

DOCKETED

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Project Title:	Compliance - Application for Certification for PG&E Geysers Unit 17 (78-NOI-3)
TN #:	214117
Document Title:	Petition For Staff Approved Project Modification
Description:	Petition for a staff approved project modification to install a steam turbine bypass
Filer:	Bruce Boyer
Organization:	California Energy Commission
Submitter Role:	Commission Staff
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GEYSERS POWER COMPANY, LLC

10350 SOCRATES MINE ROAD
MIDDLETOWN, CA 95461



NYSE CPN

GWQ 16-121

September 21, 2016

Ms. Camille Remy-Obad
Compliance Project Manager
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

RE: Geysers Power Company Lake View (Unit 17) Geothermal Project: 79-AFC-01C
Turbine Bypass Project

Dear Ms. Remy-Obad:

Pursuant to Section 1769 of the California Energy Commission ("CEC") Siting Regulations, Geysers Power Company, LLC ("GPC") hereby submits the attached Petition for a Staff Approved Modification ("Petition") to install a steam turbine bypass at the Lake View (Unit 17) power plant ("Project").

GPC plans to install a steam turbine bypass at the Geysers in order to make the facility more flexible and responsive to the needs of the CAISO. The steam turbine bypass will make it easier for Unit 17 to be more dispatchable, both up and down, in order to match the more variable energy production pattern created by renewable energy resources whose output varies by time of day, weather and season.

The steam turbine bypass will consist of several valves and piping that will route steam from before the turbine to a manifold inside the main condenser after the turbine. The bypassed steam will be condensed to water and the non-condensable gases will be processed in the same way as steam going through the turbine. The net effect will be a reduction in generation and increase in ramping capabilities. This project is pursuant to and part of CEC Grant EPC-14-002.

The Project will not result in any significant environmental effects and there are no changes required to the Conditions of Certification for Unit 17.

Please do not hesitate to contact me if you have any further questions.

Bruce Carlsen
Director, Environmental Services

**Lake View Geothermal Power
Project
(Geysers Unit 17)
(79-AFC-01C)**

Petition for Modification

Submitted by
Geysers Power Company, LLC
September 2016

GEYSERS POWER COMPANY, LLC
LAKE VIEW (UNIT 17) GEOTHERMAL POWER PLANT
PETITION FOR A STAFF APPROVED MODIFICATION

Pursuant to Section 1769 of the California Energy Commission's Siting Regulations, Geysers Power Company, LLC (GPC) hereby submits the following information in support of a staff approved modification.

Section 1769 (a)(I)(A) and (B) requires a description of the proposed modifications, including new language for affected conditions and the necessity for the modifications.

GPC plans to install a steam turbine bypass at the Geysers that will allow the facility to be more flexible and responsive to the needs of CAISO. The steam turbine bypass will make it easier for the Geysers to be more dispatchable both up and down in order to match the more variable energy production pattern created by renewable energy resources whose output varies by time of day, weather and season.

The steam turbine bypass will consist of several valves and piping that will route steam from before the turbine to a manifold inside the main condenser after the turbine. The bypassed steam will be condensed to water and the non-condensable gases will be processed in the same way as steam going through the turbine. The net effect will be a reduction in generation and increase in ramping capabilities allowing CAISO to better match supply and demand. The Project is pursuant to and part of CEC Grant EPC-14-002.

A. Detailed Description

The steam turbine bypass at Lake View will consist of approximately 350 feet of steam pipe that will be connected to a tee on the inlet steam piping upstream of the steam turbine control and stop valves. The steam flow rate will be controlled by control valves with manual block valves on each side. For good distribution of steam in the condenser, connections will be made into the condenser and distributed inside with separate manifolds going across the width of the condenser. The distribution and number of these entries will be optimized to achieve optimal performance. Water spray headers may also be used with the steam manifolds to cool the bypassed steam as it enters the condenser if necessary. The maximum steam design flow of the turbine bypass at Lake View will be 1.2 million pounds per hour.

B. Control Logic

In response to a need to change electrical output of the facility, the steam turbine control system will throttle the main turbine governor valves. This will cause main steam supply header pressure to change and at a pressure change of $\geq 3\%$, a corresponding change in the bypass valve position will occur. The bypass control valve will open more on a pressure increase or close more on a pressure decrease. The goal will be to limit the main steam supply header pressure change to $\leq 5\%$.

C. Installation of Turbine Bypass

The steam turbine bypass will be installed in two phases. The first phase will consist of those items that can be installed while the facility is on line. This would include installing piping, valves and controls external to the condenser. This phase of the Project is expected to take 10-13 weeks.

The second phase of the installation will comprise of those items that require the facility to be off line. This would include all tie in work to the condenser and work inside the condenser. This phase of the Project is expected to be completed in 16 days and will be done during an outage.

The installation of the turbine bypass system will take place in or just outside the turbine building and will not be noticeable to nearby residents. No off site staging areas will be required and the installation will be conducted by a small crew of contract workers anticipated to be at most 4-8 people for 6-8 weeks for the mechanical installation, including prefabrication. The electrical and controls portion would involve a couple of electricians for 3 weeks, followed by a couple of weeks for controls development and trouble shooting. Materials for the Project can be transported by several trucks and there will be no notable increase in truck traffic over that which normally supports Geysers routine plant and field work. A few minor supports will need to be augered within the existing plant yard for steam line supports as well as work access platforms to allow servicing of control valves.

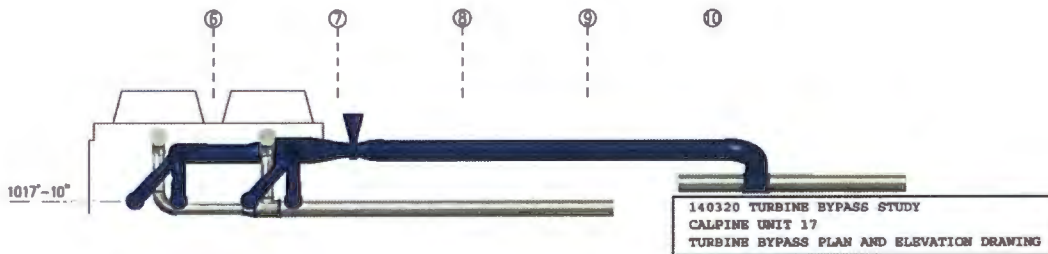
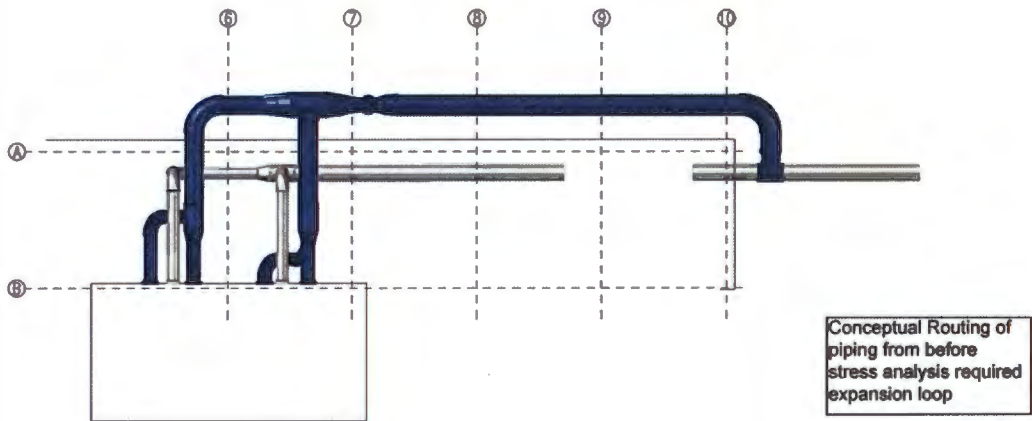
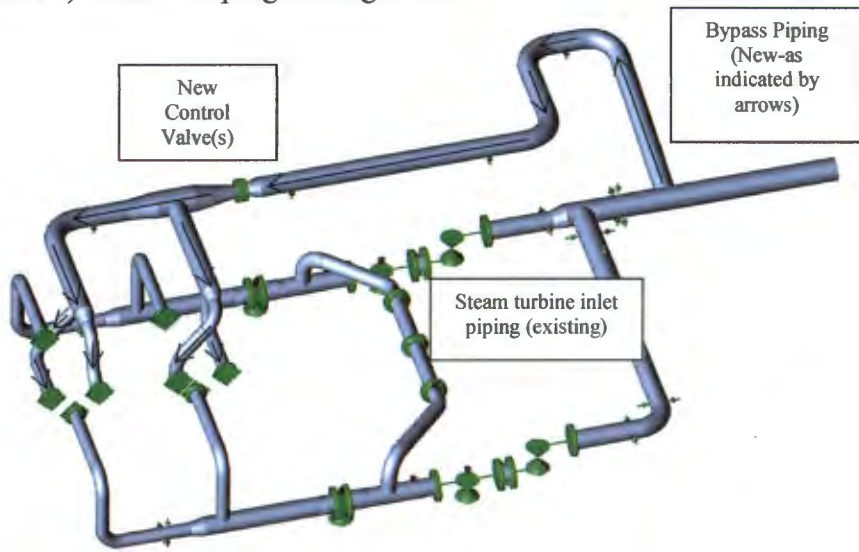
Local building permits will not be required.

The steam turbine bypass is not a substantial alteration to the design, operation or performance of the plant. The Northern Sonoma County has determined that no air permit is necessary.

The Project is categorically exempt under CEQA (class 1) as a minor alteration of existing facility or mechanical equipment, involving negligible or no expansion of use.

Approval of the Petition will not result in a significant effect on the environment. The Project will continue to comply with all applicable laws, ordinances, regulations, and standards ("LORS"). The facility will continue to meet all existing emissions limits established in the existing permits. There are no conditions of certification that need to be changed for the Project.

Lake View (Unit 17) Turbine Piping Arrangement:



Section 1769(a)(1)(C) requires a discussion of whether the modification is based on information that was known by the petitioner during the certification proceeding, and an explanation of why the issue was not raised at that time.

The proposed modification is not based upon information that was known during the certification proceeding for the Project.

Section 1769(a)(1)(D) requires a discussion of whether the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, and explanation of why the change should be permitted.

The modification does not change or undermine the assumptions, rationale, findings, or other bases of the Commission's decision certifying the Project.

Section 1769(a)(1)(E) requires an analysis of the impacts the modifications may have on the environment and proposed measures to mitigate any significant adverse impacts.

The Project is categorically exempt under CEQA (class 1) as a minor alteration of existing facility or mechanical equipment, involving negligible or no expansion of use.

There is no possibility that the proposed modification will result in any significant adverse environmental impacts; thus, no mitigation measures are required. The installation of the turbine bypass system will take place in or just outside the turbine building and will not be noticeable to nearby residents. No off site staging areas will be required and the installation will be conducted by a small crew of contract workers anticipated to be at most 4-8 people for 6-8 weeks for the mechanical installation, including prefabrication.

The proposed steam turbine bypass will not cause the facility to operate outside its design parameters. The Project will continue to meet all existing emissions limits established in the existing permits.

Section 1769(a)(1)(F) requires a discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards.

The proposed modification will not impact the Project's ability to comply with applicable LORS.

Section 1769(a)(1)(G) requires a discussion of how the modifications affect the public.

The proposed modification will not adversely affect the public. The modification will not cause physical changes to the environment, and will not negatively impact air quality or public health. The installation of the turbine bypass system will take place in or just outside the turbine building and will not be noticeable to nearby residents. Therefore, there are no significant adverse effects on property owners that will result from the proposed modification.

Section 1769(a)(1)(H) requires a list of property owners potentially affected by the modification is required.

The proposed modification will have no significant environmental effects and will be in compliance with applicable LORS. No property owners will be affected by the modifications. Nevertheless, a list of property owners within 500 feet of the Project is as follows:

Estate of George W. Turner, et al
C/O John Connelly
5420 Hessel Avenue
Sebastopol, CA 95472

Section 1769(a)(1)(I) requires a discussion of the potential effect on nearby property owners, the public and the parties in the application proceeding.

The proposed modification will have no significant environmental effects and will be in compliance with applicable LORS. Therefore, the proposed changes will have no impact on property owners, the public, or any other parties.