avg. Low	77.8	210.0	64.01	20.0	6.10	892,349	421.20	47.34	14.43	336.0	442.04
Hot Base	83	210.0	64.01	20.0	6.10	1,311,928	619.24	69.60	21.21	351.0	450.37
Hot Base (cooler)	83	210.0	64.01	20.0	6.10	1,363,288	643.49	72.32	22.04	356.0	453.15
Hot Peak	83	210.0	64.01	20.0	6.10	1,447,941	683.44	76.82	23.41	360.0	455.37
Hot Low	83	210.0	64.01	20.0	6.10	880,384	415.55	46.71	14.24	334.0	440.93
Mild Base (cooler)	62	210.0	64.01	20.0	6.10	1,421,517	670.97	75.41	22.99	363.0	457.04
Mild Base	62	210.0	64.01	20.0	6.10	1,402,183	661.84	74.39	22.67	361.0	455.93
Mild Low (60%)	62	210.0	64.01	20.0	6.10	1,014,099	478.66	53.80	16.40	345.0	447.04
Mild Low (50%)	62	210.0	64.01	20.0	6.10	925,735	436.96	49.11	14.97	340.0	444.26
Cold Base	41	210.0	64.01	20.0	6.10	1,476,431	696.89	78.33	23.87	369.0	460.37
Cold Low (60%)	41	210.0	64.01	20.0	6.10	1,057,434	499.12	56.10	17.10	350.0	449.82
Cold Low (50%)	41	210.0	64.01	20.0	6.10	964,977	455.48	51.19	15.60	346.0	447.59

	NOx lb/hr	CO lb/hr	PM10 lb/hr	SOx lb/hr	NOx g/sec	CO g/sec	PM10 g/sec	SOx g/sec
Avg. Base	13.86	12.65	10.00	3.92	1.746	1.594	1.260	0.494
Avg. Base (cooler)	14.37	13.12	10.00	4.07	1.811	1.654	1.260	0.513
Avg. Peak	15.44	14.10	10.00	4.37	1.946	1.776	1.260	0.551
Avg. Low	8.51	7.77	10.00	2.41	1.072	0.979	1.260	0.303
Hot Base	13.64	12.45	10.00	3.86	1.718	1.569	1.260	0.486
Hot Base (cooler)	14.22	12.98	10.00	4.02	1.792	1.636	1.260	0.507
Hot Peak	15.27	13.94	10.00	4.32	1.924	1.757	1.260	0.545
Hot Low	8.39	7.66	10.00	2.37	1.057	0.965	1.260	0.299
Mild Base (cooler)	14.76	13.48	10.00	4.18	1.860	1.698	1.260	0.526
Mild Base	14.54	13.28	10.00	4.12	1.832	1.673	1.260	0.519
Mild Low (60%)	9.96	9.09	10.00	2.82	1.255	1.146	1.260	0.355
Mild Low (50%)	8.86	8.09	10.00	2.51	1.117	1.020	1.260	0.316
Cold Base	15.31	13.98	10.00	4.33	1.929	1.761	1.260	0.546
Cold Low (60%)	10.42	9.52	10.00	2.95	1.313	1.199	1.260	0.372
Cold Low (50%)	9.26	8.46	10.00	2.62	1.167	1.065	1.260	0.330

Table B
Screening Level Modeling Impacts
(Combined Impacts for Two Gas Turbines)

Operating Mode	Conc. (ug/m3) NO2 1-hr	Conc. (ug/m3) CO 1-hr	Conc. (ug/m3) SO2 1-hr	Conc. (ug/m3) SO2 3-hr	Conc. (ug/m3) CO 8-hr	Conc. (ug/m3) PM10 24-hr	Conc. (ug/m3) SO2 24-hr	Conc. (ug/m3) NO2 Annual	Conc. (ug/m3) PM10 Annual	Conc. (ug/m3) SO2 Annual
Avg. Base	2.61	2.38	0.74	0.54	0.80	0.32	0.13	0.06	0.04	0.02
Avg. Base (cooler)	2.60	2.38	0.74	0.53	0.78	0.30	0.12	0.06	0.04	0.02
Avg. Peak	2.61	2.38	0.74	0.52	0.78	0.26	0.12	0.05	0.03	0.01
Avg. Low	3.08	2.81	0.87	0.66	1.11	0.68	0.16	0.11	0.12	0.03
Hot Base	2.62	2.40	0.74	0.55	0.83	0.34	0.13	0.06	0.04	0.02
Hot Base (cooler)	2.61	2.39	0.74	0.54	0.78	0.31	0.12	0.06	0.04	0.02
Hot Peak	2.62	2.39	0.74	0.53	0.78	0.27	0.12	0.05	0.03	0.01
Hot Low	3.10	2.83	0.88	0.67	1.12	0.69	0.16	0.11	0.13	0.03
Mild Base (cooler)	2.57	2.35	0.73	0.52	0.77	0.28	0.12	0.05	0.04	0.01
Mild Base	2.58	2.35	0.73	0.52	0.77	0.29	0.12	0.05	0.04	0.02
Mild Low (60%)	2.95	2.69	0.83	0.61	1.02	0.54	0.15	0.09	0.09	0.02
Mild Low (50%)	3.02	2.76	0.86	0.64	1.07	0.63	0.16	0.10	0.11	0.03
Cold Base	2.54	2.32	0.72	0.51	0.76	0.26	0.11	0.05	0.03	0.01
Cold Low (60%)	2.86	2.62	0.81	0.60	0.97	0.50	0.15	0.08	0.08	0.02
Cold Low (50%)	2.95	2.69	0.83	0.61	1.03	0.59	0.15	0.09	0.10	0.03

Table C
Emission Rates and Stack Parameters for Refined Modeling

						Emission Rates, g/s									Emission Rates, lb/hr			
	Stack Diam, m	Stack Height, m	Temp, deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	NOx	SO2	CO	PM10	Stack Diam, ft	Stack Height, ft	Exh Temp, Deg F	Exh Flow Rate, ft3/m	Exhaust Velocity, ft/s	NOx	SO2	CO	PM10
Averaging Period: One hour NOx																		
Unit 5	6.1	64.0	441	415.5	14.2	1.0573	n/a	n/a	n/a	20	210	334	880,384	47	8.39	n/a	n/a	n/a
Unit 7	6.1	64.0	441	415.5	14.2	1.0573	n/a	n/a	n/a	20	210	334	880,384	47	8.39	n/a	n/a	n/a
Boiler Unit 3	6.5	61.0	391	503.0	15.4	4.2718	n/a	n/a	n/a		200				33.90	n/a	n/a	n/a
Boiler Unit 4	6.5	61.0	391	503.0	15.4	4.2718	n/a	n/a	n/a		200				33.90	n/a	n/a	n/a
Averaging Period: One hour CO and SOx																		
Unit 5	6.1	64.0	441	415.5	14.2	n/a	0.2992	0.9654	n/a	20	210	334	880,384	47	n/a	2.37	7.66	n/a
Unit 7	6.1	64.0	441	415.5	14.2	n/a	0.2992	0.9654	n/a	20	210	334	880,384	47	n/a	2.37	7.66	n/a
Boiler Unit 3	6.5	61.0	391	503.0	15.4	n/a	0.2533	35.4564	n/a		200				n/a	2.01	281.4	n/a
Boiler Unit 4	6.5	61.0	391	503.0	15.4	n/a	0.2533	35.4564	n/a		200				n/a	2.01	281.4	n/a
Averaging Period: Three hours SOx																		
Unit 5	6.1	64.0	441	415.5	14.2	n/a	0.2992	n/a	n/a	20	210	334	880,384	47	n/a	2.37	n/a	n/a
Unit 7	6.1	64.0	441	415.5	14.2	n/a	0.2992	n/a	n/a	20	210	334	880,384	47	n/a	2.37	n/a	n/a
Boiler Unit 3	6.5	61.0	391	503.0	15.4	n/a	0.2533	n/a	n/a		200				n/a	2.01	n/a	n/a
Boiler Unit 4	6.5	61.0	391	503.0	15.4	n/a	0.2533	n/a	n/a		200				n/a	2.01	n/a	n/a

Table C
Emission Rates and Stack Parameters for Refined Modeling (cont.)

						Emission Rates, g/s									Emission Rates, lb/hr			
	Stack Diam, m	Stack Height, m	Temp, deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	NOx	SO2	CO	PM10	Stack Diam, ft	Stack Height, ft	Exh Temp, Deg F	Exh Flow Rate, ft3/m	Exhaust Velocity, ft/s	NOx	SO2	CO	PM10
Averaging Period: Eight hours CO																		
Unit 5	6.1	64.0	441	415.5	14.2	n/a	n/a	0.9654	n/a	20	210	334	880,384	47	n/a	n/a	7.66	n/a
Unit 7	6.1	64.0	441	415.5	14.2	n/a	n/a	0.9654	n/a	20	210	334	880,384	47	n/a	n/a	7.66	n/a
Boiler Unit 3	6.5	61.0	391	503.0	15.4	n/a	n/a	35.4564	n/a		200				n/a	n/a	281.4	n/a
Boiler Unit 4	6.5	61.0	391	503.0	15.4	n/a	n/a	35.4564	n/a		200				n/a	n/a	281.4	n/a
Averaging Period: 24-hour SOx																		
Unit 5	6.1	64.0	441	415.5	14.2	n/a	0.2992	n/a	n/a	20	210	334	880,384	47	n/a	2.37	n/a	n/a
Unit 7	6.1	64.0	441	415.5	14.2	n/a	0.2992	n/a	n/a	20	210	334	880,384	47	n/a	2.37	n/a	n/a
Boiler Unit 3	6.5	61.0	391	503.0	15.4	n/a	0.2533	n/a	n/a		200				n/a	2.01	n/a	n/a
Boiler Unit 4	6.5	61.0	391	503.0	15.4	n/a	0.2533	n/a	n/a		200				n/a	2.01	n/a	n/a
Averaging Period: 24-hour PM10																		
Unit 5	6.1	64.0	441	415.5	14.2	n/a	n/a	n/a	1.2600	20	210	334	880,384	47	n/a	n/a	n/a	10.00
Unit 7	6.1	64.0	441	415.5	14.2	n/a	n/a	n/a	1.2600	20	210	334	880,384	47	n/a	n/a	n/a	10.00
Boiler Unit 3	6.5	61.0	391	503.0	15.4	n/a	n/a	n/a	3.2080		200				n/a	n/a	n/a	25.46
Boiler Unit 4	6.5	61.0	391	503.0	15.4	n/a	n/a	n/a	3.2080		200				n/a	n/a	n/a	25.46

Table C
Emission Rates and Stack Parameters for Refined Modeling (cont.)

	Stack Diam, m		Temp, deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	Emission Rates, g/s NOx	SO2	CO	PM10	Stack Diam, ft		Exh Temp, Deg F	Exh Flow Rate, ft3/m	Exhaust Velocity, ft/s	Emission Rates, lb/hr NOx	SO2	CO	PM10
Averaging Period: Annual NOx and SOx																		
Unit 5	6.1	64.0	441	415.5	14.2	1.3085	0.1070	n/a	n/a	20	210	334	880,384	47	10.38	0.85	n/a	n/a
Unit 7	6.1	64.0	441	415.5	14.2	1.3085	0.1070	n/a	n/a	20	210	334	880,384	47	10.38	0.85	n/a	n/a
Boiler Unit 3	6.5	61.0	391	503.0	15.4	4.2718	0.2533	n/a	n/a		200				33.90	2.01	n/a	n/a
Boiler Unit 4	6.5	61.0	391	503.0	15.4	4.2718	0.2533	n/a	n/a		200				33.90	2.01	n/a	n/a
Averaging Period: Annual PM10																		
Unit 5	6.1	64.0	441	415.5	14.2	n/a	n/a	n/a	0.7455	20	210	334	880,384	47	n/a	n/a	n/a	5.92
Unit 7	6.1	64.0	441	415.5	14.2	n/a	n/a	n/a	0.7455	20	210	334	880,384	47	n/a	n/a	n/a	5.92
Boiler Unit 3	6.5	61.0	391	503.0	15.4	n/a	n/a	n/a	3.2080		200				n/a	n/a	n/a	25.46
Boiler Unit 4	6.5	61.0	391	503.0	15.4	n/a	n/a	n/a	3.2080		200				n/a	n/a	n/a	25.46

Table D

Startup/Shutdown and Commissioning Modeling Inputs

Data For Each Turbine

Operating Case	Amb Temp deg F	Stack height feet	Stack Height meters	Stack Diam feet	Stack Diam meters	Stack flow wacfm	Stack flow m3/sec	Stack Vel ft/sec	Stack Vel m/sec	Stack Temp deg F	Stack Temp deg K
Startup/Shutdown	83	210	64	20	6.1	880,384	415.55	46.71	14.24	334.00	440.93
Commissioning	83	210	64	20	6.1	880,384	415.55	46.71	14.24	334.00	440.93

	NOx lb/hr	CO lb/hr	NOx g/sec	CO g/sec
Startup/Shutdown	91.10	823.27	11.48	103.73
Commissioning	200.13	3812.63	25.22	480.39

APPENDIX Q

HARP MODELING RESULTS

Table Q.1
HARP Modeling Results – Maximum Impacts

Risk Parameter	Residential	Commercial	Rule 1401 Requirements	Compliance (Yes/No)
CTG 1 (Unit 5)				
MICR	4.00×10^{-8}	1.28×10^{-8}	$\leq 1 \times 10^{-6}$	Yes
HIA	1.53×10^{-2}	1.53×10^{-2}	≤ 1.0	Yes
HIC	2.42×10^{-3}	4.02×10^{-3}	≤ 1.0	Yes
CTG 2 (Unit 7)				
MICR	4.05×10^{-8}	1.31×10^{-8}	$\leq 1 \times 10^{-6}$	Yes
HIA	1.54×10^{-2}	1.54×10^{-2}	≤ 1.0	Yes
HIC	2.45×10^{-3}	4.13×10^{-3}	≤ 1.0	Yes
Combined Impacts CTGs 1 and 2 (Units 5 and 7)				
MICR	8.06×10^{-8}	2.59×10^{-8}	N/A	N/A
HIA	3.07×10^{-2}	3.07×10^{-2}	N/A	N/A
HIC	4.88×10^{-3}	8.15×10^{-3}	N/A	N/A
Combined Impacts Boiler Units 3 and 4				
MICR	8.50×10^{-7}	2.68×10^{-7}	N/A	N/A
HIA	2.17×10^{-2}	2.17×10^{-2}	N/A	N/A
HIC	2.57×10^{-3}	4.53×10^{-3}	N/A	N/A
Facility-Wide Impact (Units 3, 4, 5, and 7)				
MICR	9.30×10^{-7}	2.94×10^{-7}	N/A	N/A
HIA	4.33×10^{-2}	4.33×10^{-2}	N/A	N/A
HIC	7.44×10^{-3}	1.26×10^{-2}	N/A	N/A

Figure Q.1
HARP Modeling Results
Maximum Impacts – Unit 5

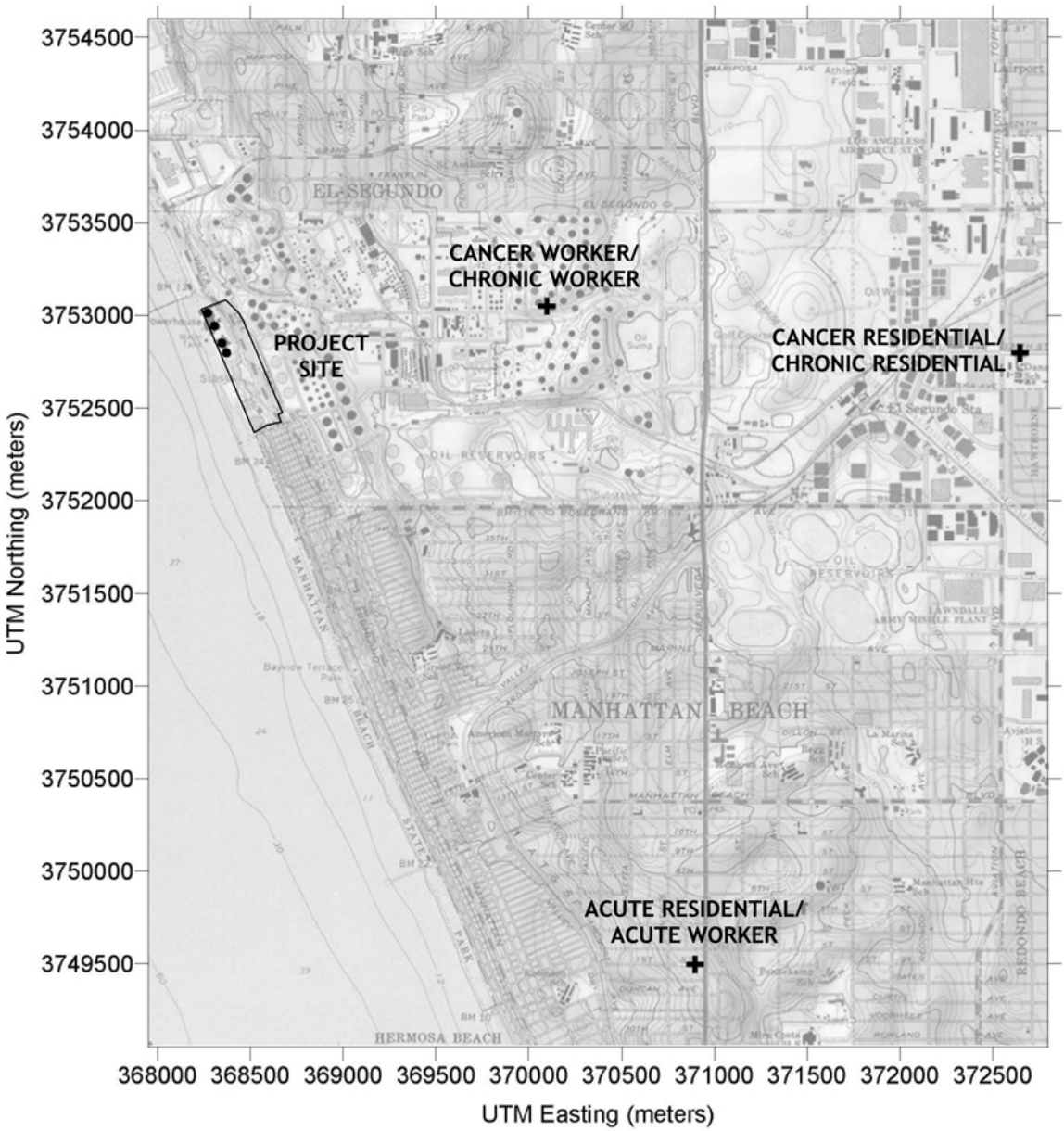


Figure Q.2
HARP Modeling Results
Maximum Impacts – Unit 7

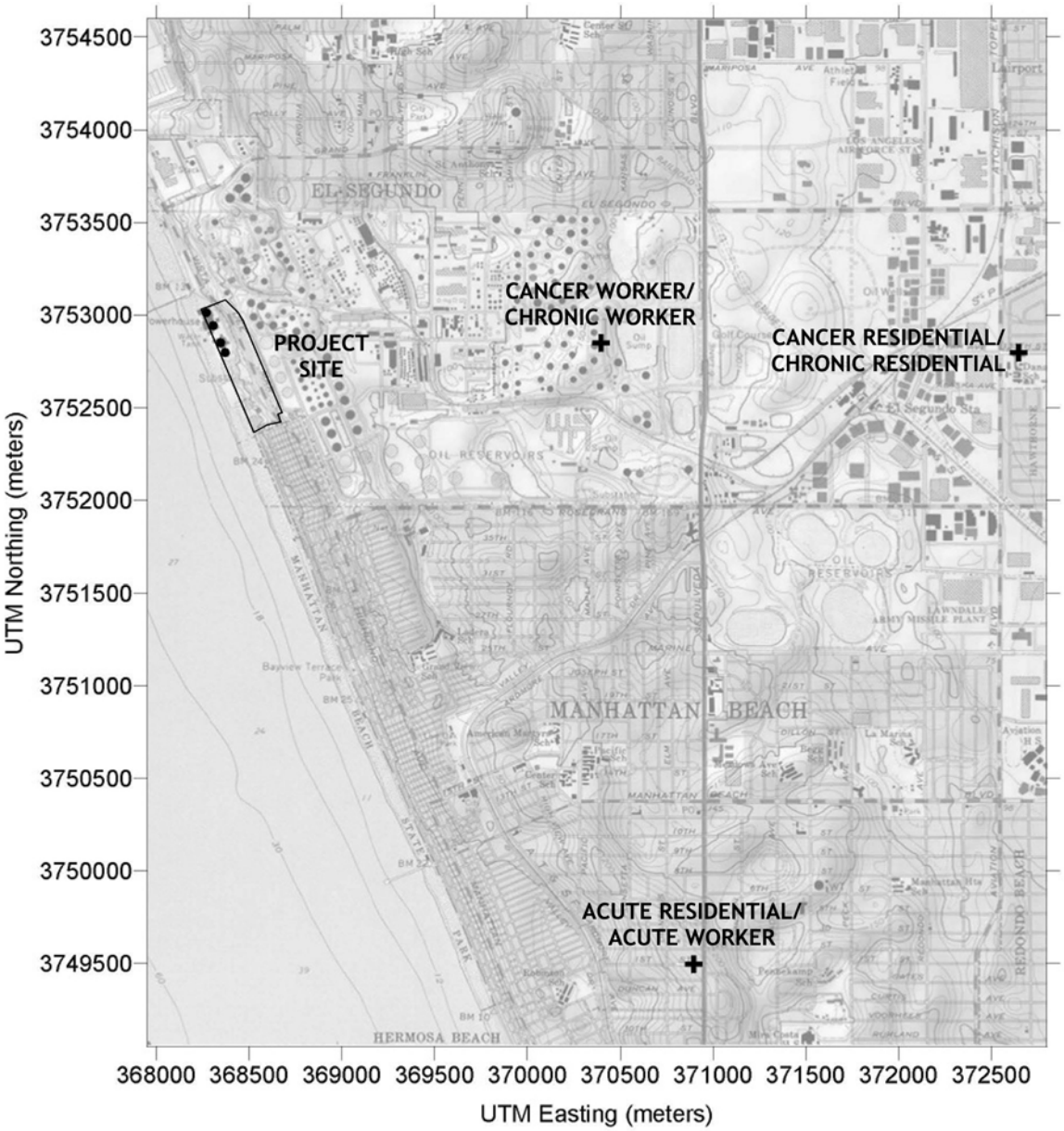
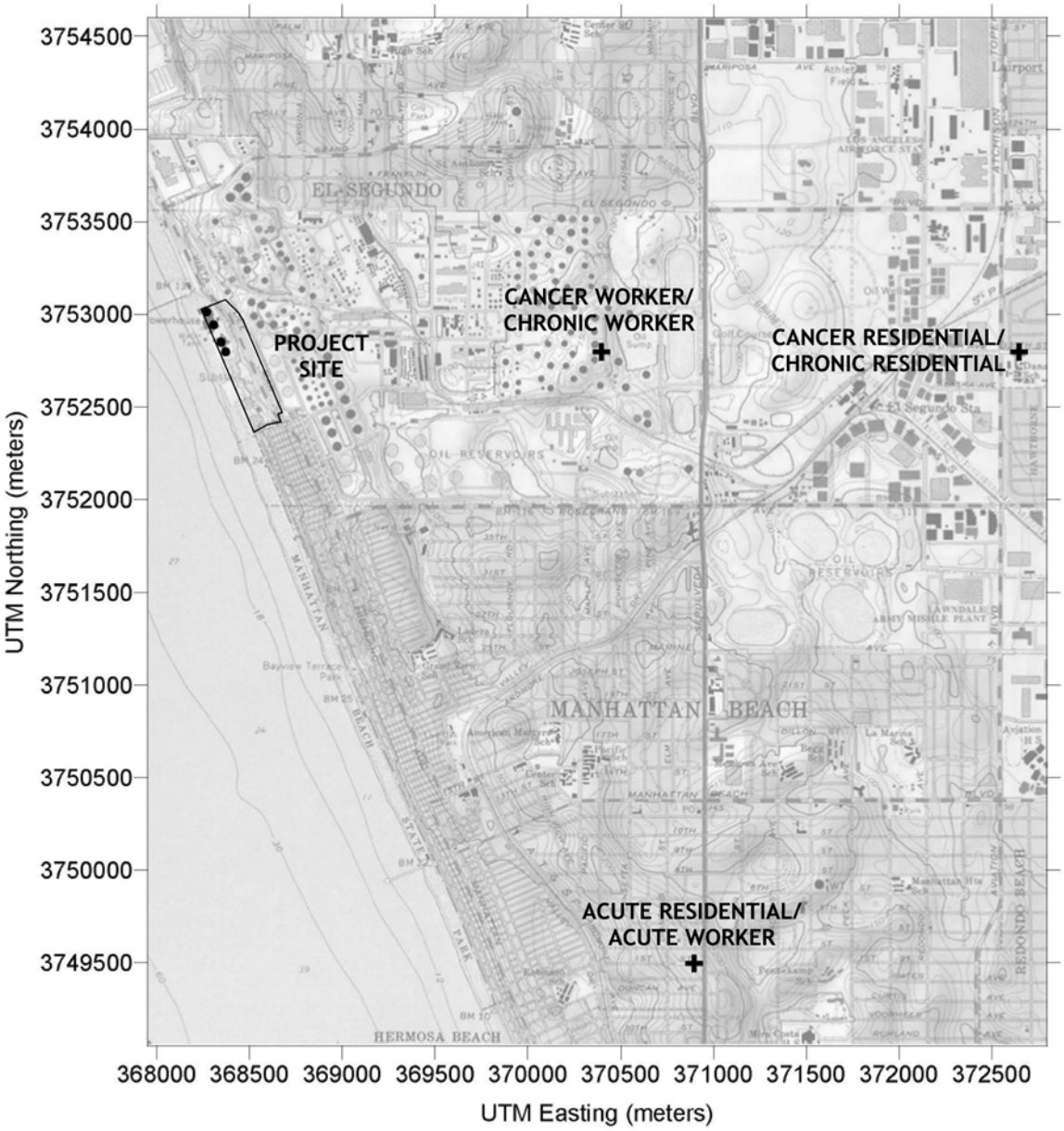


Figure Q.3
HARP Modeling Results
Maximum Combined Impacts – Units 5 and 7



APPENDIX R

RULE 2005(g)(1) COMPLIANCE CERTIFICATION

1819 Aston Avenue, Suite 105
Carlsbad, CA 92008

Direct: (760) 710-2147
Fax: (760) 710-2158

El Segundo Power, LLC

June 13, 2007

Mr. Ken Coats
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765

Subject: Repowering Project at the El Segundo Generating Station; Rule 2005(g)(1) Statewide Compliance Certification

Dear Mr. Coats,

Herein please find the compliance certification for the El Segundo Power Redevelopment Project as required by District Rule 2005(g)(1). Since El Segundo Power, LLC (ESP) is the applicant for this Project and since ESP does not own or operate any other major stationary sources in California, this compliance certification is exclusive for this Project.

Certification:

Any and all facilities owned or operated by El Segundo Power, LLC in the State of California (including this Project defined by the Permit to Construct application) are in compliance or are on a schedule for compliance with all applicable emission limitations and standards under the Clean Air Act.

If you have any questions or need additional information, please contact Tim Hemig at (760) 710-2144.

Sincerely,
El Segundo Power, LLC

Keith Richards
President

cc: Tim Hemig (El Segundo Power)