ELK HILLS POWER PROJECT
PETITION FOR
AIR QUALITY CONDITIONS MODIFICATIONS

By:

ELK HILLS POWER, LLC
TUPMAN, CALIFORNIA

Submitted to:

CALIFORNIA ENERGY COMMISSION

Prepared by:

60137729.0003

JUNE 2010

Elk Hills Power Project
Petition for Air Quality Conditions Modifications
99-AFC-01

Submitted to:

California Energy Commission

Prepared for:

Elk Hills Power, LLC
4026 Skyline Road
Tupman, California 93276

Prepared by:

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

JUNE 2010

CONTENTS

Page

1.0 INTRODUCTION 1-1

2.0 DESCRIPTION OF PROPOSED AIR QUALITY CONDITION MODIFICATIONS 2-1

2.1 Cooling Tower 2-1
2.2 Gas Turbines 2-3
2.3 Fire Water Pump 2-3

3.0 CHANGES TO CONDITONS 3-1

3.1 Cooling Tower TDS Modification 3-1
3.2 Gas Turbines 3-1
3.3 Fire Water Pump 3-2

4.0 NECESSITY FOR AIR QUALITY CONDITION MODIFICATIONS 4-3

4.1 Cooling Tower 4-3
4.2 Gas Turbine 4-3
4.3 Fire Water Pump 4-3

5.0 TIMING OF REQUEST FOR AIR QUALITY CONDITION MODIFICATIONS 5-1

6.0 IMPACT ANALYSIS OF AIR QUALITY CONDITION MODIFICATIONS 6-1

7.0 COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS .. 7-1

7.1 Rule 1081 – Source Sampling 7-1
7.2 Rule 2201 – New and Modified Source Review 7-1
7.2.1 Best Available Control Technology 7-2
7.2.2 Offsets 7-3
7.2.3 Air Quality Impact Analysis 7-3
7.2.4 Compliance Certification and Public Notice 7-3
7.2.5 Administrative Requirements for Power Plants 7-3
7.3 Rule 2520 – Federally Mandated Operating Permits 7-4
7.4 Rule 4001 – New Source Performance Standards 7-4
7.5 Rule 4002 – National Emission Standards for Hazardous Air Pollutants 7-4
7.6 Rule 4101 – Visible Emissions 7-4
7.7 Rule 4102 – Nuisance 7-4
7.8 Rule 4703 – Stationary Gas Turbines 7-4
7.9 Rule 7012 – Hexavalent Chromium Cooling Towers 7-5
7.10 Federal Prevention of Significant Deterioration Program 7-5

8.0 POTENTIAL EFFECTS ON PROPERTY OWNERS AND THE PUBLIC 8-1

9.0 SUMMARY OF REQUEST 9-1

LIST OF TABLES

Table 2-1 PM/PM10 Emission Rates Curve 2-2
Table 2-2 Cooling Tower PM10 Emission Rates..... 2-3
Table 8-1 List of Property Owners..... 8-1

APPENDIX

A Application for Authority to Construct

B Authority to Construct Permits

C Application for Administrative Amendment to Title V Permit

1.0 INTRODUCTION

Elk Hills Power, LLC (EHP) is filing this petition for proposed modifications to the California Energy Commission (CEC) Decision for the Elk Hills Power project, Docket 99-AFC-1. This petition incorporates changes to the project's Title V permit units S-3523-1-7, S-3523–2-7, S-3523-3-2 and S-3523-6-1. An application to request an increase to the permitted PM10 emission limit for the cooling tower (permit unit S-3523-3-2); a request to decrease the annual permitted PM10 emission limit for the two gas turbines (permit units S-3523-1-7 and S-3523-2-7); and a permit condition wording change for the fire water pump (permit unit S-3523-6-1) was submitted to the San Joaquin Valley Air Pollution Control District (District) on January 20, 2010. A copy of the application is included in Appendix A. The applications have been approved by the District and Authority to Construct (ATC) permits were issued on May 26, 2010. A copy of the ATC permits is included in Appendix B. The application for an Administrative Amendment to the Title V permit was submitted to the District on June 7th. A copy is included in Appendix C. The purpose of this petition is to request conforming changes to the CEC Final Decision of Certification Conditions (FDOC).

This petition includes modifications related to the following aspects of the EHP project's Title V Permit and FDOC:

- Proposed modifications to CEC Conditions of Certification to change the daily and annual permitted PM10 emission limits for the cooling tower (permit unit S-3523-3-2) that are due to the increase in total dissolved solids (TDS) in the Western Kern Water District (WKWD) water supplied to the EHP facility. The modifications included in ATC Condition 5 of permit S-3523-3-2 and CEC Condition AQ-50 will allow for this modification.

- Proposed modifications to CEC Conditions of Certification to reduce the annual permitted PM10 emission limit for the two gas turbines (permit units S-3523-1-7 and S-3523-2-7) so that the small requested increase in PM10 annual emissions associated with the cooling tower as described in the first request does not increase overall emissions from the source. The modifications included in ATC Condition 29 of permits S-3523-1-7 and S-3523-2-7 and CEC Condition AQ-18 will allow for this modification.

- Proposed modifications to CEC Conditions of Certification to allow a change in permit condition wording for the diesel-fired internal combustion engine used to drive a fire water pump (permit unit S-3523-6-1) for consistency with the District application template. The modifications to ATC Condition 3 of permit S-3523-6-1 and CEC Condition AQ-57 will allow for this change.

The District issued a Determination of Compliance (DOC) regarding the proposed modifications to EHP on May 13, 2010. A strikeout deletion mark-up of the existing CEC Conditions for air quality is provided in Section 3. This mark-up includes the changes made to the EHP permits in response to the application submitted to the District. These changes are made in the Conditions as last amended by the Commission by its order dated January 2, 2008.

This petition to amend the Commission Decision approving the project contains all the information that is required pursuant to 20 CCR Section 1769, Post Certification Amendments and Changes, of the California Energy Commission's Siting Regulations.

2.0 DESCRIPTION OF PROPOSED AIR QUALITY CONDITION MODIFICATIONS

Elk Hills Power, LLC is requesting three modifications to the Air Quality Conditions of Certification in the Commission's Decision for the Elk Hills Power project. The first requested modification concerns Condition of Certification AQ-50. Condition AQ-50 specifies the maximum daily emission rate of the cooling tower during normal operation. Due to an increase in TDS in the water supply, EHP requests that Condition of Certification AQ-50, be modified to allow for a higher PM10 emission limit. The second modification is to Condition of Certification AQ-18 which specifies the annual emission limits for the two gas turbines. The modification requested is to decrease the annual PM10 emission limit equal to the increase in PM10 from the cooling tower. The third modification is to Condition of Certification AQ-57. The request is a wording change for the fire water pump for consistency with the District application template. These modifications are discussed in more detail in the sections below.

2.1 Cooling Tower

The proposed changes to the permitted emission limits for the cooling tower are due to an increase in the TDS in the WKWD water supplied to the EHP facility. The increase in TDS in the water leads to higher particulate matter (PM/PM10) emissions from the cooling tower if the same number of cycles of concentration are maintained.

EHP was operating in compliance with the permit limit for PM10 emissions from the cooling tower. However, due to the increase in TDS in the water supply, the facility was forced to increase blowdown considerably by decreasing the cycles of concentration, to stay in compliance. This resulted in a significant increase in water usage, blowdown disposal and cost. Therefore, EHP requested a variance to conduct laboratory testing to determine the conductivity/TDS at different cycles of concentration in order to determine an acceptable emission limit. The variance was granted in June 2009.

The results of this testing were used by the facility to determine how high the TDS goes when the cooling tower is operated at normal cycles of concentration. This information has allowed the facility to estimate PM10 emissions expected at various operating conditions using the higher TDS water that the facility is currently receiving. The anticipated increase in emissions is the basis for the changes in the ATC granted by the APCD and this application to request the same slightly higher PM10 emission limit from the cooling tower that the facility can maintain compliance with and simultaneously minimize water usage.

The same cooling tower PM10 emission calculation methodology as is currently approved for EHP was used to estimate emissions. The methodology is described in the document titled "Cooling Tower PM10 Calculation Protocol" (ENSR, 2002). This methodology calculates PM10

emissions from the cooling tower as a function of the drift rate, circulating water flow rate of the cooling tower and the TDS in the circulating water. This methodology also assumes that only a portion of the PM emitted from the drift loss is PM10. Emissions are calculated using Equation 1 below.

E (lb/hr) = Circulating rate (gal/min) * TDS (ppm) * Drift rate (%) * 60 (min/hr) * Density (lb/gal) * Ratio (Equation 1)

Where:
E = PM10 Emissions in pounds per hour (lb/hr)
Circulating rate = Cooling tower water in gallons per minute
TDS = Total dissolved solids in ppm
Drift rate = 0.0005%
Density = 8.34 pounds per gallon for water
Ratio = PM10 to PM correction factor as described below

The PM/PM10 emission ratios at different TDS levels inherent to the emission calculation methodology (ENSR, 2002).are summarized in Table 2-1 below.

Table 2-1
PM/PM10 Emission Rates Curve

TDS (mg/l)	PM10/PM (%)
1,000	0.82
1,500	0.73
2,000	0.64
2,500	0.57
3,000	0.50
3,500	0.44
4,000	0.38
4,500	0.34
5,000	0.30

The maximum TDS level measured during the testing period of June 11, 2009 to August 31, 2009 was 2,690 ppm. The correction factors are calculated as values interpolated between those shown in Table 2-1 above. The maximum TDS level corresponds to a PM10/PM correction factor of 55%. Therefore, using Equation 1, the resulting PM10 emissions are calculated to be 10.7 lb/day. EHP requested that a 10% contingency be added to the maximum measured value when setting the permit limit. Therefore, the current and proposed daily and annual emissions, as well as the resulting changes are shown in Table 2-2 below.

Table 2-2
Cooling Tower PM10 Emission Rates

Status	Daily Emissions (lb/day)	Annual Emissions (tons/year)
Current	9.4	1.71
Proposed	11.7	2.14
Change	**2.3**	**0.43**

Emission offsets are evaluated on a pollutant-by-pollutant basis. Per Rule 2201 Section 4.5.4, offsets are triggered for PM10 when the post-project facility PTE exceeds 29,200 lb/year and there is a net emissions increase. Since, the EHP facility permitted PM10 PTE exceeds 29,200 lb/year, offsets are required for the value calculated as the post-project PTE minus the baseline emissions (BE) for all new and modified emission units. Since the facility-wide annual PM10 PTE will remain at the current limit of 133.1 tpy as discussed below, no offsets are required.

2.2 Gas Turbines

EHP proposes to reduce the annual permitted PM10 emission limits for the CTGs so that the requested increase in PM10 emissions associated with the cooling tower does not increase the overall potential emissions from the source. The current annual PM10 emission limit for the CTGs is 262,800 lb/year. The proposed increase in annual PM10 from the cooling towers is 840 lb/year. Therefore, subtracting the proposed increase from the cooling tower from the current permit limits for the CTGs results in the proposed annual PM10 emission limit for the CTGs of 261,960 lb/year.

2.3 Fire Water Pump

The proposed permit wording change for the fire water pump permit is to create consistency between CEC Condition AQ-57 and the District application template for fire water pumps. Specifically, EHP requests that AQ-57 be expanded to allow the engine to be equipped with "either a positive crankcase ventilation (PCV) system which recirculates crankcase emission on the air intake system for combustion, or a crankcase emission control device of at least 90% control efficiency." The proposed permit wording change, which is included in the District's revised ATC does not affect permitted emissions.

3.0 CHANGES TO CONDITONS

In order to incorporate the modifications discussed in Chapter 2, EHP proposes to modify Conditions of Certification AQ-11, AQ-18, AQ-50 and AQ-57. EHP requests the following changes and additions be made to the air quality Conditions of Certification and Verification in the Commission Decision. ~~Strikethrough~~ indicates deleted text and underlined indicates replacement or new text.

The proposed modifications will not materially alter the conclusions contained in the Commission Decision. Furthermore, the proposed modifications will satisfy all applicable existing Conditions of Certification other than the air quality conditions proposed below, and no other changes in conditions are required.

3.1 Cooling Tower TDS Modification

Condition of Certification AQ-50 relates to the cooling tower modification. EHP requests a PM10 emission increase for the cooling tower due to an increase in TDS in the WKWD water supplied to the EHP facility.

AQ-50 PM10 emission rate shall not exceed ~~9.4~~ 11.7 lb/day. [District Rule 2201]

Verification: Please refer to Condition **AQ-51**.

3.2 Gas Turbines

Condition of Certification AQ-18 contains the annual permit limits for the two gas turbines. EHP requests a PM10 decrease for the gas turbines to accommodate the proposed increase in the cooling tower emissions such that there is no increase in facility-wide emissions.

AQ-18 Annual emissions from both CTGs calculated on a twelve (12) consecutive month rolling basis shall not exceed any of the following: PM10 – ~~262,800~~ 261,960 lb/year, SOx (as SO2) – 57,468 lb/year, NOx (as NO2) - 335,022 lb/year, VOC – 64,478 lb/year, and CO – 831,008 lb/year. [District Rule 2201]

Verification: The project owner shall provide records of compliance as part of the quarterly reports of Condition AQ-35.

3.3 Fire Water Pump

Condition of Certification AQ-57 relates to the fire water pump engine. EHP requests a permit condition wording change for the fire water pump to be more consistent with the District application template.

AQ-57 The~~e~~is engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emission into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201]

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

4.0 NECESSITY FOR AIR QUALITY CONDITION MODIFICATIONS

Modification of three aspects of the Commission Decision are requested in this petition. They are considered necessary as described below. EHP would like to establish the same conditions granted by the APCD in the Commission's Conditions of Certifications to avoid conflicting conditions.

4.1 Cooling Tower

Because of increases in the total dissolved solids contained in the incoming water supply, EHP cannot operate the cooling tower in compliance without modifying the permitted PM10 emission limit. Therefore, the proposed request to increase the PM10 permit limit for the cooling tower is necessary.

4.2 Gas Turbine

Reducing the annual permitted PM10 emissions from the two gas turbines enables the small increase in the cooling tower PM10 emissions to be made without increasing overall emissions of the source.

4.3 Fire Water Pump

EHP is requesting a change to make the permit more consistent and enhance EHP's ability to comply.

5.0 TIMING OF REQUEST FOR AIR QUALITY CONDITION MODIFICATIONS

The TDS in the WKWD water supplied to the EHP facility has increased since the facility was permitted. The increase in TDS in the water leads to higher particulate matter (PM/PM10) emissions from the cooling tower if the same number of cycles of concentration are maintained. In order to avoid a significant increase in water usage, blowdown disposal and expense, EHP is requesting a slight increase to the PM10 emission limit for the cooling tower. To accommodate the small increase in PM10 emissions from the cooling tower, EHP is requesting to reduce the annual permitted PM10 emissions from the two gas turbines at the same time. The two simultaneous changes will ensure that overall permitted emissions from the source do not increase. The wording change for the fire water pump would provide additional consistency to the permits.

6.0 IMPACT ANALYSIS OF AIR QUALITY CONDITION MODIFICATIONS

The proposed air quality condition modifications will have no significant effect on the technical areas analyzed in the Final Commission Decision as issued in December 2000 and subsequent revisions. Anticipated operations will not change as a result of the proposed changes to the affected Conditions of Certification. Operation activities for the facility will continue to conform to the practices described in the Final Commission Decision and subsequent revisions.

No changes to the facility-wide emissions are proposed. Since no changes are proposed to emissions of toxic air contaminants, a revised health risk assessment (HRA) has not been prepared.

No additional mitigations are required to keep the air quality impacts due to the EHP project insignificant. No impacts in other resource areas will occur since the slight increase in cooling tower emissions matched by a decrease in allowable overall PM10 emissions will not cause ancillary effects.

7.0 COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS

The initial EHP application provided a comprehensive review of the requirements applicable to the facility and a demonstration of compliance. This application focuses on the local and federal rules and regulations potentially applicable to the proposed PM10 emission increase from the cooling tower. The following District rules potentially apply to the proposed modifications:

- Rule 1081 – Source Sampling
- Rule 2201 – New and Modified Source Review
- Rule 2520 – Federally Mandated Operating Permits
- Rule 4001 – New Source Performance Standards
- Rule 4002 – National Emission Standards for Hazardous Air Pollutants
- Rule 4101 – Visible Emissions
- Rule 4102 – Nuisance
- Rule 4703 – Stationary Gas Turbines
- Rule 7012 – Hexavalent Chromium - Cooling Towers

In addition, applicability of the federal PSD program is discussed.

7.1 Rule 1081 – Source Sampling

This Rule specifies methods and procedures for source testing, sample collection and compliance determination. The proposed PM10 emission increase will not affect the methods and procedures used by the facility for source testing, sample collection, or compliance determinations. Therefore, continued compliance with this Rule is expected.

7.2 Rule 2201 – New and Modified Source Review

There are four main elements of District Rule 2201 (New and Modified Source Review) that are discussed in the following sections. These elements consist of Best Available Control Technology (BACT), offsets, an ambient air quality impact analysis (AQIA) to determine whether the proposed

project will cause or contribute to violations of the National or California Ambient Air Quality Standards (AAQS), as well as administrative requirements for power plants.

7.2.1 Best Available Control Technology

BACT requirements are triggered on a pollutant-by-pollutant, emission unit-by-emission unit basis. BACT is triggered for modifications to existing sources if the Adjusted Increase in Permitted Emissions (AIPE) exceeds two pounds per day (lb/day). The AIPE is defined as the post-project potential to emit (PTE) minus the Historically Adjusted Potential to Emit (HAPE). The HAPE is calculated as the pre-project PTE times the ratio of the post-project permitted emission factor to the pre-project permitted emission factor. Therefore, for this project, the Equation 2 is used.

AIPE = post-project PTE – HAPE (Equation 2)

where HAPE = pre-project PTE * (post-project EF/pre-project EF)

Since a single emission factor is not used in the cooling tower emission calculation, we have assumed that the pre-project EF is equivalent to the post-project EF. Therefore, for this project, the HAPE is the same as the pre-project PTE or 9.4 lb/day. Then, the

AIPE = 11.7 lb/day – 9.4 lb/day = 2.3 lb/day

Since the AIPE is 2.3 lb/day and exceeds the BACT threshold of 2 lb/day, BACT applies to the proposed PM10 emission increase from the cooling tower.

The District's BACT clearinghouse was reviewed to determine the control technologies that are considered BACT for mechanical draft cooling towers. Mechanical draft cooling towers BACT requirements are specified in BACT Guideline 8.3.10 for Induced Draft, Evaporative Cooling systems. BACT Guideline 8.3.10 represents the same source class and category as the cooling tower at the EHP facility. There are two facilities for which BACT determinations have been made: 1) the original EHP cooling tower, and 2) the Rio Bravo Tomato Company, LLC facility in Buttonwillow. Both projects required the installation of cellular type drift eliminators, which are considered technically feasible.

The EHP cooling tower is permitted based on high efficiency drift eliminators with a 0.0005 percent efficiency. Therefore, BACT, specifically cellular type drift eliminators with an efficiency of 0.0005%, have already been installed on the cooling tower, and no additional controls are proposed.

7.2.2 Offsets

Emission offsets are evaluated on a pollutant-by-pollutant basis and are triggered for PM10 when the post-project facility PTE exceeds 29,200 lb/year and there is a net emissions increase. Since, the EHP facility permitted PM10 PTE exceeds 29,200 lb/year, offsets are required for the value calculated as the post-project PTE minus the baseline emissions (BE) for all new and modified emission units. However, since the facility-wide annual PM10 PTE will remain at the current limit of 133.1 tpy, no offsets are required.

7.2.3 Air Quality Impact Analysis

Pursuant to Rule 2201 Section 4.14.1.1, a new or modified source which is not subject to the public noticing requirements of Rule 2201 Section 5.4, may be exempted at the discretion of the Air Pollution Control Officer (APCO), from the requirement to perform an air quality impact analysis (AQIA). Since the proposed emission increase does not trigger the public noticing requirements of Rule 2201 Section 5.4, EHP assumes that an AQIA will not be required.

7.2.4 Compliance Certification and Public Notice

Pursuant to Rule 2201 Section 4.14.3, the owner of a proposed major source or Title I modification must demonstrate to the satisfaction of the air pollution control officer that all major stationary sources owned or operated in California that are subject to emission limitations are in compliance or on a schedule for compliance with all applicable emission limitations and standards. Additionally, Rule 2201 Section 5.4.1, requires that the air pollution control officer provides public notification and publication for Title I modifications.

This petition does not include proposed changes that trigger Title I modification requirements. Therefore, EHP does not need to complete a compliance certification or prepare public notification.

7.2.5 Administrative Requirements for Power Plants

District Rule 2201 Section 5.8 outlines the administrative requirements for power plants that are licensed by the CEC. A full Application for Certification (AFC) is not required by the CEC for proposed modifications. This serves as the application for a post-certification amendment petition.

7.3 Rule 2520 – Federally Mandated Operating Permits

The District has been delegated authority to administer the federal Title V program. An application for modification to the Title V Permit to Operate, pursuant to 40 CFR Part 70 and Rule 2520 (Federally Mandated Operating Permits), was submitted to the District in January 2010 to incorporate the modifications presented in this petition.

7.4 Rule 4001 – New Source Performance Standards

This Rule incorporates the New Source Performance Standards (NSPS) from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR). The cooling tower is not subject to a NSPS. The proposed emission limit and wording changes for the gas turbines does not affect compliance with 40 CFR Part 60 Subpart GG Standards of Performance for Stationary Gas Turbines.

7.5 Rule 4002 – National Emission Standards for Hazardous Air Pollutants

Rule 4002 incorporates the National Emission Standards for Hazardous Air Pollutants (NESHAP) from Part 61, Chapter I, Subchapter C, Title 40, Code of Federal Regulations (CFR), and the NESHAP for Source Categories from Part 63, Chapter I, Subchapter C, Title 40, CFR. The cooling tower is not subject to a NESHAP. The facility is not a major source of hazardous air pollutants, and hence no NESHAP apply to the turbines or are triggered by the proposed changes to the emission limit.

7.6 Rule 4101 – Visible Emissions

The purpose of this Rule is to prohibit the emissions of visible air contaminants into the atmosphere. Cooling tower emissions would generally be exempt per Section 4.8 of the Rule which describes wet plumes of uncombined water.

7.7 Rule 4102 – Nuisance

This Rule prohibits the discharge of air contaminants which cause injury, detriment, nuisance, or annoyance to the public. There is no increase in toxic air contaminants associated with the proposed project. The small proposed PM10 emission increase will not affect continued compliance with this Rule.

7.8 Rule 4703 – Stationary Gas Turbines

This Rule limits NOx emissions from stationary gas turbines with a rating greater than 0.3 MW. The proposed permit limit change is a reduction in PM10 emissions and is not affected by this Rule.

7.9 Rule 7012 – Hexavalent Chromium Cooling Towers

The purpose of the Rule is to limit emissions of hexavalent chromium from circulating water in cooling towers. No hexavalent chromium is used in the EHP cooling tower and the proposed PM10 emission increase will not affect continued compliance with this Rule.

7.10 Federal Prevention of Significant Deterioration Program

At the time of the issuance of the initial Title V permit for the EHP facility, the San Joaquin Valley was designated as non-attainment for PM10. Therefore, the facility was issued a permit for PM10 emissions through the SJVAPCD non-attainment New Source Review (NSR) program. However, the San Joaquin Valley has been recently re-designated as federal attainment for PM10. Since there is no net emissions increase associated with this application package, PSD is not triggered and a PSD submittal to the EPA is not required.

8.0 POTENTIAL EFFECTS ON PROPERTY OWNERS AND THE PUBLIC

The proposed modifications to the CEC Conditions in the Air Quality category will not affect project equipment or the significance of environmental impacts. Therefore, the proposed modifications are not anticipated to affect nearby property owners, the public, or parties in the application proceedings. The nearest residence to the facility is approximately five miles away.

The only property owner located within 1,000 feet of the EHP property line is provided in Table 8-1 below.

Table 8-1
List of Property Owners

APN	Owner	Address
158-010-09	Occidental of Elk Hills	28590 Highway 119, Tupman, CA 93276 –1001

9.0 SUMMARY OF REQUEST

As demonstrated in this petition, the requested modifications of the air quality Conditions of Certification are not anticipated to have an adverse effect on the public or the environment. The modifications will not affect compliance with applicable LORS. Accordingly, EHP requests that the Energy Commission Staff expedite review of this petition, and request Commission approval of the proposed modified conditions in accordance with Title 20 CCR Section 1769 (a)(3).

Respectfully submitted,

George McMurren III, Plant Manager

June 15, 2010

9.0 SUMMARY OF REQUEST

As demonstrated in this petition, the requested modifications of the air quality Conditions of Certification are not anticipated to have an adverse effect on the public or the environment. The modifications will not affect compliance with applicable LORS. Accordingly, EHP requests that the Energy Commission Staff expedite review of this petition, and request Commission approval of the proposed modified conditions in accordance with Title 20 CCR Section 1769 (a)(3).

Respectfully submitted,

George McMurren III, Plant Manager

June 15, 2010

APPENDIX A

Application for Authority to Construct

APPLICATION FOR
AUTHORITY TO CONSTRUCT AND
MODIFICATION TO TITLE V PERMIT TO OPERATE
Facility ID S3523

Submitted By:

ELK HILLS POWER, LLC
TUPMAN, CALIFORNIA

Submitted to:

SAN JOAQUIN VALLEY
AIR POLLUTION CONTROL DISTRICT

Prepared by:

60137729.0002

JANUARY 2010

Elk Hills Power
Application for
Authority to Construct and
Modification to Title V Permit to Operate
Facility ID S3523

Submitted to:

San Joaquin Valley
Air Pollution Control District

Submitted by:

Elk Hills Power, LLC
4026 Skyline Road
Tupman, California 93276

Prepared by:

AECOM
1220 Avenida Acaso
Camarillo, CA 93012

60137729.0002

January 2010

CONTENTS

1.0 INTRODUCTION AND PROJECT SUMMARY 1-1
2.0 AFFECTED UNITS AND PROPOSED PERMIT WORDING 2-1
2.1 Cooling Tower 2-1
2.2 Gas Turbines 2-2
2.2.1 PM10 Emissions 2-2
2.2.2 Shutdown Definition 2-2
2.3 Fire Water Pump 2-3
3.0 EMISSION CALCULATIONS 3-1
3.1 Cooling tower 3-1
3.2 Gas Turbines 3-2
3.2.1 PM10 Emissions 3-2
3.2.2 Shutdown Definition 3-2
3.3 Fire Water Pump 3-3
4.0 REGULATORY SETTING 4-1
4.1 Rule 1081 – Source Sampling 4-1
4.2 Rule 2201 – New and Modified Source Review 4-1
4.2.1 Best Available Control Technology 4-1
4.2.2 Offsets 4-2
4.2.3 Air Quality Impact Analysis 4-3
4.2.4 Administrative Requirements for Power Plants 4-3
4.3 Rule 2520 – Federally Mandated Operating Permits 4-3
4.4 Rule 3010 – Permit Fee 4-3
4.5 Rule 4001 – New Source Performance Standards 4-3
4.6 Rule 4002 – National Emission Standards for Hazardous Air Pollutants 4-3
4.7 Rule 4101 – Visible Emissions 4-4
4.8 Rule 4102 – Nuisance 4-4
4.9 Rule 4703 – Stationary Gas Turbines 4-4
4.10 Rule 7012 – Hexavalent Chromium Cooling Towers 4-4
4.11 Federal Prevention of Significant Deterioration Program 4-4

LIST OF APPENDICES

APPENDIX A PERMIT APPLICATION FORMS
APPENDIX B EMISSION CALCULATIONS

LIST OF TABLES

Table 3-1 PM/PM10 Emission Rates Curve 3-1
Table 3-2 Cooling Tower PM10 Emission Rates 3-2

1.0 INTRODUCTION AND PROJECT SUMMARY

The Elk Hills Power (EHP) project was issued a Final Determination of Compliance (FDOC) by the San Joaquin Valley Air Pollution Control District (District) in March 2000 (Facility ID S-3523), as well as a Prevention of Significant Deterioration (PSD) Permit by the U.S. Environmental Protection Agency (EPA) in February 2001. The facility began commercial operation in mid-2003 and was subsequently issued a Title V Permit by the District. This document serves as a combined Authority to Construct (ATC) and Title V Minor Modification permit application.

The project owner/operator submitting this application is Elk Hills Power, LLC. The permitted EHP facility is a natural gas-fired combined-cycle power generating plant. The plant is powered by two General Electric (GE) 7FA technology combustion turbine generators (CTGs). Exhaust gas from the CTGs is directed to two supplementary fired heat recovery steam generators (HRSGs) for the generation of high-pressure, intermediate-pressure, and low-pressure steam that drives the steam turbine generator (STG). Supplementary firing (duct burner firing) capability is provided in each HRSG to generate additional steam for peak power production (permit units S-3523-1-7 and S-3523-2-7). The EHP facility utilizes Selective Catalytic Reduction (SCR) systems for the control of NO_x emissions and oxidation catalysts for the control of CO and VOC emissions. Fuel for the CTGs and duct burners is exclusively natural gas. A mechanical draft cooling tower (permit unit S-3523-3-2) utilizing water from the West Kern County Water District (WKWD) provides heat rejection for the steam cycle. The cooling tower is comprised of six cells and is equipped with high efficiency drift eliminators. One diesel-fired internal combustion engine is used to drive a fire water pump (permit unit S-3523-6-1).

The primary need for this permit modification application is due to an increase in the total dissolved solids (TDS) in the water supplied to EHP by WKWD. The increase in TDS in the water leads to higher particulate matter (PM/PM10) emissions from the cooling tower if the same numbers of cycles of concentration are maintained. Other minor changes to the permit are also being requested at this time.

The four aspects of the facility's permits that are addressed in this application are as follows:

1. The first request is to change the daily and annual permitted PM10 emission limits for the cooling tower (permit unit S-3523-3-2) that are due to the increase in TDS in the WKWD water supplied to the EHP facility. EHP is currently operating under a variance which was granted on June 10, 2009. The variance was requested to allow EHP to conduct laboratory testing to determine the conductivity/TDS at different cycles of concentration. New limits are requested based on these tests.

2. The second request is to reduce the annual permitted PM10 emission limits for the CTGs (permit units S-3523-1-7 and S-3523-2-7) so that the small requested increase in PM10 emissions associated with the cooling tower as described in the first request does not increase overall emissions from the source.

3. The third request is a permit condition wording change for the two gas turbines to align the shutdown definition with that in the PSD permit.

4. The fourth request includes wording changes on one permit condition for the diesel-fired internal combustion engine used to drive an emergency fire water pump for consistency with the District application template.

The proposed project descriptions and permit changes are provided in Chapter 2. Associated emissions and their calculation methodologies are provided in Chapter 3. An evaluation of compliance with applicable regulatory requirements, including new source review, is included in Chapter 4. Appendix A includes applicable District ATC and Title V modification application forms. Appendix B provides the emission calculation spreadsheets.

This ATC and Title V permit modification application is being submitted to fulfill the New Source Review (NSR) requirements of the District and the EPA. A separate application for a post-certification amendment petition to the California Energy Commission (CEC) will also be submitted.

2.0 AFFECTED UNITS AND PROPOSED PERMIT WORDING

As discussed in Section 1, EHP seeks permit language changes to the cooling tower, combustion turbines, and fire water pump. These changes are discussed in more detail below. Specific wording changes related to each change are provided. Proposed additions are shown with underline and deletions are shown with ~~strikethrough~~.

2.1 Cooling Tower

EHP requests an increase to the PM10 emission limit for the cooling tower. This proposed change to the permitted emission limit for the cooling tower is due to an increase in the TDS in the WKWD water supplied to the EHP facility. EHP was operating in compliance with the permit limit for PM10 emissions from the cooling tower. However, due to the increase in TDS in the water supply, the facility was forced to increase blowdown disposal considerably by decreasing the cycles of concentration, to stay in compliance. This resulted in a significant increase in water usage, blowdown disposal and cost. Therefore, EHP requested a variance to conduct laboratory testing to determine the conductivity/TDS at different cycles of concentration in order to determine an acceptable emission limit. The variance was granted in June 2009.

The results of this testing were used by the facility to determine how high the TDS goes when the cooling tower is operated at normal cycles of concentration. This information has allowed the facility to estimate PM10 emissions expected at various operating conditions using the higher TDS water that the facility is currently receiving. The anticipated increase in emissions is the basis for this application to request a higher PM10 emission limit from the cooling tower that the facility can maintain compliance with and simultaneously minimize water usage. Calculation details are provided in Section 3 of this application.

The PM10 emission rate is included in Condition 3 of the cooling tower permit unit requirements. The correction factors as a function of TDS are included in Condition 5. EHP proposes the following language for Conditions 3 and 5 of Permit S-3523-3-2.

Permit S-3523-3-2

Condition 3. PM10 emission rate shall not exceed ~~9.4~~ 11.7 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit

Condition 5. Compliance with the PM10 daily emission limit shall be demonstrated as follows: PM10 lb/day = circulating water recirculation rate * total dissolved solids concentration in the blowdown water * design drift rate * correction factor. The correction factor shall range from 0.82 for a TDS of 1,000 ppm to ~~0.5~~ 0.3 for a TDS of ~~3,000~~ 5,000 ppm. [District NSR Rule] Federally Enforceable Through Title V Permit

2.2 Gas Turbines

2.2.1 PM10 Emissions

EHP proposes to reduce the annual permitted PM10 emission limits for the CTGs so that the requested increase in PM10 emissions associated with the cooling tower does not increase overall emissions from the source. Specifically, EHP requests to reduce the annual PM10 emission limit from 262,800 lb/year to 261,946 lb/year to accommodate the proposed 854 lb/year increase in PM10 emissions from the cooling tower. It is our understanding that this change will negate the need to provide offsets for the increase in cooling tower PM10 emissions. Calculation details are provided in Section 3 of this application.

The PM10 emission limit is included in Condition 27 of the CTG permit unit requirements. EHP proposes the following language for Condition 27 of Permit S-3523-1-7 and Permit S-3523-2-7.

Permits S-3523-1-7 and S-3523-2-7

Condition 27. Annual emissions from both CTGs/HRSGs S-3523-1 and -2 combined calculated on a twelve consecutive month rolling basis shall not exceed any of the following: PM10 – ~~262,800~~ 261,946 lb/year, SOx (as SO2) – 57,468 lb/year, NOx (as NO2) – 335,022 lb/year, VOC – 64,478 lb/year, and CO – 831,008 lb/year. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

2.2.2 Shutdown Definition

EHP also requests a wording change to the gas turbine permits to align the shutdown definition in the Title V permit with that in the PSD permit. The shutdown definition is included in Condition 18 of the Title V permit and in Condition X.F.2.a of the PSD permit. EHP proposes the following language for Condition 18 of Permit S-3523-1-7 and Permit S-3523-2-7.

Permits S-3523-1-7 and S-3523-2-7

Condition 18. Startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits. Shutdown is defined ~~the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine~~ as the period beginning with the lowering of the equipment from base load and lasting until 1) fuel flow is completely off and combustion has ceased, or 2) the unit ramps back up after an aborted shutdown and reaches minimum load and compliance with lb/hr and ppmv emission limits. Startup and shutdown durations shall not exceed two hours for a regular startup, and six hours for an extended startup, and one hour for a shutdown, per

occurrence. [District NSR Rule, District Rules 4001 and 4703, 5.3.3 and SJ-99-02] Federally Enforceable Through Title V Permit

2.3 Fire Water Pump

EHP requests a wording change to the fire water pump permit for consistency with the District application template. EHP proposes the following language for Condition 3 of Permit S-3523-6-1.

Permit S-3523-6-1

Condition 3. The engine shall be equipped with either a positive crankcase ventilation (PCV) system which recirculates crankcase emission on the air intake system for combustion, or a crankcase emission control device of at least 90% control efficiency. [District NSR Rule] Federally Enforceable Through Title V Permit

3.0 EMISSION CALCULATIONS

3.1 Cooling tower

The same cooling tower PM10 emission calculation methodology as is currently approved for EHP was used to estimate emissions. The methodology is described in the document titled "Cooling Tower PM10 Calculation Protocol" (ENSR, 2002). This methodology calculates PM10 emissions from the cooling tower as a function of the drift rate, circulating water flow rate of the cooling tower and the TDS in the circulating water. This methodology also assumes that only a portion of the PM emitted from the drift loss is PM10. Emissions are calculated using Equation 1 as shown below.

E (lb/hr) = Circulating rate (gal/min) * TDS (ppm) * Drift rate (%) *
60 (min/hr) * Density (lb/gal) * Ratio (Equation 1)

Where:
E = PM10 Emissions in pounds per hour (lb/hr)
Circulating rate = Cooling tower water in gallons per minute
TDS = Total dissolved solids in ppm
Drift rate = 0.0005%
Density = 8.34 pounds per gallon for water
Ratio = PM10 to PM correction factor as described below

The PM/PM10 emission ratios at different TDS levels inherent to the emission calculation methodology (ENSR, 2002) are summarized in Table 3-1 below.

Table 3-1
PM/PM10 Emission Rates Curve

TDS (mg/l)	PM10/PM (%)
1,000	0.82
1,500	0.73
2,000	0.64
2,500	0.57
3,000	0.50
3,500	0.44
4,000	0.38
4,500	0.34
5,000	0.30

The maximum TDS level measured during the testing period of June 11, 2009 to August 31, 2009 was 2,690 ppm. The correction factors are calculated as values interpolated between those shown in Table 3-1 above. The maximum TDS level corresponds to a PM10/PM correction factor of 55%. Therefore, using Equation 1, the resulting PM10 emissions are calculated to be 10.7 lb/day. EHP requests that a 10% contingency be added to the maximum measured value when setting the permit limit. Therefore, the current and proposed daily and annual emissions, as well as the resulting changes are shown in Table 3-2 below.

Table 3-2
Cooling Tower PM10 Emission Rates

Status	Daily Emissions (lb/day)	Annual Emissions (tons/year)
Current	9.4	1.71
Proposed	11.7	2.14
Change	**2.3**	**0.43**

The proposed annual PM10 emission increase for the cooling tower of 0.43 tpy is less than the significance threshold of 15 tpy and therefore the proposed modification is not considered a “major modification” as defined in 40 CFR 52.21(b)(23) and District Rule 2201.

3.2 Gas Turbines

3.2.1 PM10 Emissions

EHP proposes to reduce the annual permitted PM10 emission limits for the CTGs so that the requested increase in PM10 emissions associated with the cooling tower does not increase overall potential emissions from the source. The current annual PM10 emission limit for the CTGs is 262,800 lb/year. The proposed increase in annual PM10 from the cooling tower is 854 lb/year. Therefore, subtracting the proposed increase from the cooling tower from the current permit limits for the CTGs results in the proposed annual PM10 emission limit for the CTGs of 261,946 lb/year.

3.2.2 Shutdown Definition

The proposed permit wording change related to shutdown for the gas turbines does not affect permitted emissions.

3.3 Fire Water Pump

The proposed permit wording changes related to consistency with the District template for the fire water pump do not affect permitted emissions.

4.0 REGULATORY SETTING

This Section reviews local and federal rules and regulations potentially applicable to the proposed PM10 emission increase from the cooling tower. The following District rules are reviewed for applicability.

- Rule 1081 – Source Sampling
- Rule 2201 – New and Modified Source Review
- Rule 2520 – Federally Mandated Operating Permits
- Rule 4001 – New Source Performance Standards
- Rule 4002 – National Emission Standards for Hazardous Air Pollutants
- Rule 4101 – Visible Emissions
- Rule 4102 – Nuisance
- Rule 4703 – Stationary Gas Turbines
- Rule 7012 – Hexavalent Chromium - Cooling Towers

In addition, applicability of the federal PSD program is discussed.

4.1 Rule 1081 – Source Sampling

This Rule specifies methods and procedures for source testing, sample collection and compliance determination. The proposed PM10 emission increase will not affect the methods and procedures used by the facility for source testing, sample collection, or compliance determinations. Therefore, continued compliance with this Rule is expected.

4.2 Rule 2201 – New and Modified Source Review

There are four main elements of District Rule 2201 (New and Modified Source Review) that are discussed in the following sections. These elements consist of Best Available Control Technology (BACT), offsets, an ambient air quality impact analysis (AQIA) to determine whether the proposed project will cause or contribute to violations of the National or California Ambient Air Quality Standards (AAQS), as well as administrative requirements for power plants.

4.2.1 Best Available Control Technology

BACT requirements are triggered on a pollutant-by-pollutant, emission unit-by-emission unit basis. BACT is triggered for modifications to existing sources if the Adjusted Increase in Permitted Emissions (AIPE) exceeds two pounds per day (lb/day). The AIPE is defined as the post-project potential to emit (PTE) minus the Historically Adjusted Potential to Emit (HAPE). The HAPE is calculated as the pre-project PTE times the ratio of the post-project

permitted emission factor to the pre-project permitted emission factor as shown by Equation 2 below.

AIPE = post-project PTE – HAPE (Equation 2)
where HAPE = pre-project PTE * (post-project EF/pre-project EF)

Since a single emission factor is not used in the cooling tower emission calculation, we have assumed that the pre-project EF is equivalent to the post-project EF. Therefore, for the cooling tower changes, the HAPE is the same as the pre-project PTE or 9.4 lb/day. Then, using Equation 2 with the proposed post-project PTE for PM10 of 11.7 lb/day:

AIPE = 11.7 lb/day – 9.4 lb/day = 2.3 lb/day

Since the AIPE is 2.3 lb/day and exceeds the BACT threshold of 2 lb/day, BACT applies to the proposed PM10 emission increase from the cooling tower.

The District's BACT clearinghouse was reviewed to determine the control technologies that are considered BACT for mechanical draft cooling towers. Mechanical draft cooling towers BACT requirements are specified in BACT Guideline 8.3.10 for Induced Draft, Evaporative Cooling systems. BACT Guideline 8.3.10 represents the same source class and category as the cooling tower at the EHP facility. There are two facilities for which BACT determinations have been made: 1) the original EHP cooling tower, and 2) the Rio Bravo Tomato Company, LLC facility in Buttonwillow. Both projects required the installation of cellular type drift eliminators, which are considered technically feasible.

The EHP cooling tower is permitted based on high efficiency drift eliminators with 0.0005 percent efficiency. Therefore, BACT, specifically cellular type drift eliminators with an efficiency of 0.0005%, has already been installed on the cooling tower, and no additional controls are proposed.

4.2.2 Offsets

Emission offsets are evaluated on a pollutant-by-pollutant basis and are triggered for PM10 when the post-project facility PTE exceeds 29,200 lb/year and there is a net emissions increase. Since, the EHP facility permitted PM10 PTE exceeds 29,200 lb/year, offsets are required for the value calculated as the post-project PTE minus the baseline emissions (BE) for all new and modified emission units. Since the post-project facility-wide annual PM10 PTE will remain at the current limit of 133.1 tpy, no offsets are required for the cooling tower emission limit increase.

4.2.3 Air Quality Impact Analysis

Pursuant to Rule 2201 Section 4.14.1.1, a new or modified source which is not subject to the public noticing requirements of Rule 2201 Section 5.4, may be exempted at the discretion of the Air Pollution Control Officer (APCO), from the requirement to perform an air quality impact analysis (AQIA). Since the proposed emission increase does not trigger the public noticing requirements of Rule 2201 Section 5.4, EHP requests that an AQIA not be required.

4.2.4 Administrative Requirements for Power Plants

District Rule 2201 Section 5.8 outlines the administrative requirements for power plants that are licensed by the CEC. An application for a post-certification amendment petition for the proposed PM10 emission increase will also be submitted to the CEC.

4.3 Rule 2520 – Federally Mandated Operating Permits

The District has been delegated authority to administer the federal Title V program. Therefore, this permit application acts as a Title V permit minor modification application.

4.4 Rule 3010 – Permit Fee

This Rule identifies the fees to be filed with the permit application. This application is a request for revision of four permit units with a fee of $71 per permit unit. This application also requests a modification to the Title V permit for four emissions units with a fee of $19 per unit. Therefore, a total fee of $360 is included with the application for the ATCs and Title V modifications.

4.5 Rule 4001 – New Source Performance Standards

This Rule incorporates the New Source Performance Standards (NSPS) from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR). The cooling tower is not subject to a NSPS. The proposed wording change for the gas turbines does not affect compliance with 40 CFR Part 60 Subpart GG Standards of Performance for Stationary Gas Turbines.

4.6 Rule 4002 – National Emission Standards for Hazardous Air Pollutants

Rule 4002 incorporates the National Emission Standards for Hazardous Air Pollutants (NESHAP) from Part 61, Chapter I, Subchapter C, Title 40, Code of Federal Regulations (CFR), and the NESHAP for Source Categories from Part 63, Chapter I, Subchapter C, Title 40, CFR. The cooling tower is not subject to a NESHAP. The facility is not a major source of hazardous air pollutants, and hence no NESHAP apply to the turbines or are triggered by the proposed change to the shutdown definition.

4.7 Rule 4101 – Visible Emissions

The purpose of this Rule is to prohibit the emissions of visible air contaminants into the atmosphere. Cooling tower emissions would generally be exempt per Section 4.8 of the Rule which describes wet plumes of uncombined water.

4.8 Rule 4102 – Nuisance

This Rule prohibits the discharge of air contaminants which cause injury, detriment, nuisance, or annoyance to the public. The proposed permit changes will not affect continued compliance with this Rule

4.9 Rule 4703 – Stationary Gas Turbines

This Rule limits NOx emissions from stationary gas turbines with a rating greater than 0.3 MW. The proposed permit wording change is consistent with the Shutdown definition of Rule 4703.3.26 and will not affect continued compliance with this Rule.

4.10 Rule 7012 – Hexavalent Chromium Cooling Towers

The purpose of the Rule is to limit emissions of hexavalent chromium from circulating water in cooling towers. No hexavalent chromium is used in the EHP cooling tower and the proposed PM10 emission increase will not affect continued compliance with this Rule.

4.11 Federal Prevention of Significant Deterioration Program

At the time of the issuance of the initial Title V permit for the EHP facility, the San Joaquin Valley was designated as non-attainment for PM10. Therefore, the facility was issued a permit for PM10 emissions through the SJVAPCD non-attainment New Source Review (NSR) program. However, the San Joaquin Valley has been recently re-designated as federal attainment for PM10. Since there is no net emissions increase associated with this application package, PSD is not triggered and a PSD submittal to the EPA is not required.

APPENDIX A
PERMIT APPLICATION FORMS

San Joaquin Valley Air Pollution Control District

www.valleyair.org

Permit Application For:

[ ] AUTHORITY TO CONSTRUCT (ATC) - New Emission Unit
[X] AUTHORITY TO CONSTRUCT (ATC) - Modification Of Emission Unit With Valid PTO/Valid ATC
[ ] AUTHORITY TO CONSTRUCT (ATC) - Renewal of Valid Authority to Construct
[ ] PERMIT TO OPERATE (PTO) - Existing Emission Unit Now Requiring a Permit to Operate

1. PERMIT TO BE ISSUED TO: Elk Hills Power, LLC

2. MAILING ADDRESS: PO Box 460
STREET/P.O. BOX: _____
CITY: Tupman STATE: CA ZIP CODE: 93276

3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:
STREET: 4026 Skyline Road CITY: Tupman
_____/4 SECTION NE35 TOWNSHIP 30S RANGE 23E

WITHIN 1,000 FT OF A SCHOOL? [ ] YES [X] NO

S.I.C. CODE(S) OF FACILITY (*If known*): 4911

4. GENERAL NATURE OF BUSINESS: Natural gas-fired power generating facility

INSTALL DATE:

5. TITLE V PERMIT HOLDERS ONLY: Do you request a COC (EPA Review) prior to receiving your ATC (*If yes, please complete and attach a Compliance Certification form (TVFORM-009)*? [ ] YES [ ] NO

6. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE (include Permit #'s if known, and use additional sheets if necessary)
Permit #S-3523-3-2 Conditions 3 & 5 – Emission limit increase for PM10 from cooling tower
Permit #S-3523-1-7 & #S-3523-2-7 Condition 27 – Emission limit decrease for PM10 from gas turbines
Permit #S-3523-1-7 & #S-3523-2-7 Condition 18 - Shutdown definition wording change for gas turbines
Permit #S-3523-6-1 Condition 3 – Permit condition wording change for fire water pump

7. PERMIT REVIEW PERIOD: Do you request a three- or ten-day period to review the draft Authority to Construct permit? Please note that checking "YES" will delay issuance of your final permit by a corresponding number of working days. See instructions for more information on this review process.
[ ] 3-day review
[ ] 10-day review
[ ] No review requested

8. HAVE YOU EVER APPLIED FOR AN ATC OR PTO IN THE PAST? [X] YES [ ] NO
If yes, ATC/PTO #: 3523-3-2

9. IS THIS APPLICATION FOR THE CONSTRUCTION OF A NEW FACILITY? [ ] YES [X] NO
(If "Yes" is checked, please complete the CEQA Information form)

10. IS THIS APPLICATION SUBMITTED AS THE RESULT OF EITHER A NOTICE OF VIOLATION OR A NOTICE TO COMPLY? [ ] YES [X] NO
If yes, NOV/NTC #:_____

Optional Section

11. DO YOU WANT TO PARTICIPATE IN EITHER OF THE FOLLOWING VOLUNTARY PROGRAMS:

"HEALTHY AIR LIVING (HAL)"
[ ]Yes, please send info

"INSPECT"
[ ] Yes, please send info

12. TYPE OR PRINT NAME OF APPLICANT: George McMurren

TITLE OF APPLICANT: Plant Manager

13. SIGNATURE OF APPLICANT:

DATE: 15 JAN 10

PHONE #: (661) 763-2727
FAX #: (661) 765-2946
E-MAIL: emcmurren@elkhills.com

FOR APCD USE ONLY

DATE STAMP:	FILING FEE RECEIVED: $_____ CHECK #:_____
	DATE PAID: _____
	PROJECT #: _____ FACILITY ID:_____

San Joaquin Valley Air Pollution Control District
Supplemental Application Form

CEQA Information

The San Joaquin Valley Air Pollution Control District (District) is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the District in clarifying whether or not the project has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document (CEQA Guidelines §15060(a).

PERMIT TO BE ISSUED TO: ELK HILLS POWER, LLC
LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: 4026 SKYLINE ROAD, TUPMAN, CA 93276

Section 1:	**Agency Approvals**		
	Check "Yes" or "No" as applicable.	**Yes**	**No**
1.	Has a Lead Agency prepared an environmental review document (Environmental Impact Review, Mitigated Negative Declaration, Negative Declaration, or Notice of Exemption) for this project?	☐ *Note 1*	☒
2.	Is a Lead Agency in the process of preparing an environmental review document (Environmental Impact Review, Mitigated Negative Declaration, Negative Declaration, or Notice of Exemption) for this project?	☐ *Note 1*	☒
3.	*If "**Yes**" is checked for <u>either</u> question 1 or 2, please provide the following information:* - *Lead Agency name :* _____ - *Name of Lead Agency contact person:* _____ - *Type of CEQA document prepared:* _____ - *Project reference number:* _____ - *If a CEQA Environmental Review document has been prepared for this project,* ***please attach a <u>copy of the Notice of Determination or the Notice of Exemption</u>*** *If "**No**" is checked for <u>both</u> question 1 and 2, please attach an explanation*:		

<u>Note 1</u>: If you answered YES to question 1 OR 2 do not complete Section 2 of this form, and please return the completed form to the Air Pollution Control District.

Section 2:	**Project Information**		
Note: If you answered YES to question 1 OR 2 of Section 1 do not complete this section, and please return the completed form to the Air Pollution Control District.		**Yes**	**No**
1.	Would this project result in more than 47 heavy-duty truck (HD) one-way trips per day to and from the facility? (23 heavy-duty truck (HD) round trips per day).	☐	☒
2.	Would this project result in a need for more than 350 new employees?	☐	☒
3.	Would this project result in more than 700 customer trips per day to and from the facility?	☐	☒
4.	Would this project increase the demand for water at the facility by more than 5,000,000 gallons per day?	☐	☒
5.	Would this project require construction of new water conveyance infrastructure *Post-project facility water demand exceeding the capacity of local water purveyor.*	☐	☒
6.	Would this project create a permanent need for new or additional public services for Solid Waste Disposal or Hazardous Waste Disposal? *Post-project waste discharge exceeding the capacity of the local Solid Waste Disposal or Hazardous Waste Disposal.*	☐	☒
7.	Would this project result in noticeable off-site odors that have the potential to generate nuisance complaints?	☐	☒
8.	Would this project include equipment with a noise specification greater than 90 decibels (db)?	☐	☒
9.	Has this project generated any known public concern regarding potential adverse impacts? *Public concern may be interpreted as concerns by local groups at public meetings, adverse media attention such as negative newspapers or other periodical publications, local news programs, environmental justice issues, etc.*	☐	☒
10.	Would this project result in any demolition, excavation, and/or grading/construction activities outside the perimeter of the existing facility?	☐	☒
11.	Would this project result in any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 Square feet (inside or outside the perimeter of the existing facility)?	☐	☒
12.	Is this project part of a larger development activity at the facility that collectively would result in answering YES to any of the questions listed above?	☐	☒

FOR DISTRICT USE ONLY – CEQA ANALYSIS REQUEST

PERMIT	**PIC**
Permit Engineer Name:	AQS Name:
Facility #: Facility Name:	CEQA #:
Project #:	Project with potential public concern?: ☐ Yes ☐ No
Project subject to Public Notice?: ☐ Yes ☐ No	Detailed CEQA analysis required?: ☐ Yes ☐ No
Please summarize or attach the following: - ☐ Copy of application form - ☐ Project Location - ☐ SSIPE calculation - ☐ Project Description - ☐ Expected date of ATC(s) issuance: _____	- ☐ CEQA paragraph sent to permit engineer - ☐ NOD prepared - ☐ County filing fees District check prepared - ☐ Game and Fish fees District check or proof of payment *(District check prepared after receiving applicant check)* - ☐ Ok to issue ATC
Date form is forwarded to PIC SVr:	Date form is forwarded to permit engineer:

San Joaquin Valley Air Pollution Control District

www.valleyair.org

Permit Application For:

[ ] ADMINISTRATIVE AMENDMENT [X] MINOR MODIFICATION [ ] SIGNIFICANT MODIFICATION

1. PERMIT TO BE ISSUED TO:
Elk Hills Power, LLC

2. MAILING ADDRESS:

STREET/P.O. BOX: PO Box 460

CITY: Tupman STATE: CA 9-DIGIT ZIP CODE: 93276

3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:

STREET: 4026 Skyline Road CITY: Tupman

_____ ¼ SECTION NE35 TOWNSHIP 30S RANGE 23E

INSTALLATION DATE:

4. GENERAL NATURE OF BUSINESS: Natural gas-fired power generating facility

5. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE
(include Permit #'s if known, and use additional sheets if necessary)

Permit #S-3523-3-2 Conditions 3 & 5 – Emission limit increase for PM10 from cooling tower
Permit #S-3523-1-7 Condition 27 – Emission limit decrease for PM10 from gas turbines
Permit #S-3523-2-7 Condition 27 – Emission limit decrease for PM10 from gas turbines
Permit #S-3523-1-7 Condition 18 - Shutdown definition wording change for gas turbines
Permit #S-3523-2-7 Condition 18 - Shutdown definition wording change for gas turbines
Permit #S-3523-6-1 Condition 3 – Permit condition wording change for fire water pump

6. TYPE OR PRINT NAME OF APPLICANT: George McMurren

TITLE OF APPLICANT: Plant Manager

7. SIGNATURE OF APPLICANT:

DATE: 19 JAN 10

PHONE: (661) 763-2727
FAX: (661) 765-2946
EMAIL: emcmurren@elkhills.com

For APCD Use Only:

DATE STAMP

FILING FEE RECEIVED: $ _____ *CHECK#:* _____

DATE PAID: _____

PROJECT NO: _____ *FACILITY ID:* _____

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[ ] SIGNIFICANT PERMIT MODIFICATION
[X] MINOR PERMIT MODIFICATION

[ ] ADMINISTRATIVE AMENDMENT

COMPANY NAME: Elk Hills Power, LLC	FACILITY ID: S -3523
1. Type of Organization:[ ] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [ ] Utility	
2. Owner's Name:	
3. Agent to the Owner:	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **all** circles for confirmation):

(ro) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

(ro) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

(ro) Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

(ro) Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Signature of Responsible Official

15 JAN 16
Date

GEORGE E. McMURREN
Name of Responsible Official (please print)

PLANT MANAGER
Title of Responsible Official (please print)

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-3523-1-7 **EXPIRATION DATE:** 02/28/2011

SECTION: NE35 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
GE FRAME 7 MODEL PG7241FA NATURAL GAS FIRED COMBINED CYCLE GAS TURBINE ENGINE/ELECTRICAL GENERATOR #1 WITH DRY LOW NOX COMBUSTORS, 250.5 MMBTU/HR NATURAL GAS FIRED DUCT BURNER, HEAT RECOVERY STEAM GENERATOR, SELECTIVE CATALYTIC REDUCTION, OXIDATION CATALYST, AND STEAM TURBINE SHARED WITH S-3523-2 (503 MW TOTAL PLANT NOMINAL RATING)

PERMIT UNIT REQUIREMENTS

1. Combustion turbine generator (CTG) and electrical generator lube oil vents shall be equipped with mist eliminators to maintain visible emissions from lube oil vents no greater than 5% opacity, except for three minutes in any hour. [District NSR Rule] Federally Enforceable Through Title V Permit
2. CTG shall be equipped with continuously recording non resettable fuel gas flowmeter. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit
3. CTG exhaust after the SCR unit shall be equipped with continuously recording emissions monitors dedicated to this unit for NOx, CO, and O2. Continuous emissions monitors shall meet the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75, and shall be capable of monitoring emissions during startups and shutdowns as well as normal operating conditions. If relative accuracy of CEM(s) cannot be demonstrated during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained from source testing to determine compliance with emission limits. [40 CFR 60.334(c), District Rules 1080 and 4703, 6.2.1 and District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit
4. The CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
5. CTG shall be equipped with a continuously recording emission monitor preceding the SCR module measuring NOx concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-control. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-control. If the analyzer is out-of-control, the permittee shall take appropriate corrective action and then repeat the CD check. [District NSR Rule and District Rule 1080] Federally Enforceable Through Title V Permit
6. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
7. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

8. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0 and SJ-99-02] Federally Enforceable Through Title V Permit

9. Exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with 40 CFR 60.8 (e). [District Rule 1081 and SJ-99-02] Federally Enforceable Through Title V Permit

10. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.0] Federally Enforceable Through Title V Permit

11. Ammonia injection grid shall be equipped with operational ammonia flowmeter and injection pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit

12. Ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds 500 degrees F. Permittee shall monitor and record catalyst temperature during periods of startup. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

13. Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [District NSR Rule] Federally Enforceable Through Title V Permit

14. Permittee shall comply with all applicable requirements of 40 CFR 60.8 and Subpart Da. [District Rule 4001] Federally Enforceable Through Title V Permit

15. CTG and duct burner shall be fired exclusively on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 0.75 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

16. The sulfur content of each fuel source shall be: (i) documented in a valid purchase contract, a supplier certification, a tariff sheet or transportation contract or (ii) monitored at least annually using ASTM Methods D4084, D5504, D6228, or Gas Processors Association Standard 2377. [40 CFR 60.334(h)(3) and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

17. Results of the CEM system shall be averaged over the applicable time period, using consecutive 15-minute sampling periods. [District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

18. Startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits. Shutdown is defined the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup and shutdown durations shall not exceed two hours for a regular startup, and six hours for an extended startup, and one hour for a shutdown, per occurrence. [District NSR Rule, District Rules 4001 and 4703, 5.3.3 and SJ-99-02] Federally Enforceable Through Title V Permit

19. During startup or shutdown of any gas turbine engine(s), combined emissions from both gas turbine engines' heat recovery steam generator exhausts (S-3523-1 and -2) shall not exceed any of the following: NOx (as NO2) - 400 lb and CO - 3600 lb in any one hour. If any CTG is in either startup or shutdown during any portion of a clock hour, the facility will be subject to the aforementioned limits during that clock hour. [District NSR Rule] Federally Enforceable Through Title V Permit

20. An extended startup shall be defined as a startup that occurs after the steam turbine has been shutdown for 72 hours or more. The duration of extended startup events shall not exceed 6 hours. [SJ-99-02] Federally Enforceable Through Title V Permit

21. During an extended startup, the combined emissions from both the CTG and HRSG exhausts shall not exceed either 800 lb NOx or 3600 lb CO per event. [SJ-99-02] Federally Enforceable Through Title V Permit

22. During shutdown of CTG, the combined emissions from both the CTG and HRSG exhausts shall not exceed either 102.5 lb NOx or 222.0 lb CO per event. [SJ-99-02] Federally Enforceable Through Title V Permit

23. Duct burning must not be employed during startup or shutdown events. [SJ-99-02] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

24. Emission rates from CTG/HRSG, except during startup and/or shutdown, shall not exceed any of the following: PM10 - 15.0 lb/hr, SOx (as SO2) - 3.6 lb/hr, NOx (as NO2) - 15.8 lb/hr and 2.5 ppmvd @ 15% O2, VOC - 4.0 lb/hr and 2.0 ppmvd @ 15% O2, CO - 12.5 lb/hr and 4 ppmvd @ 15% O2, ammonia - 10 ppmvd @15% O2. NOx ppmv and lb/hr limits are a one-hour rolling average. Ammonia emission limit is a twenty-four hour rolling average. All other ppmv and lb/hr limits are three-hour rolling averages. [District NSR Rule, District Rules 4001, and 4703, 5.1.2, 5.2 and SJ-99-02] Federally Enforceable Through Title V Permit

25. Emission rates from CTG/HRSG shall not exceed any of the following: PM10 - 360.0 lb/day, SOx (as SO2) - 86.4 lb/day, NOx (as NO2) - 752.0 lb/day, VOC - 184.0 lb/day, and CO - 3948.0 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit

26. Emission rates from both CTG/HRSG S-3523-1 and -2 combined shall not exceed any of the following: PM10 - 720.0 lb/day, SOx (as SO2) - 172.8 lb/day, NOx (as NO2) - 1103.0 lb/day, VOC - 269.0 lb/day, and CO - 4297 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit

27. Annual emissions from both CTGs/HRSGs S-3523-1 and -2 combined calculated on a twelve consecutive month rolling basis shall not exceed any of the following: PM10 - 262,800 lb/year , SOx (as SO2) - 57,468 lb/year, NOx (as NO2) - 335,022 lb/year, VOC - 64,478 lb/year, and CO - 831,008 lb/year. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

28. Each one-hour period will commence on the hour. The three-hour average will be compiled from the three most recent one-hour periods. Each one-hour period in a twenty-four-hour average for ammonia slip will commence on the hour. The twenty-four-hour average will be calculated starting and ending at twelve-midnight. [District NSR Rule] Federally Enforceable Through Title V Permit

29. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each calendar month in a twelve-consecutive-month rolling emissions shall commence at the beginning of the first day of the month. The twelve-consecutive-month rolling emissions total to determine compliance with annual emissions shall be compiled from the twelve most recent calendar months. [District NSR Rule] Federally Enforceable Through Title V Permit

30. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O2 = ((a-(bxc/1,000,000)) x 1,000,000 / b) x d, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NOx concentration ppmv at 15% O2 across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor compliance. At least 60 days prior to using a NH3 CEM, the permittee must submit a monitoring plan for District review and approval [District Rules 2520, 9.3.2 and 4102] Federally Enforceable Through Title V Permit

31. Compliance with the short term emission limits (lb/hr and ppmv @ 15% O2) shall be demonstrated annually by District witnessed in situ sampling of exhaust gas by a qualified independent source test firm at full load conditions as follows - NOx: ppmvd @ 15% O2 and lb/hr, CO: ppmvd @ 15% O2 and lb/hr, VOC: ppmvd @ 15% O2 and lb/hr, PM10: lb/hr, and ammonia: ppmvd @ 15% O2. Sample collection to demonstrate compliance with ammonia emission limit shall be based on three consecutive test runs of thirty minutes each. [District Rule 1081 and SJ-99-02] Federally Enforceable Through Title V Permit

32. Compliance with the startup NOx, CO, and VOC mass emission limits shall be demonstrated for one of the CTGs (S-3523-1, or -2) at least once every five years by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm. [District Rule 1081] Federally Enforceable Through Title V Permit

33. Any gas turbine with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner both on and off. [40 CFR 60 Subpart Da, and District Rule 4703, 6.3.3] Federally Enforceable Through Title V Permit

34. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. Official test results and field data collected by source tests required by conditions on this permit shall be submitted to the District within 60 days of testing. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The following test methods shall be used EPA Methods 1-4, PM10: EPA Method 5 (front half and back half), NOx: EPA Method 7E, CO: EPA Method 10, O2: EPA Method 3, 3A, or 20, VOC: EPA Method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, and 4703 and SJ-99-02] Federally Enforceable Through Title V Permit

36. The permittee shall maintain hourly records of NOx, CO, and ammonia emission concentrations (ppmv @ 15% O2), and hourly, daily, and twelve month rolling average records of NOx and CO emissions. [District NSR Rule] Federally Enforceable Through Title V Permit

37. The permittee shall maintain records of SOx lb/hr, lb/day, and lb/twelve month rolling average emission. SOx emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District NSR Rule] Federally Enforceable Through Title V Permit

38. Permittee shall maintain the following records for the CTG: occurrence, duration, and type of any startup, shutdown, or malfunction; emission measurements; total daily and annual hours of operation; and hourly quantity of fuel used. [District NSR Rule and 4703 and SJ-99-02] Federally Enforceable Through Title V Permit

39. Permittee shall maintain the following records for the continuous emissions monitoring system (CEMS): the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, maintenance, adjustments, any period of non-operation of any continuous emissions monitor and emission measurements. [District NSR Rule and District Rule 4703 and 40 CFR 60 60.7(b) and SJ-99-02] Federally Enforceable Through Title V Permit

40. Cylinder gas audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit

41. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred . [District Rule 1080] Federally Enforceable Through Title V Permit

42. All records required to be maintained by this permit shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District NSR Rule and 2520, 9.4.2] Federally Enforceable Through Title V Permit

43. The owners and operators of each affected source shall have an Acid Rain permit and operate in compliance with all permit requirements. [40 CFR 72] Federally Enforceable Through Title V Permit

44. The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75. [40 CFR 75] Federally Enforceable Through Title V Permit

45. The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program. [40 CFR 75] Federally Enforceable Through Title V Permit

46. The owners and operators of each source and each affected unit at the source shall: (i) hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and (ii) comply with the applicable Acid Rain emissions limitations for sulfur dioxide. [40 CFR 72] Federally Enforceable Through Title V Permit

47. Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act. [40 CFR 72] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

48. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program. [40 CFR 72] Federally Enforceable Through Title V Permit

49. An allowance shall not be deducted in order to comply with the requirements under 40 CFR part 73, prior to the calendar year for which the allowance was allocated. [40 CFR 73] Federally Enforceable Through Title V Permit

50. The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77. [40 CFR 77] Federally Enforceable Through Title V Permit

51. The owners and operators of an affected unit that has excess emissions in any calendar year shall: (i) pay without demand the penalty required, and pay up on demand the interest on that penalty; and (ii) comply with the terms of an approved offset plan, as required by 40 CFR Part 72. [40 CFR 72] Federally Enforceable Through Title V Permit

52. The owners and operators of the each affected unit at the source shall keep on site the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority: (i) The certificate of representation for the designated representative for the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site beyond such five-year period until such documents are superceded because of the submission of a new certificate of representation changing the designated representative. [40 CFR 72] Federally Enforceable Through Title V Permit

53. The owners and operators of each affected unit at the source shall keep on site each of the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority; (ii) All emissions monitoring information, in accordance with 40 CFR part 75; (iii) Copies of all reports, compliance certifications and other submissions and all records made or required under the Acid Rain Program; (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission that demonstrates compliance with the requirements of the Acid Rain Program. [40 CFR 72, 40 CFR 75] Federally Enforceable Through Title V Permit

54. The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR 75 Subpart I. [40 CFR 75] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-3523-2-7 **EXPIRATION DATE:** 02/28/2011

SECTION: NE35 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
GE FRAME 7 MODEL PG7241FA NATURAL GAS FIRED COMBINED CYCLE GAS TURBINE ENGINE/ELECTRICAL GENERATOR #2 WITH DRY LOW NOX COMBUSTORS, 250.5 MMBTU/HR NATURAL GAS FIRED DUCT BURNER, HEAT RECOVERY STEAM GENERATOR, SELECTIVE CATALYTIC REDUCTION, OXIDATION CATALYST, AND STEAM TURBINE SHARED WITH S-3523-1 (503 MW TOTAL PLANT NOMINAL RATING)

PERMIT UNIT REQUIREMENTS

1. Combustion turbine generator (CTG) and electrical generator lube oil vents shall be equipped with mist eliminators to maintain visible emissions from lube oil vents no greater than 5% opacity, except for three minutes in any hour. [District NSR Rule] Federally Enforceable Through Title V Permit
2. CTG shall be equipped with continuously recording non resettable fuel gas flowmeter. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit
3. CTG exhaust after the SCR unit shall be equipped with continuously recording emissions monitors dedicated to this unit for NOx, CO, and O2. Continuous emissions monitors shall meet the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75, and shall be capable of monitoring emissions during startups and shutdowns as well as normal operating conditions. If relative accuracy of CEM(s) cannot be demonstrated during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained from source testing to determine compliance with emission limits. [40 CFR 60.334(c), District Rules 1080 and 4703, 6.2.1 and District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit
4. The CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
5. CTG shall be equipped with a continuously recording emission monitor preceding the SCR module measuring NOx concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-control. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-control. If the analyzer is out-of-control, the permittee shall take appropriate corrective action and then repeat the CD check. [District NSR Rule and District Rule 1080] Federally Enforceable Through Title V Permit
6. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
7. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

8. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0 and SJ-99-02] Federally Enforceable Through Title V Permit

9. Exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with 40 CFR 60.8 (e). [District Rule 1081 and SJ-99-02] Federally Enforceable Through Title V Permit

10. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.0] Federally Enforceable Through Title V Permit

11. Ammonia injection grid shall be equipped with operational ammonia flowmeter and injection pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit

12. Ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds 500 degrees F. Permittee shall monitor and record catalyst temperature during periods of startup. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

13. Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [District NSR Rule] Federally Enforceable Through Title V Permit

14. Permittee shall comply with all applicable requirements of 40 CFR 60.8 and Subpart Da. [District Rule 4001] Federally Enforceable Through Title V Permit

15. CTG and duct burner shall be fired exclusively on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 0.75 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

16. The sulfur content of each fuel source shall be: (i) documented in a valid purchase contract, a supplier certification, a tariff sheet or transportation contract or (ii) monitored at least annually using ASTM Methods D4084, D5504, D6228, or Gas Processors Association Standard 2377. [40 CFR 60.334(h)(3) and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

17. Results of the CEM system shall be averaged over the applicable time period, using consecutive 15-minute sampling periods. [District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

18. Startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits. Shutdown is defined the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup and shutdown durations shall not exceed two hours for a regular startup, and six hours for an extended startup, and one hour for a shutdown, per occurrence. [District NSR Rule, District Rules 4001 and 4703, 5.3.3 and SJ-99-02] Federally Enforceable Through Title V Permit

19. During startup or shutdown of any gas turbine engine(s), combined emissions from both gas turbine engines' heat recovery steam generator exhausts (S-3523-1 and -2) shall not exceed any of the following: NOx (as NO2) - 400 lb and CO - 3600 lb in any one hour. If any CTG is in either startup or shutdown during any portion of a clock hour, the facility will be subject to the aforementioned limits during that clock hour. [District NSR Rule] Federally Enforceable Through Title V Permit

20. An extended startup shall be defined as a startup that occurs after the steam turbine has been shutdown for 72 hours or more. The duration of extended startup events shall not exceed 6 hours. [SJ-99-02] Federally Enforceable Through Title V Permit

21. During an extended startup, the combined emissions from both the CTG and HRSG exhausts shall not exceed either 800 lb NOx or 3600 lb CO per event. [SJ-99-02] Federally Enforceable Through Title V Permit

22. During shutdown of CTG, the combined emissions from both the CTG and HRSG exhausts shall not exceed either 102.5 lb NOx or 222.0 lb CO per event. [SJ-99-02] Federally Enforceable Through Title V Permit

23. Duct burning must not be employed during startup or shutdown events. [SJ-99-02] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

24. Emission rates from CTG/HRSG, except during startup and/or shutdown, shall not exceed any of the following: PM10 - 15.0 lb/hr, SOx (as SO2) - 3.6 lb/hr, NOx (as NO2) - 15.8 lb/hr and 2.5 ppmvd @ 15% O2, VOC - 4.0 lb/hr and 2.0 ppmvd @ 15% O2, CO - 12.5 lb/hr and 4 ppmvd @ 15% O2, ammonia - 10 ppmvd @15% O2. NOx ppmv and lb/hr limits are a one-hour rolling average. Ammonia emission limit is a twenty-four hour rolling average. All other ppmv and lb/hr limits are three-hour rolling averages. [District NSR Rule, District Rules 4001, and 4703, 5.1.2, 5.2 and SJ-99-02] Federally Enforceable Through Title V Permit

25. Emission rates from CTG/HRSG shall not exceed any of the following: PM10 - 360.0 lb/day, SOx (as SO2) - 86.4 lb/day, NOx (as NO2) - 752.0 lb/day, VOC - 184.0 lb/day, and CO - 3948.0 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit

26. Emission rates from both CTG/HRSG S-3523-1 and -2 combined shall not exceed any of the following: PM10 - 720.0 lb/day, SOx (as SO2) - 172.8 lb/day, NOx (as NO2) - 1103.0 lb/day, VOC - 269.0 lb/day, and CO - 4297 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit

27. Annual emissions from both CTGs/HRSGs S-3523-1 and -2 combined calculated on a twelve consecutive month rolling basis shall not exceed any of the following: PM10 - 262,800 lb/year , SOx (as SO2) - 57,468 lb/year, NOx (as NO2) - 335,022 lb/year, VOC - 64,478 lb/year, and CO - 831,008 lb/year. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

28. Each one-hour period will commence on the hour. The three-hour average will be compiled from the three most recent one-hour periods. Each one-hour period in a twenty-four-hour average for ammonia slip will commence on the hour. The twenty-four-hour average will be calculated starting and ending at twelve-midnight. [District NSR Rule] Federally Enforceable Through Title V Permit

29. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each calendar month in a twelve-consecutive-month rolling emissions shall commence at the beginning of the first day of the month. The twelve-consecutive-month rolling emissions total to determine compliance with annual emissions shall be compiled from the twelve most recent calendar months. [District NSR Rule] Federally Enforceable Through Title V Permit

30. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O2 = ((a-(bxc/1,000,000)) x 1,000,000 / b) x d, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NOx concentration ppmv at 15% O2 across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor compliance. At least 60 days prior to using a NH3 CEM, the permittee must submit a monitoring plan for District review and approval [District Rules 2520, 9.3.2 and 4102] Federally Enforceable Through Title V Permit

31. Compliance with the short term emission limits (lb/hr and ppmv @ 15% O2) shall be demonstrated annually by District witnessed in situ sampling of exhaust gas by a qualified independent source test firm at full load conditions as follows - NOx: ppmvd @ 15% O2 and lb/hr, CO: ppmvd @ 15% O2 and lb/hr, VOC: ppmvd @ 15% O2 and lb/hr, PM10: lb/hr, and ammonia: ppmvd @ 15% O2. Sample collection to demonstrate compliance with ammonia emission limit shall be based on three consecutive test runs of thirty minutes each. [District Rule 1081 and SJ-99-02] Federally Enforceable Through Title V Permit

32. Compliance with the startup NOx, CO, and VOC mass emission limits shall be demonstrated for one of the CTGs (S-3523-1, or -2) at least once every five years by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm. [District Rule 1081] Federally Enforceable Through Title V Permit

33. Any gas turbine with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner both on and off. [40 CFR 60 Subpart Da, and District Rule 4703, 6.3.3] Federally Enforceable Through Title V Permit

34. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. Official test results and field data collected by source tests required by conditions on this permit shall be submitted to the District within 60 days of testing. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The following test methods shall be used EPA Methods 1-4, PM10: EPA Method 5 (front half and back half), NOx: EPA Method 7E, CO: EPA Method 10, O2: EPA Method 3, 3A, or 20, VOC: EPA Method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, and 4703 and SJ-99-02] Federally Enforceable Through Title V Permit

36. The permittee shall maintain hourly records of NOx, CO, and ammonia emission concentrations (ppmv @ 15% O2), and hourly, daily, and twelve month rolling average records of NOx and CO emissions. [District NSR Rule] Federally Enforceable Through Title V Permit

37. The permittee shall maintain records of SOx lb/hr, lb/day, and lb/twelve month rolling average emission. SOx emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District NSR Rule] Federally Enforceable Through Title V Permit

38. Permittee shall maintain the following records for the CTG: occurrence, duration, and type of any startup, shutdown, or malfunction; emission measurements; total daily and annual hours of operation; and hourly quantity of fuel used. [District NSR Rule and 4703 and SJ-99-02] Federally Enforceable Through Title V Permit

39. Permittee shall maintain the following records for the continuous emissions monitoring system (CEMS): the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, maintenance, adjustments, any period of non-operation of any continuous emissions monitor and emission measurements. [District NSR Rule and District Rule 4703 and 40 CFR 60 60.7(b) and SJ-99-02] Federally Enforceable Through Title V Permit

40. Cylinder gas audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit

41. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred . [District Rule 1080] Federally Enforceable Through Title V Permit

42. All records required to be maintained by this permit shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District NSR Rule and 2520, 9.4.2] Federally Enforceable Through Title V Permit

43. The owners and operators of each affected source shall have an Acid Rain permit and operate in compliance with all permit requirements. [40 CFR 72] Federally Enforceable Through Title V Permit

44. The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75. [40 CFR 75] Federally Enforceable Through Title V Permit

45. The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program. [40 CFR 75] Federally Enforceable Through Title V Permit

46. The owners and operators of each source and each affected unit at the source shall: (i) hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and (ii) comply with the applicable Acid Rain emissions limitations for sulfur dioxide. [40 CFR 72] Federally Enforceable Through Title V Permit

47. Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act. [40 CFR 72] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

48. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program. [40 CFR 72] Federally Enforceable Through Title V Permit

49. An allowance shall not be deducted in order to comply with the requirements under 40 CFR part 73, prior to the calendar year for which the allowance was allocated. [40 CFR 73] Federally Enforceable Through Title V Permit

50. The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77. [40 CFR 77] Federally Enforceable Through Title V Permit

51. The owners and operators of an affected unit that has excess emissions in any calendar year shall: (i) pay without demand the penalty required, and pay up on demand the interest on that penalty; and (ii) comply with the terms of an approved offset plan, as required by 40 CFR Part 72. [40 CFR 72] Federally Enforceable Through Title V Permit

52. The owners and operators of the each affected unit at the source shall keep on site the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority: (i) The certificate of representation for the designated representative for the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site beyond such five-year period until such documents are superceded because of the submission of a new certificate of representation changing the designated representative. [40 CFR 72] Federally Enforceable Through Title V Permit

53. The owners and operators of each affected unit at the source shall keep on site each of the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority; (ii) All emissions monitoring information, in accordance with 40 CFR part 75; (iii) Copies of all reports, compliance certifications and other submissions and all records made or required under the Acid Rain Program; (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission that demonstrates compliance with the requirements of the Acid Rain Program. [40 CFR 72, 40 CFR 75] Federally Enforceable Through Title V Permit

54. The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR 75 Subpart I. [40 CFR 75] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-3523-3-2 **EXPIRATION DATE:** 02/28/2011

SECTION: NE35 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
FORCED DRAFT COOLING TOWER WITH 6 CELLS AND HIGH EFFICIENCY DRIFT ELIMINATOR

PERMIT UNIT REQUIREMENTS

1. No hexavalent chromium containing compounds shall be added to cooling tower circulating water. [District Rule 7012]
2. Drift eliminator drift rate shall not exceed 0.0005%. [District NSR Rule] Federally Enforceable Through Title V Permit
3. PM10 emission rate shall not exceed 9.4 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit
4. On a weekly basis, the Permittee shall record the circulating water recirculation rate and have an independent laboratory analyze a sample of the blowdown water to determine the total dissolved solids concentration in the blowdown water. [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. Compliance with the PM10 daily emission limit shall demonstrated As follows: PM10 lb/day = circulating water recirculation rate * total dissolved solids concentration in the blowdown water * design drift rate * correction factor. The correction factor shall range from 0.82 for a TDS of 1,000 ppm to 0.5 for a TDS of 3,000 ppm. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Permittee shall maintain records of calculated PM10 emission rate and all data used in the calculations. All records shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District NSR Rule, District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

EXPIRATION DATE: 02/28/2011

PERMIT UNIT: S-3523-6-1

EQUIPMENT DESCRIPTION:
240 HP CUMMINS MODEL 6CTA 8.3 F2 DIESEL-FIRED IC ENGINE DRIVING EMERGENCY FIRE WATER PUMP

PERMIT UNIT REQUIREMENTS

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
2. Engine shall be equipped with an operational non-resettable hour meter. [District NSR Rule and District Rule 4702, 4.3.1.3] Federally Enforceable Through Title V Permit
3. The engine shall be equipped with a positive crankcase ventilation (PCV) system of at least 90% control efficiency. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The PM10 emissions rate shall not exceed 0.25 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District NSR Rule] Federally Enforceable Through Title V Permit
5. NOx emissions shall not exceed 4.4 g/hp-hr. [District NSR Rule] Federally Enforceable Through Title V Permit
6. The sulfur content of the diesel fuel used shall not exceed 0.05% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
8. The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 77 hours per year. [District NSR Rule and District Rule 4702, 4.3.1.2] Federally Enforceable Through Title V Permit
9. If the IC engine is fired on Air Resources Board regulated diesel fuel, with a supplier certified sulfur content less than 0.05% by weight, the operator shall maintain copies of all fuel invoices and supplier certifications. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rule 407 (Kern)] Federally Enforceable Through Title V Permit
11. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Rule 407 (Kern). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
12. This engine shall be operated using only CARB certified diesel fuel. [17 CCR 93115]
13. The permittee shall maintain records of hours of emergency and non-emergency operation. Records shall include the date, the initial start-up hours, the number of hours of operation, the purpose of the operation (e.g., load testing, weekly testing, rolling blackout, general area power outage, etc.) and the sulfur content of the diesel fuel used. Such records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 4701 and 4702, and 17 CCR 93115]
14. The permittee shall maintain monthly records of the type of fuel purchased, the amount of fuel purchased, date when the fuel was purchased, signature of the permittee who received the fuel, and signature of the fuel supplier indicating that the fuel was delivered. [17 CCR 93115]

These terms and conditions are part of the Facility-wide Permit to Operate.

APPENDIX B
EMISSION CALCULATIONS

Table 1 PM10 Cooling Tower Emissions

	PM10 (lb/day)	PM10 (lb/year)	PM10 (tpy)
Pre-project PTE	9.4	3,428	1.71
Post-project PTE	11.7	4,283	2.14
PTE Increase	**2.3**	**854**	**0.43**

Table 2 BACT Calculation

	PM10 (lb/day)
HAPE	9.39
AIPE	2.34
BACT Threshold	2.00
BACT Required	**YES**

Table 3 PM10 Permit Limits

Equipment	PM10 (lb/year)	PM10 (tpy)
Current Permit Limits		
Two CTGs	262,800	131.40
Cooling Tower	3,428	1.71
Total	**266,228**	**133.11**
Proposed Permit Limits		
Two CTGs	261,946	130.97
Cooling Tower	4,283	2.14
Total	**266,228**	**133.11**

Table 4 Pre-Project Cooling Tower Emissions

Item	Cooling Tower	Units
Number of Cells	6	cells
Water Recirculation Rate (single cell)	20,000	gal/min
Recirculation Rate (all cells)	120,000	gal/min
TDS	2,068	ppm (mg/l)
Drift Fraction	0.0005%	%
PM10 fraction of PM	63%	Correction Factor
Drift Release Rate	0.60	gal/min
Drift Release Rate	136	liter/hr
Total Hourly PM_{10}	0.39	lb/hr
Total Daily PM_{10}	9.4	lb/day
Total Annual PM_{10}	1.71	tons/year

Equation:

PM_{10} (ton/yr) = Recirculation rate (gal/min) * 60 min/hr * 3.785 liters/gal * TDS conc (mg/liter) * 1lb / 453.6 g * 1g / 10^3 mg * 8760 hrs/yr / 2000 lb/ton * Drift Cont. Eff. * PM10 Fraction

Table 5 Post-Project Cooling Tower Emissions

Item	Cooling Tower	Units		
Number of Cells	6	cells		
Water Recirculation Rate (single cell)	20,000	gal/min		
Recirculation Rate (all cells)	120,000	gal/min		
TDS [1]	2,690	ppm (mg/l)		
Drift Fraction	0.0005%	%		
PM10 fraction of PM	55%	Correction Factor		
Drift Release Rate	0.60	gal/min		
Drift Release Rate	136	liter/hr		
Total Hourly PM_{10} [2]	0.44	lb/hr	**Requested Limits**	
Total Daily PM_{10} [2]	10.7	lb/day	11.7	lb/day
Total Annual PM_{10} [2]	1.95	tons/year	2.14	tons/year

Equation:

PM_{10} (ton/yr) = Recirculation rate (gal/min) * 60 min/hr * 3.785 liters/gal * TDS conc (mg/liter) * 1lb / 453.6 g * 1g / 10^3 mg * 8760 hrs/yr / 2000 lb/ton * Drift Cont. Eff. * PM10 Fraction

Note:

1. TDS is maximum concentration measured between June 11, 2009 and August 31, 2009 (2,690 ppm)
2. Permit application requests the calculated values plus 10% as shown above

APPENDIX B

Authority to Construct Permits

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: S-3523-1-8 **ISSUANCE DATE:** 05/26/2010

LEGAL OWNER OR OPERATOR: ELK HILLS POWER LLC
MAILING ADDRESS: PO BOX 460
4026 SKYLINE ROAD
TUPMAN, CA 93276

LOCATION: 4026 SKYLINE RD
TUPMAN, CA 93276

SECTION: NE35 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
MODIFICATION OF GE FRAME 7 MODEL PG7241FA NATURAL GAS FIRED COMBINED CYCLE GAS TURBINE ENGINE/ELECTRICAL GENERATOR #1 WITH DRY LOW NOX COMBUSTORS, 250.5 MMBTU/HR NATURAL GAS FIRED DUCT BURNER, HEAT RECOVERY STEAM GENERATOR, SELECTIVE CATALYTIC REDUCTION, OXIDATION CATALYST, AND STEAM TURBINE SHARED WITH S-3523-2 (503 MW TOTAL PLANT NOMINAL RATING): LOWER ANNUAL PM10 EMISSIONS LIMIT (SHARED WITH S-3523-2) FROM 262,800 LB/YEAR TO 261,960 LB/YEAR

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Combustion turbine generator (CTG) and electrical generator lube oil vents shall be equipped with mist eliminators to maintain visible emissions from lube oil vents no greater than 5% opacity, except for three minutes in any hour. [District NSR Rule] Federally Enforceable Through Title V Permit
4. CTG shall be equipped with continuously recording non resettable fuel gas flowmeter. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-3523-1-8 : May 26 2010 5:03PM – BUSSM : Joint Inspection NOT Required

5. CTG exhaust after the SCR unit shall be equipped with continuously recording emissions monitors dedicated to this unit for NOx, CO, and O2. Continuous emissions monitors shall meet the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75, and shall be capable of monitoring emissions during startups and shutdowns as well as normal operating conditions. If relative accuracy of CEM(s) cannot be demonstrated during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained from source testing to determine compliance with emission limits. [40 CFR 60.334(c), District Rules 1080 and 4703, 6.2.1 and District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

6. The CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit

7. CTG shall be equipped with a continuously recording emission monitor preceding the SCR module measuring NOx concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-control. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-control. If the analyzer is out-of-control, the permittee shall take appropriate corrective action and then repeat the CD check. [District NSR Rule and District Rule 1080] Federally Enforceable Through Title V Permit

8. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit

9. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

10. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0 and SJ-99-02] Federally Enforceable Through Title V Permit

11. Exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with 40 CFR 60.8 (e). [District Rule 1081 and SJ-99-02] Federally Enforceable Through Title V Permit

12. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.0] Federally Enforceable Through Title V Permit

13. Ammonia injection grid shall be equipped with operational ammonia flowmeter and injection pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit

14. Ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds 500 degrees F. Permittee shall monitor and record catalyst temperature during periods of startup. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

15. Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [District NSR Rule] Federally Enforceable Through Title V Permit

16. Permittee shall comply with all applicable requirements of 40 CFR 60.8 and Subpart Da. [District Rule 4001] Federally Enforceable Through Title V Permit

17. CTG and duct burner shall be fired exclusively on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 0.75 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

18. The sulfur content of each fuel source shall be: (i) documented in a valid purchase contract, a supplier certification, a tariff sheet or transportation contract or (ii) monitored at least annually using ASTM Methods D4084, D5504, D6228, or Gas Processors Association Standard 2377. [40 CFR 60.334(h)(3) and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. Results of the CEM system shall be averaged over the applicable time period, using consecutive 15-minute sampling periods. [District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

20. Startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits. Shutdown is defined the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup and shutdown durations shall not exceed two hours for a regular startup, and six hours for an extended startup, and one hour for a shutdown, per occurrence. [District NSR Rule, District Rules 4001 and 4703, 5.3.3 and SJ-99-02] Federally Enforceable Through Title V Permit

21. During startup or shutdown of any gas turbine engine(s), combined emissions from both gas turbine engines' heat recovery steam generator exhausts (S-3523-1 and -2) shall not exceed any of the following: NOx (as NO2) - 400 lb and CO - 3600 lb in any one hour. If any CTG is in either startup or shutdown during any portion of a clock hour, the facility will be subject to the aforementioned limits during that clock hour. [District NSR Rule] Federally Enforceable Through Title V Permit

22. An extended startup shall be defined as a startup that occurs after the steam turbine has been shutdown for 72 hours or more. The duration of extended startup events shall not exceed 6 hours. [SJ-99-02] Federally Enforceable Through Title V Permit

23. During an extended startup, the combined emissions from both the CTG and HRSG exhausts shall not exceed either 800 lb NOx or 3600 lb CO per event. [SJ-99-02] Federally Enforceable Through Title V Permit

24. During shutdown of CTG, the combined emissions from both the CTG and HRSG exhausts shall not exceed either 102.5 lb NOx or 222.0 lb CO per event. [SJ-99-02] Federally Enforceable Through Title V Permit

25. Duct burning must not be employed during startup or shutdown events. [SJ-99-02] Federally Enforceable Through Title V Permit

26. Emission rates from CTG/HRSG, except during startup and/or shutdown, shall not exceed any of the following: PM10 - 15.0 lb/hr, SOx (as SO2) - 3.6 lb/hr, NOx (as NO2) - 15.8 lb/hr and 2.5 ppmvd @ 15% O2, VOC - 4.0 lb/hr and 2.0 ppmvd @ 15% O2, CO - 12.5 lb/hr and 4 ppmvd @ 15% O2, ammonia - 10 ppmvd @15% O2. NOx ppmv and lb/hr limits are a one-hour rolling average. Ammonia emission limit is a twenty-four hour rolling average. All other ppmv and lb/hr limits are three-hour rolling averages. [District NSR Rule, District Rules 4001, and 4703, 5.1.2, 5.2 and SJ-99-02] Federally Enforceable Through Title V Permit

27. Emission rates from CTG/HRSG shall not exceed any of the following: PM10 - 360.0 lb/day, SOx (as SO2) - 86.4 lb/day, NOx (as NO2) - 752.0 lb/day, VOC - 184.0 lb/day, and CO - 3948.0 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit

28. Emission rates from both CTG/HRSG S-3523-1 and -2 combined shall not exceed any of the following: PM10 - 720.0 lb/day, SOx (as SO2) - 172.8 lb/day, NOx (as NO2) - 1103.0 lb/day, VOC - 269.0 lb/day, and CO - 4297 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit

29. Annual emissions from both CTGs/HRSGs S-3523-1 and -2 combined calculated on a twelve consecutive month rolling basis shall not exceed any of the following: PM10 - 261,960 lb/year , SOx (as SO2) - 57,468 lb/year, NOx (as NO2) - 335,022 lb/year, VOC - 64,478 lb/year, and CO - 831,008 lb/year. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

30. Each one-hour period will commence on the hour. The three-hour average will be compiled from the three most recent one-hour periods. Each one-hour period in a twenty-four-hour average for ammonia slip will commence on the hour. The twenty-four-hour average will be calculated starting and ending at twelve-midnight. [District NSR Rule] Federally Enforceable Through Title V Permit

31. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each calendar month in a twelve-consecutive-month rolling emissions shall commence at the beginning of the first day of the month. The twelve-consecutive-month rolling emissions total to determine compliance with annual emissions shall be compiled from the twelve most recent calendar months. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

32. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O2 = ((a-(bxc/1,000,000)) x 1,000,000 / b) x d, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NOx concentration ppmv at 15% O2 across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor compliance. At least 60 days prior to using a NH3 CEM, the permittee must submit a monitoring plan for District review and approval [District Rules 2520, 9.3.2 and 4102] Federally Enforceable Through Title V Permit

33. Compliance with the short term emission limits (lb/hr and ppmv @ 15% O2) shall be demonstrated annually by District witnessed in situ sampling of exhaust gas by a qualified independent source test firm at full load conditions as follows - NOx: ppmvd @ 15% O2 and lb/hr, CO: ppmvd @ 15% O2 and lb/hr, VOC: ppmvd @ 15% O2 and lb/hr, PM10: lb/hr, and ammonia: ppmvd @ 15% O2. Sample collection to demonstrate compliance with ammonia emission limit shall be based on three consecutive test runs of thirty minutes each. [District Rule 1081 and SJ-99-02] Federally Enforceable Through Title V Permit

34. Compliance with the startup NOx, CO, and VOC mass emission limits shall be demonstrated for one of the CTGs (S-3523-1, or -2) at least once every five years by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm. [District Rule 1081] Federally Enforceable Through Title V Permit

35. Any gas turbine with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner both on and off. [40 CFR 60 Subpart Da, and District Rule 4703, 6.3.3] Federally Enforceable Through Title V Permit

36. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. Official test results and field data collected by source tests required by conditions on this permit shall be submitted to the District within 60 days of testing. [District Rule 1081] Federally Enforceable Through Title V Permit

37. The following test methods shall be used EPA Methods 1-4, PM10: EPA Method 5 (front half and back half), NOx: EPA Method 7E, CO: EPA Method 10, O2: EPA Method 3, 3A, or 20, VOC: EPA Method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, and 4703 and SJ-99-02] Federally Enforceable Through Title V Permit

38. The permittee shall maintain hourly records of NOx, CO, and ammonia emission concentrations (ppmv @ 15% O2), and hourly, daily, and twelve month rolling average records of NOx and CO emissions. [District NSR Rule] Federally Enforceable Through Title V Permit

39. The permittee shall maintain records of SOx lb/hr, lb/day, and lb/twelve month rolling average emission. SOx emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District NSR Rule] Federally Enforceable Through Title V Permit

40. Permittee shall maintain the following records for the CTG: occurrence, duration, and type of any startup, shutdown, or malfunction; emission measurements; total daily and annual hours of operation; and hourly quantity of fuel used. [District NSR Rule and 4703 and SJ-99-02] Federally Enforceable Through Title V Permit

41. Permittee shall maintain the following records for the continuous emissions monitoring system (CEMS): the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, maintenance, adjustments, any period of non-operation of any continuous emissions monitor and emission measurements. [District NSR Rule and District Rule 4703 and 40 CFR 60 60.7(b) and SJ-99-02] Federally Enforceable Through Title V Permit

42. Cylinder gas audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

43. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred . [District Rule 1080] Federally Enforceable Through Title V Permit

44. All records required to be maintained by this permit shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District NSR Rule and 2520, 9.4.2] Federally Enforceable Through Title V Permit

45. The owners and operators of each affected source shall have an Acid Rain permit and operate in compliance with all permit requirements. [40 CFR 72] Federally Enforceable Through Title V Permit

46. The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75. [40 CFR 75] Federally Enforceable Through Title V Permit

47. The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program. [40 CFR 75] Federally Enforceable Through Title V Permit

48. The owners and operators of each source and each affected unit at the source shall: (i) hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and (ii) comply with the applicable Acid Rain emissions limitations for sulfur dioxide. [40 CFR 72] Federally Enforceable Through Title V Permit

49. Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act. [40 CFR 72] Federally Enforceable Through Title V Permit

50. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program. [40 CFR 72] Federally Enforceable Through Title V Permit

51. An allowance shall not be deducted in order to comply with the requirements under 40 CFR part 73, prior to the calendar year for which the allowance was allocated. [40 CFR 73] Federally Enforceable Through Title V Permit

52. The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77. [40 CFR 77] Federally Enforceable Through Title V Permit

53. The owners and operators of an affected unit that has excess emissions in any calendar year shall: (i) pay without demand the penalty required, and pay up on demand the interest on that penalty; and (ii) comply with the terms of an approved offset plan, as required by 40 CFR Part 72. [40 CFR 72] Federally Enforceable Through Title V Permit

54. The owners and operators of the each affected unit at the source shall keep on site the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority: (i) The certificate of representation for the designated representative for the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site beyond such five-year period until such documents are superceded because of the submission of a new certificate of representation changing the designated representative. [40 CFR 72] Federally Enforceable Through Title V Permit

55. The owners and operators of each affected unit at the source shall keep on site each of the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority; (ii) All emissions monitoring information, in accordance with 40 CFR part 75; (iii) Copies of all reports, compliance certifications and other submissions and all records made or required under the Acid Rain Program; (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission that demonstrates compliance with the requirements of the Acid Rain Program. [40 CFR 72, 40 CFR 75] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

56. The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR 75 Subpart I. [40 CFR 75] Federally Enforceable Through Title V Permit

57. ATC S-3523-1-8 and '-2-8 shall be implemented prior to or concurrent with ATC S-3523-3-3. [District Rule 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: S-3523-2-8 **ISSUANCE DATE:** 05/26/2010

LEGAL OWNER OR OPERATOR: ELK HILLS POWER LLC
MAILING ADDRESS: PO BOX 460
4026 SKYLINE ROAD
TUPMAN, CA 93276

LOCATION: 4026 SKYLINE RD
TUPMAN, CA 93276

SECTION: NE35 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
MODIFICATION OF GE FRAME 7 MODEL PG7241FA NATURAL GAS FIRED COMBINED CYCLE GAS TURBINE ENGINE/ELECTRICAL GENERATOR #2 WITH DRY LOW NOX COMBUSTORS, 250.5 MMBTU/HR NATURAL GAS FIRED DUCT BURNER, HEAT RECOVERY STEAM GENERATOR, SELECTIVE CATALYTIC REDUCTION, OXIDATION CATALYST, AND STEAM TURBINE SHARED WITH S-3523-1 (503 MW TOTAL PLANT NOMINAL RATING): LOWER ANNUAL PM10 EMISSIONS LIMIT (SHARED WITH S-3523-1) FROM 262,800 LB/YEAR TO 261,960 LB/YEAR

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Combustion turbine generator (CTG) and electrical generator lube oil vents shall be equipped with mist eliminators to maintain visible emissions from lube oil vents no greater than 5% opacity, except for three minutes in any hour. [District NSR Rule] Federally Enforceable Through Title V Permit
4. CTG shall be equipped with continuously recording non resettable fuel gas flowmeter. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

for DAVID WARNER, Director of Permit Services
S-3523-2-8 : May 26 2010 5:03PM – BUSSM : Joint Inspection NOT Required

5. CTG exhaust after the SCR unit shall be equipped with continuously recording emissions monitors dedicated to this unit for NOx, CO, and O2. Continuous emissions monitors shall meet the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75, and shall be capable of monitoring emissions during startups and shutdowns as well as normal operating conditions. If relative accuracy of CEM(s) cannot be demonstrated during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained from source testing to determine compliance with emission limits. [40 CFR 60.334(c), District Rules 1080 and 4703, 6.2.1 and District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

6. The CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit

7. CTG shall be equipped with a continuously recording emission monitor preceding the SCR module measuring NOx concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-control. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-control. If the analyzer is out-of-control, the permittee shall take appropriate corrective action and then repeat the CD check. [District NSR Rule and District Rule 1080] Federally Enforceable Through Title V Permit

8. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit

9. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

10. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0 and SJ-99-02] Federally Enforceable Through Title V Permit

11. Exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with 40 CFR 60.8 (e). [District Rule 1081 and SJ-99-02] Federally Enforceable Through Title V Permit

12. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.0] Federally Enforceable Through Title V Permit

13. Ammonia injection grid shall be equipped with operational ammonia flowmeter and injection pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit

14. Ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds 500 degrees F. Permittee shall monitor and record catalyst temperature during periods of startup. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

15. Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [District NSR Rule] Federally Enforceable Through Title V Permit

16. Permittee shall comply with all applicable requirements of 40 CFR 60.8 and Subpart Da. [District Rule 4001] Federally Enforceable Through Title V Permit

17. CTG and duct burner shall be fired exclusively on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 0.75 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

18. The sulfur content of each fuel source shall be: (i) documented in a valid purchase contract, a supplier certification, a tariff sheet or transportation contract or (ii) monitored at least annually using ASTM Methods D4084, D5504, D6228, or Gas Processors Association Standard 2377. [40 CFR 60.334(h)(3) and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. Results of the CEM system shall be averaged over the applicable time period, using consecutive 15-minute sampling periods. [District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

20. Startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits. Shutdown is defined the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup and shutdown durations shall not exceed two hours for a regular startup, and six hours for an extended startup, and one hour for a shutdown, per occurrence. [District NSR Rule, District Rules 4001 and 4703, 5.3.3 and SJ-99-02] Federally Enforceable Through Title V Permit

21. During startup or shutdown of any gas turbine engine(s), combined emissions from both gas turbine engines' heat recovery steam generator exhausts (S-3523-1 and -2) shall not exceed any of the following: NOx (as NO2) - 400 lb and CO - 3600 lb in any one hour. If any CTG is in either startup or shutdown during any portion of a clock hour, the facility will be subject to the aforementioned limits during that clock hour. [District NSR Rule] Federally Enforceable Through Title V Permit

22. An extended startup shall be defined as a startup that occurs after the steam turbine has been shutdown for 72 hours or more. The duration of extended startup events shall not exceed 6 hours. [SJ-99-02] Federally Enforceable Through Title V Permit

23. During an extended startup, the combined emissions from both the CTG and HRSG exhausts shall not exceed either 800 lb NOx or 3600 lb CO per event. [SJ-99-02] Federally Enforceable Through Title V Permit

24. During shutdown of CTG, the combined emissions from both the CTG and HRSG exhausts shall not exceed either 102.5 lb NOx or 222.0 lb CO per event. [SJ-99-02] Federally Enforceable Through Title V Permit

25. Duct burning must not be employed during startup or shutdown events. [SJ-99-02] Federally Enforceable Through Title V Permit

26. Emission rates from CTG/HRSG, except during startup and/or shutdown, shall not exceed any of the following: PM10 - 15.0 lb/hr, SOx (as SO2) - 3.6 lb/hr, NOx (as NO2) - 15.8 lb/hr and 2.5 ppmvd @ 15% O2, VOC - 4.0 lb/hr and 2.0 ppmvd @ 15% O2, CO - 12.5 lb/hr and 4 ppmvd @ 15% O2, ammonia - 10 ppmvd @15% O2. NOx ppmv and lb/hr limits are a one-hour rolling average. Ammonia emission limit is a twenty-four hour rolling average. All other ppmv and lb/hr limits are three-hour rolling averages. [District NSR Rule, District Rules 4001, and 4703, 5.1.2, 5.2 and SJ-99-02] Federally Enforceable Through Title V Permit

27. Emission rates from CTG/HRSG shall not exceed any of the following: PM10 - 360.0 lb/day, SOx (as SO2) - 86.4 lb/day, NOx (as NO2) - 752.0 lb/day, VOC - 184.0 lb/day, and CO - 3948.0 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit

28. Emission rates from both CTG/HRSG S-3523-1 and -2 combined shall not exceed any of the following: PM10 - 720.0 lb/day, SOx (as SO2) - 172.8 lb/day, NOx (as NO2) - 1103.0 lb/day, VOC - 269.0 lb/day, and CO - 4297 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit

29. Annual emissions from both CTGs/HRSGs S-3523-1 and -2 combined calculated on a twelve consecutive month rolling basis shall not exceed any of the following: PM10 - 261,960 lb/year , SOx (as SO2) - 57,468 lb/year, NOx (as NO2) - 335,022 lb/year, VOC - 64,478 lb/year, and CO - 831,008 lb/year. [District NSR Rule and SJ-99-02] Federally Enforceable Through Title V Permit

30. Each one-hour period will commence on the hour. The three-hour average will be compiled from the three most recent one-hour periods. Each one-hour period in a twenty-four-hour average for ammonia slip will commence on the hour. The twenty-four-hour average will be calculated starting and ending at twelve-midnight. [District NSR Rule] Federally Enforceable Through Title V Permit

31. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each calendar month in a twelve-consecutive-month rolling emissions shall commence at the beginning of the first day of the month. The twelve-consecutive-month rolling emissions total to determine compliance with annual emissions shall be compiled from the twelve most recent calendar months. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

32. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O2 = ((a-(bxc/1,000,000)) x 1,000,000 / b) x d, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NOx concentration ppmv at 15% O2 across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor compliance. At least 60 days prior to using a NH3 CEM, the permittee must submit a monitoring plan for District review and approval [District Rules 2520, 9.3.2 and 4102] Federally Enforceable Through Title V Permit

33. Compliance with the short term emission limits (lb/hr and ppmv @ 15% O2) shall be demonstrated annually by District witnessed in situ sampling of exhaust gas by a qualified independent source test firm at full load conditions as follows - NOx: ppmvd @ 15% O2 and lb/hr, CO: ppmvd @ 15% O2 and lb/hr, VOC: ppmvd @ 15% O2 and lb/hr, PM10: lb/hr, and ammonia: ppmvd @ 15% O2. Sample collection to demonstrate compliance with ammonia emission limit shall be based on three consecutive test runs of thirty minutes each. [District Rule 1081 and SJ-99-02] Federally Enforceable Through Title V Permit

34. Compliance with the startup NOx, CO, and VOC mass emission limits shall be demonstrated for one of the CTGs (S-3523-1, or -2) at least once every five years by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm. [District Rule 1081] Federally Enforceable Through Title V Permit

35. Any gas turbine with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner both on and off. [40 CFR 60 Subpart Da, and District Rule 4703, 6.3.3] Federally Enforceable Through Title V Permit

36. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. Official test results and field data collected by source tests required by conditions on this permit shall be submitted to the District within 60 days of testing. [District Rule 1081] Federally Enforceable Through Title V Permit

37. The following test methods shall be used EPA Methods 1-4, PM10: EPA Method 5 (front half and back half), NOx: EPA Method 7E, CO: EPA Method 10, O2: EPA Method 3, 3A, or 20, VOC: EPA Method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, and 4703 and SJ-99-02] Federally Enforceable Through Title V Permit

38. The permittee shall maintain hourly records of NOx, CO, and ammonia emission concentrations (ppmv @ 15% O2), and hourly, daily, and twelve month rolling average records of NOx and CO emissions. [District NSR Rule] Federally Enforceable Through Title V Permit

39. The permittee shall maintain records of SOx lb/hr, lb/day, and lb/twelve month rolling average emission. SOx emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District NSR Rule] Federally Enforceable Through Title V Permit

40. Permittee shall maintain the following records for the CTG: occurrence, duration, and type of any startup, shutdown, or malfunction; emission measurements; total daily and annual hours of operation; and hourly quantity of fuel used. [District NSR Rule and 4703 and SJ-99-02] Federally Enforceable Through Title V Permit

41. Permittee shall maintain the following records for the continuous emissions monitoring system (CEMS): the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, maintenance, adjustments, any period of non-operation of any continuous emissions monitor and emission measurements. [District NSR Rule and District Rule 4703 and 40 CFR 60 60.7(b) and SJ-99-02] Federally Enforceable Through Title V Permit

42. Cylinder gas audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

43. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred . [District Rule 1080] Federally Enforceable Through Title V Permit

44. All records required to be maintained by this permit shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District NSR Rule and 2520, 9.4.2] Federally Enforceable Through Title V Permit

45. The owners and operators of each affected source shall have an Acid Rain permit and operate in compliance with all permit requirements. [40 CFR 72] Federally Enforceable Through Title V Permit

46. The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75. [40 CFR 75] Federally Enforceable Through Title V Permit

47. The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program. [40 CFR 75] Federally Enforceable Through Title V Permit

48. The owners and operators of each source and each affected unit at the source shall: (i) hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and (ii) comply with the applicable Acid Rain emissions limitations for sulfur dioxide. [40 CFR 72] Federally Enforceable Through Title V Permit

49. Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act. [40 CFR 72] Federally Enforceable Through Title V Permit

50. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program. [40 CFR 72] Federally Enforceable Through Title V Permit

51. An allowance shall not be deducted in order to comply with the requirements under 40 CFR part 73, prior to the calendar year for which the allowance was allocated. [40 CFR 73] Federally Enforceable Through Title V Permit

52. The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77. [40 CFR 77] Federally Enforceable Through Title V Permit

53. The owners and operators of an affected unit that has excess emissions in any calendar year shall: (i) pay without demand the penalty required, and pay up on demand the interest on that penalty; and (ii) comply with the terms of an approved offset plan, as required by 40 CFR Part 72. [40 CFR 72] Federally Enforceable Through Title V Permit

54. The owners and operators of the each affected unit at the source shall keep on site the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority: (i) The certificate of representation for the designated representative for the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site beyond such five-year period until such documents are superceded because of the submission of a new certificate of representation changing the designated representative. [40 CFR 72] Federally Enforceable Through Title V Permit

55. The owners and operators of each affected unit at the source shall keep on site each of the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority; (ii) All emissions monitoring information, in accordance with 40 CFR part 75; (iii) Copies of all reports, compliance certifications and other submissions and all records made or required under the Acid Rain Program; (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission that demonstrates compliance with the requirements of the Acid Rain Program. [40 CFR 72, 40 CFR 75] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

56. The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR 75 Subpart I. [40 CFR 75] Federally Enforceable Through Title V Permit

57. ATC S-3523-1-8 and '-2-8 shall be implemented prior to or concurrent with ATC S-3523-3-3. [District Rule 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: S-3523-3-3 **ISSUANCE DATE:** 05/26/2010

LEGAL OWNER OR OPERATOR: ELK HILLS POWER LLC
MAILING ADDRESS: PO BOX 460
4026 SKYLINE ROAD
TUPMAN, CA 93276

LOCATION: 4026 SKYLINE RD
TUPMAN, CA 93276

SECTION: NE35 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
MODIFICATION OF FORCED DRAFT COOLING TOWER WITH 6 CELLS AND HIGH EFFICIENCY DRIFT ELIMINATOR: INCREASE TDS LIMIT TO 5000 PPMV, CORRESPONDING CORRECTION FACTOR TO 0.3, AND PM10 DAILY EMISSIONS LIMIT TO 11.7 LB/DAY

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. No hexavalent chromium containing compounds shall be added to cooling tower circulating water. [District Rule 7012]
4. Drift eliminator drift rate shall not exceed 0.0005%. [District NSR Rule] Federally Enforceable Through Title V Permit
5. PM10 emission rate shall not exceed 11.7 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit
6. On a weekly basis, the Permittee shall record the circulating water recirculation rate and have an independent laboratory analyze a sample of the blowdown water to determine the total dissolved solids concentration in the blowdown water. [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services
S-3523-3-3 : May 26 2010 5:03PM – BUSSM : Joint Inspection NOT Required

7. Compliance with the PM10 daily emission limit shall be demonstrated as follows: PM10 lb/day = circulating water recirculation rate * total dissolved solids concentration in the blowdown water * design drift rate * correction factor. The correction factor shall range from 0.82 for a TDS of 1,000 ppm to 0.3 for a TDS of 5,000 ppm. [District NSR Rule] Federally Enforceable Through Title V Permit

8. Permittee shall maintain records of calculated PM10 emission rate and all data used in the calculations. All records shall be maintained for a period of five years and shall be made readily available for District inspection upon request. [District NSR Rule, District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

9. ATCs S-3523-1-8 and 2-8 shall be implemented prior to or concurrent with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: S-3523-6-2 **ISSUANCE DATE:** 05/26/2010

LEGAL OWNER OR OPERATOR: ELK HILLS POWER LLC
MAILING ADDRESS: PO BOX 460
4026 SKYLINE ROAD
TUPMAN, CA 93276

LOCATION: 4026 SKYLINE RD
TUPMAN, CA 93276

EQUIPMENT DESCRIPTION:
MODIFICATION OF 240 HP CUMMINS MODEL 6CTA 8.3 F2 DIESEL-FIRED IC ENGINE DRIVING EMERGENCY FIRE WATER PUMP: ALLOW EITHER POSITIVE CRANKCASE VENTILATION OR A CRANKCASE EMISSIONS CONTROL DEVICE OF AT LEAST 90% CONTROL EFFICIENCY

CONDITIONS

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
2. Engine shall be equipped with an operational non-resettable hour meter. [District NSR Rule and District Rule 4702, 4.3.1.3] Federally Enforceable Through Title V Permit
3. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201]
4. The PM10 emissions rate shall not exceed 0.25 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District NSR Rule] Federally Enforceable Through Title V Permit
5. NOx emissions shall not exceed 4.4 g/hp-hr. [District NSR Rule] Federally Enforceable Through Title V Permit
6. The sulfur content of the diesel fuel used shall not exceed 0.05% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services
S-3523-6-2 : May 26 2010 5:03PM – BUSSM : Joint Inspection NOT Required

8. For testing purposes, the engine shall only be operated the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 - "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems", 1998 edition. Total hours of operation for all maintenance, testing, and required regulatory purposes shall not exceed 77 hours per calendar year. [District NSR Rule and District Rule 4702, 4.3.1.2] Federally Enforceable Through Title V Permit

9. If the IC engine is fired on Air Resources Board regulated diesel fuel, with a supplier certified sulfur content less than 0.05% by weight, the operator shall maintain copies of all fuel invoices and supplier certifications. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

10. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rule 407 (Kern)] Federally Enforceable Through Title V Permit

11. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Rule 407 (Kern). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

12. This engine shall be operated using only CARB certified diesel fuel. [17 CCR 93115]

13. The permittee shall maintain records of hours of emergency and non-emergency operation. Records shall include the date, the initial start-up hours, the number of hours of operation, the purpose of the operation (e.g., load testing, weekly testing, rolling blackout, general area power outage, etc.) and the sulfur content of the diesel fuel used. Such records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 4701 and 4702, and 17 CCR 93115]

14. The permittee shall maintain monthly records of the type of fuel purchased, the amount of fuel purchased, date when the fuel was purchased, signature of the permittee who received the fuel, and signature of the fuel supplier indicating that the fuel was delivered. [17 CCR 93115]

APPENDIX C

Application for Administrative Amendment to Title V Permit

Elk Hills Power

P.O Box 460
Tupman, CA 93276
Tel: (661) 763-2700
Fax: (661) 763-2704

June 04, 2010

Mr. David Warner
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, California 93308-9725

Re: Administrative Amendment to Title V Permit
Elk Hills Power LLC, District Facility # S-3523

Dear Mr. Warner:

Elk Hills Power, LLC (EHP) is submitting the Title V Forms -008 and -009 to request an administrative amendment to the Title V Permit Unit No. S-3523-1-7, S-3523-2-7, S-3523-3-2 and S-3523-6-1. There are no physical changes to the existing equipment.

The purpose of this administrative amendment application is to increase the emission limit on cooling tower PM10, decrease the emission limit on gas turbine, and wording changes on the diesel engine drive fire water pump.

This administrative amendment is authorized by the Authority to Construct (ATC) permits dated May 26, 2010. The Authority To Contruct Permit numbers are as follows: S-3523-3-3 Cooling Tower; S-3523-1-8 and S-3523-2-8 Gas Turbine Engines; S-3523-6-2 Diesel Engine Drive Fire Water Pump. This application is being submitted in accordance with condition (2) of the ATCs, "Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4.

EHP is including a check for a filing fee of $76 (4 units, $19 filing fee each unit). Should you have any questions, please call me at (661) 763-2727.

Sincerely,

George McMurren III
Plant Manager

Attachments: Filing fee, TVFORM-008 and TVFORM-009

Cc. Sonnie Pineda, Elk Hills Power, LLC

San Joaquin Valley Air Pollution Control District

www.valleyair.org

Permit Application For:

[X] ADMINISTRATIVE AMENDMENT [ ] MINOR MODIFICATION [ ] SIGNIFICANT MODIFICATION

1. PERMIT TO BE ISSUED TO: **Elk Hills Power, LLC**

2. MAILING ADDRESS:

STREET/P.O. BOX: **PO Box 460**

CITY: **Tupman** STATE: CA 9-DIGIT ZIP CODE: **93276**

3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:

STREET: **4032 Skyline road** CITY: **Tupman**

_____ ¼ SECTION **NE35** TOWNSHIP **30S** RANGE **23E**

INSTALLATION DATE:

4. GENERAL NATURE OF BUSINESS: Natural Gas-Fired power generating facility

5. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE
(include Permit #'s if known, and use additional sheets if necessary)

There are no physical changes to the existing equipment. The purpose for this application is to increase the emission limit on cooling tower PM10, decrease the emission limit on gas turbine and wording changes on the diesel engine operated fire water pump per the Authority To Construct Condition #2.

ATC # S-3523-1-8 and S-3523-2-8 Conditions 29 – Emission limit decrease for PM10 from gas turbines

ATC # S-3523-3-3 Condition 5 and 7 – Emission limit increase for PM10 from cooling tower

ATC # S-3523-6-2 Condition 3 – Permit condition wording change for fire water pump.

6. TYPE OR PRINT NAME OF APPLICANT: George McMurren III

TITLE OF APPLICANT: Plant Manager

7. SIGNATURE OF APPLICANT:

DATE: 04 June 2010

PHONE: (661) 763-2727
FAX: (661) 765- 2946
EMAIL: emcmurren@elkhills.com

For APCD Use Only:

DATE STAMP	*FILING FEE RECEIVED:* $ _____ *CHECK#:* _____
	DATE PAID: _____
	PROJECT NO: _____ *FACILITY ID:* _____

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[ ] SIGNIFICANT PERMIT MODIFICATION
[ ] MINOR PERMIT MODIFICATION
[X] ADMINISTRATIVE AMENDMENT

COMPANY NAME: Elk Hills Power, LLC	FACILITY ID: S-3523
1. Type of Organization:[ ] Corporation [ ] Sole Ownership [ ] Government [X] Partnership [ ] Utility Elk Hills Power is a limited liability company (LLC)	
2. Owner's Name: Elk Hills Power, LLC	
3. Agent to the Owner: George McMurren III	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **all** circles for confirmation):

(a) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

(b) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

(c) Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

(d) Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Signature of Responsible Official

7 JUN 10
Date

George McMurren III
Name of Responsible Official (please print)

Plant Manager
Title of Responsible Official (please print)