DOCKETED

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DATE: June 16, 2017

TO: Interested Parties

FROM: Dale Rundquist, Compliance Project Manager

SUBJECT: **Magnolia Power Project (01-AFC-6C)**
Staff Analysis on Petition to Amend

On June 10, 2016, Southern California Public Power Authority (SCPPA) filed a petition with the California Energy Commission (Energy Commission) requesting a modification to the startup and shutdown operation of the Magnolia Power Project (MPP) including an increase in startup duration, number of startups and shutdowns, and duct burner operation. These changes would conform the Decision to actual project operations and the recent revised permit issued by the South Coast Air Quality Management District (SCAQMD). In addition, the increase in monthly startups and shutdowns is necessary to integrate the operation of MPP with intermittent renewable energy resources (e.g. wind and solar). The Staff Analysis of these modifications is attached.

The MPP is a 323-megawatt (MW) natural gas fired combined-cycle electrical power generating facility located at the site of the City of Burbank (COB) power plant in Burbank, California. The power plant is built on approximately three acres of the existing 23-acre site. MPP is owned by SCPPA and operated by the COB's Water & Power (BWP) Department. The MPP was certified by the Energy Commission in March 2003, and began operation in September 2005.

Energy Commission staff (staff) reviewed the petition and assessed the impacts of this proposal on environmental quality and on public health and safety. In the Staff Analysis, staff proposes revising all Air Quality Conditions of Certification except for **AQ-35, AQ-38** and **AQ-39**. **AQ-40** will be a new condition of certification. It is staff's opinion that, with the implementation of these new and revised conditions, the facility would remain in compliance with applicable laws, ordinances, regulations, and standards (LORS), and the proposed changes to conditions of certification would not result in any significant, adverse, direct, indirect, or cumulative impacts to the environment (Title 20 Cal. Code of Regs., § 1769). Energy Commission staff intends to recommend approval of the petition at the August 9, 2017 Energy Commission Business Meeting.

The Energy Commission's webpage for this facility, http://www.energy.ca.gov/sitingcases/magnolia/index.html, has a link to the petition and the Staff Analysis on the right side of the webpage in the box labeled "Compliance Proceeding." Click on the "Documents for this Proceeding (Docket Log)" option. After the Final Decision, the Energy Commission's Order regarding this petition will also be available on the same webpage.

This notice has been mailed to the Energy Commission's list of interested parties and property owners adjacent to the facility site. It has also been e-mailed to the facility listserv. The listserv is an automated Energy Commission e-mail system by which information about this facility is e-mailed to parties who have subscribed. To subscribe, go to the Energy Commission's webpage for this facility, cited above, scroll down the right side of the project webpage to the box labeled "Subscribe," and provide the requested contact information.

Any person may comment on the Staff Analysis. Those who wish to comment on the analysis are asked to submit their comments by 5:00 p.m., July 17, 2017. To use the Energy Commission's electronic commenting feature, go to the Energy Commission's webpage for this facility, cited above, click on the "Submit e-Comment" link, and follow the instructions in the on-line form. Be sure to include the facility name in your comments. Once submitted, the Energy Commission Dockets Unit reviews and approves your comments, and you will receive an e-mail with a link to them.

Written comments may also be mailed or hand-delivered to:

California Energy Commission
Dockets Unit, MS-4
Docket No. 01-AFC-6C
1516 Ninth Street
Sacramento, CA 95814-5512

All comments and materials filed with and approved by the Dockets Unit will be added to the facility Docket Log and become publically accessible on the Energy Commission's webpage for the facility.

If you have questions about this notice, please contact Dale Rundquist, Compliance Project Manager, at (916) 651-2072, or by fax to (916) 654-3882, or via e-mail to dale.rundquist@energy.ca.gov.

For information on participating in the Energy Commission's review of the petition, please call the Public Adviser at (800) 822-6228 (toll-free in California) or send your e-mail to publicadviser@energy.ca.gov. News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail to mediaoffice@energy.ca.gov.

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Magnolia Power Plant List Serve

MAGNOLIA POWER PROJECT (01-AFC-6C)
Petition to Modify Startup and Shutdown Operation
Executive Summary
Dale Rundquist

INTRODUCTION

On June 10, 2016, Southern California Public Power Authority (SCPPA), the owner of the Magnolia Power Project (MPP), filed a petition with the California Energy Commission (Energy Commission) requesting a modification to the startup and shutdown operation of the MPP.

The purpose of the Energy Commission's review process is to assess any impacts the proposed modifications would have on environmental quality and on public health and safety. The process includes an evaluation of the consistency of the proposed changes with the Energy Commission's Final Decision (Decision) and an assessment of whether the project, as modified, would remain in compliance with applicable laws, ordinances, regulations, and standards (LORS) (20 Cal. Code Regs., § 1769).

Energy Commission staff (staff) has completed its review of all materials received. The Staff Analysis below is staff's assessment of the project owner's proposal to modify the startup and shutdown operation of the MPP.

PROJECT LOCATION AND DESCRIPTION

The MPP is a 323-megawatt (MW) natural gas fired combined-cycle electrical power generating facility located at the site of the City of Burbank (COB) power plant in the city of Burbank, in Los Angeles county, California. The power plant is built on approximately three acres of the existing 23-acre site. MPP is owned by the SCPPA and operated by the COB's Water & Power (BWP) Department. The MPP was certified by the Energy Commission in March 2003, and began operation in September 2005.

DESCRIPTION OF PROPOSED MODIFICATIONS

The purpose of this request is to amend the Air Quality conditions of certification listed below to conform to the revised permits issued in 2008 and 2015 to MPP by the South Coast Air Quality Management District (SCAQMD).

NECESSITY FOR THE PROPOSED MODIFICATIONS

During the licensing period, SCPPA requested startup data from the turbine vendor. These data were used as the basis for project licensing and were considered the best available data at the time. Now that the project has been operational, the project owner would like to update the conditions of certification and the air permit to better reflect actual emissions. In addition, the proposed changes in the increase in monthly startups and shutdowns are necessary to integrate the operation of the MPP with intermittent

renewable energy resources (e.g. wind and solar), in compliance with applicable air quality regulations and permits. The Air Quality conditions of certification have not been amended since the Decision and the proposed amendment would incorporate the applicable changes from previously revised SCAQMD permits.

STAFF'S ASSESSMENT OF THE PROPOSED PROJECT CHANGES

The technical area sections contained in this Staff Analysis include staff-recommended changes to the existing conditions of certification. Staff believes with the implementation of these new and revised conditions, the facility would remain in compliance with applicable LORS, and the proposed changes to conditions of certification would not result in any significant, adverse, direct, indirect, or cumulative impacts to the environment (Title 20 Cal. Code of Regs., § 1769). Staff's conclusions in each technical area are summarized in **Executive Summary Table 1**.

Executive Summary Table 1 Summary of Impacts for Each Technical Area

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			Revised Conditions of Certification Recom-mended
	Technical Area Not Affected	No Significant Environmental Impact*	Process As Amendment	
Air Quality			**X**	**X**
Cultural Resources	**X**			
Facility Design	**X**			
Geological & Paleontological Resources	**X**			
Hazardous Materials Management	**X**			
Land Use	**X**			
Noise & Vibration	**X**			
Public Health	**X**			
Soil & Water Resources	**X**			
Traffic & Transportation	**X**			
Transmission Line Safety & Nuisance	**X**			
Transmission System Engineering	**X**			
Visual Resources	**X**			
Waste Management	**X**			
Worker Safety & Fire Protection	**X**			

***There is no possibility that the proposed modifications may have a significant effect on the environment, and the modifications will not result in a change in or deletion of a condition adopted by the Commission in the Final Decision, or make changes that would cause project noncompliance with any applicable laws, ordinances, regulations, or standards (Title 20 Cal. Code Regs., § 1769 (a)(2)).

Energy Commission technical staff reviewed the petition for potential environmental effects and consistency with applicable LORS. Staff has determined that the technical or environmental areas of **Cultural Resources, Facility Design, Geological & Paleontological Resources, Hazardous Materials Management, Land Use, Noise & Vibration, Public Health, Soil and Water Resources, Traffic & Transportation, Transmission Line Safety & Nuisance, Transmission System Engineering, Visual Resources, Waste Management** and **Worker Safety & Fire Protection** are not affected by the proposed changes, and no revisions or new conditions of certification are needed to ensure the project remains in compliance with all applicable LORS for these areas.

Staff determined, however, that the technical area of **Air Quality** would be affected by the proposed project changes and has proposed new Air Quality Condition of Certification **AQ-40** and modifications to all other Air Quality Conditions of Certification except **AQ-35**, **AQ-38** and **AQ-39** in order to assure compliance with LORS and to reduce potential environmental impacts to a less than significant level. The proposed changes to conditions of certification are provided in the Air Quality Staff Analysis section below.

ENVIRONMENTAL JUSTICE

MINORITY

The **Environmental Justice Population Figure** shows 2010 census blocks in the six-mile radius of Magnolia Power Project with a minority population greater than or equal to 50 percent. The population in these census blocks represents an Environmental Justice (EJ) population based on race and ethnicity as defined in the US Environmental Protection Agency's (EPA) *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

LOW INCOME

Based on the American Community Survey (ACS) data in the **Environmental Justice Population Table**, staff concluded that when compared with the below-poverty-level population in Los Angeles County, the cities of Burbank and Glendale do not have a higher percentage of people living below the poverty level, and thus are not considered an EJ population based on low income as defined in EPA's *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

Environmental Justice Population Table-
Low Income Data within the Project Area

	Total Population	Population Below Poverty Level	Percent Below Poverty Level (%)
	Estimate*	Estimate	Estimate
GEOGRAPHIES IN A SIX-MILE RADIUS			
Burbank	104,374 ±108	11,483 ±1,141	**11.00** ±1.1
Glendale	195,521 ±265	28,495 ±2,067	**14.60** ±1.1
REFERENCE GEOGRAPHY			
Los Angeles County	9,886,133 ±3,427	1,800,265 ±14,598	**18.20** 0.1

Notes: *Population for whom poverty is determined. Staff's analysis of the 2010 – 2014 estimates returned coefficient of variation values less than 15, indicating the data is reliable.
Source: US Census, 2011-2015 American Community Survey 5 Year Estimates, S1701:Poverty Status in the past 12 months

CONCLUSIONS

In the technical area of **Air Quality** staff proposes changes to conditions of certification in the Decision. Staff has determined that by adopting the proposed changes to the existing conditions of certification, the potential impacts of the proposed project changes would be reduced to less than significant levels. With the implementation of these conditions, impacts would be reduced to less than significant for any population in the project's six-mile radius, including the EJ population represented in **Environmental Justice Population Table** and **Figure**.

In the technical or environmental areas of **Cultural Resources, Facility Design, Geological & Paleontological Resources, Hazardous Materials Management, Land Use, Noise & Vibration, Public Health, Soil and Water Resources, Traffic & Transportation, Transmission Line Safety & Nuisance, Transmission System Engineering, Visual Resources, Waste Management and Worker Safety & Fire Protection** staffs have identified less than significant impacts. Therefore, impacts would be less than significant for any population in the project's six-mile radius, including the EJ population represented in **Environmental Justice Population Figure** and **Table**.

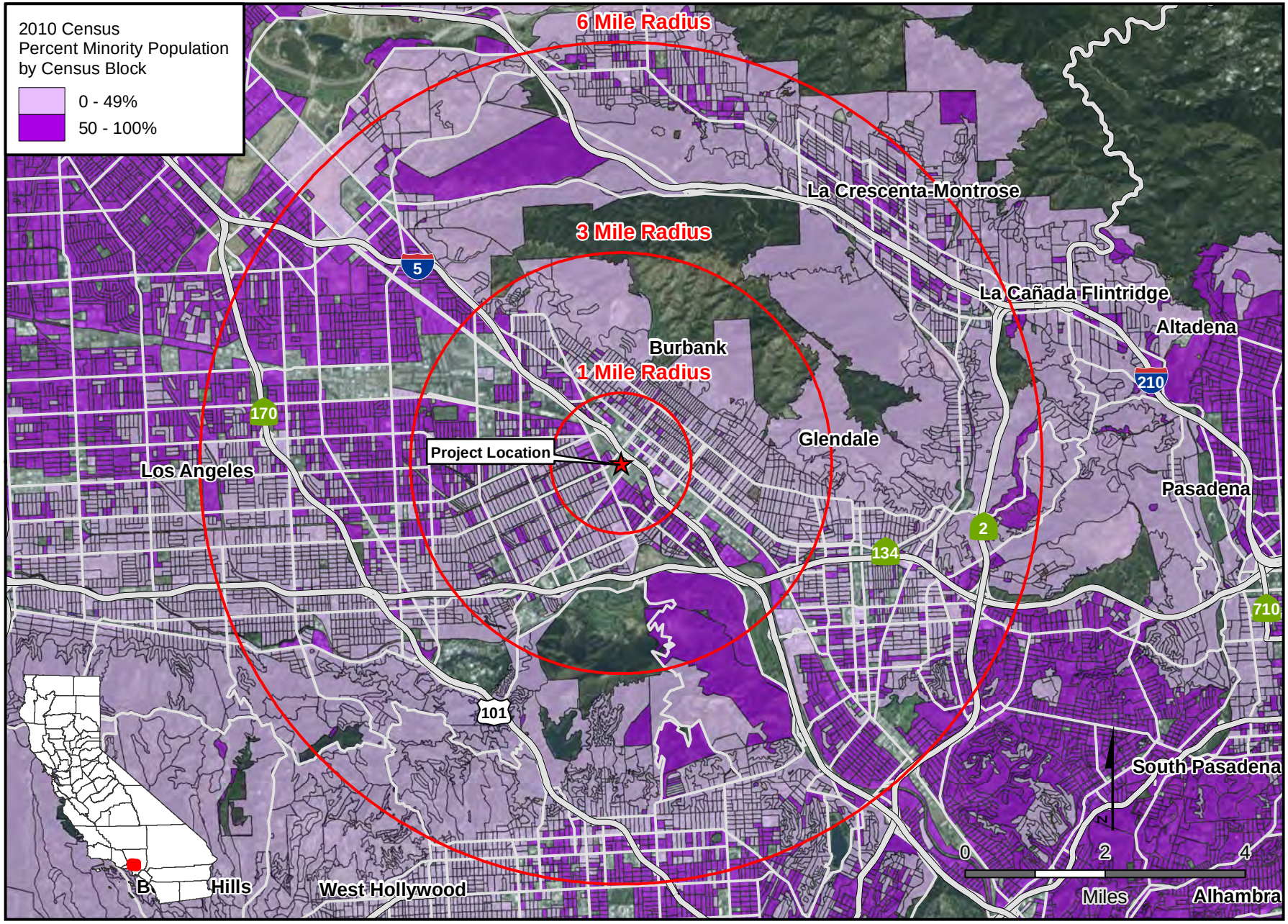
STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes that the following required findings, mandated by Title 20, California Code of Regulations, section 1769 (a)(3), can be made, and staff recommends approval of the petition by the Energy Commission:

- The proposed modification would not change the findings in the Energy Commission's Decision pursuant to Title 20, California Code of Regulations, section 1755;
- There would be no new or additional unmitigated, significant environmental impacts associated with the proposed modification;
- The facility would remain in compliance with all applicable LORS;
- The modification proposed in the petition is necessary to integrate the operation of the MPP with intermittent renewable energy resources (e.g. wind and solar), to remain in compliance with applicable air quality regulations and permits;
- The proposed modification would be beneficial to the public, because with the proposed mitigation there would be no significant air quality impacts related to MPP and no minority or low-income populations would be significantly or adversely impacted; and
- The proposed modification is justified because there has been a substantial change in circumstances since the Energy Commission certification, in that the original data used as the basis for project licensing were considered the best available data at the time. In addition, the proposed changes in the increase in monthly startups and shutdowns are necessary to integrate the operation of the MPP with intermittent renewable energy resources in compliance with applicable air quality regulations and permits.

ENVIRONMENTAL JUSTICE POPULATION FIGURE

Magnolia - Census 2010 Minority Population by Census Block



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCE: Census 2010 PL 94-171 Data

MAGNOLIA POWER PROJECT (01-AFC-06)
Request to Amend Final Commission Decision
Air Quality Analysis of Startup and Shutdown Operation
Nancy Fletcher

INTRODUCTION AND SUMMARY

On June 10, 2016, Southern California Public Power Authority (SCPPA or project owner) filed a petition (SCPPA 2016) with the California Energy Commission (Energy Commission) requesting a modification to the startup and shutdown operation of the Magnolia Power Project (Magnolia or MPP). Magnolia is a nominal 323 megawatt (MW) combined-cycle electricity generating facility consisting of a 181 MW General Electric PG7241FA combustion turbine and one 142 MW steam turbine. The combustion turbine combined cycle is equipped with Dry Low NOx combustors and a heat recovery steam generator with duct burning capabilities, and uses selective catalytic reduction and oxidation catalysts.

Magnolia is located on 3 acres of a 23-acre site in the city of Burbank located in Los Angeles County in the South Coast Air Basin (SCAB). Magnolia is operated by the City of Burbank Water & Power Department. The Energy Commission Decision (Decision) approving Magnolia was adopted on March 5, 2003, and commercial operation began September 2005. The Air Quality Conditions of Certification were based on information provided in the Application for Certification including data provided by the equipment manufacturers. The Air Quality Conditions of Certification in the Decision have not been amended at the Energy Commission since the Decision.

During Magnolia operation, the actual start up emissions and duration were higher than the limits included in the Air Quality Conditions of Certification. In December 2006, the SCPPA requested an amendment to the South Coast Air Quality Management District (SCAQMD) permit. The SCAQMD Application Processing and Calculations (evaluation) for this amendment is dated 2007 and a modified permit was issued by the SCAQMD in 2008. Magnolia did not at the time request changes to the Energy Commission Decision. Changes to the SCAQMD permit included:

- A redefinition of the term startup resulting in all starts defined as cold starts
- Removal of the terms ‘warm startup’ and ‘hot startup’
- An increase in startup duration
- Increased oxides of nitrogen (NOx) emission limits during startup
- A reduction of the total number of starts to 3 per month
- A reduction of the total number of shutdowns to 3 per month
- Reduced hours of duct burner operation to 200 hours per month

- Other changes as necessary to accommodate the proposed changes

Further review of more recent operations identified the need to startup and shutdown Magnolia more frequently, likely the result of integration of intermittent renewable resources. SCPPA submitted another application to amend the permit in May 2015 to the SCAQMD. The SCAQMD evaluation for this amendment is dated February 2016. The revised Title V permit for Magnolia was issued April 15, 2016. Updates include:

- An increase in the number of startups and shutdowns to 5 per month and 60 per year
- An increase in duct burner operation to 240 hours per month
- Updated carbon monoxide (CO) catalyst specifications
- Modified wording for the ammonia slip testing requirement

The proposed amendment (SCPAA 2016) would incorporate the applicable permit changes from both the previous 2008 SCAQMD amendment and the 2016 SCAQMD amendment. Energy Commission staff (staff) has assessed the potential for impacts associated with the proposed amendment. Staff recommends revised mitigation and monitoring requirements in sufficient quantities to reduce the potential impacts of the proposed project to less than significant. Some mitigation has been provided in the form of emission reduction credits (ERCs) and Regional Clean Air Incentive Market (RECLAIM) Trading Credits (RTCs) to the SCAQMD. Staff recommends additional California Environmental Quality Act (CEQA) mitigation for volatile organic compounds (VOCs) to ensure Air Quality impacts are mitigated to a less than significant level, including impacts to any environmental justice population. Therefore, with the proposed mitigation there would be no significant air quality impacts related to Magnolia and no minority or low-income populations would be significantly or adversely impacted.

Magnolia is considered a base load facility and is usually operated at more than a 60 percent annual capacity factor. The facility was licensed in 2003 and has been in operation since 2005 prior to the applicable date of the Greenhouse Gases Emission Performance Standard (Title 20, California Code of Regulations, section 2900 et seq.). The regulation considers power plants licensed prior to June 30, 2007 as ‘deemed–compliant’ power plants. Therefore, the plant would continue to be classified as a ‘deemed–compliant’ power plant. The Greenhouse Gas (GHG) emissions would still be subject to the California Air Resources Board (ARB) adopted regulations implementing cap-and-trade. The cap-and-trade program became active in January 2012, with enforcement beginning in January 2013. The proposed facility modifications would be subject to federal and state mandatory GHG reporting and state cap-and-trade requirements.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS COMPLIANCE

The SCAQMD reviewed the requested modifications and determined the proposed changes would comply with their regulations. The Energy Commission reviewed the previously issued 2007 and 2016 SCAQMD permit evaluations which incorporate the proposed changes. **Air Quality Table 1** includes a summary of the air quality laws, ordinances, regulations and standards (LORS) applicable to Magnolia.

The requested changes were evaluated by Energy Commission staff for consistency with the following LORS. The conditions of certification in the Decision and any and all amendments thereafter ensure that the facility would remain in compliance with all applicable LORS.

Air Quality Table 1
Laws, Ordinances, Regulations, and Standards

Applicable Law	*Description*
Federal	**U.S. Environmental Protection Agency (EPA)**
Title 40 Code of Federal Regulations (CFR) Part 50 (National Primary and Secondary Ambient Air Quality Standards)	National Ambient Air Quality Standards (NAAQS) are set in this part. NAAQS define levels of air quality that are necessary to protect public health.
Title 40 CFR Part 51 (Requirements for Preparation Adoption and Submittal of Implementation Plans)	Requires new source review (NSR) facility permitting for construction or modification of specified stationary sources. NSR applies to sources of designated nonattainment pollutants. This requirement is addressed through SCAQMD Regulation XIII.
Title 40 CFR Part 52 (Approval and Promulgation of Implementation Plans)	Prevention of Significant Deterioration (PSD)–Establishes requirements for attainment emissions. PSD requirements apply on a pollutant specific basis for major stationary sources. Twenty-eight source categories are subject to PSD requirements for attainment pollutants if facility annual emissions exceed 100 tons per year. SCAQMD has partial delegation of PSD authority from the United States Environmental Protection Agency (U.S. EPA) depending on the calculation methodology and plant wide applicability limits.
Title 40 CFR Part 60, Subpart A (General Provisions)	Outlines general requirements for facilities subject to standards of performance including, notification, work practice, monitoring and testing requirements.
40 CFR 60, Subpart Da	Standards of Performance for Boilers and Duct Burners. Establishes requirements for electric utility steam generators with heat inputs greater than 250 million British thermal units per hour (MMBtu/hr). The duct burners are rated at 583 MMBtu/hr and are therefore subject to this Subpart.

Applicable Law	*Description*
40 CFR 60, Subpart GG	Standards of Performance for Stationary Combustion Turbines– Requires the turbines to meet emission standards. The applicable limits are 87.9 parts per million (ppm) for NOx and 150 parts per million for sulfur oxide (SOx). Compliance through source testing has been demonstrated and continued compliance is expected.
40 CFR 60, Subpart KKKK	New Source Performance Standards (NSPS) for Stationary Gas Turbines – Establishes emission standards for turbines installed after February 18, 2005 with heat inputs greater than 10 MMBtu/hr. The turbines were installed prior to 2005 and are therefore not subject to this subpart.
40 CFR 60, Subpart UUUU	Emission Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units – Establishes emission guidelines and approval criteria for State or multi-state plans that address emission standards limiting GHG emissions from affected units. The state plan has not been approved and therefore there are no currently applicable requirements. The facility will be required to comply with the plan when applicable.
40 CFR 63, Subpart YYYY	National Emission Standards for Hazardous Air Pollutants for Stationary Gas Turbines. This subpart establishes requirements for facilities that are major sources of hazardous air pollutants (HAPs). The facility is not considered a major source of HAPs since HAP emissions are less than the 25 ton/year threshold.
40 CFR 64	Compliance Assurance Monitoring (CAM)–CAM regulations apply to major stationary sources that use control equipment to achieve emission limits. The turbines are major sources for NOx, CO and VOC emissions. NOx and CO meet applicable best available control technology (BACT) limits by using external control equipment consisting of selective catalytic reduction (SCR) and oxidation catalysts. Compliance is demonstrated by a continuous emission monitoring system (CEMS). Continued compliance with this rule is expected. VOCs are not subject since emissions are controlled by efficient combustor design and the use of natural gas and not external controls.
40 CFR 72	Permits Regulation -Part 72 establishes the Acid Rain Permit Program. The acid rain program requirements establish controls for sulfur dioxide (SO_2) and NOx emissions from fossil fuel-fired combustion used to generate electricity. Facilities are required to cover SO_2 emissions with allowances or offsets. Magnolia is subject to the acid rain program. The facility would continue to comply with SO_2 emissions monitoring by using the gas meter in conjunction with natural gas composition analysis.
State	**California Air Resources Board and Energy Commission**

Applicable Law	*Description*
California Health & Safety Code (H&SC) §41700 (Nuisance Regulation)	Prohibits discharge of such quantities of air contaminants that cause injury, detriment, nuisance, or annoyance.
H&SC §40910-40930 (District Plans to Attain State Ambient Air Quality Standards)	State Ambient Air Quality Standards should be achieved and maintained. The permitting of the source needs to be consistent with the approved clean air plan. The SCAQMD NSR program needs to be consistent with regional air quality management plans.
Title 17 California Code of Regulations (CCR), Subchapter 10 (Climate Change)	Established requirements for mandatory greenhouse gas reporting, verification and other requirements pursuant to cap and trade regulations.
Title 20 CCR, §2900-2913 (Provisions Applicable to Power Plants 10 MW and Larger)	Establishes the greenhouse gases emission performance standard (EPS), applicable to 10 MW and larger power plants.
Local	**South Coast Air Quality Management District (SCAQMD)**
Regulation II Permits Rule 212	Standards for Approving Permits and Issuing Public Notice—Outlines specific criteria for approving permits and issuing public notice. Outlines requirements for RECLAIM facilities. The proposed changes did not trigger Rule 212 public noticing requirements. Magnolia is not located within 1,000 feet of a school and the proposed changes will not result in an increase in emissions of toxic contaminants that would expose a person to levels above noticing thresholds.
Regulation II Permits Rule 218	Continuous Emission Monitoring (CEM)—Establishes requirements for CEMS. Only the CO CEMS is subject to Rule 218 requirements. Magnolia is currently operating with a compliant CEMS. Retention of record and reporting requirements are followed. Continued compliance is expected.
Regulation IV Prohibitions Rule 401	Visible Emissions—Establishes limits on visible emissions. Visible emissions are not expected from Magnolia. SCAQMD reported there is no indication of visible emission problems in their compliance database.
Regulation IV Prohibitions Rule 402	Nuisance—Prohibits the discharge of air contaminants or other material which could detrimentally impact the public. Magnolia uses ammonia for the SCR. The facility maintains a 5 ppm ammonia slip level. Nuisance problems are not expected from Magnolia under normal operations.
Regulation IV Prohibitions Rule 407	Liquid and Gaseous Air Contaminants—Establishes a CO emission limit of 2,000 parts per million by volume (ppmv) from the turbines. The CO emissions from the turbines are subject to a more stringent CO emission limit of 2 ppmv at 15 percent oxygen (O_2). Compliance with the CO emission limit has been demonstrated through source testing.

Applicable Law	*Description*
Regulation IV Prohibitions Rule 409	Combustion Contaminants—Establishes restrictions on particulate matter emissions from the turbines to 0.1 grain per cubic foot at 12 percent O_2. Source testing data indicates compliance below the rule limit.
Regulation IV Prohibitions Rule 431.1	Sulfur Content of Gaseous Fuels—Limits the sulfur concentration to 16 ppmv (calculated as hydrogen sulfide) in natural gas. Continued compliance is expected because commercial grade natural gas has an average sulfur content of 4 ppm.
Regulation IV Prohibitions Rule 475	Electric Power generating Equipment—Limits combustion contaminants to 11 pounds per hour (lbs/hr) or 0.01 grains per standard cubic feet (gr/scf) for power generating equipment greater than 10 MW. Continued compliance is expected and demonstrated through source testing.
Regulation XIII New Source Review	New Source Review for Criteria Pollutants—This regulation applies to new or modified sources that have increased emissions. The amendment proposes an increase in the 30 day average emissions triggering offset requirements. Increases in the maximum daily emissions triggers a modeling and BACT analysis by the SCAQMD. (See analysis for further discussion)
Regulation XIII New Source Review Rule 1325	Federal PM2.5 New Source Review Program—Outlines requirements for particulate matter less than 2.5 microns (PM2.5) for any new major polluting facility or major modification to a major polluting facility located in areas designated as non-attainment for PM2.5. Magnolia's potential to emit is below 100 tons per year and it therefore not considered a major facility for PM2.5.
Regulation XIV Toxics and Other Non-Criteria Pollutants Rule 1401	New Source Review of Toxic Air Contaminants (TAC)—Specifies limits for maximum individual cancer risk and acute and chronic hazard index for modifications to existing facilities emitting toxic air contaminants. The proposed changes result in an overall reduction in fuel use and therefore there is no increase in toxic air contaminants.
Regulation XVII Prevention of Significant Deterioration (PSD)	Prevention of Significant Deterioration–Establishes requirements for attainment emissions. The SCAB is in attainment for nitrogen dioxide (NO_2), SO_2, CO and particulate matter less than ten microns (PM10) national ambient air quality standards. SCAQMD has partial delegation of PSD authority from the U.S. EPA depending on the calculation methodology and plant wide applicability limits. Magnolia is not considered a major source and the proposed changes do not constitute a major amendment to a minor source. Therefore the only PSD requirement would be the use of BACT. (See analysis for further discussion)

Applicable Law	*Description*
Regulation XVII Prevention of Significant Deterioration (PSD) Rule 1714	Prevention of Significant Deterioration (PSD) for Greenhouse Gases (GHGs)— GHGs are regulated pollutants under the PSD major source permitting program. A GHG analysis under PSD is only required when a source triggers PSD review for other criteria pollutants. (See analysis for further discussion)
Regulation XX Regional Clean Air Incentives Market (RECLAIM) Rule 2005	New Source Review for RECLAIM—Establishes requirements for new or modified facilities subject to the RECLAIM program. BACT is required for a modified source resulting in specified emission increases. The equipment meets NOx BACT requirements. Modeling was performed for NOx, CO and PM10. (See analysis for further discussion)
Regulation XX Regional Clean Air Incentives Market (RECLAIM) Rule 2012	NOx RECLAIM Monitoring, Reporting, and Recordkeeping—Establishes requirements for new or modified facilities subject to the RECLAIM program. The turbine is required to be equipped with a CEMS, a data handling system, recording system, and a fuel meter. The facility has been reporting their emissions as required and has maintained their NOx emissions below the NOx RECLAIM emissions cap. Continued compliance is expected.
Regulation XXX Title V Permits Rule 3003	Applications—Establishes application procedures for facilities subject to Title V requirements. Magnolia is considered a Title V facility. The SCAQMD determined that the requested amendment is considered a significant permit revision and requires a 45-day U.S. EPA review and 30-day public notice period. The draft Magnolia RECLAIM/Title V permit was sent to the U.S. EPA for review on February 12, 2016. No comments were receives and the revised Magnolia RECLAIM/Title V was issued April 2016.

SETTING

Ambient Air Quality Standards

The U.S. EPA and the ARB have both established allowable maximum ambient concentrations of criteria air pollutants. Ambient air quality standards are designed to protect people who are most susceptible to respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. The ambient air quality standards are also set to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The California Ambient Air Quality Standards (CAAQS), established by ARB, are typically lower (more stringent) than the federally established NAAQS. See **Air Quality Table 2.** The averaging time for the various ambient air quality standards (the duration of time the measurements are taken and averaged) ranges from one hour to one year.

The standards are read as a concentration, in ppm, parts per billion (ppb), or as a weighted mass of material per unit volume of air, in milligrams (mg) or micrograms (µg) of pollutant in a cubic meter (m^3) of ambient air, drawn over the applicable averaging period.

Air Quality Table 2
Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Standard	California Standard
Ozone (O_3)	8 Hour	0.070 ppm (137 µg/m^3)[a]	0.070 ppm (137 µg/m^3)
	1 Hour	—	0.09 ppm (180 µg/m^3)
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)
	1 Hour	35 ppm (40 mg/m^3)	20 ppm (23 mg/m^3)
Nitrogen Dioxide (NO_2)	Annual	53 ppb (100 µg/m^3)	30 ppb (57 µg/m^3)
	1 Hour	100 ppb (188 µg/m^3)[b]	180 ppb (339 µg/m^3)
Sulfur Dioxide (SO_2)	24 Hour	—	0.04 ppm (105 µg/m^3)
	3 Hour	0.5 ppm (1300 µg/m^3)	—
	1 Hour	75 ppb (196 µg/m^3)[c]	0.25 ppm (655 µg/m^3)
Respirable Particulate Matter (PM10)	Annual	—	20 µg/m^3
	24 Hour	150 µg/m^3	50 µg/m^3
Fine Particulate Matter (PM2.5)	Annual	12 µg/m^3	12 µg/m^3
	24 Hour	35 µg/m^3 [b]	—
Sulfates (SO_4)	24 Hour	—	25 µg/m^3
Lead	30 Day Average	—	1.5 µg/m^3
	Rolling 3-Month Average	1.5 µg/m^3	—
Hydrogen Sulfide (H_2S)	1 Hour	—	0.03 ppm (42 µg/m^3)
Vinyl Chloride (chloroethene)	24 Hour	—	0.01 ppm (26 µg/m^3)
Visibility Reducing Particulates	8 Hour	—	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.

Source: ARB 2016c, U.S. EPA 2016 a,b
Notes: [a] Fourth- highest maximum 8 – hour concentration, averaged over 3 years.
[b] 98th percentile of daily maximum value, averaged over 3 years
[c] 99th percentile of daily maximum value, averaged over 3 years

Ambient Air Quality Attainment Status

Federal and state ambient air quality attainment status designations have changed since the Decision. Magnolia is located in the city of Burbank, in Los Angeles County, and is part of the SCAB. For convenience, staff includes **Air Quality Table 3**, which summarizes the area's attainment status for current state and federal ambient air quality standards (AAQS) for the SCAB.

Air Quality Table 3
SCAQMD Attainment Status

Pollutants	Attainment Status	
	Federal Classification	**State Classification**
Ozone (1-hr)	No Federal Standard[a]	**Nonattainment**
Ozone (8-hr)	**Nonattainment**	**Nonattainment**
CO	Unclassified/Attainment	Attainment
NO_2	Unclassified/Attainment	Attainment
SO_2	Attainment	Attainment
PM10	Attainment	**Nonattainment**
PM2.5	**Nonattainment**	**Nonattainment**
Sulfates	No Federal Standard	Attainment
Lead	**Nonattainment[b]**	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Visibility Reducing Particulates	No Federal Standard	Unclassified

Source: ARB 2016a, U.S. EPA 2016 a,b
Notes: [a] The federal 1-hour standard was revoked in June 2005, however the South Coast Air Basin has not attained this standard and is subject to anti-backsliding requirements.
[b] Los Angeles County portion of the basin

ANALYSIS

Operation Summary and Emissions Analysis

SCPPA is proposing to incorporate the applicable changes to the Air Quality Conditions of Certification based on the 2008 and 2016 SCAQMD revisions. Specific changes proposed by SCPPA include:

- Revising all startup durations to six hours
- Revising startup frequency to 5 starts per month and 60 starts per year
- Revising startup criteria pollutant emissions
- Revising the higher heating value of natural gas to the revised SCAQMD default value
- Revising the permitted monthly emission limits
- Updating the specification of the carbon monoxide catalyst
- Modification of the wording for the frequency of the ammonia slip testing requirement

In the Decision, emissions were evaluated under both a base load operating scenario and a load following operating scenario. Maximum emissions for Magnolia were originally calculated based off of the following assumptions:

- Emission factors guaranteed by the manufacturer
- Facility operation of 24 hours per day, available 95 percent of the year, for a total of 8,322 hours per year
- Operating scenarios generating maximum daily emission included one cold start for 4 hours, 12 hours of operation with duct firing, full-load operation without duct firing for the remaining 8 hours, and 24 hours of cooling tower operation
- Load following monthly scenario included16 hours of cold starts, 8.4 hours of warms starts, 4 hours of shutdown, 240 hours of operation with duct firing, 163.6 hours of operation without duct firing, and 432 hours of cooling tower operation
- Base load monthly scenario included 240 hours of operation with duct firing, 480 hours of operation without duct firing, and 720 hours of cooling tower operation
- Load following annual scenario included 52 cold starts, 52 warm starts, 104 shutdowns, 1,000 hours of operation with duct firing, 3,209 hours of operation without duct firing, and 4,578 hours of cooling tower operation
- Base load annual scenario included 1,000 hours of operation with duct firing, 7,322 hours of operation without duct firing, and 8,322 hours of cooling tower operation

Air Quality Table 4 summarizes the operating assumptions used to calculate emissions in the Decision assuming durations of 4 hours per cold start, 2.1 hours for warm starts and 0.5 hours for turbine shutdown

Air Quality Table 4
Magnolia Project Operating Summary–Decision

Decision	Hours of Operation (hr)				
	Daily	Monthly		Annual	
		Load Following	Base Load	Load Following	Base Load
Turbine w/o Duct Firing	8	163.6	480	3,209	7,322
Turbine w Duct Firing	12	240	240	1,000	1,000
Cold Start	4	16	--	208	--
Warm Start	--	9.4	--	109.2	--
Shutdowns	--	4	--	52	--
Cooling Tower	24	432	720	4,578	8,322

Source: CEC 2002a, CEC2003

Air Quality Table 5 includes the hourly emission rates used with the operating parameters included in **Air Quality Table 4** to calculate potential emissions from

Magnolia. For the purpose of this amendment PM2.5 emission are considered equivalent to PM10.

Air Quality Table 5
Magnolia Project Combustion Turbine/Cooling Tower Hourly Emissions–Decision

Decision	Duration (hour)	NOx (lbs/hr)	CO (lbs/hr)	VOC (lbs/hr)	SOx (lbs/hr)	PM10 (lbs/hr)
Cold Start	4	36.25	125.0	10.0	1.31	12.0
Warm Start	2.1	42.86	142.86	9.52	1.31	12.0
Hot Start	1.5	33.33	190.0	13.33	1.31	12.0
Shutdown	0.5	50.0	240.0	34.0	1.31	12.0
Operation with duct firing 95°F	--	17.24	10.49	6.00	1.31	18.0
Operation no duct firing 41°F	--	13.16	8.01	4.58	1.31	12.0
Cooling Tower	--	--	--	--		1.26

Source: CEC 2002a

Air Quality Table 6 includes emission estimates presented in the Magnolia Final Staff Assessment and referenced in the Decision. The values included in the table are the maximum of either the load following or base load scenarios analyzed.

Air Quality Table 6
Magnolia Project Emissions–Decision

Decision	NOx	CO	VOC	SOx	PM10
Maximum Daily (lbs/day)	457	690	149	36	360
30-Day Average (lbs/day)	---	266	121	35	336
Maximum Monthly (lbs/month)	10,455	7,988	3,638	1,039	10,987
Annual (lbs/year)	113,598	90,272	39,535	11,302	116,350
Annual (tons/year)	56.80	45.14	19.77	5.65	58.18

Source: CEC 2002a

In December 2006, SCPPA submitted an application to SCAQMD to modify their SCAQMD permit. The facility had not been able to consistently reach the NOx BACT limit of 2.0 ppm in 4 hours during a cold start. The SCPPA application proposed to increase the cold startup time from 4 hours to 6 hours and 40 minutes. The 4 hour cold start up time frame was originally based on the turbine manufacturer's recommendation. The SCAQMD researched similar permits and determined the typical cold startup durations for this equipment is 6 hours and a 6 hour cold start time frame is consistent with BACT. SCPPA accepted a 6 hour cold start up permit condition.

The 2007 SCAQMD permit evaluation included emission calculations for startup and shutdown events. The revised startup emission rates were proposed by the applicant in the 2006 SCPPA application to modify the SCAQMD permits. The revised NOx emission rate for startup events is much greater than the original evaluation. The Decision assumed NOx emission rates ranging from 33.33 pounds per hour to 42.86

pounds per hour with durations ranging from 1.5 to 4 hours (see **Air Quality Table 5)** resulting in 145 pounds of NOx per startup event. The revised NOx emission rate for all startup events equates to 73.33 pounds per hour NOx. The revised CO startup emissions per event correspond to 4 hours at the original CO cold startup emission rate. The revised VOC startup emission rate per event corresponds to approximately 3 hours at the original VOC cold startup emission rate. **Air Quality Table 7** includes the emission rates used by SCAQMD for startup events in the evaluation.

Air Quality Table 7
Magnolia Project Combustion Turbine Startup Emissions–SCAQMD 2007

Turbine Startup	NOx	CO	VOC	SOx	PM10
Turbine Startup (lbs/hr)	73.33	83.33	5.0	1.28	11.79
Turbine Startup (lbs/event)[a]	440	500	30.0	7.68	70.74

Source: SCAQMD 2007 and staff analysis
Note: [a] Assumed 6 hours per startup event

In addition, the 2006 SCPPA application proposed to categorize all post-commissioning startups as cold startups. SCAQMD examined operating data from Magnolia. Over 18 months of operation, there were 20 startups. Out of the 20 startups, 14 were classified cold, 3 were classified warm, and 3 were classified hot. According to the SCAQMD analysis, due to the length of time needed for a startup, the plant is not able to run as a peaking unit typically requiring more starts and stops. SCPPA proposed to limit startup and shutdowns to 3 per month and duct burner operation to 200 hours a month, to prevent an increase in monthly emissions.

Three conditions were added to the SCAQMD permit in 2008 to support these changes. Condition C1.3 limited the monthly fuel usage to 111 million standard cubic feet (mmscf) per month. This was added to enforce the 200 hour a month limit for duct burning. Condition C1.4 limited the gas turbine to 3 startups per month and Condition A433.1 limited NOx emissions per startup to 440 pounds. The NOx emission limit of 440 pounds reflects 6 hours at a revised cold startup emission rate. SCAQMD also deleted some requirements applicable to commissioning that were no longer applicable and condition A99.3 (Condition of Certification **AQ-18**) pertaining to interim RECLAIM reporting.

The 2007 SCAQMD permit evaluation included calculations of potential facility emissions. Hourly emission rates for the combustion turbine and duct burner normal operation were based off of emission limits of 2.0 ppmv at 15 percent oxygen for NOx, CO and VOC, 0.0066 pounds per MMBtu of PM10 from the gas turbine, 0.0076 pounds per MMBtu of PM10 from the duct burner, and 0.75 pounds per mmscf of SOx. For monthly operations, 3 startup and 3 shutdowns, 200 hours of duct burner operation, and 700.5 hours of combustion turbine operation (including the 200 hours of duct burning) was assumed. Annual operations assumed 36 startups and 36 shutdowns, the balance of hours after startup and shutdown assumed base load combustion turbine operation, and 1,000 hours of duct burner operation. Six hours was used for startup duration and a half hour was used for shutdown duration. **Air Quality Table 8** includes 2007 SCAQMD amendment evaluation operating summary for Magnolia.

Air Quality Table 8
Magnolia Project Operating Summary–2007 Evaluation

SCAQMD 2007	Hours of Operation	
	Monthly	Annual
Turbine -Total	700.5	8,526
Duct Burner	200	1,000
Startup	18	216
Shutdown	1.5	18

Source: SCAQMD 2007, staff analysis

Air Quality Table 9 includes SCAQMD emission estimates presented in the 2007 SCAQMD evaluation for Magnolia. The cooling tower is considered exempt equipment in the SCAQMD and therefore particulate emissions estimated from the cooling tower are not included in the SCAQMD calculations. The table includes the 30-day average emissions reported in the SCAQMD database prior to the amendment (original), the 30-day average emissions calculated in the 2007 SCAQMD permit evaluation, and calculated increases. This table indicates a potential decrease in NOx, SOx and PM10 emissions and a potential increase in CO and VOC emissions. However, staff notes there was a reporting error for the 30-day average for NOx in the 2007 SCAQMD evaluation. The 30-day average was not calculated as part of the Decision. The 30-day average is not used to calculate mitigation for NOx since the facility is subject to RECLAIM requirements.

Air Quality Table 9
Magnolia Project Emissions–SCAQMD 2007

SCAQMD 2007	NOx (lbs/day)	CO (lbs/day)	VOC (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)
30-Day Average Original	1,940[a]	266	**121**	35	336
30-Day Average PTE	383	267.7	121.7	34	312
Daily Emission Increase	-1,557	1.7	0.7	-1	-24

Source: SCAQMD 2007

[a] This NOx value was listed in the Monthly Averaged Emission Table in the SCAQMD 2007 evaluation. This number does not reflect the 30-day average approved in the original Decision or 2002 SCAQMD evaluation. SCAQMD staff confirmed this was a typo in the 2007 SCAQMD evaluation.

The 2007 SCAQMD permit evaluation for Magnolia stated SCPPA elected to maintain the monthly VOC emissions limits in condition A63.1 (Condition of Certification **AQ-11**). Appendix A Emission Calculations in the 2007 SCAQMD permit evaluation lists the CO, VOC, SOx and PM10 monthly limits included in condition A63.1. These limits are listed in **Air Quality Table 10** (additional discussion is included in the CEQA discussion further in the analysis). In addition **Air Quality Table 10** includes monthly and annual emissions identified in the 2007 SCAQMD permit evaluation, as well as the hourly emission rates from normal operations of the turbine and duct burner. The annual emissions calculated in the 2007 SCAQMD permit evaluation are not included as conditions in the 2008 SCAQMD permit. The SCAQMD monthly emission limits would keep the facility below these annual calculations.

Air Quality Table 10
Magnolia Project Emissions–SCAQMD 2007

SCAQMD 2007	NOx	CO	VOC	SOx	PM10
Gas Turbine (lbs/hr)	13.18	8.02	4.58	1.28	11.79
Duct Burner (lbs/hr)	4.30	2.62	1.50	0.42	4.43
Monthly (lbs/month)	11,484	7,988	3,636	1,006	9,375
Annual (lbs/year)	137,808	96,012	43,800	12,072	112,500

Source: SCAQMD 2007

In addition, the 2007 SCAQMD permit evaluation assumed a higher heating value of 1,050 Btu/scf whereas the original calculations were based on a higher heating value of 1,020 Btu/scf. This resulted in a lower emission factor calculated for SOx and subsequently lower SOx emissions. The updated higher heating value was also used to re-calculate fuel usage limits, resulting in more restrictive fuel limits. Inversely, the larger higher heating value resulted in higher lbs/mmscf equivalent emission factors for PM10 and VOC. Emission factors in lbs/mmscf for SOx, PM10, and VOC are included in the SCAQMD permit conditions.

Since the 2008 SCAQMD amendment, operating trends for Magnolia have changed. The plant has been required to shut down more frequently. As a result the 3 starts per month limit added to the Magnolia SCAQMD permit in 2008 is no longer adequate for facility operation. Therefore, SCPPA submitted applications to the SCAQMD in 2015 for the following permit modifications:

- Increasing the number of allowable monthly startups from 3 to 5,
- Increasing the duct burner monthly fuel limit from 111 MMBtu to 133 MMBtu (200 hours of operating time to 240 hours of operating time based on 1,050 Btu/scf),
- Correcting the manufacturer name, volume, and dimensions of the CO catalyst in the equipment description of the permit, and
- Specifying the annual ammonia slip testing is required on a once-per-calendar-year basis.

A revised permit was issued by the SCAQMD in 2016. As part of the evaluation, SCAQMD recalculated the potential emission from Magnolia. The maximum hourly emissions for NOx and CO are based on startup conditions, while VOC, PM10, SOx and ammonia (NH_3) are based on base load operation. Maximum daily emissions for NOx, CO and VOC are based on 1 cold start, 1 shutdown and 17.5 total hours of base load operation including 12 hours of duct firing. Maximum daily emissions for SOx and PM10 are based on 24 hour of base load operation. **Air Quality Table 11** includes the calculated emission from the 2016 SCAQMD permit evaluation.

Air Quality Table 11
Magnolia Project SCAQMD Emissions–2016

SCAQMD	NOx	CO	VOC	SOx	PM10
Gas Turbine Startup (lbs/hr)	73.33	83.33	5.0	1.28	11.79
Gas Turbine Startup (lbs/event)	440	500	30	7.68	70.74
Gas Turbine Shutdown (lbs/hr)	50	240	34	1.28	11.79
Gas Turbine Shutdown (lbs/event)	25	120	17	0.64	70.74
Gas Turbine (lbs/hr)	13.18	8.02	4.58	1.28	11.79
Duct Burner (lbs/hr)	4.30	2.62	1.50	0.42	4.43
Maximum Daily (lbs/day)	747.3	815.8	145.2	35.8	336.1
Monthly (lbs/month)	----	9,243	3,744	1,022	9,552
30-Day Average(lbs/day)	----	308	125	34	318
Annual (lbs/year)	136,744	103,435	40,649	10,652[a]	102,456[b]
Annual (tons/year)	68.37	51.72	20.32	5.33	51.23

Source: SCAQMD 2016

Notes: [a] Staff notes a discrepancy in the spreadsheet provided in the Annual Emissions (PTE) Section B. Post Modification Annual Emissions. Staff analysis indicates 11,072 pounds per year of SOx.
[b] Staff notes there appears to be a typo in the spreadsheet provided in the Annual Emissions (PTE) Section B. Post Modification Annual Emissions. Staff analysis indicates 102,546 pounds per year of PM10.

Air Quality Table 12 compares emissions from the Decision with the updated emissions from SCPPA 2016 proposed amendment. Staff analysis of the proposed amendment is noted where the calculated values do not match those in the SCAQMD 2016 evaluation. Staff calculated the change in emissions from the Decision to the proposed SCPPA 2016 analysis. The proposed amendment results in emission increases for NOx, CO and VOC, and emission decreases for SOx and PM10.

Air Quality Table 12
Magnolia Project Emissions–Decision Comparison

Project	NOx	CO	VOC	SOx	PM10
	Maximum Hourly Operations (lbs/hour)				
Decision Hourly	42.86	190	13.33	1.71	18
Amended Hourly	73.33	83.33	6.08	1.7	16.22
Cooling Tower	----	----	----	----	1.26
	Maximum Daily Operations (lbs/day)				
Decision Daily	457	690	149	36	360[a]
Amended Daily	747.3	815.8	145.2	35.8	336.1[b]
Cooling Tower	----	----	----	----	30.24
	30-Day Average Operations (lbs/day)				
Decision 30-Day	---	266	121	35	336[a]
Amended 30-Day	----	308	125	34	318[b]
	Maximum Monthly Operation (lbs/month)				
Decision Monthly	10,455	7,988	3,638	1,039	10,987[a]
Amended Monthly	11,484	9,243	3,744	1,022	9,552[b]
Cooling Tower	----	----	----	----	907

	Maximum Annual Operation (lbs/year)				
Decision Annual	113,598	90,272	39,535	11,302	116,350[a]
Amended Annual (SCAQMD)	136,744	103,435	40,649	10,652	102,456[b]
Amended Annual (Staff Analysis)	136,743	103,433	40,649	11,072	102,546[b]
Cooling tower	----	----	----	----	10,486
	Maximum Annual Operation (tons/year)				
Decision Annual	56.80	45.14	19.77	5.65	58.18[a]
Amended Annual (SCAQMD 2016))	68.37	51.72	20.32	5.33	51.23[b]
Amended Annual (Staff Analysis)	68.37	51.72	20.32	5.54	56.52 [a]
Changes	11.57	6.58	0.55	-0.11	-1.66

Source: CEC 2002, SCAQMD 2016, and staff analysis
Notes: [a] Includes emission from the cooling tower
[b] Excludes emission from the cooling tower

Impacts Analysis

Ambient air quality impacts occur when project emissions cause the ambient concentrations of a pollutant to increase. Magnolia emits pollutants on a mass basis. Emissions associated with the Magnolia project are the actual mass of emitted pollutants dispersed in the atmosphere before reaching the ground. Impacts refer to the concentration of pollutants at ground level. An impact analysis includes quantifying the emissions released from the equipment during operation and the use of an atmospheric dispersion model to determine the probable impact at ground level. The analysis focuses on the predicted change to the ground level impact due to the additional emissions from the proposed project amendment.

Air dispersion models provide a means of predicting the location and ground level magnitude of the impacts of a new emissions source. These models consist of several complex series of mathematical equations, which are repeatedly calculated by a computer for many ambient conditions to provide theoretical maximum offsite pollutant concentrations for short-term (one-hour, three-hour, eight-hour, and 24-hour) and annual periods. The model results are generally described as maximum concentrations, often described as a unit of mass per volume of air, such as micrograms per cubic meter ($\mu g/m^3$).

The project owner conducted air dispersion modeling using American Meteorological Society/Environmental Protection Agency Regulatory Model known as AERMOD to analyze potential ambient air quality impacts associated with the operation of MPP. The U.S. EPA designates AERMOD as a “preferred” model for refined modeling in all types of terrain. AERMOD considers emissions in the context of various ambient meteorological conditions, local terrain and nearby structures that could affect air flow. SCPPA used AERMOD version 14134 for the CO and NO_2 analysis performed in April 2015 for the SCAQMD permit amendment, and the more current version 15181 for

additional PM10 and SOx modeling performed in October 2015 for the proposed Energy Commission amendment. SCAQMD remodeled the proposed project using version 15181. PM2.5 was not modeled as there are no increases in emissions expected. The modeling performed followed both U.S. EPA and SCAQMD guidelines.

The inputs for the air dispersion models include stack information (exhaust flow rate, temperature, and stack dimensions), specific turbine and cooling tower emission data and meteorological data, such as wind speed and atmospheric conditions, and site elevation. Five years of meteorological data (years 2008 – 2012) collected from the Burbank station was selected for the modeling analysis. This data was obtained from the SCAQMD website. Building downwash was addressed following U.S. EPA guidance.

The base modeling grid for AERMOD modeled impacts consists of receptors placed at the project's boundary and Cartesian-grid receptors that are placed beyond the project's site boundary. The receptor's spacing increases with distance from the origin. Fine grid receptor modeling was not required because maximum modeled impacts were identified within the receptor grid spaced 25 meters apart. Discreet receptors located within a mile of the MPP stack were located at sensitive receptors such as schools and hospitals.

The SCPPA's impact analysis compared potential impacts with state and federal ambient air quality standards (AAQS) and applicable SCAQMD significance criteria. SCAQMD requires projects in nonattainment areas to demonstrate through modeling the project would not cause exceedances of the significant change thresholds specified in Rule 1303. For projects located in attainment areas, SCAQMD requires a demonstration that the project emissions plus background concentrations would not potentially cause a violation to any AAQS. **Air Quality Table 13** contains background concentrations from the East Fernando Valley monitoring station located in Burbank from 2011 to 2014.

Air Quality Table 13
Criteria Pollutants Concentrations, 2011-2014 (ppm or µg/m^3)

Pollutant	Averaging Time	2011	2012	2013	2014
NO_2 (ppm)	1-hour (Max)	0.0678	0.0795	0.0725	0.0732
NO_2 (ppm)	1-hour (98th)	0.0562	0.0558	0.06	0.0652
NO_2 (ppm)	Annual	0.0221	0.0172	0.0202	0.0218
PM10 (µg/m^3)	24-hour	61	54	52	60
PM10 (µg/m^3)	Annual	28.4	25.5	28.5	31.2
CO (ppm)	1-hour (Max)	2.3	1.9	1.2	15.2
CO (ppm)	8-hour (Max)	1.3	1.4	1.9	10.6
SO_2 (ppm)	1-hour (Max)	0.013	0.006	0.004	0.005-
SO_2 (ppm)	1-hour (99th)	0.007	0.005	0.004	0.003
SO_2 (ppm)	24-hour	0.007	0.003	0.002	0.002

Source: SCAQMD 2016a, SCPPA 2016, ARB 2016a, and U.S. EPA 2016b

The highest criteria pollutant concentration from the last three years of available data collected from the East Fernando Valley monitoring stations was selected by staff to

represent background values. The maximum value for all pollutants was selected, even those with standards that are attained with three year averages such as the NOx NAAQS 1-hour standard. This assures staff is conservatively representing background values at the facility. These value are included in **Air Quality Table 14**. Concentrations in excess of their ambient air quality standard are shown in bold.

The pollutant modeling analysis was limited to the pollutants listed in **Air Quality Table 14**. Therefore recommended background concentrations were not determined for the other criteria pollutants.

Air quality Table 14
Staff-Recommended Background Concentrations (µg/m^3)

Pollutant	Averaging Time	Recommended Background	Limiting Standard	Percent of Standard
NO_2	State 1-hour	150	339	44%
	Federal 1-hour	123	188	65%
	Annual	41	57	72%
PM10	24-hour	60	50	**120%**
	Annual	31.2	20	**156%**
CO	1-hour	3,436	23,000	15%
	8-hour	3,436	10,000	34%
SO_2	State 1-hour	28	655	4%
	Federal 1-hour	11	196	6%
	24 hour	5	105	5%

Source: SCAQMD 2016a, ARB 2016a, U.S. EPA 2016b, and staff analysis

SCPPA 2016 included modeled startup scenarios, normal operation scenarios, and shutdown scenarios for NO_2, CO and PM10. PM10 and SO_2 emissions were modeled for normal operation scenarios excluding startup and shutdown scenarios since maximum emissions are expected during normal operation. **Air Quality Table 15** summarizes the maximum predicted concentrations for the scenarios modeled with the corresponding averaging period. Maximum project impacts for 1-hr NO_2 is expected from the startup scenario and maximum 1-hr impacts for CO are expected from the shutdown scenario. **Air Quality Table 15** includes background values and compares the total impact to the limiting AAQS. The values shown in bold indicated an exceedance of an air quality standard.

Air Quality Table 15
Proposed Operation Impacts

Pollutant	Averaging Period	Project Impact (µg/m^3)	Background (µg/m^3)[a]	Total Impact (µg/m^3)	Limiting Standard (µg/m^3)	Percent of Standard
NO_2	1-hr (CAAQS)	23.5	150	173.5	339	51%
	1-hr (NAAQS)	21.3	123	144.3	188	77%

	Annual	0.35	41	41.35	57	73%
PM10[b]	24 hour	2.34	**60**	**62.34**	50	**125%**
	Annual	0.41	**31.2**	**31.61**	20	**158%**
CO	1 hour	49.76	3,436	3486	23,000	15%
	8 hour	37.92	3,436	3474	10,000	35%
SO_2	1-hr (CAQQS)	0.67	28	28.67	655	4%
	1-hr (NAAQS)	0.62	11	11.62	196	6%
	24 hour	0.21	5	5.21	105	5%

Source: SCPPA 2016 and staff analysis.

Notes: [a] Background values are adjusted as presented in **Air Quality Table 14**

Notes: [b] SCAQMD modeling indicated project impacts from PM10 of 2.0 µg/m^3 (24-hour averaging period) and 0.35 µg/m^3 (annual averaging period).**Air Quality Table 15** demonstrates that the project would not cause a significant impact except for 24-hour and annual PM10 emissions. Routine Operation Impacts could contribute to existing violations of annual PM10 ambient air quality standards however the modeled project impact is below the significance change in PM10 SCAQMD threshold.

California Environmental Quality Act (CEQA) Mitigation

As documented in **Air Quality Table 3**, the SCAQMD is in non-attainment with the state and federal AAQS for ozone and PM2.5, and state AAQS for PM10. The Energy Commission requires mitigation for the emissions of pollutants and/or their precursors that are in non-attainment with state and federal air quality standards or may result in any violation of any air quality standard. Precursors of ozone, PM10 and PM2.5 include VOC, SOx and NOx. Therefore, the Energy Commission requires the mitigation of PM10, PM2.5, SOx, NOx and VOC emissions in areas designated as non-attainment for ozone, PM10 and PM2.5 standards.

A mitigation package was provided when Magnolia was originally licensed. Mitigation for the project included BACT requirements, purchased ERCs for CO and VOC, purchased SO_2 and PM10 credits from the SCAQMD priority reserve, and RECLAIM Trading Credits for NOx emissions. The Decision required the project to be offset under the SCAQMD requirements, however additional PM10 offsets were required by the Energy Commission (see discussion below). Emission reduction credits for CO and VOCs were required to be offset with an offset ratio of 1.2 to 1. Offsets provided by the priority reserve were required at a 1 to 1 ratio. NOx emission offsets were required to be provided in the form of RTCs at a 1 to 1 ratio. **Air Quality Table 16** summarizes the SCAQMD original offset requirement amounts included in the Decision.

Air Quality Table 16
Original Mitigation Requirements

	NOx (lb/year)	CO (lb/day)	VOC (lb/day)	SOx (lb/day)	PM10 (lb/day)
Emissions Increase	119,118	266	121	35	336

	NOx (lb/year)	CO (lb/day)	VOC (lb/day)	SOx (lb/day)	PM10 (lb/day)
Offset Ratio	1.0	1.2	1.2	1.0	1.0
Required Offsets	119,118	319	145	35	336
Offset Source	RTC	ERC	ERC	Priority Reserve	Priority Reserve

Source: CEC 2002a, CEC 2003, SCAQMD 2002, and staff analysis

The Decision required additional PM10 offsets to offset emissions from the cooling tower since the SCAQMD exempts cooling towers from offset requirements. Emission reductions from the shutdown of Magnolia 3 and 4 cooling towers were used to offset these additional PM10 emissions. Air Quality Condition of Certification **AQ-37** required documentation of the demolition of the decommissioned Magnolia 3 and 4 cooling towers and to provide assurance that the emission reductions from the shutdown of these units would not be used for any other purpose than to offset the Magnolia cooling tower PM10 emissions.

The SCAQMD rules and regulations require net emission increases of nonattainment pollutants to be offset unless specifically exempted. Offset determinations are made on a 30-day average basis. **Air Quality Table 17** includes the potential emissions based on the SCPPA 2016 amendment and the approved offset ratio required by SCAQMD. **Air Quality Table 17** compares the offset requirement at the time of the Decision based on the 30-day averages with the calculated offset requirement based on the petition to modify.

Air Quality Table 17
Revised Mitigation Requirements

Offsets	Annual	30-Day Average			
	NOx (lb/year)	CO (lb/day)	VOC[a] (lb/day)	SOx (lb/day)	PM10 (lb/day)
Amended Total	136,744	308	125	34	318
Approved Offset Ratio	1.0	1.2	1.2	1.0	1.0
Amended Requirement	136,744	370	150	34	318
Original Offsets Surrendered	119,118	319	145	35	336
Difference	17,626	51	5	-1	-18
Additional Offsets Surrendered	---	---	2	---	---
Offset Source	RTC	ERC	ERC	Priority Reserve	Priority Reserve

Source: CEC 2002a, CEC 2003, SCAQMD 2002, and staff analysis

Air Quality Table 16 indicates potential 30-day average emission increases for CO and VOC. CO is currently classified as an attainment pollutant. In addition the CO impact analysis including increased CO emissions did not indicate an exceedance to any CO AAQS and CO is not considered a precursor to any nonattainment pollutants. Therefore

offsets from CO would not be required by SCAQMD or recommended by Energy Commission staff for this amendment. Offsets for VOCs would be required by the SCAQMD and are recommended by Energy Commission staff.

The 2016 SCAQMD evaluation included calculations to determine the amount of VOC offsets required per the SCAQMD rules and regulations. The calculations based the pre-modification monthly emissions on the requested operation changes evaluated in the 2007 SCAQMD permit evaluation. The pre-modification monthly VOC emissions were used as a baseline and compared to the post-modification monthly and 30-day VOC emission limit from the 2016 SCAQMD evaluation. The 2016 SCAQMD evaluation determined the SCPPA would need to surrender 4 pounds per day of VOC emission reduction credits to offset the potential VOC emission increase.

However, under the 2007 SCAQMD permit evaluation, SCPPA requested to maintain the original monthly VOC emissions limit. The evaluation explained this would be accomplished through retaining the original monthly total emissions for VOCs in condition A63.1 (Condition of Certification **AQ-11**). Appendix A Emission Calculations of the 2007 SCAQMD permit evaluation provides additional explanation. The appendix states “in order not to have PTE increases the following monthly totals will use placed in Condition A63.1.” The Appendix then lists the CO, VOC, SOx and PM10 monthly limits listed in **Air Quality Table 10**.

Staff considers the original VOC emission limit (included in Condition of Certification **AQ-11**) to be the baseline or pre-modification VOC emission limit, since the original VOC emission limit remained on the SCAQMD permit issued in 2008. Staff calculations determine 5 pounds per day of VOC emission reduction credits would be required to offset the proposed amendment. Both the SCAQMD and staff calculations used an offset ration of 1.2 to 1.0 for VOCs as required by the SCAQMD rules and regulations.

The SCAQMD recently reviewed the evaluation for the 2007 amendment and indicated that an error was made and Magnolia should not have been allowed to maintain the original VOC monthly emission limit and the potential to emit (PTE) should have been increased based on the proposed modifications. SCAQMD indicated that the increase in the PTE at the time of the 2007 modification would have been below 0.4 pounds per day and would not have required offsets at the time under SCAQMD rules and regulations. However, offset requirements evaluated by the Energy Commission under CEQA, considers any potential impact from an ozone precursor emission increase to be potentially significant. In addition, by evaluating the 2008 and 2016 modifications concurrently, the offset requirements change.

SCAQMD does not dispute staff’s conclusion that 5 pounds per day of VOC offsets would be required. This conclusion is based on the unusual circumstances surrounding the offset calculations, including the internal SCAQMD error in the 2007 evaluation, and the omission of a petition to the Energy Commission to amend the license to reflect the changes proposed in the 2008 SCAQMD amendment.

Energy Commission staff requested a history of the quantity of VOCs surrendered for Magnolia since the original Decision. During SCAQMD staff's review, it was discovered that only 2 pounds per day of additional VOC mitigation was surrendered to the SCAQMD for the SCAQMD 2016 amendment. Per discussion with SCPPA and SCAQMD representatives, the SCPPA holds additional VOC emission reduction credits and agreed to surrender the additional 3 pounds per day to the SCAQMD. In addition, SCAQMD staff reviewed Magnolia operation records and confirmed that actual Magnolia operation since the SCAQMD 2016 amendment corresponds to actual VOC emissions below the monthly emission limit from the decision. Therefore, according to SCAQMD records, Magnolia has not operated in a manner that would correspond to emissions above the VOC mitigation already surrendered. The additional mitigation required would provide additional operating range to allow the facility to fully operate according to the proposed amendment.

Air Quality Table 16 indicates potential 30-day average emission decreases for SOx and PM10. Therefore, the original project offsets already provided by the applicant adequately mitigate the SOx and PM10 project impacts.

The facility is required to hold NOx RTCs for each compliance year after the first year of operation. The increase in the number of startups results in an increase in the annual NOx potential to emit. The SCAQMD revised the RTC requirements to reflect the updated annual NOx emission calculations presented in **Air Quality Table 12.**

Greenhouse Gas

The proposed changes are not expected to result in a potential increase of GHG emissions on an annual basis from the Decision. The GHG emission calculations are based on the approximate heat input which is the same as the heat input for the base load scenario from the Decision. The calculated heat input is included in **Air Quality Table 18**.

Air Quality Table 18
Criteria Pollutants Concentrations, 2011-2014 (ppm or µg/m^3)

Scenario	Event	Operation (hrs/year)	Heat Input (MMBtu/hr)
Decision (Load Following)	Start	317	566,836
	Shutdown	52	92,924
	No DB	3,209	5,734,483
	With DB	1,000	2,370,000
	Total	**4,578**	**8,764,243**
Decision (Base Load)	Start	0	0
	Shutdown	0	0
	No DB	7322	13,084,414
	With DB	1,000	2,370,000
	Total	**8,322**	**15,454,414**
Proposed Amendment	Start	360	643,320
	Shutdown	30	53,610
	No DB	6,932	12,387,484
	With DB	1,000	2,370,000
	Total	**8,322**	**15,454,414**

Source: SCAQMD 2016, SCPPA 2016, and staff analysis.
Note: DB = Duct burner operation

The calculations are based on a maximum heat rate of 1,787 MMBtu/hr when the duct burner is not operating and 2,370 MMBtu/hr when the duct burner is operating. The maximum heat rate of 1,787 MMBtu/hr was assumed during startup and shutdown operations. This assumption is conservative as the actual heat rate could be lower during startup and shutdown operations resulting in lower greenhouse gas emissions. The calculated greenhouse emissions based off of the calculated heat input are included in **Air Quality Table 19**. The carbon dioxide equivalent (CO_2e) is calculated by applying the global warming potential factors with the GHG emissions included in the table.

Air Quality Table 19
Estimated Potential Greenhouse Gas Emissions

Pollutant	Emission Factor[a]	Global Warming Potential[b]	GHG Emissions	
	(kg/MMBtu)	--------	(lbs/hour)	(tons/year)
CO_2	53.06	1	1,807,796,707	903,898
CH_4	0.001	25	34,071	17.04
N_2O	0.0001	298	3,407	1.70
Total Mass:	----	----	1,807,834,184	903,917
CO_2e:	----	----	1,809,663,787	904,832

Source: SCAQMD 2016, staff analysis
Kg/MMBtu = kilograms per million British thermal units
Notes: [a]Emission factors from Table 1 of EPA's Emission Factors for Greenhouse Gas Inventories
[b]Table A-1 of 40 CFR Part 98, Subpart A

Senate Bill 1368,[1] enacted in 2006, and regulations adopted by the Energy Commission and the California Public Utility Commission pursuant to that bill, prohibits California utilities from entering into long-term commitments with any base load facilities that exceed the EPS of 0.5 metric tonnes CO_2 per megawatt-hour[2] (1,100 pounds CO_2/MWh). If a project, instate or out-of-state, plans to sell base load electricity to California utilities, those utilities will have to demonstrate that the project meets the EPS. Base load units are defined as units that are expected to operate at a capacity factor higher than 60 percent. Compliance with the EPS is determined by dividing the annual average carbon dioxide emissions by the annual average net electricity production in MWh.

Magnolia is considered a base load facility and can be operated at more than a 60 percent annual capacity factor. The facility was licensed in March 2003 and commenced operation in 2005, prior to the applicability date for the Greenhouse Gases Emission Performance Standard (Title 20, California Code of Regulations, section 2900 et seq.). The regulation considers power plants licensed prior to June 30, 2007 as 'deemed–compliant' power plants. The amendment does not propose a potential capacity increase above 50 MW therefore, the plant would continue to be classified as a 'deemed–compliant' power plant.

Prevention of Significant Deterioration

The PSD program has been established to protect the deterioration of air quality in areas that already meet the primary NAAQS. The SCAQMD is partially delegated to issue initial PSD permits and for PSD permit modifications. As noted in **Air Quality Table 3**, the SCAB is classified as attainment for NO_2, SO_2, CO, and PM10 NAAQS. Therefore, the PSD regulation applies to NOx, SOx, CO, and PM10 emissions.

PSD requirements apply to significant increases in emissions from a major stationary source, or a major modification to a minor source on a pollutant specific basis for attainment emissions. Combined-cycle power plants are considered major sources if the potential or actual emissions are greater than 100 tons per year. As noted in **Air Quality Table 11 and 12,** the potential to emit emissions are calculated below 100 tons per year for NOx, SOx, CO, and PM10. Major modifications are defined as potential annual emission increases of 100 tons or more for CO, 40 tons or more of NOx or SO_2, and 15 tons or more for PM10. The amendment is therefore not considered a major modification for PSD purposes.

The PSD requirements for SCAQMD require the application of BACT for net emission increases. The SCAQMD 2016 BACT analysis determined the use of BACT for Magnolia as the following:

- NO_2 – Turbines must meet a limit of 2.0 ppmvd, 3-hour average at 15 percent oxygen. Magnolia's use of SCR controls NOx emissions to this level.

[1] Public Utilities Code § 8340 et seq.
[2] The Emission Performance Standard only applies to carbon dioxide and does not include emissions of other greenhouse gases converted to carbon dioxide equivalent.

- SO_2 – The use of pipeline quality natural gas. Magnolia exclusively uses pipeline quality natural gas.

- CO – Turbines must meet a limit of 2.0 ppmvd, 1-hour average at 15 percent oxygen. Magnolia uses a oxidation catalyst system to control CO to these levels.

- PM10 – The use of pipeline quality natural gas with a sulfur content less than 1 grain per 100 scf (calculated as hydrogen sulfide). Magnolia exclusively uses pipeline quality natural gas meeting this requirement.

In addition, GHGs are a regulated pollutant under the PSD major source permitting program. GHGs are regulated under the PSD permitting program when they are emitted by new sources or modifications to existing sources at amounts equal or greater than applicability thresholds in the GHG tailoring rule.

In addition, a PSD analysis for GHG alone is not required if a PSD review is not required for criteria pollutants. In May 2010, U.S. EPA issued the Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule establishing thresholds for GHG emissions. The regulation includes criteria for two phase-in steps with a commitment to develop a third step if necessary. Step 1 affected existing facilities that were already subject to Prevention of Significant Deterioration (PSD) requirements and modifications that increased carbon dioxide equivalent (CO_2e) emissions over 75,000 tons per year. Step 2 affected new facilities with proposed CO_2e emissions over 100,000 tons per year and modifications at existing facilities with increases in CO_2e emissions over 75,000 tons per year. However, on June 23, 2014, the U.S. Supreme Court issued a decision regarding the application of stationary source permitting requirements to GHGs. The decision determined that GHGs could not be considered as an air pollutant for determining if a source is a major source requiring a PSD or Title V permit. The decision clarified that PSD permits could still be required based on emissions of conventional pollutants and GHG emissions could be limited in these circumstances based on the application of BACT. The proposed project upgrade does not trigger a PSD review for criteria pollutants. Therefore, the project does not trigger a GHG PSD review.

Proposed Condition Changes

Staff is also proposing to define the South Coast Air Quality Management District as AQMD or District to identify the appropriate facility permitting agency in the conditions of certification. Staff is also proposing to update the acronyms used for ARB and U.S. EPA. In addition, staff is proposing to define the acronym MPP as Magnolia Power Project.

Staff is proposing to update the table that correlated the condition of certification number with the SCAQMD permit condition number. The current table in the conditions of certifications contains a column with SCAQMD condition numbers that were never finalized in the Decision. Staff is proposing to replace this column with a brief

description of the condition. This format is consistent with staff analysis for current SCAQMD projects.

Staff is proposing to add an equipment identification table in the conditions of certification assigning the equipment the same identification numbers as the SCAQMD. These equipment identification numbers are proposed for use throughout the conditions of certification to clarify the specific equipment applicable to the condition. The equipment identification table would contain equipment descriptors currently in paragraph form. Staff is proposing to delete the SCAQMD equipment application numbers as they are not necessary to the equipment description included in the table.

Staff is proposing to add the SCAQMD rule citations to each corresponding condition of certification to clarify the basis of each requirement. Additionally, staff is proposing to add the specific device identifiers to each condition of certification in order to clearly identify which equipment is applicable to each condition. These changes would provide a more accurate accounting of the facility equipment and requirements.

The SCAQMD indicated they do not wish to automatically receive the quarterly operation reports. Therefore, staff is proposing to modify the verification language of existing conditions of certification that require submittal of quarterly reports to the Energy Commission and to the SCAQMD. The modified verifications would require data be maintained and available upon request for review, and continued submittal of the quarterly reports to the Energy Commission.

The proposed changes to the operating profile further restricts the facility's use of natural gas for the duct burner on an annual and daily basis. Condition of Certification **AQ-1** would be modified to include the more restrictive annual and daily duct burner fuel requirements. In addition the duct burner operation would now be restricted on a monthly basis in order to comply with the modified operating profile. Staff is proposing to move the amended daily duct burning requirements from **AQ-2** to **AQ-1** in order to include all duct burning fuel restrictions in one condition.

The proposed change to the operating profile includes limiting the number of startups on a monthly basis. A monthly limitation of 5 starts per month is proposed to be included in Condition of Certification **AQ-2**. The project currently is limited to one 4-hour startup on a daily basis through the definition of a startup in Conditions of Certification **AQ-16** and **AQ-17**. The definition of startup in Conditions of Certification **AQ-16** and **AQ-17** is proposed to be amended. Instead of defining a startup the defined term will be startup time. Startup time duration is proposed as 6-hours.

Proposed changes to the selective catalytic reduction (SCR) conditions of certification include adding a defined ammonia injection rate, temperature range for operation, and pressure range. The current conditions of certification have requirements but do not specify the range the equipment should be operating. The proposed changes to Conditions of Certification **AQ-3**, **AQ-4**, and **AQ-5** include the addition of the specific operating parameters standard for SCR system permit conditions.

There are proposed changes to the source test requirements for SOx, reactive organic gases (ROGs), and particulate matter (PM). Condition of Certification **AQ-8** currently generalizes the test method for SOx and PM as any approved District method. The proposed language includes specifying AQMD Laboratory Method 307-91 for SOx testing but still retains the option of a District approved method as an alternative. It also includes specifying U.S. EPA Method 201A/District Method 5 for PM testing while retaining the current language of a District approved method as an alternative. Additional language proposed to be added includes an alternative test method for AQMD Method 25.3 (test for VOCs) for BACT compliance purposes.

The proposed change to the operating profile would result in a change to the monthly emission limits and emission factors included in Condition of Certification **AQ-11**. Condition of Certification **AQ-11** includes monthly emission limits for CO, PM10, VOC and SOx and emission factors for PM10, VOC and SOx. The emission factors are used with fuel usage data to estimate monthly emissions from the power block. Monthly CO emissions are computed using CEMS monitoring data. The proposed changes to the monthly emission requirements reflect the re-calculated monthly emission limits presented in **Air Quality Table 12**. The updates to the emission factors include the updated emission factors used for PM10 and VOC emission calculation. The emission factor for SOx would remain unchanged. In addition, language pertaining to commissioning and pre-CO CEMS certification is proposed for deletion since the requirements are no longer applicable.

Condition of Certification **AQ-12** requires records of natural gas usage. Proposed changes to Condition of Certification **AQ-12** include deleting outdated language requiring fuel usage to be recorded during commissioning and prior to CEMS certification.

Condition of Certification **AQ-13** allows the project owner the option of not using ammonia injection when the SCR inlet exhaust temperature is below 450 degrees Fahrenheit. The option is limited to specific time periods for startup and shutdown operation included in condition of certification **AQ-13**. Proposed changes to condition of certification **AQ-13** includes updating the startup to include the longer startup period proposed for all startups. The shutdown period would remain unchanged.

Conditions of Certification **AQ-14** and **AQ-15** include CO and NOx CEMS requirements respectively. Proposed changes include a minor language clarification to **AQ-14** and the removal of interim requirements from **AQ-15** that are no longer relevant.

Conditions of Certification **AQ-16** and **AQ-17** contain emission limits for CO and NOx respectively. The requirements do not apply during startup and shutdown operation, nor did they apply during the commissioning period. Language limiting the time periods for the startup, shutdown and commissioning exemptions are included in the condition. The proposed changes to these conditions include updating the startup time period and deleting language no longer applicable referring to the commissioning period. In addition, staff is proposing to add language clarifying records documenting startup and

shutdown operation be made available to the CPM. The language currently requires the records to be available to only the AQMD.

Changes to Condition of Certification **AQ-18** include replacing the current interim RECLAIM requirement (only applicable to the year prior to the plant's startup). Condition of Certification **AQ-18** would now include a general requirement regarding compliance with the SCAQMD Rule 431.1 –Sulfur Content of Gaseous Fuel. SCAQMD Rule 431.1 requires compliance with a 16 ppmv sulfur limit calculated as H_2S. Commercial grade natural gas averages a sulfur content of approximately 4 ppm H_2S. Compliance is expected with the emission requirement. The facility would need to comply with the reporting and record keeping requirements outlined in the rule.

Changes to Condition of Certification **AQ-21** include replacing an outdated PM10 mitigation requirement with emission control requirements for the soda ash and lime silos, and unloading station. The PM10 mitigation requirement contained provisional requirements only applicable if the facility was not fully operational at the rated capacity within three years of the Permit-to-Construct issuance date. The Air Quality Conditions of Certification do not currently contain requirements for the silo. The silos have emission control equipment regulated through the SCAQMD and therefore the requirements should be included in the conditions of certification.

Changes to Conditions of Certification **AQ-22**, **AQ-23**, **AQ-24**, and **AQ-25** include the addition of language to clarify the applicable emission requirements. The proposed language would clarify the emission requirements for NOx, CO, NH_3, and VOC. Additional requirements proposed for **AQ-22** include adding the 440 pound emission limit for a startup event, a 6 hour averaging time, and a 6 hour startup restriction**.**

Proposed changes to Condition of Certification **AQ-26** include the addition of a more detailed description of the NH_3 emission monitoring requirements.

Proposed changes to Condition of Certification **AQ-27** include updating the RECLAIM requirements. Condition of Certification **AQ-27** currently requires the facility to hold sufficient quantities of RTCs but does not specify the amount of RTCs the facility is required to hold. The SCAQMD conditions specify the specific amount of RTCs needed for the turbine and for the duct burner separately. Updating **AQ-27** to include the modified RECLAIM requirement would be consistent with SCAQMD condition requirements.

Proposed language changes to Condition of Certification **AQ-31** would update the condition to reflect compliance with the mitigation measures for the project includes construction activities. Changes to the condition are recommended for consistency purposes.

Proposed changes to Condition of Certification **AQ-36** includes minor reformatting of the daily PM10 emission calculations for the cooling tower.

Staff is proposing the addition of Condition of Certification **AQ-40**. Condition of Certification **AQ-40** is a general condition with requirements for architectural coating

applications. Architectural coatings are commonly used at power facilities for maintenance and other operations. The condition would be required for architectural coating applications.

CONCLUSIONS AND RECOMMENDATIONS

Energy Commission staff recommends approval of the requested changes to the Air Quality Conditions of Certification for Magnolia. Specifically, Energy Commission staff recommends:

- Updating the table corresponding the SCAQMD conditions with the Energy Commission conditions of certification for Magnolia
- Deleting duplicate text from the construction requirements
- Adding an equipment identification table
- Deleting application numbers
- Adding SCAQMD rule citation and equipment identification to each SCAQMD permitted condition
- Defining and updating acronyms
- Updating verifications to require records to be maintained onsite and quarterly operation reports only be automatically submitted to the Energy Commission
- Decreasing the annual duct burner fuel allotment and adding daily and monthly fuel usage requirements (**AQ-1**)
- Combining the duct burner fuel usage requirements into one condition (**AQ-1**, **AQ-2**)
- Limiting the number of startups to 5 per month (**AQ-2**)
- Clarifying ammonia injection requirements including specifics on ongoing monitoring parameters (**AQ-3**)
- Clarifying SCR requirements including specifics on ongoing monitoring parameters (**AQ-4**, **AQ-5**)
- Deleting initial ammonia source testing requirements and clarifying specifics for ongoing testing (**AQ-7**)
- Adding source test methods and alternative test method for ROGs to ongoing source Sox, ROG and PM testing requirements (**AQ-8**)
- Increasing emissions limit for CO, PM10, VOC and SOx and clarifying language (**AQ-11**)
- Removing commissioning and pre CEMs certification emission requirements and calculation procedures (**AQ-11**)
- Removing commissioning and pre CEMs certification requirements (**AQ-12**)

- Updating the startup and shutdown hour limitations (**AQ-13**)
- Clarifying language for CO CEMS operation (**AQ-14**)
- Clarifying language for NOx CEMS operation (**AQ-15**)
- Updating NOx requirements for startup and shutdown and removing commissioning requirements (**AQ-16**)
- Updating CO requirements for startup and shutdown and removing commissioning requirements (**AQ-17**)
- Replacing an outdated RECLAIM requirement with a SCAQMD Rule 431.1compliance requirement (**AQ-18**)
- Replacing an outdated requirement with current emission control requirements for the silos (**AQ-21**)
- Clarifying language for NOx emission requirements (**AQ-22**) and adding startup emission limits, averaging time and operation requirements
- Clarifying language for CO emission requirements (**AQ-23**)
- Clarifying language for NH_3 emission requirements (**AQ-24**)
- Clarifying language for VOC emission requirements (**AQ-25**)
- Detailing requirements for NH_3 monitoring (**AQ-26**)
- Updating RECLAIM requirements for the CTG and duct burner (**AQ-27**)
- Updating language to clarify compliance with mitigation requirements (**AQ-31**)
- Updating equation format (**AQ-31**)
- Adding architectural coating requirements (**AQ-40**)
- Other minor administrative changes

The requested changes related to the Magnolia Title V amendments have already been analyzed by SCAQMD staff and the Title V permit incorporating the current changes has been issued. Additional mitigation of 3 pounds per day of VOCs is required for the amendment per **AQ-34**. Per discussion with SCPPA and SCAQMD representatives, the SCPPA holds additional VOC emission reduction credits and agreed to surrender an additional 3 pounds per day to the SCAQMD. Energy Commission staff notes that Magnolia has operated according to the VOC mitigation already provided.

With the additional mitigation requested by staff, the proposed changes will conform with the applicable LORS related to air quality and will not result in significant air quality impacts.

PROPOSED AND AMENDED CONDITIONS OF CERTIFICATION

The Air Quality Conditions of Certification are divided into two sections; staff recommended Conditions of Certification and the SCAQMD Determination of

Compliance Conditions. Staff conditions are additional conditions of certification recommended to provide CEQA mitigation for the project. The staff recommended conditions of certification are in two separate places in the Magnolia Decision. The staff recommended conditions of certification are identified in the Magnolia Decision as the **AQ-Cx** series of conditions and Operation Conditions **AQ-34** through **AQ-40**.

The SCAQMD has a unique system of structuring and numbering permit conditions. In order for the reader to avoid confusion between the SCAQMD numbering and Energy Commission numbering, a table is included in the Air Quality Conditions of Certification that cross references the conditions in the SCAQMD permit to the conditions in the license and subsequent amendment as proposed.

Staff recommends the following modifications to the Air Quality Conditions of Certification. **Bold underline** is used to indicate new language. ~~Strikethrough~~ is used to indicate deleted language. For convenience, a clean version of all the conditions reflecting the proposed changes that would become applicable to Magnolia follows the strikeout underline text in Appendix A.

CONDITIONS OF CERTIFICATION

~~Subsequent to issuance of the Final Determination of Compliance (FDOC), the Air District's permit numbering format was revised and some of the Conditions were resequenced. (*See* Ex. 44.) The new format is shown in the Table below. The text of the Conditions contained in the FDOC remains the same and is incorporated herein.~~

~~CALIFORNIA Energy Commission ~ SCAQMD Conditions of Certification ~ Permit Conditions~~

~~California Energy Commission Conditions of Certification~~	~~South Coast AQMD Old permit numbering~~	~~South Coast AQMD New permit numbering~~
~~AQ-1~~	~~1-2~~	~~C1.1~~
~~AQ-2~~	~~1-3~~	~~C1.2~~
~~AQ-3~~	~~12-1~~	~~D12.1~~
~~AQ-4~~	~~12-2~~	~~D12.2~~
~~AQ-5~~	~~12-3~~	~~D12.3~~
~~AQ-6~~	~~29-1~~	~~D29.2~~
~~AQ-7~~	~~29-2~~	~~D29.1~~
~~AQ-8~~	~~29-3~~	~~D29.3~~
~~AQ-9~~	~~40-1~~	~~K40.1~~
~~AQ-10~~	~~57-1~~	~~E57.1~~
~~AQ-11~~	~~63-1~~	~~A63.1~~
~~AQ-12~~	~~67-1~~	~~K67.2~~
~~AQ-13~~	~~73-1~~	~~E73.1~~
~~AQ-14~~	~~82-1~~	~~D82.1~~
~~AQ-15~~	~~82-2~~	~~D82.2~~

~~AQ-16~~	~~99-1~~	~~A99.1~~
~~AQ-17~~	~~99-2~~	~~A99.2~~
~~AQ-18~~	~~99-4~~	~~A99.3~~
~~AQ-19~~	~~179-1~~	~~E179.1~~
~~AQ-20~~	~~179-2~~	~~E179.2~~
~~AQ-21~~	~~193-2~~	~~E193.2~~
~~AQ-22~~	~~195-1~~	~~A195.2~~
~~AQ-23~~	~~195-2~~	~~A195.3~~
~~AQ-24~~	~~195-3~~	~~A195.1~~
~~AQ-25~~	~~195-6~~	~~A195.4~~
~~AQ-26~~	~~232-1~~	~~D232.1~~
~~AQ-27~~	~~296-1~~	~~I296.1~~
~~AQ-28~~	~~327-1~~	~~A327.1~~
~~AQ-29~~	~~144-1~~	~~E144.1~~
~~AQ-30~~	~~157-1~~	~~C157.1~~
~~AQ-31~~	~~193-1~~	~~E193.1~~
~~AQ-32~~	~~F9-1~~	~~F9.1~~
~~AQ-33~~	~~F24-1~~	~~F24.1~~

South Coast Air Quality Management District (SCAQMD, AQMD or District) Permit Conditions with Corresponding Energy Commission Conditions of Certification

SCAQMD Permit Conditions	**Energy Commission Conditions of Certification**	**Condition Description**
A63.1	**AQ-11**	**Monthly contaminant emission limits (CO, VOC, PM10, & SOx).Includes emissions calculations equations and emission factors.**
A99.1	**AQ-16**	**NOx emission limit of 2.0 ppm does not apply during startup, and shutdown periods. Startup limited to 6 hours and shutdowns 0.5 hours per event.**
A99.2	**AQ-17**	**CO emission limit of 2.0 ppm does not apply during startup, and shutdown periods. Startup limited to 6 hours and shutdowns 0.5 hours per event.**
A195.1	**AQ-24**	**Ammonia limit of 5 ppmv @ 15% O_2 averaged over 1-hour.**
A195.2	**AQ-22**	**NOx emission limit of 2.0 ppm @ 15% O_2 averaged over 3-hour.**
A195.3	**AQ-23**	**CO emission limit of 2.0 ppm @ 15% O_2 averaged over 1-hour.**

SCAQMD Permit Conditions	Energy Commission Conditions of Certification	Condition Description
A195.4	AQ-25	VOC emission limit of 2.0 ppm @ 15% O_2 averaged over 1-hour.
A327.1	AQ-28	Under Rule 475; project may violate either the mass emission limit or concentration emission limit, but not both at the same time.
A433.1	AQ-22	Startup emissions limited to 440 lbs per startup and 6 hours per day
C1.1	AQ-1	Limits duct burner fuel usage to 555 mmcf per year
C1.2	AQ-1	Limits duct burner fuel usage to 6.66 mmcf per day
C1.3	AQ-1	Limits duct burner fuel usage to 133 mmcf per month
C1.4	AQ-2	Limits startups to 5 per month
C157.1	AQ-30	Storage tank pressure relief valve set to 25 psig
D12.1	AQ-3	Requires a flow meter to monitor ammonia injection
D12.2	AQ-4	Requires a temperature gauge for the SCR
D12.3	AQ-5	Requires a pressure gauge for the SCR
D29.1	AQ-6	Initial and ongoing ammonia source testing requirements
D29.2	AQ-7	Initial source testing requirements
D29.3	AQ-8	Ongoing source testing requirements
D82.1	AQ-14	CEMS CO monitoring and reporting requirements
D82.2	AQ-15	CEMS NOx monitoring and reporting requirements
D232.1	AQ-26	CEMS for ammonia emissions
E57.1	AQ-10	Vent to emission control when in operation
E73.1	AQ-13	Conditions exempting ammonia injection
E144.1	AQ-29	Venting limitation for ammonia storage tank
E179.1	AQ-19	Ammonia injection and selective catalytic reduction (SCR) temperature monitoring requirements
E179.2	AQ-20	SCR pressure monitoring requirements
E193.1	AQ-31	Requires compliance with Energy Commission mitigation measures
E193.3	AQ-21	Emission control requirements for silo

SCAQMD Permit Conditions	Energy Commission Conditions of Certification	Condition Description
F9.1	AQ-32	Opacity Limits
F24.1	AQ-33	Accidental Release requirements
H23.1	AQ-18	Requires compliance with Rule 431.1.
I298.1 I298.2	AQ-27	Prohibited from operation unless the project owner holds sufficient RECLAIM Trade Credits (RTCs)
K40.1	AQ-9	Source testing recordkeeping and reporting
K67.1	AQ-40	Record keeping requirements for architectural coatings
K67.2	AQ-12	Natural gas record requirements

Staff Conditions

AQ-C1 The project owner/operator shall submit the resume(s) of each individual proposed to fill the Construction Mitigation Manager (CMM) position to the CEC Compliance Project Manager (CPM) for approval. One or more individuals may hold this position. The owner/operator shall be responsible for funding the costs of the CMM, however the CMM shall report directly to the CPM. The CMM shall preferably have a minimum of eight years **of** experience as follows, however the CPM shall consider all resumes submitted regardless of experience:

- **F**~~f~~ive years construction experience as a subcontractor or general contractor~~.~~
- An engineering degree or an additional five years construction experience~~.~~
- **O**~~o~~ne year construction project management experience~~.~~
- **T**~~t~~wo years air quality assessment experience~~.~~

~~The project owner/operator shall submit the resume(s) of each individual proposed to fill the Construction Mitigation Manager (CMM) position to the CEC Compliance Project Manager (CPM) for approval. One or more individuals may hold this position. The owner/operator shall be responsible for funding the costs of the CMM, however the CMM shall report directly to the CPM. The CMM shall preferably have a minimum of eight years experience as follows, however the CPM shall consider all resumes submitted regardless of experience:~~

- ~~five years construction experience as a subcontractor or general contractor.~~
- ~~An engineering degree or an additional five years construction~~

~~experience.~~

- ~~one year construction project management experience.~~

~~two years air quality assessment experience~~

Verification: The project owner/operator shall submit the CMM resume(s) to the CPM for approval at least 60days prior to site mobilization.

AQ-C2 The project owner shall ensure that the CMM prepares and submits to the CPM for approval, a Fugitive Dust Mitigation Plan (FDMP) that specifically identifies all fugitive dust mitigation measures that will be employed during the construction of the facility. The FDMP shall be administered on site by the full-time CMM.

The FDMP shall include a schedule of each operation planned for the first two months of the project that may result in the generation of fugitive dust, including location, source(s) of fugitive dust, and proposed mitigation measures specific to each operation/source.

The construction mitigation measures that shall be addressed in the FDMP include, but are not limited to, the following:

- Identification of the employee parking area(s) and surface composition of those parking area(s)
- The frequency of watering of unpaved roads and all disturbed areas
- Application of chemical dust suppressants
- Gravel in high traffic areas
- Paved access aprons
- Sandbags to prevent run off
- Posted speed limit signs
- Wheel washing areas prior to large trucks leaving the project site
- Methods that will be used to clean tracked-out mud and dirt from the project site onto public roads
- For any transportation of solid bulk material
    1. Vehicle covers
    2. Wetting of the transported material
    3. Appropriate freeboard
- Methods for the stabilization of storage piles and disturbed areas
- Windbreaks at appropriate locations
- Additional mitigation measures to be implemented at the direction of the CMM in the event that the standard measures fail to completely control dust from any activity and/or source

- The suspension of all earth moving activities under windy conditions
- On-site monitoring devices

Protocol: In monitoring the effectiveness of all mitigation measures included in the FDMP, the CMM shall take into account the following, at a minimum:

a. Onsite spot checks of soil moisture content at locations where soil disturbance, movement and/or storage is occurring; and

b. Visual observations of all construction activities.

Protocol: The CMM shall implement the following procedures for additional mitigation measures if the CMM determines that the existing mitigation measures are not resulting in effective mitigation:

1. The CMM shall direct more aggressive application of the existing mitigation methods within 15 minutes of making such a determination.
2. The CMM shall direct implementation of additional methods of dust suppression if step #1 specified above, fails to result in adequate mitigation within 30 minutes of the original determination.
3. The CMM shall direct a temporary shutdown of the source of the emissions if step #2 specified above fails to result in adequate mitigation within one hour of the original determination. The activity shall not restart until one full hour after the shutdown. The owner/operator may appeal to the CPM any directive from the CMM to shutdown a source, provided that the shutdown shall go into effect within one hour of the original determination unless overruled by the CPM before that time.

Verification: At least 30 days prior to site mobilization, the project owner/operator shall provide the CPM with a copy of the FDMP for approval. Site mobilization shall not commence until the project owner/operator receives approval of the FDMP from the CPM.

AQ-C3 The project owner shall ensure that the CMM prepares and submits to the CPM for approval, a Diesel Construction Equipment Mitigation Plan (DCEMP) that will specifically identify diesel engine mitigation measures that will be employed during the construction phase of the main and related linear construction sites. The project owner shall ensure that the CMM will be responsible for directing implementation of and compliance with all measures identified in the DCEMP. The DCEMP shall address, at a minimum, the following mitigation measures:

- Catalyzed diesel particulate filters (CDPF)
- CARB certified ultra-low sulfur diesel fuel, containing 15ppm sulfur or less (ULSD)
- Diesel engines certified to meet **U.S.** EPA and/or **California Air**

Resources Board ~~C~~**(**ARB**)** 1996 or better off-road equipment emission standards

- Restricting diesel engine idle time, to the extent practical, to no more than ten minutes

The DCEMP shall include the following:

1. A list of all diesel-fueled, off-road, stationary or portable construction-related equipment to be used either on the main or the related linear construction sites. This list will initially be estimated and then subsequently be updated as specific contractors become identified. Prior to a contractor gaining access to the main or related linear construction sites, the project owner shall ensure that the CMM submits to the CPM for approval, an update of this list including all of the new contractor's diesel construction equipment.
2. Each piece of construction equipment listed under item #1 of this condition must demonstrate compliance according to the following mitigation requirements, except as noted in items #3, #4 and #5 of this condition:

Engine Size (BHP)	1996 ~~C~~ARB or **U.S.** EPA Certified Engine	Required Mitigation
< 100	NA	ULSD
> or = 100	Yes	ULSD
> or = 100	No	ULSD and CDPF, if suitable as determined by the CMM

3. If the construction equipment is intended to be on-site for ten days or less, then none of the mitigation measures identified in item #2 of this condition are required.
4. The CPM may grant relief from the mitigation measures listed in item #2 of this condition for a specific piece of equipment if the CMM can demonstrate that they have made a good faith effort to comply with the mitigation measures and that compliance is not possible.
5. Any implemented mitigation measure in item #2 of this condition may be terminated immediately if one of the following conditions exists, however the CPM must be informed within ten working days of the termination:
   - 5.1 The measure is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in back pressure.
   - 5.2 The measure is causing or is reasonably expected to cause significant engine damage.
   - 5.3 The measure is causing or is reasonably expected to cause a significant risk to workers or the public.

5.4 Any other seriously detrimental cause which has approval by the CPM prior to the termination being implemented.

6. All contractors must agree to limit diesel engine idle time on all diesel-power equipment to no more than ten minutes, to the extent practical.

Verification: The project owner shall ensure that the CMM submits a DCEMP to the CPM for approval at least 30 days prior to site mobilization. The CMM will update the initial DCEMP (if necessary), no less than ten days prior to a specific contractor gaining access to either the main or related linear construction sites. The project owner shall ensure that the CMM notifies the CPM of any emergency termination within ten working days of the termination.

AQ-C4 In addition to the above mitigation measures, the following additional mitigation measures shall be employed, as practical, during construction:

- Stepwise operation, with not all of the equipment operating at the same time wherever feasible and practical
- Construction management techniques to minimize emissions will be employed and may include the following:
- Increasing distance between emission sources;
- Phased schedule for construction activities;
- Utilizing existing power poles rather than temporary internal combustion engine power generators; and
- Equipment may employ high pressure fuel injection system or engine timing retardation

The above mitigation measures are in addition to **AQ-C2** and AQ-C3. These measures should only be used when they do not conflict with the requirements of AQ-C2 and AQ-C3, and/or to the extent that they provide additional emissions mitigation beyond that required by AQ-C2 and AQ-C3.

Verification: The project owner shall include a discussion of the implementation of these and any other emission reduction methods not specified in AQ-C2 and AQ-C3 with the Construction Fugitive Dust Mitigation Plan and the Diesel Construction Equipment Mitigation Plan as appropriate (see Verification for AQ-C2 and AQ-C3).

AQ-C5 The project owner shall ensure that the CMM submits directly to the CPM for approval (and a copy to the project owner) a report of all compliance actions taken germane to Conditions of Certification **AQ-C2**, **AQ-C3** and **AQ-C4**. The report shall include, at a minimum, the following elements:

Fugitive Dust Mitigation Monthly Report (see Condition of Certification AQ-C2 and AQ-C4)

- A summary of each of the operation(s) planned for the following two months which may result in the generation of fugitive dust. Each description shall include a schedule, on-site location details and a list of

proposed fugitive dust mitigation measures.

- A summary of all mitigation activities implemented for each fugitive dust generating operation identified in a previous report. This report should provide a summary description of the operation, the mitigation measures implemented and the estimated effectiveness of each mitigation measure.
- Details of all operation(s) requiring fugitive dust mitigation that are not identified in the previous report or the FDMP. Details shall include (at a minimum) a description of the operation, the date, duration, mitigation measures implemented, and an explanation for not reporting the operation in a previous report (or in the FDMP).
- Identification of any failures of mitigation measures and details of the actions taken to reduce the identified impacts and prevent future failures of those mitigation measures.
- Identification of any observation by the CMM of dust plumes beyond the property boundary of the main construction site or beyond an acceptable distance from the linear construction site and what actions (if any) where taken to abate the plume.

Diesel Construction Equipment Mitigation Monthly Report (see Condition of Certification AQ-C3 and AQ-C4)

- Identification of any changes, as approved by the CPM, to the Diesel Construction Equipment Mitigation Plan from the initial report or the last monthly report including any new contractors and their diesel construction equipment.
- A copy of all receipts or other documentation indicating types and amounts of fuel purchased, from whom, where delivered and on what date for the main and related linear construction sites.
- Identification and verification of all diesel engines required to meet **U.S**. EPA or ~~C~~ARB 1996 off-road diesel equipment emission standards.
- The suitability of the use of a catalyzed diesel particulate filter for a specific piece of construction equipment is to be determined by a qualified mechanic or engineer who must submit a report through the CMM to the CPM for approval. The identification of any suitability report initiated or pursued, or the completed report, should be included in the monthly report (in the month that it was completed) as should the verification of any subsequent installation of a catalyzed diesel particulate filter.
- Identification of any observation by the CMM of exhaust plumes emanating from diesel-fired construction equipment beyond the property boundary of the main construction site or beyond an acceptable distance

from the linear construction site and what actions (if any) where taken to abate the plume or future expected plumes.

Verification: The project owner shall ensure that the CMM submits directly to the CPM for approval (and a copy to the project owner), a monthly report of all compliance actions taken germane to Conditions of Certification **AQ-C2**, **AQ-C3** and **AQ-C4**. The report is due within ten working days after the end of each reporting month.

SCAQMD Permitted Equipment And Conditions

Equipment

ID No.	Equipment Descriptions
Inorganic Material Storage	
D1	Storage Tank, Pressurized, Aqueous Ammonia 19%, with Vapor Balance System, 12,000 Gallons
Internal Combustion: Power generation	
D4	Natural Gas Combined-Cycle, 1,787 MMBtu/hr Gas Turbine No. 1 General Electric Model PG7241FA, 181.1 MW with Dry Low NOx Combustors, a Heat Recovery Steam Generator, and a 142 MW Steam Generator. Connected to C9 and C10.
D6	Duct Burner, 583 MMBtu/hr. Connected to C9 and C10.
C9	CO Oxidation Catalyst Serving Unit No.1, with 334.1 cubic feet catalyst volume. Connected to D4 and D6.
C10	Selective Catalytic Reduction Serving Unit No. 1, with 1,100 cubic feet of total volume; width 26 feet; height 67 feet; length 1 foot 4 inches
S12	Stack No. 1, Height of 150 feet and diameter of 19 feet
Other Equipment	
E13	Coating Equipment
E18	Cooling Tower
Dry Storage	
D15	Storage Silo, Soda Ash
D16	Storage Silo, Lime
D17	Unloading Station with Pneumatic Hose

~~District Final Determination of Compliance~~ Conditions

~~1,787 MMBtu/hr Gas Turbine (ID No. D4) (A/N 386305) No. 1 GE Model PG7241FA with Dry Low NO_x combustors connected directly to a 181.1 MW Electric Generator (ID No. B5) and Heat Recovery Steam Generator (ID No. B7) with 583 MMBtu/hr Duct Burners (ID No. D6) connected to a 142 MW Steam Turbine (ID No. B8). Selective Catalytic Reduction (ID No. C10) (A/N 386306) with 1,100 cubic feet of total volume, 67 feet height, 1.33 feet long, 26 feet wide with an ammonia injection grid (ID No. B11) and CO oxidation catalyst (ID No. C9) with 360 cubic feet of total volume connected to an exhaust stack (ID No. S12) (A/N 386306) No. 1.~~

AQ-1 The project owner shall limit the fuel usage for the duct burner to no more than:

- ~~572~~ **555** MM cubic feet per year**,**
- **6.66 MM cubic feet per day, and**
- **133 MM cubic feet per month**.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(1)-Modeling; Rule 2005]
[Devices subject to this condition: D6]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit the fuel use data to ~~the District and~~ the CPM in Quarterly Operation Reports.

AQ-2 ~~The project owner shall limit the fuel usage for the duct burner to no more than 6.86 MM cubic feet per day.~~ **The project owner shall limit the number of startups to no more than 5 in any one month.**

[Rule 1303(a)(1)-BACT; Rule 2005]
[Devices subject to this condition: D4, D6]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit ~~the fuel use~~ **monthly startup** data to ~~the District and~~ the CPM in Quarterly Operation Reports.

AQ-3 The project owner shall install and maintain a flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia (NH_3).

~~The project owner shall also install and maintain a device to continuously record the parameter being measured.~~ The **project owner shall continuously record the flow rate with a** measuring device or gauge ~~shall be~~ accurate to ~~within~~ plus or minus 5 percent~~. It shall be~~**,** calibrated once every twelve months.

The project owner shall maintain the ammonia injection rate between 50 and 350 gph.

[Rule 1303(a)(1)-BACT; Rule 2012]
[Devices subject to this condition: C10]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~California Air Resources Board (~~CARB~~)~~, the **U.S.** ~~nited States Environmental Protection Agency (~~EPA~~)~~ and the California Energy Commission (Commission).

AQ-4 The project owner shall install and maintain a temperature gauge to accurately indicate the temperature ~~in~~ **of** the exhaust at the inlet to the SCR reactor. The project owner shall ~~also install and maintain a device to~~ continuously record the ~~parameter~~ **temperature** ~~being measured. The~~ **with a**

measuring device or gauge ~~shall be~~ accurate to ~~within~~ plus or minus 5 percent~~. It shall be~~**,** calibrated once every twelve months.

The operator shall maintain the temperature between 450 and 900 degrees F.

[Rule 1303(a)(1)-BACT; Rule 2012]
[Devices subject to this condition: C10]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission.

AQ-5 The project owner shall install and maintain a pressure gauge to accurately indicate the differential pressure across the SCR catalyst bed in inches of water column. The project owner shall also install and maintain a device to continuously record the ~~parameter being measured~~.**pressure with a** ~~The~~ measuring device or gauge ~~shall be~~ accurate to ~~within~~ plus or minus 5 percent,~~. It shall be~~ calibrated once every twelve months.

The operator shall maintain the differential pressure between 1.0 and 5 inches of water column.

[Rule 1303(a)(1)-BACT; Rule 2012]
[Devices subject to this condition: C10]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission.

AQ-6 The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant	Method	Averaging Time	Test Location
NOx	District Method 100.1	1 hour	Outlet of the SCR
CO	District Method 100.1	1 hour	Outlet of the SCR
SOx	District Approved Method	District Approved Avg. Time	Fuel Sample
ROG	District Approved Method	1 hour	Outlet of the SCR
PM	District Approved Method	District Approved Avg. Time	Outlet of the SCR
NH_3	District Method 207.1 and 5.3 or EPA Method 17	1 hour	Outlet of the SCR
Acetaldehyde	District Approved Method	District Approved Avg. Time	Outlet of the SCR
Benzene	District Approved Method	District Approved Avg. Time	Outlet of the SCR
Formaldehyde	District Approved	District Approved	Outlet of the

	Method	Avg. Time	SCR
PAH	District Approved Method	District Approved Avg. Time	Outlet of the SCR

The test shall be conducted after **AQMD** ~~District~~ approval of the source test protocol, but no later than 180 days after initial startup. The **AQMD** ~~District~~ shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the tests shall measure the fuel flow rate (CFH), the flue gas flow rate, and the turbine and steam turbine generating output in MW.

The test shall be conducted in accordance with a **AQMD** ~~District~~ approved source test protocol. The protocol shall be submitted to the AQMD ~~engineer~~ no later than 45 days before the proposed test date and shall be approved by the **AQMD** ~~District~~ before the test commences. The test protocol shall include the proposed operating conditions of the turbine during the tests, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The test shall be conducted for all pollutants 1) when the gas turbine and duct burner are operating simultaneously at 100 percent of maximum heat input and 2) when the gas turbine is operating alone at 100 percent of maximum heat input. In addition, tests shall be conducted when the gas turbine is operating alone at loads of 75 and 50 percent of maximum heat input for the NO_X, CO, VOC and NH_3 tests.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(2)-Offset; Rule 1401; Rule 2005] [Devices subject to this condition: D4, D6]

Verification: The project owner shall submit the proposed protocol for the initial source tests 45 days prior to the proposed source test date to the AQMD ~~engineer~~, and also to the California Energy Commission Compliance Project Manager (CPM) for approval. The project owner shall notify the District and the CPM no later than 10 days prior to the proposed initial source test date and time.

AQ-7 The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant	Method	Averaging Time	Test Location
NH_3	District Method 207.1 and 5.3 or EPA Method 17	1 hour	SCR Outlet

~~The test shall be conducted and the results submitted to the District within 60 days after the test date. The AQMD shall be notified of the date and time of the test at least 7 days prior to the test.~~

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

The test shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter. The NO_x concentration, as determined by the certified CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable or not yet certified, a test shall be conducted to determine the NO_x emissions using District Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted and the results submitted to the AQMD within 45 days after the test date. The AQMD shall be notified of the date and time of the test at least 7 days prior to the test.

~~The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit~~.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: C10]

Verification: The project owner shall submit test results to the District and CPM no later than 60 days following the source test date and notify the District and CPM no later than 7 days prior to the source test date and time.

AQ-8 The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant	Method	Averaging Time	Test Location
SO_X	**AQMD Laboratory Method 307-91 or** District Approved Method	District Approved ~~Avg.~~ **Averaging** Time	Fuel Sample
ROG	District Approved Method	1 hour	SCR Outlet
PM	**EPA Method 201A/District Method 5.1 or** District Approved Method	District Approved ~~Avg.~~ **Averaging** Time	SCR Outlet

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration and/or monthly emissions limit.

The test(s) shall be conducted at least once every three years. The ~~test shall be conducted and the~~ results **shall be** submitted to the **AQMD** ~~District~~ within 60 days after the test date. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test. The test shall be conducted 1) when the gas turbine and duct burner are operating simultaneously at 100 percent of maximum heat input and 2) when the gas turbine is operating alone at 100 percent of maximum heat input.

~~The test shall be conducted to demonstrate compliance with the Rule 1303 concentration and/or monthly emissions limit~~.

For natural gas fired turbines only, an alternative to AQMD Method 25.3 for the purpose of demonstrating compliance with BACT may be the following:

a) Triplicate stack gas samples extracted directly into Summa canisters, maintaining a final canister pressure between 400-500 mm HG absolute,

b) Pressurization of the Summa canisters with zero gas analyzed/certified to less than 0.05 parts per million by volume total hydrocarbons as carbon (ppmvC), and

c) Analysis of Summa canisters per unmodified EPA Method TO-12 (with pre-concentration) or the canister analysis portion of AQMD Method 25.3 with a minimum detection limit of 0.3 ppmvC or less and reported to two significant figures. The temperature of the Summa canisters when extracting the samples for analysis shall not be below 70 F.

The use of this alternative method for VOC compliance determination does not mean that it is more accurate then unmodified AQMD Method 25.3, nor does it mean that it may be used in lieu of AQMD Method 25.3 without prior approval, except for the determination of compliance with the BACT level of 2.0 parts per million by volume (ppmv) ROG calculated as carbon set by ARB for natural gas fired turbines.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(2)-Offset; Rule 1401]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall submit test results to the District and CPM no later than 60 days following the source test date and notify the District and CPM no later than 10 days prior to the source test date and time

AQ-9 The project owner shall provide to the District a source test report in accordance with the following specifications:

- Source test results shall be submitted to the District no later than 60 days after the source test was conducted.
- Emission data shall be expressed in terms of concentration (ppmv), corrected to 15 percent oxygen (dry basis), mass rate (lbs/hr), and lbs/MM cubic feet. In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.
- All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).
- All moisture concentration shall be expressed in terms of percent corrected to 15 percent oxygen.
- Source test results shall also include the oxygen levels in the exhaust, the fuel flow rate (CFH), the flue gas temperature, and the generator power output (MW) under which the test was conducted.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(2)-Offset; Rule 2005]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall submit test results to the District and CPM no later than 60 days following the source test date.

AQ-10 The project owner shall vent this equipment to the CO oxidation and SCR control whenever this equipment is in operation. This condition shall not apply during the turbine commissioning period.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(2)-Offset; Rule 2005]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission.

AQ-11 The project owner shall limit emissions from this equipment as follows:

Contaminant	Emissions Limit
CO	~~7,988~~ **9,243** LBS IN ANY 1 MONTH
PM_{10}	~~10,080~~ **9,552** LBS IN ANY 1 MONTH
VOC	~~3,638~~ **3,744** LBS IN ANY 1 MONTH
SO_X	~~1,039~~ **1,022** LBS IN ANY 1 MONTH

~~For the purposes of this condition, the limit(s) shall be based on the total combined emissions from the gas turbine and duct burner.~~

The project owner shall calculate the emission limit(s) by using monthly fuel use data and the following emission factors: PM_{10} with duct firing 7.**98**~~89~~ lbs/MMscf, PM_{10} without duct firing 6.**93**~~86~~ lbs/MMscf, VOC with duct firing 2.6**9**~~3~~ lbs/MMscf, VOC without duct firing 2.6**9**~~2~~ lbs/MMscf, VOC startups 30 lbs/event, VOC shutdowns 17 lbs/event, SO_X 0.75 lbs/mmscf.

~~The project owner shall calculate the emission limit(s) for CO, during the commissioning period, using fuel use data and the following emission factors:~~

~~228 lbs/MMscf during the no load and part load tests when the turbine is operating at or below 60 percent load, and 14 lbs/MMscf during the mid load and full load tests when the turbine is operating at greater than 60 percent load.~~

~~The project owner shall calculate the emission limit(s) for CO, after the commissioning period and prior to the CO CEMS certification, using fuel use data and the following emission factors: 500 lbs/event for cold startups, 300 lbs/event for warm startups, 285 lbs/event for hot startups, 120 lbs/event for shutdowns, and 4.58 lbs/MMscf for all other operations~~.

The project owner shall calculate the emission limit(s) for CO, after the CO CEMS certification, based on readings from the certified CEMS. In the event

the CO CEMS is not operating or the emissions exceed the valid upper range of the analyzer, the emissions shall be calculated in accordance with the approved CEMS plan.

For the purposes of this condition, the limit(s) shall be based on the total combined emissions from equipment D4 (Gas Turbine 1) and D6 (Duct Burner).

[Rule 1303(b)(2)-Offset]
[Devices subject to this condition: D4, D6]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit the monthly fuel use data and emissions calculations to ~~the District and~~ the CPM in Quarterly Operation Reports..

AQ-12 The project owner shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

~~Natural gas fuel use during the commissioning period.~~

~~Natural gas fuel use after the commissioning period and prior to CEMS certification.~~

Natural gas fuel use ~~after CEMS certification~~.

[Rule 1303(b)(2)-Offset; Rule 2012]
[Devices subject to this condition: D4, D6]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall report natural gas fuel use to ~~the District and~~ the CPM in Quarterly Operation Reports.

AQ-13 The project owner may, at ~~his~~ **their** discretion, choose not to use ammonia injection if ~~any~~ **all** of the following requirement(s) are met:

The **SCR** inlet exhaust temperature ~~to the SCR~~ is 450 degrees F or less, not to exceed **6 hours during a startup and 0.5 hours during a shutdown** ~~4 hours during a cold startup, 2.1 hours during a warm startup, 1.5 hours during a hot startup, and 0.5 hours during a shutdown~~.

[Rule 1303(a)(1)-BACT; Rule 2005]
[Devices subject to this condition: C10]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit the ammonia injection data to ~~the District and~~ the CPM in Quarterly Operation Reports.

AQ-14 The project owner shall install and maintain a CEMS to measure the following parameters:

- CO concentration in ppmv.
- Concentrations shall be corrected to 15 percent oxygen on a dry

basis.

- The CEMS will convert the actual CO concentrations to mass emission rates (lbs/hr) and record the hourly emission rates on a continuous basis.
- The CEMS shall be installed and operated, in accordance with an approved AQMD Rule 218 CEMS plan application. The project owner shall not install the CEMS prior to receiving **AQMD approval of the CEMS plan** ~~initial approval from AQMD~~.
- The CEMS shall be installed and operated to measure CO concentration over a 15 minute averaging time period.
- The CEMS shall be installed and operating no later than 90 days after initial startup of the turbine.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(2)-Offset]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission.

AQ-15 The project owner shall install and maintain a CEMS to measure the following parameters:

- NO_X concentration in ppmv.
- Concentrations shall be corrected to 15 percent oxygen on a dry basis.
- ~~The CEMS shall be installed and operating no later than 12 months after initial startup of the turbine and shall comply with the requirements of Rule 2012. During the interim period between the initial startup and the provisional certification date of the CEMS, the project owner shall comply with the monitoring requirements of Rule 2012(h)(2) and 2012(h)(3). At least 14 days prior to the turbine startup date, the project owner shall provide written notification to the District of the exact date of startup.~~

[Rule 2012]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission. The project owner shall provide written notification of startup date to the District and CPM within 14 days prior to the turbine startup date.

AQ-16 The 2.0 PPM NO_X emission limit(s) shall not apply during ~~turbine commissioning,~~ startup~~,~~ and shutdown periods. Startup time shall not exceed ~~4~~ **6** hours per startup ~~and the number of startups shall not exceed one~~ per day. Shutdown time shall not exceed 30 minutes per shutdown ~~and the number of shutdowns shall not exceed one~~ per day. ~~The commissioning period shall not exceed 636 operating hours from the date of initial startup.~~

~~The project owner shall provide the AQMD with written notification of the startup date.~~ Written records of ~~commissioning,~~ startups~~,~~ and shutdowns shall be maintained and made available upon request from AQMD **or CPM**.

[Rule 2005]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall maintain records of NO_X emission limits during ~~commissioning,~~ startups~~,~~ and shutdowns for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission. ~~The project owner shall provide written notification of startup date to the District and CPM within 14 days of the turbine startup date.~~

AQ-17 The 2.0 PPM CO emission limit(s) shall not apply during turbine ~~commissioning,~~ startup~~,~~ and shutdown periods. Startup time shall not exceed ~~4~~ **6** hours per startup ~~and the number of startups shall not exceed one~~ per day. Shutdown time shall not exceed 30 minutes per shutdown ~~and the number of shutdowns shall not exceed one~~ per day. ~~The commissioning period shall not exceed 636 operating hours from the date of initial startup. The project owner shall provide the AQMD with written notification of the initial startup date.~~ Written records of ~~commissioning,~~ startups~~,~~ and shutdowns shall be maintained and made available upon request from AQMD **or CPM**.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall maintain records of CO emission limits during ~~commissioning,~~ startups~~,~~ and shutdowns for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission. ~~The project owner shall provide written notification of startup date to the District and CPM within 14 days of the turbine startup date.~~

AQ-18 ~~The 37.15 LBS/MMCF NO_X emission limit(s) shall only apply during the interim reporting period to report RECLAIM emissions. The interim reporting period shall not exceed 12 months from the initial startup date~~.
This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
Sulfur Compounds	District Rule	431.1

[Rule 431.1]
[Devices subject to this condition: D4]

Verification: ~~The project owner shall report the turbine loading conditions (as a percent of maximum), duration of loading conditions (hours), and total NO_X emissions during loading conditions (lbs) from initial commissioning to the District and CPM no later than 10 days following the termination of initial commissioning period. The project owner shall submit total NO_X emissions reports to the District and CPM in Quarterly~~

~~Operation Reports~~. **The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and the Commission**.

AQ-19 For the purpose of the following condition number(s) continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that hour

- Condition **AQ-3**
- Condition **AQ-4**

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: C10]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission.

AQ-20 For the purpose of the following condition number(s) continuously record shall be defined as recording at least once every month and shall be calculated based upon the average of the continuous monitoring for that month.

- Condition **AQ-5**

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: C10]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission.

AQ-21 ~~This equipment must be fully and legally operational at the rated capacity within three years of the Permit to Construct issuance date, unless extended in writing by the Executive Officer, or otherwise the PM_{10} ERCs in the amount of 336 lbs/day shall revert back to the AQMD Priority Reserve account and the project owner shall not operate this equipment until PM_{10} ERCs are provided by the project owner to the AQMD in the amount of 403 lbs/day.~~

The project owner shall operate and maintain this equipment according to the following specifications:

- **The bin vent filter shall be in the ON position at all times during filling of the silo, and for at least 1 hour after filling has ended**
- **Filling of the silo shall be stopped immediately if the high level switch is activated**
- **The storage silo shall not be filled past the high level switch**
- **The unload truck hose shall be equipped with a dust cap. The dust cap shall be in place at all times except during the actual filling operation**

[Rule 1303(a)(1)-BACT; Rule 403]
[Devices subject to this condition: D15, D16, D17]

Verification: ~~Within 15 days prior to becoming fully and legally operational, the project owner shall submit to the District and CPM documentation substantiating that the date of becoming fully operational will be within 3 years of obtaining the Permit to Construct; or shall otherwise provide the required PM_{10} ERCs to the District, and documentation of these ERCs to the CPM prior to becoming fully and legally operational.~~ **The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and the Commission.**

AQ-22 **The project owner shall limit NOx emissions to 2.0 ppmv.** The 2.0 ~~PPMV~~ **ppmv** NO_x emission limit is averaged over 3 hours at 15 percent oxygen, dry.

The project owner shall comply with the 2.0 ppmv NOx BACT emission concentration limit at all times, except as specified above and under the following conditions:

Emission Limits	Averaging Time	Operation Requirements
440 lbs/startup	6 hours	The 440 lns/startup emission limit shall apply to a startup event which shall not exceed 6 hours per day

For the purposes of this condition, the limit(s) shall be based on the total combined emissions from equipment D4 (Gas Turbine1) and D6 (Duct Burner)..

[Rule 2005]
[Devices subject to this condition: D4, D6]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit to the ~~District and~~ CPM CEMS data and emission~~s~~ calculations to demonstrate compliance for the NO_x limits in Quarterly Operation Reports.

AQ-23 **The project owner shall limit CO emissions to 2.0 ppmv.** The 2.0 ~~PPMV~~ **ppmv** CO emission limit is averaged over 1 hour at 15 percent oxygen, dry.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: D4, D6]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit to the ~~District and~~ CPM CEMS data and emissions calculations to demonstrate compliance for the CO limits in Quarterly Operation Reports.

AQ-24 **The project owner shall limit NH_3 emissions to 5.0 ppmv.** The 5 ~~PPMV~~ **ppmv** NH_3 emissions limit is averaged over 1 hour at 15 percent oxygen, dry.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: C10]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit to the ~~District and~~ CPM emissions calculations to demonstrate compliance for the NH_3 limits in Quarterly Operation Reports.

AQ-25 **The project owner shall limit VOC emissions to 2.0 ppmv.** The 2.0 ~~PPMV~~ **ppmv** VOC emission limit is averaged over 60 minutes at 15 percent oxygen, dry.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: D4, D6]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit to the ~~District and~~ CPM emissions calculations to demonstrate compliance for the VOC limits in Quarterly Operation Reports.

AQ-26 The project owner shall install, operate, and maintain a~~n approved Continuous Emission monitoring Device, approved by the District's Executive Officer, to~~ **a continuous emission monitoring device to accurately indicate the NH_3 concentration in the flue gas exiting the exhaust stack. The monitoring device shall be approved by the Executive Officer and shall** monitor and record ammonia concentrations, and alert the project owner (via audible or visible alarm) whenever ammonia concentrations are near, at, or in excess of the permitted ammonia limit of 5 ppmv, corrected to 15% oxygen. It shall continuously monitor, compute and record the following parameters;

- Ammonia concentration, uncorrected in ppmv.
- Oxygen concentration in percent.
- Ammonia concentration in ppmv, corrected to 15% oxygen.
- Date, time, extent (in time) of all excursions above 5 ppmv, corrected to 15% oxygen.

The ~~C~~**c**ontinuous ~~E~~**e**mission ~~M~~**m**onitoring ~~D~~**d**evice described above shall be operated and maintained according to a Quality Assurance Plan (QAP) approved by the Executive Officer. The QAP must address contingencies for monitored ammonia concentrations near, at or above the permitted compliance limit, and remedial actions to reduced ammonia levels once an exceedance has occurred.

The ~~C~~**c**ontinuous ~~E~~**e**mission ~~M~~**m**onitoring ~~D~~**d**evice may not be used for compliance determination or emission information determination without

corroborative data using an approved reference method for the determination of ammonia.

The ~~C~~**c**ontinuous ~~E~~**e**mission ~~M~~**m**onitoring ~~D~~**d**evice shall be installed and operating no later than 90 days after initial startup of the turbine.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: C10]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit to ~~District and~~ CPM emissions calculations to demonstrate compliance for the ammonia limits in Quarterly Operation Reports.

AQ-27 ~~This equipment shall not be operated unless the project owner demonstrates to the District's Executive Officer that the facility holds sufficient RTCs to offset the prorated annual emissions increase for the first compliance year of operation. In addition, this equipment shall not be operated unless the project owner demonstrates to the Executive Officer that, at the commencement of each compliance year after the first compliance year of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase~~.

This equipment shall not be operated unless the facility holds 132,444 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds 132,444 pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

[Rule 2005]
[Devices subject to this condition: D4]

This equipment shall not be operated unless the facility holds 4,300 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds 4,300

pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

[Rule 2005]
[Devices subject to this condition: D6]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit to the ~~District and~~ CPM records of all RTCs held for the Magnolia Power Project facility prior to first fire and then annually in the fourth Quarterly Operation Report.

AQ-28 For the purpose of determining compliance with District Rule 475, combustion contaminant emissions may exceed the concentration limit or the mass emission limit listed, but not both limits at the same time.

[Rule 475]
[Devices subject to this condition: D4, D6]

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall **submit** to the ~~District and~~ CPM ~~submit~~ combustion contaminant emissions (concentration and mass rate) in the Quarterly Operation Reports.

The following Conditions of Certification pertain to the following equipment: 12,000 gallon Ammonia Storage Tank (ID No. D1) ~~(A/N 386307)~~

AQ-29 The project owner shall vent this equipment, during filling, only to the vessel from which it is being filled.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: D1]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission.

AQ-30 The project owner shall install and maintain a pressure relief valve set at 25 psig.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: D1]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission.

AQ-31 The project owner shall ~~upon completion of construction~~ **construct**, operate and maintain this equipment according to the following specifications:

In accordance with all mitigation measures stipulated in the Final Energy Commission Decision for 01-AFC-6 **prepared for this project**.

[CA PRC CEQA]
[Devices subject to this condition: D1, D4, D6, C10]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission.

~~The following Conditions of Certification are~~ Facility Conditions

AQ-32 Except for open abrasive blasting operations, the project owner shall not discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

a) As dark or darker in shade as that designated No.1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (a) of this condition.

[Rule 401]

Verification: The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, **U.S.** EPA and the Commission.

AQ-33 Accidental release prevention requirements of Section 112(r)(7):

a) The project owner shall comply with the accidental release prevention requirements pursuant to 40 CFR Part 68 and shall submit to the District's Executive Officer, as part of an annual compliance certification, a statement that certifies compliance with all of the requirements of 40 CFR Part 68, including the registration and submission of a risk management plan (RMP).

b) The project owner shall submit any additional relevant information requested by the District's Executive Officer or designated agency.

[Rule 40CFR 68 –Accidental Release Prevention]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit to the ~~District and~~ CPM the documents listed above in (a) and (b) as part of an annual compliance certification.

OPERATION CONDITIONS

AQ-34 The project owner shall provide emission reduction credits to offset turbine and duct burner CO, VOC, SO_2 and PM**10**~~10~~ emissions as specified by the District. Additionally, the project must be fully and legally operational at the rated capacity within three years of the Permit to Construct issuance date, unless extended in writing by the Executive Officer, or otherwise any SO_2 priority reserve ERCs shall revert back to the AQMD Priority Reserve account

and the project owner shall not operate this equipment until SO_2 ERCs are provided by the project owner to the AQMD in the amount of 42 lbs/day.

Verification: The project owner shall submit to the CPM records showing that the project's District regulated emission reduction credit requirements have been met 15 days prior to initiating construction for Priority Reserve emission reduction credits, and 30 days prior to turbine first fire for traditional emission reduction credits.

AQ-35 The project owner shall perform quarterly cooling tower recirculating water quality testing for total solids content (total dissolved and undissolved solids). The project owner shall also provide a flow meter to determine the daily cooling tower circulating water flow.

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit to the CPM cooling tower recirculating water quality tests and daily recirculating water flow in the Quarterly Operation Reports.

AQ-36 The cooling tower daily PM**10** ~~10~~ emissions shall be limited to 30.25 lbs/day. The project owner shall estimate daily PM**10** ~~10~~ emissions from the cooling tower using the water quality testing data and daily recirculating water flow data. The emission calculation used to show compliance with this condition will be based on the following equation:

~~DWRR x TSC x 0.000006 drift frac. x 8.34 lbs/gallon / 1,000,000 = Daily PM_{10} Emissions~~

Daily PM10 = DWRR x TSC x 0.000006 drift fraction x 8.34 lbs/gallon / 1,000,000

Where:

DWRR = Daily Water Recirculation Rate (gallons)

TSC = Total Solids Content (TSS + TDS in ppm by weight)

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner shall submit to the CPM daily cooling tower PM**10** ~~10~~ emission estimates in the Quarterly Operation Reports.

AQ-37 The project owner shall provide, for CEQA mitigation, an assurance from the City of Burbank, a SCPPA member, that they will not seek to use the emission reductions resulting from the shutdown of the Magnolia 3 and 4 cooling towers in any form other than for the CEQA mitigation for the **Magnolia Power Project (**MPP**)** cooling tower. Additionally, the project owner shall provide documentation assuring that the Magnolia 3 and 4 cooling towers have been removed and not replaced by other cooling tower(s) that would serve the existing City of Burbank power boilers and turbines.

Verification: The project owner shall provide, to the CPM 15 days prior to initiating construction, a letter from the City of Burbank documenting that the Magnolia 3 and 4 cooling towers have been removed from the Magnolia site, that these cooling towers

have not been replaced by other cooling tower(s) at the site, and that they will not use the emission reductions resulting from the shutdown from the Magnolia 3 and 4 cooling towers for any other purpose than the CEQA mitigation proposed for the MPP cooling tower.

AQ-38 The project owner shall compile quarterly operating reports containing the operating and emission estimation data as required in Conditions **AQ-1** through **AQ-37**.

Verification: **Records will be retained at the project site and made available for review upon request.** The project owner will submit to the ~~District and~~ CPM the Quarterly Operation Reports within 30 calendar days of the end of each calendar quarter.

AQ-39 The project owner shall submit to the CPM for review and approval any modification proposed by either the project owner or issuing agency to any project air permit.

Verification: The project owner shall submit any proposed air permit modification to the CPM within five working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.

AQ-40 **The project owner shall keep records, in a manner approved by the SCAQMD, for the following parameter(s) or item(s):**

For architectural applications where no thinners, reducers, or other VOC containing materials are added, maintain semi-annual records for all coating consisting of (a) coating type, (b) VOC content as supplied in grams per liter (g/l) of materials for low-solids coatings, (c) VOC content as supplied in g/l of coating, less water and exempt solvent, for other coatings.

For architectural applications where thinners, reducers, or other VOC containing materials are added, maintain daily records for all coating consisting of (a) coating type, (b) VOC content as supplied in grams per liter (g/l) of materials for low-solids coatings, (c) VOC content as supplied in g/l of coating, less water and exempt solvent, for other coatings.

[Rule 3004(a)(4) –Periodic Monitoring]

Verification: **The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and the Commission**.

APPENDIX A

South Coast Air Quality Management District (AQMD or District) Permit Conditions with Corresponding Energy Commission Conditions of Certification

SCAQMD Permit Conditions	Energy Commission Conditions of Certification	Condition Description
A63.1	AQ-11	Monthly contaminant emission limits (CO, VOC, PM10, & SOx).Includes emissions calculations equations and emission factors.
A99.1	AQ-16	NOx emission limit of 2.0 ppm does not apply during startup, and shutdown periods. Startup limited to 6 hours and shutdowns 0.5 hours per event.
A99.2	AQ-17	CO emission limit of 2.0 ppm does not apply during startup, and shutdown periods. Startup limited to 6 hours and shutdowns 0.5 hours per event.
A195.1	AQ-24	Ammonia limit of 5 ppmv @ 15% O_2 averaged over 1-hour.
A195.2	AQ-22	NOx emission limit of 2.0 ppm @ 15% O_2 averaged over 3-hour.
A195.3	AQ-23	CO emission limit of 2.0 ppm @ 15% O_2 averaged over 1-hour.
A195.4	AQ-25	VOC emission limit of 2.0 ppm @ 15% O_2 averaged over 1-hour.
A327.1	AQ-28	Under Rule 475; project may violate either the mass emission limit or concentration emission limit, but not both at the same time.
A433.1	AQ-22	Startup emissions limited to 440 lbs per startup and 6 hours per day
C1.1	AQ-1	Limits duct burner fuel usage to 555 mmcf per year
C1.2	AQ-1	Limits duct burner fuel usage to 6.66 mmcf per day
C1.3	AQ-1	Limits duct burner fuel usage to 133 mmcf per month
C1.4	AQ-2	Limits startups to 5 per month
C157.1	AQ-30	Storage tank pressure relief valve set to 25 psig
D12.1	AQ-3	Requires a flow meter to monitor ammonia injection
D12.2	AQ-4	Requires a temperature gauge for the SCR
D12.3	AQ-5	Requires a pressure gauge for the SCR
D29.1	AQ-6	Initial and ongoing ammonia source testing requirements
D29.2	AQ-7	Initial source testing requirements
D29.3	AQ-8	Ongoing source testing requirements
D82.1	AQ-14	CEMS CO monitoring and reporting requirements
D82.2	AQ-15	CEMS NOx monitoring and reporting requirements
D232.1	AQ-26	CEMS for ammonia emissions

SCAQMD Permit Conditions	Energy Commission Conditions of Certification	Condition Description
E57.1	AQ-10	Vent to emission control when in operation
E73.1	AQ-13	Conditions exempting ammonia injection
E144.1	AQ-29	Venting limitation for ammonia storage tank
E179.1	AQ-19	Ammonia injection and selective catalytic reduction (SCR) temperature monitoring requirements
E179.2	AQ-20	SCR pressure monitoring requirements
E193.1	AQ-31	Requires compliance with Energy Commission mitigation measures
E193.3	AQ-21	Emission control requirements for silo
F9.1	AQ-32	Opacity Limits
F24.1	AQ-33	Accidental Release requirements
H23.1	AQ-18	Requires compliance with Rule 431.1.
I298.1 I298.2	AQ-27	Prohibited from operation unless the project owner holds sufficient RECLAIM Trade Credits (RTCs)
K40.1	AQ-9	Source testing recordkeeping and reporting
K67.1	AQ-40	Record keeping requirements for architectural coatings
K67.2	AQ-12	Natural gas record requirements

Staff Conditions

AQ-C1 The project owner/operator shall submit the resume(s) of each individual proposed to fill the Construction Mitigation Manager (CMM) position to the CEC Compliance Project Manager (CPM) for approval. One or more individuals may hold this position. The owner/operator shall be responsible for funding the costs of the CMM, however the CMM shall report directly to the CPM. The CMM shall preferably have a minimum of eight years of experience as follows, however the CPM shall consider all resumes submitted regardless of experience:

- Five years construction experience as a subcontractor or general contractor
- An engineering degree or an additional five years construction experience
- One year construction project management experience
- Two years air quality assessment experience

Verification: The project owner/operator shall submit the CMM resume(s) to the CPM for approval at least 60days prior to site mobilization.

AQ-C2 The project owner shall ensure that the CMM prepares and submits to the CPM for approval, a Fugitive Dust Mitigation Plan (FDMP) that specifically identifies all fugitive dust mitigation measures that will be employed during the construction of the facility. The FDMP shall be administered on site by the full-time CMM.

The FDMP shall include a schedule of each operation planned for the first two months of the project that may result in the generation of fugitive dust, including location, source(s) of fugitive dust, and proposed mitigation measures specific to each operation/source.

The construction mitigation measures that shall be addressed in the FDMP include, but are not limited to, the following:

- Identification of the employee parking area(s) and surface composition of those parking area(s)
- The frequency of watering of unpaved roads and all disturbed areas
- Application of chemical dust suppressants
- Gravel in high traffic areas
- Paved access aprons
- Sandbags to prevent run off
- Posted speed limit signs
- Wheel washing areas prior to large trucks leaving the project site
- Methods that will be used to clean tracked-out mud and dirt from the project site onto public roads
- For any transportation of solid bulk material
    4. Vehicle covers
    5. Wetting of the transported material
    6. Appropriate freeboard
- Methods for the stabilization of storage piles and disturbed areas
- Windbreaks at appropriate locations
- Additional mitigation measures to be implemented at the direction of the CMM in the event that the standard measures fail to completely control dust from any activity and/or source
- The suspension of all earth moving activities under windy conditions
- On-site monitoring devices

  Protocol: In monitoring the effectiveness of all mitigation measures included in the FDMP, the CMM shall take into account the following, at a minimum:

c. Onsite spot checks of soil moisture content at locations where soil disturbance, movement and/or storage is occurring; and

d. Visual observations of all construction activities.

Protocol: The CMM shall implement the following procedures for additional mitigation measures if the CMM determines that the existing mitigation measures are not resulting in effective mitigation:

4. The CMM shall direct more aggressive application of the existing mitigation methods within 15 minutes of making such a determination.

5. The CMM shall direct implementation of additional methods of dust suppression if step #1 specified above, fails to result in adequate mitigation within 30 minutes of the original determination.

6. The CMM shall direct a temporary shutdown of the source of the emissions if step #2 specified above fails to result in adequate mitigation within one hour of the original determination. The activity shall not restart until one full hour after the shutdown. The owner/operator may appeal to the CPM any directive from the CMM to shutdown a source, provided that the shutdown shall go into effect within one hour of the original determination unless overruled by the CPM before that time.

Verification: At least 30 days prior to site mobilization, the project owner/operator shall provide the CPM with a copy of the FDMP for approval. Site mobilization shall not commence until the project owner/operator receives approval of the FDMP from the CPM.

AQ-C3 The project owner shall ensure that the CMM prepares and submits to the CPM for approval, a Diesel Construction Equipment Mitigation Plan (DCEMP) that will specifically identify diesel engine mitigation measures that will be employed during the construction phase of the main and related linear construction sites. The project owner shall ensure that the CMM will be responsible for directing implementation of and compliance with all measures identified in the DCEMP. The DCEMP shall address, at a minimum, the following mitigation measures:

- Catalyzed diesel particulate filters (CDPF)
- CARB certified ultra-low sulfur diesel fuel, containing 15ppm sulfur or less (ULSD)
- Diesel engines certified to meet U.S. EPA and/or California Air Resources Board (ARB) 1996 or better off-road equipment emission standards
- Restricting diesel engine idle time, to the extent practical, to no more than ten minutes

The DCEMP shall include the following:

3. A list of all diesel-fueled, off-road, stationary or portable construction-

related equipment to be used either on the main or the related linear construction sites. This list will initially be estimated and then subsequently be updated as specific contractors become identified. Prior to a contractor gaining access to the main or related linear construction sites, the project owner shall ensure that the CMM submits to the CPM for approval, an update of this list including all of the new contractor's diesel construction equipment.

4. Each piece of construction equipment listed under item #1 of this condition must demonstrate compliance according to the following mitigation requirements, except as noted in items #3, #4 and #5 of this condition:

Engine Size (BHP)	1996 ARB or U.S. EPA Certified Engine	Required Mitigation
< 100	NA	ULSD
> or = 100	Yes	ULSD
> or = 100	No	ULSD and CDPF, if suitable as determined by the CMM

6. If the construction equipment is intended to be on-site for ten days or less, then none of the mitigation measures identified in item #2 of this condition are required.
7. The CPM may grant relief from the mitigation measures listed in item #2 of this condition for a specific piece of equipment if the CMM can demonstrate that they have made a good faith effort to comply with the mitigation measures and that compliance is not possible.
8. Any implemented mitigation measure in item #2 of this condition may be terminated immediately if one of the following conditions exists, however the CPM must be informed within ten working days of the termination:

    5.5 The measure is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in back pressure.

    5.6 The measure is causing or is reasonably expected to cause significant engine damage.

    5.7 The measure is causing or is reasonably expected to cause a significant risk to workers or the public.

    5.8 Any other seriously detrimental cause which has approval by the CPM prior to the termination being implemented.

7. All contractors must agree to limit diesel engine idle time on all diesel-power equipment to no more than ten minutes, to the extent practical.

Verification: The project owner shall ensure that the CMM submits a DCEMP to the CPM for approval at least 30 days prior to site mobilization. The CMM will update the

initial DCEMP (if necessary), no less than ten days prior to a specific contractor gaining access to either the main or related linear construction sites. The project owner shall ensure that the CMM notifies the CPM of any emergency termination within ten working days of the termination.

AQ-C4 In addition to the above mitigation measures, the following additional mitigation measures shall be employed, as practical, during construction:

- Stepwise operation, with not all of the equipment operating at the same time wherever feasible and practical
- Construction management techniques to minimize emissions will be employed and may include the following:
- Increasing distance between emission sources;
- Phased schedule for construction activities;
- Utilizing existing power poles rather than temporary internal combustion engine power generators; and
- Equipment may employ high pressure fuel injection system or engine timing retardation

The above mitigation measures are in addition to **AQ-C2** and **AQ-C3**. These measures should only be used when they do not conflict with the requirements of **AQ-C2** and **AQ-C3**, and/or to the extent that they provide additional emissions mitigation beyond that required by **AQ-C2** and **AQ-C3**.

Verification: The project owner shall include a discussion of the implementation of these and any other emission reduction methods not specified in **AQ-C2** and **AQ-C3** with the Construction Fugitive Dust Mitigation Plan and the Diesel Construction Equipment Mitigation Plan as appropriate (see Verification for **AQ-C2** and **AQ-C3**).

AQ-C5 The project owner shall ensure that the CMM submits directly to the CPM for approval (and a copy to the project owner) a report of all compliance actions taken germane to Conditions of Certification **AQ-C2**, **AQ-C3** and **AQ-C4**. The report shall include, at a minimum, the following elements:

Fugitive Dust Mitigation Monthly Report (see Condition of Certification AQ-C2 and AQ-C4)

- A summary of each of the operation(s) planned for the following two months which may result in the generation of fugitive dust. Each description shall include a schedule, on-site location details and a list of proposed fugitive dust mitigation measures.
- A summary of all mitigation activities implemented for each fugitive dust generating operation identified in a previous report. This report should provide a summary description of the operation, the mitigation measures implemented and the estimated effectiveness of each mitigation measure.

- Details of all operation(s) requiring fugitive dust mitigation that are not identified in the previous report or the FDMP. Details shall include (at a minimum) a description of the operation, the date, duration, mitigation measures implemented, and an explanation for not reporting the operation in a previous report (or in the FDMP).
- Identification of any failures of mitigation measures and details of the actions taken to reduce the identified impacts and prevent future failures of those mitigation measures.
- Identification of any observation by the CMM of dust plumes beyond the property boundary of the main construction site or beyond an acceptable distance from the linear construction site and what actions (if any) where taken to abate the plume.

Diesel Construction Equipment Mitigation Monthly Report (see Condition of Certification AQ-C3 and AQ-C4)

- Identification of any changes, as approved by the CPM, to the Diesel Construction Equipment Mitigation Plan from the initial report or the last monthly report including any new contractors and their diesel construction equipment.
- A copy of all receipts or other documentation indicating types and amounts of fuel purchased, from whom, where delivered and on what date for the main and related linear construction sites.
- Identification and verification of all diesel engines required to meet U.S. EPA or ARB 1996 off-road diesel equipment emission standards.
- The suitability of the use of a catalyzed diesel particulate filter for a specific piece of construction equipment is to be determined by a qualified mechanic or engineer who must submit a report through the CMM to the CPM for approval. The identification of any suitability report initiated or pursued, or the completed report, should be included in the monthly report (in the month that it was completed) as should the verification of any subsequent installation of a catalyzed diesel particulate filter.
- Identification of any observation by the CMM of exhaust plumes emanating from diesel-fired construction equipment beyond the property boundary of the main construction site or beyond an acceptable distance from the linear construction site and what actions (if any) where taken to abate the plume or future expected plumes.

Verification: The project owner shall ensure that the CMM submits directly to the CPM for approval (and a copy to the project owner), a monthly report of all compliance actions taken germane to Conditions of Certification **AQ-C2**, **AQ-C3** and **AQ-C4**. The report is due within ten working days after the end of each reporting month.

SCAQMD Permitted Equipment and Conditions

Equipment

ID No.	Equipment Descriptions
Inorganic Material Storage	
D1	Storage Tank, Pressurized, Aqueous Ammonia 19%, with Vapor Balance System, 12,000 Gallons
Internal Combustion: Power generation	
D4	Natural Gas Combined-Cycle, 1,787 MMBtu/hr Gas Turbine No. 1 General Electric Model PG7241FA, 181.1 MW with Dry Low NOx Combustors, a Heat Recovery Steam Generator, and a 142 MW Steam Generator. Connected to C9 and C10.
D6	Duct Burner, 583 MMBtu/hr. Connected to C9 and C10.
C9	CO Oxidation Catalyst Serving Unit No.1, with 334.1 cubic feet catalyst volume. Connected to D4 and D6.
C10	Selective Catalytic Reduction Serving Unit No. 1, with 1,100 cubic feet of total volume; width 26 feet; height 67 feet; length 1 foot 4 inches
S12	Stack No. 1, Height of 150 feet and diameter of 19 feet
Other Equipment	
E13	Coating Equipment
E18	Cooling Tower
Dry Storage	
D15	Storage Silo, Soda Ash
D16	Storage Silo, Lime
D17	Unloading Station with Pneumatic Hose

Conditions

AQ-1 The project owner shall limit the fuel usage for the duct burner to no more than:

- 555 MM cubic feet per year,
- 6.66 MM cubic feet per day, and
- 133 MM cubic feet per month.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(1)-Modeling; Rule 2005]
[Devices subject to this condition: D6]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit the fuel use data to the CPM in Quarterly Operation Reports.

AQ-2 The project owner shall limit the number of startups to no more than 5 in any one month.

[Rule 1303(a)(1)-BACT; Rule 2005]
[Devices subject to this condition: D4, D6]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit monthly startup data to the CPM in Quarterly Operation Reports.

AQ-3 The project owner shall install and maintain a flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia (NH_3).

The project owner shall continuously record the flow rate with a measuring device or gauge accurate to plus or minus 5 percent, calibrated once every twelve months.

The project owner shall maintain the ammonia injection rate between 50 and 350 gph.

[Rule 1303(a)(1)-BACT; Rule 2012]
[Devices subject to this condition: C10]

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, the U.S. EPA and the California Energy Commission (Commission).

AQ-4 The project owner shall install and maintain a temperature gauge to accurately indicate the temperature of the exhaust at the inlet to the SCR reactor. The project owner shall continuously record the temperature with a measuring device or gauge accurate to plus or minus 5 percent calibrated once every twelve months.

The operator shall maintain the temperature between 450 and 900 degrees F.

[Rule 1303(a)(1)-BACT; Rule 2012]
[Devices subject to this condition: C10]

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

AQ-5 The project owner shall install and maintain a pressure gauge to accurately indicate the differential pressure across the SCR catalyst bed in inches of water column. The project owner shall also install and maintain a device to continuously record the pressure with a measuring device or gauge accurate to plus or minus 5 percent calibrated once every twelve months.

The operator shall maintain the differential pressure between 1.0 and 5 inches of water column.

[Rule 1303(a)(1)-BACT; Rule 2012]
[Devices subject to this condition: C10]

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

AQ-6 The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant	Method	Averaging Time	Test Location
NO_X	District Method 100.1	1 hour	Outlet of the SCR
CO	District Method 100.1	1 hour	Outlet of the SCR
SO_X	District Approved Method	District Approved Avg. Time	Fuel Sample
ROG	District Approved Method	1 hour	Outlet of the SCR
PM	District Approved Method	District Approved Avg. Time	Outlet of the SCR
NH_3	District Method 207.1 and 5.3 or EPA Method 17	1 hour	Outlet of the SCR
Acetaldehyde	District Approved Method	District Approved Avg. Time	Outlet of the SCR
Benzene	District Approved Method	District Approved Avg. Time	Outlet of the SCR
Formaldehyde	District Approved Method	District Approved Avg. Time	Outlet of the SCR
PAH	District Approved Method	District Approved Avg. Time	Outlet of the SCR

The test shall be conducted after AQMD approval of the source test protocol, but no later than 180 days after initial startup. The District shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the tests shall measure the fuel flow rate (CFH), the flue gas flow rate, and the turbine and steam turbine generating output in MW.

The test shall be conducted in accordance with an AQMD approved source test protocol. The protocol shall be submitted to the AQMD no later than 45 days before the proposed test date and shall be approved by the AQMD before the test commences. The test protocol shall include the proposed operating conditions of the turbine during the tests, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The test shall be conducted for all pollutants 1) when the gas turbine and duct burner are operating simultaneously at 100 percent of maximum heat input and 2) when the gas turbine is operating alone at 100 percent of maximum heat input. In addition, tests shall be conducted when the gas turbine is operating alone at loads of 75 and 50 percent of maximum heat input for the NO_X, CO, VOC and NH_3 tests.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(2)-Offset; Rule 1401; Rule 2005]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall submit the proposed protocol for the initial source tests 45 days prior to the proposed source test date to the District, and also to the California Energy Commission Compliance Project Manager (CPM) for approval. The project owner shall notify the District and the CPM no later than 10 days prior to the proposed initial source test date and time.

AQ-7 The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant	Method	Averaging Time	Test Location
NH_3	District Method 207.1 and 5.3 or EPA Method 17	1 hour	SCR Outlet

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

The test shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter. The NO_x concentration, as determined by the certified CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable or not yet certified, a test shall be conducted to determine the NO_x emissions using District Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted and the results submitted to the AQMD within 45 days after the test date. The AQMD shall be notified of the date and time of the test at least 7 days prior to the test.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: C10]

Verification: The project owner shall submit test results to the District and CPM no later than 60 days following the source test date and notify the District and CPM no later than 7 days prior to the source test date and time.

AQ-8 The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant	Method	Averaging Time	Test Location
SOx	AQMD Laboratory Method 307-91 or District Approved Method	District Approved Averaging Time	Fuel Sample
ROG	District Approved Method	1 hour	SCR Outlet
PM	EPA Method 201A/District Method 5.1 or District Approved Method	District Approved Averaging Time	SCR Outlet

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration and/or monthly emissions limit.

The test(s) shall be conducted at least once every three years. The results shall be submitted to the District within 60 days after the test date. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test. The test shall be conducted 1) when the gas turbine and duct burner are operating simultaneously at 100 percent of maximum heat input and 2) when the gas turbine is operating alone at 100 percent of maximum heat input.

For natural gas fired turbines only, an alternative to AQMD Method 25.3 for the purpose of demonstrating compliance with BACT may be the following:

a) Triplicate stack gas samples extracted directly into Summa canisters, maintaining a final canister pressure between 400-500 mm HG absolute,

b) Pressurization of the Summa canisters with zero gas analyzed/certified to less than 0.05 parts per million by volume total hydrocarbons as carbon (ppmvC), and

c) Analysis of Summa canisters per unmodified EPA Method TO-12 (with pre-concentration) or the canister analysis portion of AQMD Method 25.3 with a minimum detection limit of 0.3 ppmvC or less and reported to two significant figures. The temperature of the Summa canisters when extracting the samples for analysis shall not be below 70 F.

The use of this alternative method for VOC compliance determination does not mean that it is more accurate then unmodified AQMD Method 25.3, nor does it mean that it may be used in lieu of AQMD Method 25.3 without prior approval, except for the determination of compliance with the BACT level of 2.0 parts per million by volume (ppmv) ROG calculated as carbon set by ARB for natural gas fired turbines.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(2)-Offset; Rule 1401]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall submit test results to the District and CPM no later than 60 days following the source test date and notify the District and CPM no later than 10 days prior to the source test date and time

AQ-9 The project owner shall provide to the District a source test report in accordance with the following specifications:

- Source test results shall be submitted to the District no later than 60 days after the source test was conducted.
- Emission data shall be expressed in terms of concentration (ppmv), corrected to 15 percent oxygen (dry basis), mass rate (lbs/hr), and lbs/MM cubic feet. In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.
- All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).
- All moisture concentration shall be expressed in terms of percent corrected to 15 percent oxygen.

- Source test results shall also include the oxygen levels in the exhaust, the fuel flow rate (CFH), the flue gas temperature, and the generator power output (MW) under which the test was conducted.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(2)-Offset; Rule 2005]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall submit test results to the District and CPM no later than 60 days following the source test date.

AQ-10 The project owner shall vent this equipment to the CO oxidation and SCR control whenever this equipment is in operation. This condition shall not apply during the turbine commissioning period.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(2)-Offset; Rule 2005]
[Devices subject to this condition: D4, D6]

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

AQ-11 The project owner shall limit emissions from this equipment as follows:

Contaminant	Emissions Limit
CO	9,243 LBS IN ANY 1 MONTH
PM_{10}	9,552 LBS IN ANY 1 MONTH
VOC	3,744 LBS IN ANY 1 MONTH
SO_X	1,022 LBS IN ANY 1 MONTH

The project owner shall calculate the emission limit(s) by using monthly fuel use data and the following emission factors: PM_{10} with duct firing 7.98 lbs/MMscf, PM_{10} without duct firing 6.93 lbs/MMscf, VOC with duct firing 2.69 lbs/MMscf, VOC without duct firing 2.69 lbs/MMscf, VOC startups 30 lbs/event, VOC shutdowns 17 lbs/event, SO_X 0.75 lbs/mmscf.

The project owner shall calculate the emission limit(s) for CO, after the CO CEMS certification, based on readings from the certified CEMS. In the event the CO CEMS is not operating or the emissions exceed the valid upper range of the analyzer, the emissions shall be calculated in accordance with the approved CEMS plan.

For the purposes of this condition, the limit(s) shall be based on the total combined emissions from equipment D4 (Gas Turbine 1) and D6 (Duct Burner).

[Rule 1303(b)(2)-Offset]
[Devices subject to this condition: D4, D6]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit the monthly fuel use data and emissions calculations to the CPM in Quarterly Operation Reports.

AQ-12 The project owner shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

[Rule 1303(b)(2)-Offset; Rule 2012]
[Devices subject to this condition: D4, D6]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall report natural gas fuel use to the CPM in Quarterly Operation Reports.

AQ-13 The project owner may, at their discretion, choose not to use ammonia injection if all of the following requirement(s) are met:

The SCR inlet exhaust temperature is 450 degrees F or less, not to exceed 6 hours during a startup and 0.5 hours during a shutdown.

[Rule 1303(a)(1)-BACT; Rule 2005]
[Devices subject to this condition: C10]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit the ammonia injection data to the CPM in Quarterly Operation Reports.

AQ-14 The project owner shall install and maintain a CEMS to measure the following parameters:

- CO concentration in ppmv.
- Concentrations shall be corrected to 15 percent oxygen on a dry basis.
- The CEMS will convert the actual CO concentrations to mass emission rates (lbs/hr) and record the hourly emission rates on a continuous basis.
- The CEMS shall be installed and operated, in accordance with an approved AQMD Rule 218 CEMS plan application. The project owner shall not install the CEMS prior to receiving AQMD approval of the CEMS plan.
- The CEMS shall be installed and operated to measure CO concentration over a 15 minute averaging time period.
- The CEMS shall be installed and operating no later than 90 days after initial startup of the turbine.

[Rule 1303(a)(1)-BACT; Rule 1303(b)(2)-Offset]
[Devices subject to this condition: D4, D6]

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

AQ-15 The project owner shall install and maintain a CEMS to measure the following parameters:

- NO_X concentration in ppmv.
- Concentrations shall be corrected to 15 percent oxygen on a dry basis.

[Rule 2012]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and the Commission. The project owner shall provide written notification of startup date to the District and CPM within 14 days prior to the turbine startup date.

AQ-16 The 2.0 PPM NO_X emission limit(s) shall not apply during startup and shutdown periods. Startup time shall not exceed 6 hours per startup per day. Shutdown time shall not exceed 30 minutes per shutdown per day. Written records of startups and shutdowns shall be maintained and made available upon request from AQMD or CPM.

[Rule 2005]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall maintain records of NO_X emission limits during startups and shutdowns for inspection by representatives of the District, ARB, U.S. EPA and the Commission.

AQ-17 The 2.0 PPM CO emission limit(s) shall not apply during turbine startup, and shutdown periods. Startup time shall not exceed 6 hours per startup per day. Shutdown time shall not exceed 30 minutes per shutdown per day. Written records of startups and shutdowns shall be maintained and made available upon request from AQMD or CPM.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: D4, D6]

Verification: The project owner shall maintain records of CO emission limits during startups and shutdowns for inspection by representatives of the District, ARB, U.S. EPA and the Commission.

AQ-18 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
Sulfur Compounds	District Rule	431.1

[Rule 431.1]
[Devices subject to this condition: D4]

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

AQ-19 For the purpose of the following condition number(s) continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that hour

- Condition **AQ-3**
- Condition **AQ-4**

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: C10]

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

AQ-20 For the purpose of the following condition number(s) continuously record shall be defined as recording at least once every month and shall be calculated based upon the average of the continuous monitoring for that month.

- Condition **AQ-5**

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: C10]

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

AQ-21 The project owner shall operate and maintain this equipment according to the following specifications:

- The bin vent filter shall be in the ON position at all times during filling of the silo, and for at least 1 hour after filling has ended
- Filling of the silo shall be stopped immediately if the high level switch is activated
- The storage silo shall not be filled past the high level switch
- The unload truck hose shall be equipped with a dust cap. The dust cap shall be in place at all times except during the actual filling operation

[Rule 1303(a)(1)-BACT; Rule 403]
[Devices subject to this condition: D15, D16, D17]

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

AQ-22 The project owner shall limit NOx emissions to 2.0 ppmv. The 2.0 ppmv NO_x emission limit is averaged over 3 hours at 15 percent oxygen, dry.

The project owner shall comply with the 2.0 ppmv NOx BACT emission concentration limit at all times, except as specified above and under the following conditions:

Emission Limits	Averaging Time	Operation Requirements
440 lbs/startup	6 hours	The 440 lns/startup emission limit shall apply to a startup event which shall not exceed 6 hours per day

For the purposes of this condition, the limit(s) shall be based on the total combined emissions from equipment D4 (Gas Turbine1) and D6 (Duct Burner).

[Rule 2005]
[Devices subject to this condition: D4, D6]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit to the CPM CEMS data and emissions calculations to demonstrate compliance for the NO_x limits in Quarterly Operation Reports.

AQ-23 The project owner shall limit CO emissions to 2.0 ppmv. The 2.0 ppmv CO emission limit is averaged over 1 hour at 15 percent oxygen, dry.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: D4, D6]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit to the CPM CEMS data and emissions calculations to demonstrate compliance for the CO limits in Quarterly Operation Reports.

AQ-24 The project owner shall limit NH_3 emissions to 5.0 ppmv. The 5 ppmv NH_3 emissions limit is averaged over 1 hour at 15 percent oxygen, dry.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: C10]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit to the CPM emissions calculations to demonstrate compliance for the NH_3 limits in Quarterly Operation Reports.

AQ-25 The project owner shall limit VOC emissions to 2.0 ppmv. The 2.0 ppmv VOC emission limit is averaged over 60 minutes at 15 percent oxygen, dry.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: D4, D6]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit to the CPM emissions calculations to demonstrate compliance for the VOC limits in Quarterly Operation Reports.

AQ-26 The project owner shall install, operate, and maintain a continuous emission monitoring device to accurately indicate the NH_3 concentration in the flue gas exiting the exhaust stack. The monitoring device shall be approved by the Executive Officer and shall monitor and record ammonia concentrations, and alert the project owner (via audible or visible alarm) whenever ammonia concentrations are near, at, or in excess of the permitted ammonia limit of 5 ppmv, corrected to 15% oxygen. It shall continuously monitor, compute and record the following parameters;

- Ammonia concentration, uncorrected in ppmv.
- Oxygen concentration in percent.
- Ammonia concentration in ppmv, corrected to 15% oxygen.
- Date, time, extent (in time) of all excursions above 5 ppmv, corrected to 15% oxygen.

The continuous emission monitoring device described above shall be operated and maintained according to a Quality Assurance Plan (QAP) approved by the Executive Officer. The QAP must address contingencies for monitored ammonia concentrations near, at or above the permitted compliance limit, and remedial actions to reduced ammonia levels once an exceedance has occurred.

The continuous emission monitoring device may not be used for compliance determination or emission information determination without corroborative data using an approved reference method for the determination of ammonia.

The continuous emission monitoring device shall be installed and operating no later than 90 days after initial startup of the turbine.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: C10]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit to the CPM emissions calculations to demonstrate compliance for the ammonia limits in Quarterly Operation Reports.

AQ-27 This equipment shall not be operated unless the facility holds 132,444 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds 132,444 pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the

initial or annual hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

[Rule 2005]
[Devices subject to this condition: D4]

This equipment shall not be operated unless the facility holds 4,300 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds 4,300 pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual hold amount is partially satisfied by holding RTCs that expire midway through the hold period, those RTCs may be transferred upon their respective expiration dates. This hold amount is in addition to any other amount of RTCs required to be held under other condition(s) stated in this permit.

[Rule 2005]
[Devices subject to this condition: D6]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit to the CPM records of all RTCs held for the Magnolia Power Project facility prior to first fire and then annually in the fourth Quarterly Operation Report.

AQ-28 For the purpose of determining compliance with District Rule 475, combustion contaminant emissions may exceed the concentration limit or the mass emission limit listed, but not both limits at the same time.

[Rule 475]
[Devices subject to this condition: D4, D6]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit to the CPM combustion contaminant emissions (concentration and mass rate) in the Quarterly Operation Reports.

The following Conditions of Certification pertain to the following equipment: 12,000 gallon Ammonia Storage Tank (ID No. D1)

AQ-29 The project owner shall vent this equipment, during filling, only to the vessel from which it is being filled.

[Rule 1303(a)(1)-BACT]

[Devices subject to this condition: D1]

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

AQ-30 The project owner shall install and maintain a pressure relief valve set at 25 psig.

[Rule 1303(a)(1)-BACT]
[Devices subject to this condition: D1]

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

AQ-31 The project owner shall construct, operate and maintain this equipment according to the following specifications:

In accordance with all mitigation measures stipulated in the Final Energy Commission Decision for 01-AFC-6 prepared for this project.

[CA PRC CEQA]
[Devices subject to this condition: D1, D4, D6, C10]

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

Facility Conditions

AQ-32 Except for open abrasive blasting operations, the project owner shall not discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

c) As dark or darker in shade as that designated No.1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

d) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (a) of this condition.

[Rule 401]

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

AQ-33 Accidental release prevention requirements of Section 112(r)(7):

c) The project owner shall comply with the accidental release prevention requirements pursuant to 40 CFR Part 68 and shall submit to the District's Executive Officer, as part of an annual compliance certification, a statement that certifies compliance with all of the requirements of 40 CFR Part 68, including the registration and submission of a risk management plan (RMP).

d) The project owner shall submit any additional relevant information requested by the District's Executive Officer or designated agency.

[Rule 40CFR 68 –Accidental Release Prevention]

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit to the CPM the documents listed above in (a) and (b) as part of an annual compliance certification.

OPERATION CONDITIONS

AQ-34 The project owner shall provide emission reduction credits to offset turbine and duct burner CO, VOC, SO_2 and PM10 emissions as specified by the SCAQMD. Additionally, the project must be fully and legally operational at the rated capacity within three years of the Permit to Construct issuance date, unless extended in writing by the Executive Officer, or otherwise any SO_2 priority reserve ERCs shall revert back to the SCAQMD Priority Reserve account and the project owner shall not operate this equipment until SO_2 ERCs are provided by the project owner to the SCAQMD in the amount of 42 lbs/day.

Verification: The project owner shall submit to the CPM records showing that the project's SCAQMD regulated emission reduction credit requirements have been met 15 days prior to initiating construction for Priority Reserve emission reduction credits, and 30 days prior to turbine first fire for traditional emission reduction credits.

AQ-35 The project owner shall perform quarterly cooling tower recirculating water quality testing for total solids content (total dissolved and undissolved solids). The project owner shall also provide a flow meter to determine the daily cooling tower circulating water flow.

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit to the CPM cooling tower recirculating water quality tests and daily recirculating water flow in the Quarterly Operation Reports.

AQ-36 The cooling tower daily PM10 emissions shall be limited to 30.25 lbs/day. The project owner shall estimate daily PM10 emissions from the cooling tower using the water quality testing data and daily recirculating water flow data. The emission calculation used to show compliance with this condition will be based on the following equation:

Daily PM10 = DWRR x TSC x 0.000006 drift fraction x 8.34 lbs/gallon / 1,000,000

Where:

DWRR = Daily Water Recirculation Rate (gallons)

TSC = Total Solids Content (TSS + TDS in ppm by weight)

Verification: Records will be retained at the project site and made available for review upon request. The project owner shall submit to the CPM daily cooling tower PM10 emission estimates in the Quarterly Operation Reports.

AQ-37 The project owner shall provide, for CEQA mitigation, an assurance from the City of Burbank, a SCPPA member, that they will not seek to use the emission reductions resulting from the shutdown of the Magnolia 3 and 4 cooling towers in any form other than for the CEQA mitigation for the Magnolia Power Project (MPP) cooling tower. Additionally, the project owner shall provide documentation assuring that the Magnolia 3 and 4 cooling towers have been removed and not replaced by other cooling tower(s) that would serve the existing City of Burbank power boilers and turbines.

Verification: The project owner shall provide, to the CPM 15 days prior to initiating construction, a letter from the City of Burbank documenting that the Magnolia 3 and 4 cooling towers have been removed from the Magnolia site, that these cooling towers have not been replaced by other cooling tower(s) at the site, and that they will not use the emission reductions resulting from the shutdown from the Magnolia 3 and 4 cooling towers for any other purpose than the CEQA mitigation proposed for the MPP cooling tower.

AQ-38 The project owner shall compile quarterly operating reports containing the operating and emission estimation data as required in Conditions **AQ-1** through **AQ-37**.

Verification: Records will be retained at the project site and made available for review upon request. The project owner will submit to the CPM the Quarterly Operation Reports within 30 calendar days of the end of each calendar quarter.

AQ-39 The project owner shall submit to the CPM for review and approval any modification proposed by either the project owner or issuing agency to any project air permit.

Verification: The project owner shall submit any proposed air permit modification to the CPM within five working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.

AQ-40 The project owner shall keep records, in a manner approved by the SCAQMD, for the following parameter(s) or item(s):

For architectural applications where no thinners, reducers, or other VOC containing materials are added, maintain semi-annual records for all coating consisting of (a) coating type, (b) VOC content as supplied in grams per liter (g/l) of materials for low-solids coatings, (c) VOC content as supplied in g/l of coating, less water and exempt solvent, for other coatings.

For architectural applications where thinners, reducers, or other VOC containing materials are added, maintain daily records for all coating consisting of (a) coating type, (b) VOC content as supplied in grams per liter (g/l) of materials for low-solids coatings, (c) VOC content as supplied in g/l of coating, less water and exempt solvent, for other coatings.

[Rule 3004(a)(4) –Periodic Monitoring]

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

REFERENCES

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ARB 2016b - California Air Resources Board. Air Monitoring Site List Generator available on ARB website. http://www.arb.ca.gov/qaweb/sitelist_create.php Accessed September 2016.

ARB 2016c - California Air Resources Board. California Ambient Air Quality Data Standards available on ARB website. http://www.arb.ca.gov/research/aaqs/aaqs.htm Accessed September 2016

ARB 2016d - California Air Resources Board. California Ambient Air Quality Data Statistics available on ARB website. http://www.arb.ca.gov/adam/index.html Accessed September 2016

CEC 2002 – California Energy Commission – Staff Assessment Magnolia Power Project (TN 30552) January 9, 2002

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CEC 2003– California Energy Commission – Magnolia Power Project Final Decision (TN 30550). March, 2003

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SCAQMD 2007 – South Coast Air Quality Management District – Permit to Operate Evaluation (TN 217223), docketed April 21, 2017

SCAQMD 2016 – South Coast Air Quality Management District – Permit to Operate Evaluation (TN 217221), docketed April 21, 2017

SCAQMD 2016a – South Coast Air Quality Management District. Air Quality Historical Data by Year. http://aqmd.gov/smog/historicaldata.htm. Accessed September 2016

SCAQMD 2016d – South Coast Air Quality Management District – Email to staff (TN 217222), docketed April 21, 2017

SCPPA 2016 – Southern California Public Power Authority. Petition to Amend –Change in Startup and Shutdown Operations (TN 211786) Docketed June 10, 2016

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U.S. EPA 2016b - United States Environmental Protection Agency. National Ambient Air Quality Data Standards available on U.S. EPA website. https://www.epa.gov/criteria-air-pollutants/naaqs-table Accessed September 2016.

U.S. EPA 2016c – United States Environmental Protection Agency. AirData Monitor Values Report website. http://www.epa.gov/airquality/airdata/ad_rep_mon.html. Accessed October 2015 and April 2016.