

DOCKETED

Docket Number:	79-AFC-05C
Project Title:	Compliance - Application for Certification for PG&E Geysers Unit 16 (78-NOI-6)
TN #:	210230
Document Title:	Final Permission for Exec. Order B-36-16 Expedited Processing & Lake Co Air Quality Mgmt Dist Authority to Construct (ATC)
Description:	N/A
Filer:	Camile Remy-Obad
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	2/8/2016 3:52:17 PM
Docketed Date:	2/8/2016

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov



February 5, 2016

Mr. James Kluesener
Vice President, Geothermal Regional Operations
Geysers Power Company, LLC
10350 Socrates Mine Road
Middletown, CA 95461

RE: Geysers Power Company Quicksilver (Unit 16) Geothermal Project (79-AFC-5C)
Expedited Processing Pursuant to Executive Order B-36-15

Dear Mr. Kluesener:

After the September 12, 2015 Valley Fire, the Geysers Power Company requested expedited processing and approval of emergency reconstruction activities at the Quicksilver (Unit 16) Geothermal Project. On November 20, 2015, based upon the information and attachments provided in that request, I authorized under Governor Brown's Executive Order B-36-15, the repair, reconstruction and/or in-kind replacement of the Unit 16 cooling tower to remediate the wildfire damage and restore power plant operations (TN# 206736).

The Executive Order states in part that "[t]he Energy Commission shall expedite the processing of all applications or petitions for amendments to power plant certifications issued by the Energy Commission for the purpose of remediating any wildfire damage and to restore power plant operation by authorizing emergency construction activities including demolition, alteration, replacement, repair or reconstruction necessary for power plant operation. Title 20, section 1769 of the California Code of Regulations is hereby waived for any such petition, and the Executive Director of the Energy Commission shall approve such petitions as he deems necessary."

Air Quality staff worked with the Lake County Air Quality Management District (LCAQMD) on the Authority to Construct (ATC) permit revisions - the replacement cooling tower is functionally equivalent to the damaged cooling tower, except for superior air emissions performance. On December 8, 2015, the LCAQMD issued a revised final ATC air permit for the in-kind Unit 16 replacement cooling tower (see attached). Based upon Energy Commission staff's review and the Executive Order B-36-15, I deem the revised ATC, when incorporated into the project Final Decision, necessary for wildfire remediation and to restore power plant operations. I hereby direct staff to docket the ATC, and incorporate these provisions into the Energy Commission's Unit 16 Final Decision.

Sincerely,

A handwritten signature in black ink, appearing to read "R. P. Oglesby".

Robert P. Oglesby
Executive Director

Attachment: Lake County Air Quality Management District Final Authority to Construct,
(Finalized on January 12, 2016).

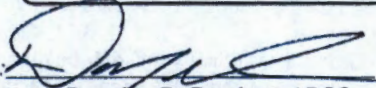
cc: **Robert B. Weisenmiller**, Chair, California Energy Commission
Karen Douglas, Commissioner, California Energy Commission
David Hochschild, Commissioner, California Energy Commission
Andrew McAllister, Commissioner, California Energy Commission
Janea A. Scott, Commissioner, California Energy Commission
Richard Coel, Director, Lake County Community Development Department
Douglas Gearhart, Lake County Air Pollution Control District
Richard Burns, Field Manager, U.S. Bureau of Land Management
Elizabeth Johnson, Geothermal Officer, California Department of Conservation
Joseph Austin, District Deputy, CA Department of Conservation, Division of Oil,
Gas, and Geothermal Resources
Honorable Jose Simon III, Chairperson, Middletown Rancheria of Pomo Indians
Honorable Chris Wright, Chairperson, Dry Creek Rancheria Band of Pomo
Indians
Honorable Scott Gabaldon, Chairperson, Mishewal Wappos of Alexander
Valley
Honorable Marjorie Mejia, Chairperson, Lytton Rancheria of California
Shin-Roei Lee, Assistant Executive Director, North Coast Regional Water
Quality Control Board
Guy Childs, Central Valley Regional Water Quality Control Board
Dennis Peters, External Affairs Manager, California ISO
Ed Randolph, Energy Division Director, California Public Utilities Commission
Tina Bartlett, Regional Manager, California Department of Fish and Wildlife,
North Central Region 2
Scott Wilson, Regional Manager, California Department of Fish and Wildlife,
Bay Delta Region 3
Kellie Berry, Sacramento Valley Division Chief, U.S. Fish and Wildlife Service,
Region 8
Ryan Olah, Coast Bay Division Chief, U.S. Fish and Wildlife Service, Region 8
Dale Wierman, California Department of Forestry, Environmental Protection
Greg Allen, California Air Resources Control Board, Stationary Source Branch



AUTHORITY TO CONSTRUCT

Lake County Air Quality Management District
2617 S. Main Street, Lakeport, CA 95453 (707) 263-7000, Fax (707) 263-0421

Permit # AIC 2015-24

By: 
Douglas G. Gearhart, APCO

Type of Issuance: Modification & Name Change Issuance Date: 12/8/2015 Valid through: 10/31/2016 Category: V1b

Operations under this permit must be conducted in compliance with all specifications and data included with the application under which this permit was issued. Equipment must be properly maintained and kept in good condition at all times. Post this permit or a facsimile (with conditions) in a conspicuous location on or near the equipment.

Contact: Mr. James Kluesener, Vice President
Owner: Geysers Power Company, LLC
Mailing: c/o Calpine Corporation
Address: 10350 Socrates Mine Road
Middletown, CA 95461

Facility: Geysers Unit 16
Location: Section 35, T11N, R8W MDB&M Lake County

Name and Equipment Description: Unit 16 Geothermal Power Plant

One (1) 120 MW Geothermal Power Plant including: One (1) 120 MW Geothermal Steam Turbine/Generator Unit, ancillary piping, pumps and controls including a 50% capacity turbine bypass system; One (1) Primary H2S Abatement System-Stretford sulfur recovery plant, surface condenser, gas handling system and process H2S continuous emissions monitor; One (1) Secondary H2S Abatement System- hydrogen peroxide and chelated Iron catalyst chemical storage and feed system; and One (1) Circulating water system consisting of an 11 cell cooling tower with associated fans, 12 blade with drift elimination ratio at 0.001 %, circulating water pumps, piping, controls, reinjection sump and non-condensable gas distribution system, and Turbine Gland Seal System Modification.

Permit Conditions

Condition 1: Emissions

- A. The emissions limitations contained below shall apply during normal power plant operation, outages, and/or curtailments. All equipment shall be regularly maintained in good working order and operated in a manner to prevent or minimize air emissions.
- B. Hydrogen Sulfide (H2S) emissions from the Unit 16 Power Plant facility shall not exceed five (5.0) pounds per hour on a combined basis, and meet an annual performance criteria not to exceed seven and one-half (7.5) pounds per hour for an aggregate of not more than 72 hours per year.
- C. The H2S content in the sweet gas from the Stretford shall not exceed 10 ppmv, prior to dilution in the cooling tower.
- D. The H2S concentration from the Gland Steam Seal System vent shall not exceed 250 ppmw, and the H2S emission rate shall not exceed 0.1 lbs/hr.
- E. Geysers Power Company, LLC (GPC) shall install and maintain cooling tower drift elimination rated at 0.002 % or better. In the event of generalized atmospheric conditions or localized dangerous contamination of such a nature as to constitute an emergency creating a danger to the health and welfare of the citizens of Lake County, the Air Pollution Control Officer (APCO) will take immediate action by requiring GPC to reduce H2S or other emissions, or to discontinue emissions entirely. In the event emissions are discontinued entirely, a hearing shall be held by the Lake County Air Quality Management District (LCAQMD) Hearing Board, as soon as practical after such action has been taken, to determine whether such discontinuance shall continue, and under what conditions.
- G. Visible emissions shall not exceed the values listed below for more than three (3) minutes in any one (1) hour:
 - Ringelmann 0.5 (10% opacity) for combustion emissions engine exhaust; and
 - Ringelmann 1 (20% opacity) for road and construction dust emissions.

Condition 2: Administrative

- A. GPC shall maintain and operate the power plant, emissions abatement systems, and associated ancillary equipment as described in submitted specifications and drawings and subsequent permit modifications in accordance with good operating practices and procedures to meet the emissions limit in Condition 1. The power plant and abatement system components shall be adequately maintained and winterized.
- B. GPC shall coordinate plant operations with the steam supplier and follow the mutually developed plan to limit H2S emissions during plant operation to the H2S emission limitation in Condition 1, and in the case of a power plant outage, to meet the limitation within 15 minutes or as near to 15 minutes as possible, but in no case longer than 60 minutes after the cessation of power generation. This plan,

(Conditions 2 through 6 are continued on the back of this card)

THIS PERMIT BECOMES VOID UPON CHANGE OF OWNERSHIP OR LOCATION

This permit does not authorize the emission of air contaminants in excess of those allowed by the California Health and Safety Code or the Regulations of the Lake County Air Quality Management District. This permit cannot be considered permission to violate existing laws, ordinances, regulations, or statutes of other government agencies. The provisions of this Permit are severable. If any provision of this Permit is held invalid, the remainder of this Permit shall not be affected thereby.

involving the operation of the turbine bypass system, shall be annually reviewed and modified as necessary with the approval of the APCO.

C. The Gland Steam Seal vent shall be directed upward and not be blocked from an upward trajectory by a rain cap or other means.

D. All seal water discharged from the vacuum pumps and separators shall be directed to and flashed in the main condenser or directly re-injected. A direct re-injection line for seal water may be incorporated upon request of GPC with a written approval of the LCAQMD without further permit modification.

E. GPC shall comply with the requirements of the Air Toxics "Hot Spots" Information and Assessment Act (AB2588) as specified in Sections 44300 - 44394 of the California Health and Safety Code.

D. Within 180 days of commercial operation, GPC shall apply for a Permit to Operate, and prove compliance with these conditions.

Condition 3: Records and Reporting

A. Notification

1. The LCAQMD shall be notified pursuant to Rule 510, upon breakdown and/or loss of emissions control from this facility.

2. In the event that emissions exceed the allowable limit, GPC shall notify the LCAQMD within one (1) hour and shall advise the LCAQMD 1) the cause of the exceed; 2) actions taken or proposed to achieve compliance and 3) estimate of emissions and duration of noncompliance.

B. Reports

1. GPC shall maintain records of the plant and abatement system operation, testing to show compliance with the emission limits, and provide a summary on a quarterly basis. The quarterly summary shall detail: a) hours of operation; b) any periods of abatement equipment malfunctions, reason for malfunction and corrective action; c) types and amounts of chemicals used for condensate treatment; d) periods of scheduled and unscheduled outages and the cause of outages, if known; e) a summary of continuous emissions monitoring records for plant operation and monitor maintenance; f) results of source tests, and g) the dates and hours of any H2S emissions in excess of the limitation in Condition 1.

Condition 4: Modification

A. GPC shall submit an application for and receive an Authority to Construct Permit prior to any significant deletions, additions, modifications of, or operational changes to, the constructed power plant, automated (computerized) management system, and AECS equipment.

Condition 5: Testing and Monitoring

A. Upon a determination by the APCO that continuous monitors or monitoring systems are available to quantify plant cooling tower emissions, GPC shall install and operate a continuous emissions monitor system to verify compliance with emissions limits contained in Condition 1. Until such time as continuous emissions monitors are installed and operational, GPC shall conduct monthly H2S source testing of the cooling tower stacks or as specified in an accepted performance plan under Section 655. The monthly test shall conform to source tests submitted to meet AFC Condition (K) and DOC Condition 11A.

B. GPC shall maintain a continuous H2S monitor and record of gas flow on the Stretford treated gas stream. Such equipment shall be maintained in calibration and records of calibration shall be available to the LCAQMD upon request.

C. GPC shall annually conduct a comprehensive emissions test. The incoming steam, condensate, circulating water and cooling tower stack shall be tested for H2S, ammonia, arsenic, boron, hexavalent chrome, mercury, radon 222 and particulates as appropriate. The APCO may request analysis for additional components and testing at other process points upon reasonable request and in a manner necessary to comply with AB 2588 or other applicable law(s). The annual test plan shall be submitted for LCAQMD review and approval 45 days prior to the planned test. The results of the test shall be provided to the LCAQMD within 60 days of the completion of the test, or as soon as practicable.

D. GPC shall fund, participate in, or cause to be performed ambient monitoring for H2S, wind speed and direction, temperature and rainfall at a location within the Anderson Springs area approved by the APCO for the operational life of the plant. GPC shall participate in, fund, or cause to be performed, additional ambient monitoring as reasonably requested by the APCO upon determination that plant emissions are an air quality concern. The H2S and meteorological data shall be immediately available to the LCAQMD and data reports, in a format acceptable to the LCAQMD, shall be submitted on a quarterly basis. A joint monitoring effort on an equitable basis with other developers such as GAMP shall be acceptable. Upon written request of the APCO, GPC shall install, operate and maintain a meteorological monitoring station at the power plant site. It shall be located, the results reported and access to data provided as determined by the APCO.

E. Source testing of the Gland Steam Seal System, as approved by the APCO, shall be performed annually unless waived in writing by the APCO.

Condition 6: Identification and Access

A. GPC shall provide safe access to the plant records, logbooks, equipment, and sampling ports for the purpose of inspection and testing by the LCAQMD, its representatives or the California Air Resources Board. Should the plant be secured by locks or gates, the LCAQMD shall be provided keys, combinations or other means to gain immediate access for purpose of testing or inspection.

This permit is based on the equipment and process submitted by GPC and considered in the Authority to Construct assessment. The permit issuance is based on the assumption that the operation of this source, as conditioned, will not result in a violation of LCAQMD Rules and Regulations nor contribute to an exceed of any State or Federal Ambient Air Quality Standard.

LAKE COUNTY AIR QUALITY MANAGEMENT DISTRICT

CONDITIONAL APPROVAL FOR AN AUTHORITY TO CONSTRUCT A MODIFICATION

GEYSERS POWER COMPANY, LLC UNIT 16 GEOTHERMAL POWER PLANT 10350 SOCRATES MINE ROAD, MIDDLETOWN, CA A/C 2015-24

Equipment List: One (1) 120 MW Geothermal Power Plant including: One (1) 120 MW Geothermal Steam Turbine/Generator Unit, ancillary piping, pumps and controls including a 50% capacity turbine bypass system; One (1) Primary H₂S Abatement System- Stretford sulfur recovery plant, surface condenser, gas handling system and process H₂S continuous emissions monitor; One (1) Secondary H₂S Abatement System- hydrogen peroxide and chelated Iron catalyst chemical storage and feed system; and One (1) Circulating water system consisting of an 11 cell cooling tower with associated fans, 12 blade with drift elimination ratio at 0.001 %, circulating water pumps, piping, controls, reinjection sump and non-condensable gas distribution system, and Turbine Gland Seal System Modification.

Location: Section 35, T11N, R8W, MDB&M Lake County, CA.

Condition 1: Emissions

A. The emissions limitations contained below shall apply during normal power plant operation, outages, and/or curtailments. All equipment shall be regularly maintained in good working order and operated in a manner to prevent or minimize air emissions.

B. Hydrogen Sulfide (H₂S) emissions from the Unit 16 Power Plant facility shall not exceed five (5.0) pounds per hour on a combined basis, and meet an annual performance criteria not to exceed seven and one-half (7.5) pounds per hour for an aggregate of not more than 72 hours per year.

C. The H₂S content in the sweet gas from the Stretford shall not exceed 10 ppmv, prior to dilution in the cooling tower.

D. The H₂S concentration from the Gland Steam Seal System vent shall not exceed 250 ppmw, and the H₂S emission rate shall not exceed 0.1 lbs/hr.

E. Geysers Power Company, LLC (GPC) shall install and maintain cooling tower drift elimination rated at 0.002 % or better. In the event of generalized atmospheric conditions or localized dangerous contamination of such a nature as to constitute an emergency creating a danger to the health and welfare of the citizens of Lake County, the Air Pollution Control Officer (APCO) will take immediate action by requiring GPC to reduce H₂S or other emissions, or to discontinue emissions entirely. In the event emissions are discontinued entirely, a hearing shall be held by the Lake County Air Quality Management District (LCAQMD) Hearing Board, as soon as practical after such action has been taken, to determine whether such discontinuance shall continue, and under what conditions.

G. Visible emissions shall not exceed the values listed below for more than three (3) minutes in any one (1) hour:

- Ringelmann 0.5 (10% opacity) for combustion emissions engine exhaust; and
- Ringelmann 1 (20% opacity) for road and construction dust emissions.

Condition 2: Administrative

A. GPC shall maintain and operate the power plant, emissions abatement systems, and associated ancillary equipment as described in submitted specifications and drawings and subsequent permit modifications in accordance with good operating practices and procedures to meet the emissions limit in Condition 1. The power plant and abatement system components shall be adequately maintained and winterized.

B. GPC shall coordinate plant operations with the steam supplier and follow the mutually developed plan to limit H₂S emissions during plant operation to the H₂S emission limitation in Condition 1, and in the case of a power plant outage, to meet the limitation within 15 minutes or as near to 15 minutes as possible, but in no case longer than 60 minutes after the cessation of power generation. This plan, involving the operation of the turbine bypass system, shall be annually reviewed and modified as necessary with the approval of the APCO.

C. The Gland Steam Seal vent shall be directed upward and not be blocked from an upward trajectory by a rain cap or other means.

D. All seal water discharged from the vacuum pumps and separators shall be directed to and flashed in the main condenser or directly re-injected. A direct re-injection line for seal water may be incorporated upon request of GPC with a written approval of the LCAQMD without further permit modification.

E. GPC shall comply with the requirements of the Air Toxics "Hot Spots" Information and Assessment Act (AB2588) as specified in Sections 44300 - 44394 of the California Health and Safety Code.

D. Within 180 days of commercial operation, GPC shall apply for a Permit to Operate, and prove compliance with these conditions.

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Condition 6: Identification and Access

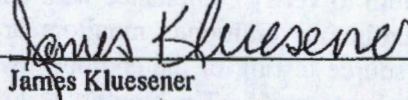
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Issued By:


12/8/2015
Douglas Gearhart, APCO
Lake County Air Quality
Management District

Accepted By:


James Kluesener
Vice President Regional Operations
Geysers Power Company, LLC

1/12/16