

DOCKETED

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CALIFORNIA ENERGY COMMISSION

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DATE: September 6, 2013

TO: Interested Parties

FROM: Camille Remy Obad, Compliance Project Manager

SUBJECT: Bottle Rock Geothermal Project (79-AFC-4C)
Staff Analysis of Proposed Modifications to the Compliance Conditions of Certification (formerly the General Provisions)

On March 8, 2013, Bottle Rock Power, LLC, (BRP) filed a petition with the California Energy Commission to amend the Energy Commission Decision for the Bottle Rock Geothermal Project. Staff prepared an analysis of this proposed change, and a copy is enclosed for your information and review.

The Bottle Rock Geothermal project is a 55 MW geothermal power plant located in Lake County near Cobb, California. The project was certified by the Energy Commission on November 5, 1980, and began commercial operation in 1985.

The proposed modifications will provide BRP with modern compliance conditions of certification, including guidance for contingency and closure planning and adequate financial assurances.

Energy Commission staff reviewed the petition and assessed the impacts of this proposal on environmental quality, public health and safety, and proposes revisions to existing conditions of certification for the Bottle Rock Geothermal Plant's Compliance Conditions of Certification (formerly the General Provisions). It is staff's opinion that, with the implementation of revised conditions, the project will remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment (Title 20, California Code of Regulations, Section 1769).

The amendment petition and staff's analysis has been posted on the Energy Commission's webpage at <http://www.energy.ca.gov/sitingcases/bottlerock/>. A Committee-led workshop will be scheduled in September. The Committee will provide a separately mailed notice for this workshop that will also be posted to the website. Depending on the outcome of these events the Commission staff intends to recommend approval of the petition on or before at the January 2014 Business Meeting of the Energy Commission. The Energy Commission's Order (if approved) will also be posted on the webpage.

Agencies and members of the public who wish to provide comments on the amendment petition are asked to submit their comments on or before September 20, 2013 using the

Energy Commission's e-commenting feature by going to the Energy Commission's Bottle Rock Geothermal Project webpage <http://www.energy.ca.gov/sitingcases/bottlerock>, and clicking on the "Submit e-Comment" link. A full name, e-mail address, comment title, and either a comment or an attached document (in the .doc, .docx, or .pdf format) are mandatory. After entering CAPTCHA (a challenge-response test used by the system to ensure that responses are generated by a human user and not a computer), click on the "Agree & Submit Your comment" button to submit the comment to the Energy Commission Dockets Unit. Written comments may also be mailed or hand delivered to:

California Energy Commission
Dockets Unit, MS-4
Docket No. (79-AFC-4C)
1516 Ninth Street
Sacramento, CA 95814-5512

All comments and materials filed with the Dockets Unit will become part of the public record of the proceeding.

If you have any questions, please contact Camille Remy Obad, Compliance Project Manager, at (916) 654-3940, or by fax to (916) 654-3882, or via e-mail at: Camille.Remy-Obad@energy.ca.gov.

If you desire information on participating in the Energy Commission's amendment process, please contact the Energy Commission's Public Adviser's Office, at (916) 654-4489 or toll free in California, at (800) 822-6228. The Public Adviser's Office can also be contacted via email at publicadviser@energy.ca.gov.

News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail at mediaoffice@energy.state.ca.us.

Enclosure

BOTTLE ROCK GEOTHERMAL FACILITY (79-AFC-4C)

Proposed Amendment to Compliance Conditions of Certification Relating to Financial Assurance

EXECUTIVE SUMMARY Prepared by Camille Remy Obad September 2013

INTRODUCTION

On March 8, 2013, Bottle Rock Power, LLC (BRP) submitted a Petition to Amend (Petition) the Energy Commission Final Decision (Decision) <http://www.energy.ca.gov/sitingcases/bottlerock/> for the Bottle Rock Geothermal Power Plant project (BRPP). Staff has completed its review of all materials received.

The purpose of the Energy Commission's review process is to assess any impacts the proposed modifications would have on environmental quality and public health and safety. The process includes an evaluation of the consistency of the proposed changes with the Energy Commission's 1980 Decision and an assessment of whether the project, as modified, will remain in compliance with applicable laws, ordinances, regulations, and standards (LORS) (Title 20, Calif. Code of Regulations (20 CCR), section 1769).

This analysis contains staff's evaluation of BRP's proposal to change various conditions related to emergency response contingency and closure planning and decommissioning financial assurances.

PROJECT LOCATION AND DESCRIPTION

The BRPP was permitted as a 55 megawatt (MW) dry steam geothermal power plant residing on a small portion of the 350-acre Francisco Lease, located on High Valley Road, in Lake County near the community of Cobb, California. The Energy Commission certified the project on November 5, 1980, and began commercial operation in 1985. Currently the BRPP is only generating approximately 10 MW due to low steam supply.

DESCRIPTION OF PROPOSED MODIFICATIONS

BRP is petitioning the Commission to remove requirements, contained in a May 30, 2001, Order [approving a transfer of ownership from the California Department of Water Resources (DWR)], that the new owner maintain a \$5 million decommissioning bond and a \$10 million environmental impairment liability insurance policy. The Petition also asks the Commission to update BRPP's decommissioning conditions of certification to mirror modern, standard requirements and to adopt new conditions of certification that require up-front preliminary decommissioning planning.

NECESSITY FOR THE PROPOSED MODIFICATIONS

The petitioner states that the funds that were previously devoted to secure the decommissioning bond are essential for expansion of the steam resources available to the plant and to fulfill their obligations under their newly negotiated power purchase agreement with Pacific Gas and Electric. The petitioner asserts that inefficient capital restrictions are an obstacle to securing investment and subsequent facility expansion.

STAFF'S ASSESSMENT OF THE PROPOSED PROJECT CHANGES

The technical sections contained in this Staff Assessment include staff-recommended changes to the existing Compliance Conditions of Certification to ensure that no significant impacts result from the proposed modifications. **Executive Summary Table 1** below provides a quick reference of staff's conclusions reached in each technical area.

Energy Commission technical staff reviewed the Petition for potential environmental effects and consistency with applicable LORS. Staff determined that the technical or environmental areas of air quality, public health, socioeconomics/aesthetics, cultural resources, biological resources (formerly biological resources and transmission line biological resources), water resources/water quality, geotechnical/seismic hazards, soils, facility design, safety, transmission line safety and nuisance, transmission system engineering, and noise are not affected by the proposed changes, and no revisions or new conditions of certification are needed to ensure that BRPP remains in compliance with all applicable LORS for these areas.

Staff determined, however, that revising Commission Decision's Compliance Conditions of Certification (formerly General Provisions) assures adequate compliance with LORS, BRP's existing conditions of certification, and serves to reduce any potentially significant environmental impacts due to facility closure to a less than significant level. The proposed revisions to the Compliance Conditions of Certification are provided in the **Compliance Conditions Analysis** and **Closure Cost Estimate Analysis** sections.

**Executive Summary Table 1
Summary of Impacts for Each Technical Area**

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			New or Revised Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Environmental Impact*	Process As Amendment	
Compliance Conditions (<i>formerly General Provisions</i>)			X	X
Air Quality	X			
Public Health	X			
Socioeconomics/Aesthetics	X			
Cultural Resources	X			
Biological Resources (<i>formerly Biological Resources and Transmission Line Biological Resources</i>)	X			
Water Resources/Water Quality	X			
Geotechnical/Seismic Hazards	X			
Soils	X			
Facility Design (<i>formerly Civil and Structural Engineering</i>)	X			
Solid Waste Management	X			
Safety	X			
Transmission Line Safety and Nuisance	X			
Transmission System Engineering	X			
Noise	X			

*There is no possibility that the staff proposed modifications would have a significant effect on the environment, and the staff recommended modifications would not result in a change or deletion of a condition adopted by the Commission in the Final Decision or make changes that would cause the project not to comply with any applicable LORS (Cal. Code Regs., tit. 20, § 1769(a)(2)).

STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes that with its proposed changes to the Compliance Conditions of Certification, the following required findings mandated by 20 CCR, §1769(a)(3) can be made and recommends approval of the Petition by the Energy Commission:

1. There will be no new or additional unmitigated, significant environmental impacts associated with the proposed changes;
2. The facility will remain in compliance with all applicable LORS; and
3. The changes will be beneficial to the public since the funds for the mitigation of any environmental impairment and for the closure of the facility will be available.
4. The proposed modifications are justified because circumstances substantially changed when BRP failed to strictly adhere to the Purchase Agreement terms and

conditions and cancelled the \$5 million closure bond mandated and affirmed in the 2001 and 2006 Orders. However, there has been no substantial change in circumstances relating to the scope of analysis necessary to calculate a closure cost estimate since these Orders, and therefore the closure cost estimate changes requested by the Petitioner cannot be supported.

Staff recommends the following:

1. Reinstate the closure surety bond with an initial obligation amount of \$4.13 million;
2. Require the submittal of a provisional closure plan and estimate of permanent closure costs within 60 days of the commission's decision on the Petition;
3. Require a triennial update to the provisional closure plan and estimate of permanent closure costs;
4. Require the maintenance of a \$10 million environmental impairment liability insurance policy¹; and
5. Adopt staff's proposed conditions of certification.

¹ During the May 31, 2013 Committee conference a BRP executive committed to retaining the \$10 million dollar environmental impairment insurance policy.

BOTTLE ROCK GEOTHERMAL FACILITY (79-AFC-4C)

Proposed Amendment to Compliance Conditions of Certification Relating to Financial Assurance

COMPLIANCE CONDITION ANALYSIS

**Prepared by Camille Remy Obad
September 2013**

INTRODUCTION

On March 8, 2013, Bottle Rock Power, LLC (BRP) filed a Petition to Amend (Petition) the Energy Commission Final Decision (Decision) for the Bottle Rock Geothermal Power Plant project (BRPP). BRP asked the Commission to remove requirements in a May 30, 2001, Order that mandated that BRP maintain both a \$5 million decommissioning bond and a \$10 million environmental impairment liability insurance policy. The Petition also asked the Commission to update BRPP's decommissioning conditions of certification to mirror the modern, standard requirements and to adopt a new condition of certification that requires up-front preliminary decommissioning planning.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS COMPLIANCE

Staff has reviewed the laws, ordinances, regulations and standards (LORS) identified in the Energy Commission's Final Commission Decision for the Bottle Rock Geothermal Power Plant project (CEC 1979a), and the Energy Commission's approval of previous Petitions to Amend the Decision (CEC 1997, 2005, 2006). Staff also reviewed Lake County's revised Geothermal Resources Element of their General Plan (Lake 2008), and BRP's local use permit conditions that were revised and approved in 2013 (Lake 2013)².

PROJECT DESCRIPTION AND BACKGROUND

The BRPP was permitted as a 55-megawatt (MW) dry steam geothermal power plant residing on a small portion of the 350-acre Francisco Lease, located on High Valley Road, in Lake County near the community of Cobb, California. The project was certified by the Energy Commission on November 5, 1980, and began commercial operation in 1985. The BRPP is currently only generating approximately 10 megawatts (MW) due to a low steam supply. The facility was originally permitted, constructed and owned by the California Department of Water Resources (DWR) to produce electricity for the State Water Project. In 1990, DWR suspended facility operations due to a lack of steam. On

² Lake County will require submittal and approval of a plan when BRPP is slated for closure; "conformance of existing structures with County Development Standards will be evaluated at the time of reclamation plan approval....the power plant building has several possible end uses...[and t]he Rural Lands (RL) zoning ...provides for significant flexibility for future uses (Lake 2013).

April 26, 1993, due to its suspended status, the Energy Commission approved a petition to amend that reduced the facility's monitoring and reporting requirements (CEC 1993). On December 3, 1997, the Energy Commission provided an extension of reduced monitoring and reporting requirements to allow DWR adequate time to prepare a closure plan for the facility (CEC 1997).

On May 30, 2001, the Energy Commission approved DWR's Petition for a transfer of ownership to the Bottle Rock Power Corporation, LLC (BRPC). However, due to the plant's historical under-performance and BRPC's questionable financial stability, the Energy Commission's approval ordered the parties to strictly adhere to the terms of the "Purchase Agreement for the Bottle Rock Power Plant and Assignment of Geothermal Lease" between DWR and BRPC (BRP 2012). That agreement specified that BRPC was required to maintain a \$5 million closure surety bond and \$10 million environmental impairment insurance policy. In May 2005, the Energy Commission extended the environmental monitoring requirements for the facility's suspended operations (CEC 2005).

On December 13, 2006, after sixteen years of non-operation, the Energy Commission approved facility upgrades designed for an initial 20 MW restart of the facility, and an ownership change from BRPC to the present day Bottle Rock Power, LLC (BRP) (CEC 2006). The 2006 Order updated some conditions of certification, while all remaining conditions continued in full force and effect, including the May 2001 Order to maintain a closure bond and an environmental impairment insurance policy.

On August 29, 2012, BRP and DWR finalized an agreement amending the Purchase Agreement, which included a settlement agreement with landowners V.V. & J. Coleman, LLC (BRP 2012). That amendment deleted sections 2.4 (mandating the \$5 million closure surety bond) and 2.5 (mandating the maintenance of the \$10 million environmental impairment insurance policy) from the Purchase Agreement, in exchange for a complete release of liability for DWR.

On October 11, 2012, David Coleman filed a complaint pursuant to California Code of Regulations, title 20, section 1237, alleging that that amendment to the Purchase Agreement violated the Commission's 2001 Order (Coleman 2012). On January 22, 2013, the Committee appointed to the proceeding conducted a hearing (CEC 2013a).

On February 6, 2013, the Committee sustained the complaint against BRP, concluding that BRP "violated its license for failing to maintain the \$5 million bond." The Committee found that BRP was not in violation of the condition that it maintain the environmental impairment insurance policy, noting that the \$10 million policy is current and is still in effect until May 30, 2016. The Committee ordered BRP to file a new \$5 million surety bond by March 8, 2013, or stay the bond Order by submitting a petition to amend the bond requirement and an engineering study and decommissioning cost estimate (CEC 2013b).

On March 8, 2013, BRP filed a petition seeking relief from the requirement to strictly adhere to the surety bond and environmental impairment provisions of the facility's original 2001 Purchase Agreement (BRP 2013b). BRP submitted a decommissioning

cost estimate prepared by Plant Reclamation totaling approximately \$1.6 million (BRP 2013c) on April 15, 2013.

On May 30, 2013, staff submitted an issue identification report and proposed Petition schedule (CEC 2013c), and on May 31, 2013, the Committee held a publicly noticed site visit and conference at the BRPP to discuss potential closure-related issues with plant representatives and local landowners (CEC 2013d). Technical staff visited the BRPP on June 26, 2013.

On June 28, 2013, the Committee issued a Scheduling Order, Order Granting Petition to Intervene, and Other Orders (Scheduling Order) revising the Petition schedule and directing staff to focus on 1) the appropriate scope and level of post-closure remediation; 2) the costs of such remediation; and 3) the appropriate method of providing funding for the remediation (CEC 2013e). On that day, staff provided BRP a Formal Data Request pertaining to BRP's, proposed decommissioning financial assurance mechanism and a consolidated data request for Hazardous Materials, Waste Management, Worker Safety, Geology, Soil and Water Resources, and Biological Resources related to the BRP's decommissioning cost estimate (CEC 2013f).

On July 2, 2013, the Committee affirmatively responded to BRP's request to continue the bond stay (CEC 2013g) as a result of BRP's March 8, 2013, petition. On July 18, 2013, BRP submitted objections to the data requests (BRP 2013e) and on July 29, 2013, BRP submitted partial responses to the data requests (BRP 2013f).

ANALYSIS

In its June 28, 2013, Scheduling Order, the Committee recommended that the parties in this proceeding focus on evidence and analysis relevant to the determination of the appropriate scope and level of post-closure remediation, the costs of such remediation³, and the appropriate method of providing funding for the remediation (CEC 2013e).

APPROPRIATE SCOPE AND LEVEL OF POST-CLOSURE REMEDIATION

The Energy Commission's 2007 Geothermal Permitting Guide (CEC 2007) states adequate closure must assure that the environment is protected, both during the decommissioning phase, as well as for the long-term, including issues such as site stability, habitat restoration, and reclamation of the property. Technical and compliance staff reviewed the extensive historical documentation and current operational aspects of the facility, previous site-specific closure cost estimates received for the BRPP facility, all applicable LORS, and conducted a reconnaissance site visit to better comprehend the closure efforts required. Staff also compared the closure activities and costs described in other decommissioning examples, including the 1998 Coldwater Creek Geothermal Power Plant Decommissioning Plan (84-AFC-2C) (CEC 1998) and 1997 Coldwater Creek Conceptual Restoration Plan. (ESA 1997).

³ Staff's estimated cost of the remediation is being addressed in a separate staff analysis included within this report.

For the purposes of establishing a financial assurance mechanism to pay for the closure and remediation of an industrial facility that will close at an unspecified future date, a preliminary or “provisional” closure scope must be provided. Since BRPP’s actual facility closure date is unknown, so too are many future parameters (such as new laws, master plans, development options, etc.). Thus, the present-day LORS or redevelopment options cannot be relied upon as the definitive scope of what will actually occur during the implementation of closure activities for the facility. The only way to develop a comprehensive scope of closure is to require the scope to be developed in a closure plan at or near the actual closure of the facility. Thus, staff will propose to the Committee that a planned or unplanned closure will necessitate the submittal of a final closure plan shortly before or upon the closure. This final plan will be approved by the Commission before implementation.

On December 28, 2012, BRP provided the Committee a revised lease agreement between the land owner, V.V. & J. Coleman, LLC, and Bottle Rock Power, LLC (BRP, 2012). This document contained a scope detailing the extent of decommissioning activities in the event of a closure. On April 15 and July 28, 2013, BRP also submitted recently revised Bottle Rock Power Plant Decommissioning Estimates prepared by Plant Reclamation (CEC 2013(c)(f)).

Energy Commission staff compared the tasks proposed in the recent estimates with several previous BRPP estimates, present day LORS requirements, and the level of effort required for the closure of similar facilities, to develop a compilation of closure tasks that define a reasonable decommissioning scope for the BRPP.

Energy Commission staff reviewed the scope of the decommissioning in the lease agreement and the April 15 and July 28, 2013, decommissioning estimates and determined that the scope of tasks contained therein represents an adequate list of specific tasks that conforms to the Commission’s guidance, known LORS⁴, and staff’s experience with past facility closures. Staff finds that the identified tasks can be used to ascertain a cost estimate to establish a financial assurance mechanism to fund an eventual closure.

METHOD OF PROVIDING FUNDING FOR THE REMEDIATION

According to the 2001 Decision, BRPP is required to maintain a surety bond, updated triennially, to ensure the availability of necessary closure funds. This bond essentially functions as a guarantee from a surety company to the Energy Commission that BRPP will have the funds to close, in accordance with all LORS applicable at the time of closure.

In the 2001 Decision, the Commission noted that “Commission staff is concerned that, given the facility’s poor performance history, the proposed acquisition by the Bottle Rock Power Corporation could be considered a highly speculative business transaction.” Thus, DWR provided staff with a copy of the Purchase Agreement that contained a provision that the Bottle Rock Power Corporation provide and maintain a \$5

⁴ Lake County General Plan Geothermal Policy guidance states that all aboveground geothermal facilities shall be removed or converted...and reclaimed (Lake 2008) neither the Lake County Planning Department (Lake 2013) nor V.V. & J Coleman Trust land owners object to leaving the BRPP’s main turbine and administrative building onsite for a presently unknown future use.

million surety bond for closure and maintain that bond until five (5) years after completion of all decommissioning (CEC 2001). Based upon these submittals, the Energy Commission found that “(a)adequate measures appear to have been taken to enable DWR to ensure the proper closure and decommissioning of the Bottle Rock Power Plant subsequent to the transfer of ownership in the event Bottle Rock Power Corporation is unable to do so.” The Order also required that the provisions of the Purchase Agreement be “strictly adhered to” (CEC 2001).

In its March 8, 2013, petition to amend, BRP proposed submitting a Preliminary Decommissioning Scoping Plan (PDSP) to Lake County for comments on code applicability and to Energy Commission staff for approval within 6 months after the approval of the Petition (BRP 2013b). This plan would include a scope of work and an estimate of the future net cost of decommissioning at the earliest reasonably expected date of plant closure. BRP further requested that within 90 days of the approval of the PDSP, they would submit a Decommissioning Funding Plan (Funding Plan) to Energy Commission staff. The Funding Plan would describe, at the project owner’s option, either a schedule of annual deposits into a trust sufficient to fund the future net costs of decommissioning as estimated by the PDSP, or the establishment of a decommissioning bond sufficient to fund present net costs of decommissioning as estimated by the PDSP. BRP also requested that the first deposit, or the initial establishment of the Funding Plan approved bond, be made by December 31 of the calendar year in which the Funding Plan is approved, and that, if a trust is established, annual deposits will be made each year thereafter.

As staff stated in the May 30, 2013 Issues Identification Report, BRP’s timeframes for developing and approving a PDSP, combined with the additional time requested to prepare a Funding Plan, will substantially delay the reestablishment of a financial assurance mechanism for closure (CEC 2013c). On June 28, 2013, in a Data Request to BRP, staff noted how the petition’s proposals contain no discussion of how BRP will provide a readily-available financial assurance mechanism to mitigate the potential impacts of an early (or “worst case”) closure scenario. Because of this concern, staff asked BRP to provide a detailed description of alternative financial assurance mechanisms, other than that proposed in the Petition, that would allow the Energy Commission (as the beneficiary), to access, within 30 days, the total amount of the approved closure cost estimate and closure plan⁵.

The proposal to develop and approve the PDSP could involve a lengthy public process that could last greater than 12 months. Depending on the month of the year that the document is approved, an additional 11 months could transpire before the first payment is made⁶. Given the committee’s current schedule to develop an Order addressing the Petition, that it is reasonable to assume that the first payment, as requested by BRP, may not be made until December 2015. Additionally, the percentage of the closure cost estimate that could be represented by the first and all subsequent deposits is unclear. Assuming that the percent is calculated as $P=E/Y$ (where P represents the annual payment, E represents the total closure cost estimate, and Y represents the years that

⁵ On July 18, 2013, BRP objected to Data Request #1 on the ground that the request calls for excessive speculation (CEC 2013e).

⁶ If the Funding Plan is approved in January of a particular year, the Petition proposes that the first payment will be made during the following December.

the facility is expected to operate), the amount of each deposit would likely be a small fraction of the costs necessary to close the facility⁷.

Staff is unable to assess when the project can be expected to close. Nor is staff able to provide the Energy Commission with an analysis of the ability of the petitioner to pay for the costs of closure now, or in the future. Given these uncertainties, along with BRP's inability or unwillingness to provide staff with other financial assurance mechanisms that would cover the costs of worst case (i.e. early) closure scenario, staff is recommending to the Commission that BRP provide a surety bond to cover the estimated costs of closure. To reduce unexpected costs of closure that could be caused by a sudden accidental release of a hazardous substance, staff also recommends that the \$10 million environmental impairment liability policy be maintained.

Staff recognizes BRP's argument that there is a financial burden upon them to maintain a closure bond. At the present time, the 2001 Order requires BRP to maintain a bond for 5 years after the closure of the facility. Staff believes that if the project is successfully closed, the Energy Commission could alleviate an unnecessary financial burden on BRP by releasing any unencumbered funds in the bond immediately after the successful closure of the facility, pursuant to an Energy Commission-approved closure plan. Thus, Staff is recommending that the 2001 Order's requirement to maintain the closure bond for 5 years after closure be amended.

Finally, Staff agrees with the petitioner that the process of maintaining financial assurance and of closing the facility pursuant to an Energy Commission-approved closure plan would best be accomplished by updating BRPP's decommissioning Conditions of Certification to closely mirror the modern standard requirements. Thus, staff is recommending that the Compliance Conditions of Certification currently proposed in recent Application for Certification staff assessments under review, be approved for the BRPP facility.

LORS ANALYSIS

The purpose of the Energy Commission's review process is to assess any impacts the proposed modifications would have on environmental quality and on public health and safety. The process includes an evaluation of the consistency of the proposed changes with the Energy Commission's Final Decision(s) and an assessment of whether the project, as modified, would remain in compliance with applicable laws, ordinances, regulations, and standards (Cal. Code Regs., tit. 20, § 1769). Since the new amendment does not introduce any changes in operations, only a planning process for the eventual closure of the facility at an unknown future date, the project remains in compliance with all applicable LORS.

⁷ Most electrical generation facilities under the jurisdiction of the Energy Commission are expected to operate for 30 years or more. Thus, annual payments for an upgraded facility, as referenced in the Petition, may be as little as 1/30th of the closure cost estimate.

CONCLUSIONS AND RECOMMENDATIONS

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

- A. Staff proposes reinstating the closure surety bond in the amount of \$4.13 million, retaining the \$10 million environmental impairment liability insurance policy, and adopting more current compliance conditions of certification that address facility emergency response and closure. Therefore, the staff recommendations would not change the assumptions, rationale, or findings of the Energy Commission's Final Decision and subsequent amendment approvals and orders.
- B. BRP's existing decommissioning Conditions of Certification should remain in place while BRP completes the contingency and closure planning processes delineated in the proposed Conditions of Certification **COM-12** through **COM-15** and secures the resulting financial assurance mechanisms required in Condition of Certification **COM-16**. The contingency and closure planning, incident reporting, and financial assurance mechanisms⁸ proposed ensure that no new or additional unmitigated, significant environmental impacts are associated with the proposed changes; and that the facility remains in compliance with all applicable laws, ordinances, regulations, and standards.
- C. The proposed amendment would be beneficial to the public since mitigation and closure funds for the facility would remain readily available; and
- D. The proposed modifications are justified because circumstances substantially changed when BRP failed to strictly adhere to the Purchase Agreement terms and conditions and cancelled the \$5 million closure bond mandated and affirmed in the 2001 and 2006 Orders.

Staff concludes that the adoption of the proposed Compliance Conditions of Certification; the maintenance of a surety closure bond to pay for closure; and the continuation of an environmental impairment liability insurance policy to guard against potentially significant additional closure costs will ensure that the facility will be able to close pursuant to an Energy Commission-approved closure plan.

PROPOSED COMPLIANCE CONDITIONS OF CERTIFICATION AMENDMENTS

Previously, the Compliance Conditions of Certification were titled General Provisions. Staff proposes the title General Provision be replaced with Compliance Conditions of Certification, as well as the following revisions. **Bold underline** is used to indicate staff's proposed amendments to the BRP's 1983 "Compliance Monitoring Report for DWR Bottle Rock Geothermal Project" ~~Strikethrough~~ is used to indicate deleted language and *italics* are used for emphasis.

⁸ Including triennial closure bond cost estimate reevaluation, environmental impairment liability insurance, and the release of the surety bond upon the completion of an approved closure.

INTRODUCTION

I. INTRODUCTION AND GENERAL PROVISIONS

~~Section 25532 of the Public Resources Code provides that the California Energy Commission (CEC) shall establish a monitoring system to assure that any facility certified is constructed and operated in compliance with air and water quality, public health and safety, and other applicable regulations, guidelines, and conditions adopted or established by the CEC or specified in the written decision on the application. The following plan is formulated to satisfy that directive for the Department of Water Resources (DWR) Bottle Rock Geothermal project.~~

~~Significant features of the plan include:~~

- ~~• Utilization of delegate agencies, where possible, to monitor specific elements of the compliance plan;~~
- ~~• Compliance verification of each condition by a qualified professional;~~
- ~~• Periodic compliance reports to be filed by DWR;~~
- ~~• An annual compliance report to be filed by DWR and~~
- ~~• A dispute resolution procedure.~~

The project's Compliance Conditions of Certification, including a Compliance Monitoring Plan (Compliance Plan), are established as required by Public Resources Code section 25532. The Compliance Plan provides a means for assuring that the facility is constructed, operated, and closed in compliance with public health and safety, environmental, all other applicable laws, ordinances, regulations, and standards (LORS), and the conditions adopted by the Energy Commission and specified in the written Decision on the Bottle Rock Geothermal Power Plant's Application for Certification or otherwise required by law.

The Compliance Plan is composed of elements that:

- set forth the duties and responsibilities of the compliance project manager (CPM), the project owner or operator (project owner), delegate agencies, and others;**
- set forth the requirements for handling confidential records and maintaining the compliance record;**
- state procedures for settling disputes and making post-certification changes;**
- state the requirements for periodic compliance reports and other administrative procedures that are necessary to verify the compliance status for all Energy Commission approved conditions of certification;**
- establish contingency planning, facility non-operation protocols, and closure requirements; and**
- establish a tracking method for the technical area conditions of certification that contain measures required to mitigate potentially adverse project impacts associated with construction, operation, and closure below a level of significance; each technical condition of certification also includes one or**

more verification provisions that describe the means of assuring that the condition has been satisfied.

DEFINITIONS

The following terms and definitions help determine when various conditions of certification are implemented.

Project Certification

Project certification occurs on the day the Energy Commission docket its Final Decision after adopting it at a publically noticed Business Meeting or hearing. At that time, all Energy Commission conditions of certification become binding on the project owner and the proposed facility.

Site Assessment and Project Initiation Activities

Many of the Energy Commission's conditions of certification require compliance submittals and CPM approvals prior to starting construction. The below-listed site assessment and project initiation activities may commence or completed prior to the start of construction, subject to the CPM's approval of the specific site assessment or project initiation activities.

Site assessment and project initiation activities include the following, but only to the extent the activities are minimally disruptive to soil and vegetation and will not affect listed or special-status species or other sensitive resources:

1. the installation of environmental monitoring equipment;
2. a minimally invasive soil or geological investigation;
3. a topographical survey;
4. any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility; and
5. any minimally invasive work to provide safe access to the site for any of the purposes specified in 1-4, above.

Site Mobilization and Construction

When a condition of certification requires the project owner to take an action or obtain CPM approval prior to the start of construction, or within a period of time relative to the start of construction, that action must be taken, or approval obtained, prior to any site mobilization or construction activities, as defined below.

Site mobilization and construction activities are those necessary to provide site access for construction mobilization, facility installation, and closure including both temporary and permanent equipment and structures, as determined by the CPM.

Site mobilization and construction activities include, but are not limited to:

1. ground disturbance activities like grading, boring, trenching, leveling, mechanical clearing, grubbing and scraping;
2. site preparation activities, such as access roads, temporary fencing, trailer and utility installation, construction equipment installation and storage, equipment and supply laydown areas, borrow and fill sites, temporary parking facilities, and chemical spraying and controlled burns; and
3. permanent installation activities for all facility and linear structures, including access roads, fencing, utilities, parking facilities, equipment storage, mitigation and landscaping activities, and other installations, as applicable.

System Commissioning and Decommissioning

Commissioning activities are designed to test the functionality of a facility's installed components and systems to ensure safe and reliable operation. Although decommissioning is often synonymous with facility closure, specific decommissioning activities also systematically test the removal of such systems to ensure a facility's safe closure. For compliance monitoring purposes, commissioning examples include interface connection and utility pre-testing, "cold" and "hot" electrical testing, system pressurization and optimization tests, grid synchronization, and combustion turbine "first fire". Decommissioning activity examples include utility shut down, system depressurization, structure removal and site reclamation.

Start of Commercial Operation

For compliance monitoring purposes, "commercial operation" or "operation" begins once commissioning activities are complete, the certificate of occupancy has been issued, and the power plant has reached reliable steady-state electrical production. At the start of commercial operation, plant control is usually transferred from the construction manager to the plant operations manager. Operation activities can include a steady state of electrical production, or, for "peaker plants," a seasonal or on-demand operational regime to meet peak load demands.

Non-Operation and Closure

Non-operation is time-limited and can encompass part or all of a facility. Non-operation can be a planned event, usually for minor equipment maintenance or repair, or unplanned, usually the result of unanticipated events or emergencies.

Closure is a facility shutdown with no intent to restart operation. It may also be the cumulative result of unsuccessful efforts to re-start over an increasingly lengthy period of non-operation, condemned by inadequate means and/or lack of a viable plan. Facility closures can occur due to a variety of factors, including, but not limited to, irreparable damage and/or functional or economic obsolescence.

ROLES AND RESPONSIBILITIES

Provided below is a generalized description of the compliance roles and responsibilities for Energy Commission staff (staff) and the project owner for the construction and operation of the Bottle Rock Geothermal Power Plant.

Compliance Project Manager Responsibilities

The CPM's compliance monitoring and project oversight responsibilities include:

- 1. ensuring that the design, construction, operation, and closure of the project facilities are in compliance with the terms and conditions of the Decision;**
- 2. resolving complaints;**
- 3. processing post-certification project amendments for changes to the project description, conditions of certification, ownership or operational control, and requests for extension of the deadline for the start of construction (see Condition of Certification COM-10 for instructions on filing a Petition to Amend or to extend a construction start date);**
- 4. documenting and tracking compliance filings; and**
- 5. ensuring that compliance files are maintained and accessible.**

The CPM is the central contact person for the Energy Commission during project pre-construction, construction, emergency response, operation, and closure. The CPM will consult with the appropriate responsible parties when handling compliance issues, disputes, complaints, and amendments.

All project compliance submittals are submitted to the CPM for processing. Where a submittal requires CPM approval, the approval will involve appropriate Energy Commission technical staff and management. All submittals must include searchable electronic versions (.pdf, MS Word, or equivalent files).

Project Compliance Meetings

The CPM usually schedules project compliance meetings prior to the projected construction, operation or decommissioning start dates. These meetings are used to assist the Energy Commission and the project owner's technical staff in the status review of all required conditions of certification, and take proper action if outstanding conditions remain. In addition, these meetings ensure, to the extent possible, that the Energy Commission's conditions of certification do not delay project initiation due to last-minute unforeseen issues or a compliance oversight. Project initiation meetings held during the certification process must be publicly noticed unless they are confined to administrative issues and processes.

Energy Commission Compliance Record

DWR will maintain for the life of the project files of all "as-built" documents referenced in this report. Staff of the CEC and delegate agencies will, upon reasonable notification, be given access to the files.

The CEC will maintain as a public record:

- All attestments to the fulfillment of legal requirements,
- All periodic and annual compliance reports filed by DWR,
- All documents relative to complaints of noncompliance filed with the CEC, and
- All documents relative to this compliance plan brought before the CEC

The Energy Commission maintains the following documents and information as public records, in either the Compliance files or Dockets files, for the life of the project (or other period as specified):

1. **all documents demonstrating compliance with any legal requirements relating to the construction, operation or closure of the facility;**
2. **all Monthly and Annual Compliance Reports filed by the project owner;**
3. **all project-related complaints of alleged noncompliance filed with the Energy Commission; and**
4. **all petitions for project or condition of certification changes and the resulting staff or Energy Commission action.**

CBO Delegation and Agency Cooperation

Delegate Agencies

The Warren-Alquist Act provides the CEC with exclusive siting authority for thermal power plants and related facilities. To the extent permitted by law, the CEC will delegate authority for compliance verification to various state and local agencies who have expertise in subject areas where specific requirements have been established as a condition of site certification. In the event that a delegate agency is unwilling or unable to participate in this program, the CEC will establish an alternative method of verification.

Under the California Building Code Standards, while monitoring project construction and operation, staff acts as, and has the authority of, the Chief Building Official (CBO). Staff may delegate some CBO responsibility to either an independent third-party contractor or a local building official. However, staff retains CBO authority when selecting a delegate CBO, including the interpretation and enforcement of state and local codes, and the use of discretion, as necessary, in implementing the various codes and standards.

Energy Commission staff may also seek the cooperation of state, regional, and local agencies that have an interest in public and worker health and safety and environmental quality when conducting project monitoring.

Project Owner Responsibilities

The project owner is responsible for ensuring that all conditions of certification in the Bottle Rock Geothermal Power Plant Decision are satisfied. The project owner will submit all compliance submittals to the CPM for processing unless the conditions specify another recipient. The compliance conditions regarding post-certification changes specify measures that the project owner must take when

modifying the project's design, operation, or performance requirements, or to transfer ownership or operational control. Failure to comply with any of the conditions of certification may result in a correction order, an administrative fine, certification revocation, or any combination thereof, as appropriate. A summary of the compliance conditions of certification are included as Compliance Table 1 at the conclusion of this section.

COMPLIANCE ENFORCEMENT

The CEC's legal authority to impose legal sanctions for noncompliance is specified in Title 20, California Administrative Code, Sections 1230 et seq. and California Public Resources Code, Sections 25531(c), 25532, 25534, and 25900 et seq. Moreover, delegate agencies, as set forth in this document, are authorized to take any action allowed by law in accordance with the delegate agencies' statutory authority, regulations, and administrative procedures to ensure compliance with the terms and conditions of certification and applicable laws, ordinances, and standards.

CEC may exercise all administrative measures authorized by applicable law in the event of noncompliance.

The Energy Commission's legal authority to enforce the terms and conditions of its Decision are specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke a project certification and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Decision. The Energy Commission's actions and fine assessments would take into account the specific circumstances of the incident(s).

Periodic Compliance Reporting

Information required by the compliance plan to be submitted by DWR to the CEC shall be filed as periodic compliance reports. These reports shall be filed at least once each quarter, numbered consecutively, and contain as a minimum:

- The current project construction or operating status;
- A listing of compliance plan requirements scheduled during the reporting period, with a corresponding description of the status of the requirement, i.e., completed, not started, or in progress;
- For those compliance plan requirements which DWR had expected to satisfy during the reporting period but which were not satisfied, include a statement of how and when DWR intends to satisfy the requirements;
- A listing of any changes to the compliance plan which has resulted from negotiations between DWR and the CEC or its delegate agencies; and
- Notification of any filings made with other governmental agencies having permitting authority over any aspect of the project.

Many of the conditions of certification require submittals in the Monthly and/or Annual Compliance Reports. All compliance submittals assist the CPM in

tracking project activities and monitoring compliance with the terms and conditions of the Bottle Rock Geothermal Project Decision. During construction, the project owner or an authorized agent will submit compliance reports on a monthly basis. During operation, compliance reports are submitted annually. These reports and the requirements for an accompanying compliance matrix are described below.

Noncompliance Complaint Procedures

~~Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the CEC and can result in proceedings pursuant to Title 20, California Administrative Code, Article 4, Sections 1230 et. seq.~~

Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1237, but, in many instances, the issue(s) can be resolved by using an informal dispute resolution process. Both the informal and formal complaint procedures, as described in current state law and regulations, are summarized below. Energy Commission staff will follow these provisions unless superseded by future law or regulations. The California Office of Administrative Law provides on-line access to the California Code of Regulations at <http://www.oal.ca.gov/>.

Informal Dispute Resolution Procedure Process

~~The following mediation procedure is designed to resolve informally, when possible, disputes concerning interpretation of compliance with the requirements of the DWR Bottle Rock Geothermal project compliance plan. Either DWR, the CEC, or any other party may initiate this procedure when time is critical in resolving a problem or when the alleged noncompliance does not appear significant enough to warrant a more formal investigation and proceeding.~~

~~The procedure is not intended to be a substitute for or prerequisite to the more formal complaint and investigation procedure specified in Title 20, California Administrative Code, Sections 1230 et seq. Nor may the procedure be used to change the terms and conditions of certification as approved by the CEC.~~

~~The procedure encourages all parties involved in a dispute to discuss the matter and to reach an agreement resolving the dispute. If a matter cannot be resolved, then the matter must be referred to the CEC for consideration.~~

~~**Request for Informal Investigation**—Any individual, group, or agency may request the CEC to conduct an informal investigation of an alleged noncompliance with the CEC's terms and conditions of certification for the DWR Bottle Rock Geothermal project. All requests for an informal investigation shall be made to the CEC compliance auditor by either telephone or letter.~~

~~Upon receipt of a request for investigation, the compliance auditor shall promptly notify DWR by telephone and subsequently by letter of the allegation. All known and relevant~~

~~information of the alleged noncompliance shall be provided to DWR and to the CEC staff. DWR shall promptly investigate the matter and within seven working days shall provide a written report of the results of the investigation, as well as all corrective measures undertaken to the compliance auditor and the person requesting such investigation. If the exigencies of the noncompliance demand otherwise, the compliance auditor may request the applicants to provide an initial report within 48 hours by telephone, followed by a written report filed within 7 days.~~

~~Request for Informal Meeting—In the event that either the party requesting an investigation or the CEC staff is not satisfied with the DWR report and investigation of the event, as well as the corrective measures undertaken, either may, by written request to the compliance auditor with a copy to DWR, request a meeting with DWR. Such request shall be made within 14 days of DWR's filing of its written report as described above. Upon receipt of such a request, the compliance auditor shall:~~

- ~~• Immediately schedule a meeting with the requesting party and DWR to be held promptly at a mutually convenient time and place,~~
- ~~• Secure the attendance of appropriate CEC staff and staff of any other agency with general jurisdiction and expertise in the subject area of concern,~~
- ~~• Conduct such meeting in an informal and objective manner to encourage the voluntary settlement of any dispute in a manner which is fair and equitable to the interests of all parties, and~~
- ~~• Promptly after the conclusion of such meeting, prepare a memorandum which fairly and accurately sets forth the positions of all parties and any conclusions reached and distribute copies to all attendees.~~

~~Request for Commission Hearing—If either DWR, CEC staff, or the party requesting an investigation is not satisfied with the results of said informal meeting, such party may, within 10 working days, request in writing a hearing before the Committee of the Commission, designated for the hearing of such matters. The Committee shall, upon receipt of a written request stating the basis of the dispute and the attempt at informal resolution thereof, grant a prompt hearing on the matter consistent with the requirements of noticing provisions and shall have authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction.~~

~~Appeal from Committee to Commission—Pursuant to Title 20, California Administration Code, Section 1215, the Applicants, CEC staff, or the party requesting an investigation may request review of any committee order or decision.~~

~~All recommended amendments to conditions of certification resulting from Committee investigations shall be approved by the full Commission.~~

The following informal process is designed to resolve code and compliance interpretation disputes stemming from the project's conditions of certifications and other LORS. The project owner, the Energy Commission, or any other party, including members of the public, may initiate the informal dispute resolution process. Disputes may pertain to actions or decisions made by any party, including the Energy Commission's delegate agents.

This process may precede the formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1237, but is not intended to be a prerequisite or substitute for it. This informal procedure may not be used to change the terms and conditions of certification in the Decision, although the agreed-upon resolution may result in a project owner proposing an amendment. The informal dispute resolution process encourages all parties to openly discuss the conflict and reach a mutually agreeable solution. If a dispute cannot be resolved, then the matter must be brought before the full Energy Commission for consideration via the complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1237.

Request for Informal Investigation

Any individual, group, or agency may request the CPM conduct an informal investigation of alleged noncompliance with the Energy Commission's conditions of certification. Upon receipt of an informal investigation request, the CPM will promptly provide both verbal and written notification to the project owner of the allegation(s), along with all known and relevant information of the alleged noncompliance. The CPM will evaluate the request and, if the CPM determines that further investigation is necessary, will ask the project owner to promptly conduct a formal inquiry into the matter and provide within seven days a written report of the investigation results, along with corrective measures proposed or undertaken. Depending on the urgency of the matter, the CPM may conduct a site visit and/or request that the project owner provide an initial verbal report within 48 hours.

Request for Informal Meeting

In the event that either the requesting party or Energy Commission staff are not satisfied with the project owner's investigative report or corrective measures, either party may submit a written request to the CPM for a meeting with the project owner. The request shall be made within 14 days of the project owner's filing of the required investigative report. Upon receipt of such a request, the CPM will attempt to:

1. immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
2. secure the attendance of appropriate Energy Commission staff and staff of any other agencies with expertise in the subject area of concern, as necessary; and
3. conduct the meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner.

After the meeting, the CPM will promptly prepare and distribute copies to all parties, and to the project file, of a summary memorandum that fairly and accurately identifies the positions of all parties and any understandings reached. If no agreement was reached, the CPM will direct the complainant to the formal complaint process provided under Title 20, California Code of Regulations, section 1237.

Formal Dispute Resolution Procedure

Any person may file a complaint with the Energy Commission's Dockets Unit alleging noncompliance with a Commission Decision adopted pursuant to Public Resources Code section 25500. Requirements for complaint filings and a description of how complaints are processed are provided in Title 20, California Code of Regulations, section 1237.

Post-Certification Changes to the Energy Commission Decision

The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, to modify the design, operation, or performance requirements of the project and/or the linear facilities, or to transfer ownership or operational control of the facility. *It is the responsibility of the project owner to contact the CPM to determine if a proposed project change should be considered a project modification pursuant to section 1769.* Implementation of a project modification without first securing Energy Commission approval may result in an enforcement action including civil penalties in accordance with Public Resources Code, section 25534.

Below is a summary of the criteria for determining the type of approval process required, reflecting the provisions of Title 20, California Code of Regulations, section 1769, at the time this Compliance Plan was drafted. If the Energy Commission modifies this regulation, the language in effect at the time of the requested change shall apply. Upon request, the CPM can provide sample formats of these submittals.

Amendment

The project owner shall submit a Petition to Amend the Energy Commission Decision, pursuant to Title 20, California Code of Regulations, section 1769(a), when proposing modifications to the design, operation, or performance requirements of the project and/or the linear facilities. If a proposed modification results in an added, changed, or deleted condition of certification, or makes changes causing noncompliance with any applicable LORS, the petition will be processed as a formal amendment to the Decision, triggering public notification of the proposal, public review of the Energy Commission staff's analysis, and consideration of approval by the full Energy Commission.

Change of Ownership and/or Operational Control

Change of ownership or operational control also requires that the project owner file a petition pursuant to section 1769(b). This process requires public notice and approval by the full Commission. The petition shall be in the form of a legal brief and fulfill the requirements of section 1769(b).

Staff-Approved Project Modification

Modifications that do not result in additions, deletions, or changes to the conditions of certification, that are compliant with the applicable LORS, and that will not have significant environmental impacts, may be authorized by the CPM as a staff-approved project modification pursuant to section 1769(a)(2). Once the CPM files a Notice of Determination of the proposed project modifications, any person may file an objection to the CPM's determination within 14 days of service

on the grounds that the modification does not meet the criteria of section 1769(a)(2). If there is a valid objection to the CPM's determination, the petition must be processed as a formal amendment to the Decision and must be considered for approval by the full Commission at a publically noticed Business Meeting or hearing.

Verification Change

Each condition of certification (except for the compliance conditions) has one or more means of verifying the project owner's compliance with the provisions of the condition. These verifications specify the actions and deadlines by which a project owner demonstrates compliance with the Energy Commission-adopted conditions. A verification may be modified by the CPM without requesting a Decision amendment if the change does not conflict with any condition of certification, does not violate any LORS, and provides an effective alternative means of verification.

Emergency Response Contingency Planning and Incident Reporting

To protect public health and safety and environmental quality, the conditions of certification include contingency planning and incident reporting requirements to ensure compliance with necessary health and safety practices. A well-drafted contingency plan avoids or limits potential hazards and impacts resulting from serious incidents involving personal injury, hazardous spills, flood, fire, explosions or other catastrophic events and ensures a comprehensive timely response. All such incidents must be reported immediately to the CPM and documented. These requirements are designed to build from "lessons learned," limit the hazards and impacts, anticipate and prevent recurrence, and provide for the safe and secure shutdown and re-start of the facility.

Facility Closure

The Energy Commission cannot reasonably foresee all potential circumstances in existence when a facility permanently closes. Therefore, the closure conditions provided herein must be flexible to address circumstances that may exist at some future time. Most importantly, facility closure must be consistent with all applicable Energy Commission conditions of certification and the LORS in effect at that time.

Although a non-operational facility may intend to resume operations, if it remains non-operational for longer than one year, unless the project owner can present a viable plan to resume operation, the Energy Commission can conclude that closure is imminent and direct the project owner to commence closure procedures. Should the project owner effectively abandon a facility, the Energy Commission can access the required financial assurance funds to begin closure, but the owner remains liable for all associated costs.

COMPLIANCE CONDITIONS OF CERTIFICATION

COM-1: Unrestricted Access

The project owner must take all steps necessary to ensure that the CPM, responsible Energy Commission staff, and delegated agencies or consultants have unrestricted access to the facility site, related facilities, project-related staff, and the records maintained on-site to facilitate audits, surveys, inspections, and general or closure-related site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time, whether such visits are by the CPM in person or through representatives from Energy Commission staff, delegated agencies, or consultants.

COM-2: Compliance Record

The project owner must maintain electronic copies of all project files and submittals on-site, or at an alternative site approved by the CPM, for the initiation, operational life and closure of the project. The files shall also contain at least one hard copy of:

- 1. the facility's Applications for Certification;**
- 2. all amendment petitions and Energy Commission orders;**
- 3. all site-related environmental impact and survey documentation;**
- 4. all appraisals, assessments, and studies for the project;**
- 5. all finalized original and amended structural plans and "as-built" drawings for the entire project;**
- 6. all citations, warnings, violations, or corrective actions applicable to the project, and**
- 7. the most current versions of any plans, manuals and training documentation required by the conditions of certification or applicable LORS.**

Energy Commission staff and delegate agencies must, upon request to the project owner, be given unrestricted access to the files maintained pursuant to this condition.

COM-3: Compliance Verification Submittals

Verification lead times associated with the start of construction or closure may require that compliance filings be submitted during project initiation, especially if these activities are planned to commence shortly after certification. The verification procedures, unlike the conditions, may be modified as necessary by the CPM.

The project owner or authorized agent is required to submit a cover letter for all compliance submittals and correspondence pertaining to compliance matters. The subject line must identify the project AFC number, the appropriate condition(s) of certification number(s), and a brief description of the submittal's subject matter. When submitting supplementary or corrected information, the

date of the previous submittal and the applicable condition(s) of certification must be referenced. Submittals not required by a condition of certification must include a statement such as: "This submittal is for informational purposes only and is not required by a specific condition of certification."

All reports and plans required by the project's conditions of certification must be submitted in a searchable electronic format (.pdf, MS Word, or Excel, etc.) and include standard formatting elements such as a table of contents, identifying by title and page number, each section, table, graphic, exhibit, or addendum. All report and/or plan graphics and maps must be adequately scaled and must include a key with descriptive labels, directional headings, a bar scale, and the most recent revision date.

The project owner is responsible for the content and delivery of all verification submittals to the CPM, whether the actions required by the verification were satisfied by the project owner or an agent of the project owner. All submittals must be accompanied by an electronic copy on an electronic storage medium, or by e-mail, as agreed upon by the CPM. If hardcopy submittals are required, please address as follows:

Bottle Rock Geothermal Power Project
(79-AFC-4C)
Compliance Project Manager
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

COM-4: Project Initiation Compliance Matrix and Tasks Prior to Construction

Prior to commencing construction activities, the project owner must submit to the CPM a compliance matrix including only those conditions that must be fulfilled before the initiating construction activities. The matrix will be included with the project owner's first compliance submittal or prior to the first project initiation meeting, whichever comes first, and will be submitted in a format similar to the description below.

Site mobilization and construction activities will not start until all of the following occur: submittal of the project initiation compliance matrix and compliance verifications pertaining to all project initiation and construction conditions of certification, and the CPM has issued an authorization to construct letter to the project owner. The deadlines for submitting various compliance verifications to the CPM allow sufficient staff time to review and comment on, and if necessary, allow the project owner to revise the submittal in a timely manner. These procedures help ensure that the project commences according to schedule. Failure to submit required compliance documents by the specified deadlines may result in delayed authorizations to commence various stages of the project.

If the project owner anticipates site mobilization immediately following project certification, it may be necessary for the project owner to file compliance submittals prior to project certification. In these instances, compliance

verifications can be submitted in advance of the required deadlines and the anticipated authorizations to start construction. *The project owner must understand, and acknowledge in writing with each submittal, that submitting compliance verifications prior to these authorizations is at the owner's own risk.* Any approval by Energy Commission staff prior to project certification is subject to change based upon the Commission Decision, and early staff compliance approvals do not imply that the Energy Commission will certify the project.

COM-5: Compliance Matrix

The project owner must submit a compliance matrix to the CPM with each Monthly and Annual Compliance Report. The compliance matrix provides the CPM with the status of all conditions of certification in a spreadsheet format. The compliance matrix must identify:

1. the technical area (e.g., biological resources, facility design, etc.);
2. the condition number;
3. a brief description of the verification action or submittal required by the condition;
4. the date the submittal is required (e.g., sixty (60) days prior to construction, after final inspection, etc.);
5. the expected or actual submittal date;
6. the date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable;
7. the compliance status of each condition (e.g., "not started," "in progress," or "completed" (include the date); and
8. if the condition was amended, the updated language and the date the amendment was proposed or approved.

The CPM can provide a template for the compliance matrix upon request.

COM-6: Monthly Compliance Report/Key Event List

The first Monthly Compliance Report is due one month following the docketing of the project's Decision unless otherwise agreed to by the CPM. The first Monthly Compliance Report will include the AFC number and an initial list of dates for each of the events identified on the Key Events List. The Key Events List form is found at the end of the Compliance Conditions section.

During project initiation, construction or closure the project owner or authorized agent will submit an electronic searchable version of the Monthly Compliance Report within ten (10) days after the end of each reporting month, unless otherwise specified by the CPM. Monthly Compliance Reports will be clearly identified for the month being reported. The searchable electronic copy may be filed on an electronic storage medium or by e-mail, subject to CPM approval. The compliance verification submittal condition provides guidance on report

production standards, and the Monthly Compliance Report will contain, at a minimum:

1. a summary of the current project status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
2. documents required by specific conditions to be submitted along with the Monthly Compliance Report; each of these items must be identified in the transmittal letter, as well as the conditions they satisfy, and submitted as attachments to the Monthly Compliance Report;
3. an initial, and thereafter updated, compliance matrix showing the status of all conditions of certification;
4. a list of conditions that have been satisfied during the reporting period, and a description or reference to the actions that satisfied the condition;
5. a list of any submittal deadlines that were missed, accompanied by an explanation and an estimate of when the information will be provided;
6. a cumulative listing of any approved changes to the conditions of certification;
7. a listing of any filings submitted to, or permits issued by, other governmental agencies during the month;
8. a projection of project compliance activities scheduled during the next two months; the project owner must notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with conditions of certification;
9. a listing of the month's additions to the on-site compliance file; and
10. a listing of complaints, notices of violation, official warnings, and citations received during the month; a description of the actions taken to date to resolve the issues; and the status of any unresolved actions.

COM-7: Annual Compliance Report

After construction is complete, the project owner must submit searchable electronic Annual Compliance Reports instead of Monthly Compliance Reports. Annual Compliance Reports are due for each year of commercial operation, and may be required for a specified period after decommissioning to monitor closure compliance, unless otherwise specified by the CPM. The searchable electronic copy may be filed on an electronic storage medium or by e-mail, subject to CPM approval. Each Annual Compliance Report must include the AFC number, identify the reporting period, and contain the following:

1. an updated compliance matrix showing the status of all conditions of certification (fully satisfied conditions do not need to be included in the matrix after completion is confirmed);
2. a summary of the current project status and an explanation of any significant changes to the facility's status during the year;
3. documents required by specific conditions to be submitted along with the Annual Compliance Report; each of these items must be identified in the transmittal letter with the condition it satisfies and submitted as an attachment to the Annual Compliance Report;
4. a cumulative listing of all post-certification changes approved by the Energy Commission or the CPM;
5. an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
6. a listing of filings submitted to, or permits issued by, other governmental agencies during the year;
7. a projection of project compliance activities scheduled during the next year;
8. a listing of the year's additions to the on-site compliance file;
9. an evaluation of the Site Contingency Plan, including amendments and plan updates; and
10. a listing of complaints, notices of violation, official warnings, and citations received during the year, a description of how the issues were resolved, and the status of any unresolved matters.

COM-8: Confidential Information

Any information that the project owner designates as confidential must be submitted to the Energy Commission's Executive Director with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505 (a). Any information deemed confidential pursuant to the regulations will remain undisclosed as provided for in Title 20, California Code of Regulations, section 2501.

COM-9: Annual Energy Facility Compliance Fee

Pursuant to the provisions of Section 25806(b) of the Public Resources Code, the project owner is required to pay an annually adjusted compliance fee. Current compliance fee information is available on the Energy Commission's website http://www.energy.ca.gov/siting/filing_fees.html. The project owner may also contact the CPM for the current fee information. The initial payment is due on the date the Energy Commission docket its final Decision. All subsequent payments are due by July 1st of each year in which the facility retains its certification.

COM-10: Amendments, Ownership Changes, Staff-Approved Project Modifications, and Verification Changes

The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, to modify the design, operation, or performance requirements of the project or linear facilities, or to transfer ownership or operational control of the facility. It is the project owner's responsibility to contact the CPM to determine if a proposed project modification triggers section 1769 requirements. The CPM will determine whether staff approval will be sufficient or whether Commission approval will be necessary based upon whether the proposed modifications result in a changed, added, or deleted conditions of certification or conflict with any applicable LORS. Section 1769 details the required content for a Petition to Amend an Energy Commission Decision. The only change that can be requested by means of a letter to the CPM is a request to change the verification method of a condition of certification.

Implementation of a project modification without first securing Energy Commission, or Energy Commission staff approval, may result in an enforcement action including civil penalties in accordance with section 25534 of the Public Resources Code. If the Energy Commission's rules regarding amendments are revised, the rules in effect at the time the change is requested shall apply.

COM-11: Reporting of Complaints, Notices, and Citations

Prior to the start of construction or decommissioning, the project owner must send a letter to property owners within one (1) mile of the project, notifying them of a telephone number to contact project representatives with questions, complaints, or concerns. If the telephone is not staffed twenty-four (24) hours per day, it must include automatic answering with a date and time stamp recording.

The project owner will respond to all recorded complaints within twenty-four (24) hours. The project site will post the telephone number on-site and make it easily visible to passersby during construction, operation and closure. The project owner will provide the contact information to the CPM who will post it on the Energy Commission's web page at <http://www.energy.ca.gov/sitingcases/bottlerock/>. The project owner must report any contact system disruption or change to the CPM promptly.

Within ten (10) days of receipt, the project owner must notify the CPM of any complaints (including noise and lighting), official notices, warnings, citations, court orders or fines. Copies and all relevant information must also be included in the Monthly or Annual Compliance Reports. Complaints must be logged and numbered and must be recorded on the complaint form (Attachment A) at the end of the Compliance Plan.

COM-12: Emergency Response Site Contingency Plan

No less than sixty (60) days prior to the start of commercial operation, (or other date agreed to by the CPM) the project owner must submit for CPM review and approval, an Emergency Response Site Contingency Plan (Contingency Plan).

The Contingency Plan must evidence a facility's coordinated emergency response and recovery preparedness for a series of reasonably foreseeable emergency events. The CPM may require Contingency Plan updates over the life of the facility. Contingency Plan elements include, but are not limited to:

- 1. a site-specific list and direct contact information for persons, agencies, and responders to be notified for an unanticipated event;**
- 2. a detailed and labeled facility map, including all fences and gates, the windsock location (if applicable), the on- and off-site assembly areas, and the main roads and highways near the site;**
- 3. a detailed and labeled map of population centers, sensitive receptors, and the nearest emergency response facilities;**
- 4. a description of the on-site, first response and backup emergency alert and communication systems, site-specific emergency response protocols, and procedures for maintaining the facility's contingency response capabilities, including a detailed map of interior and exterior evacuation routes, and the planned location(s) of all permanent safety equipment;**
- 5. an organizational chart including the name, contact information, and first aid/emergency response certification(s) and renewal date(s) for all personnel regularly on-site;**
- 6. a brief description of reasonably foreseeable site-specific incidents and accident sequences (on- and off-site), including response procedures and protocols and site security measures to maintain twenty-four hour site security;**
- 7. procedures for maintaining contingency response capabilities; and**
- 8. the procedures and implementation sequence for the safe and secure shutdown of all non-critical equipment and removal of hazardous materials and waste (see also specific conditions of certification for the technical areas of Public Health, Solid Waste Management, and Safety).**

COM-13: Incident Reporting Requirements

Within one (1) hour, the project owner must notify the CPM or compliance office manager (COM), by telephone and e-mail, of any incident at the power plant or appurtenant facilities that results or could result in any of the following:

- 1. reduction in the facility's ability to respond to dispatch (excluding forced outages caused by protective equipment or other typically encountered shutdown events);**
- 2. health and safety impacts on the surrounding population;**
- 3. property damage off-site;**
- 4. response by off-site emergency response agencies;**

5. serious on-site injury;
6. serious environmental damage; or
7. emergency reporting to any federal, state, or local agency.

The notice must describe the circumstances, status, and expected duration of the incident. If warranted, as soon as it is safe and feasible, the project owner must implement the safe shutdown of any non-critical equipment and removal of any hazardous materials and waste that pose a threat to public health and safety and to environmental quality (also, see specific conditions of certification for the technical areas pertaining to Air Quality; Public Health, Solid Waste Management and Safety.

Within one (1) week of the incident, the project owner must submit to the CPM a detailed incident report, which includes, as appropriate, the following information:

1. a brief description of the incident, including its date, time, and location;
2. a description of cause of the incident, or likely causes if it is still under investigation;
3. the location of any off-site impacts;
4. description of any resultant impacts;
5. a description of emergency response actions associated with the incident;
6. identification of responding agencies;
7. identification of emergency notifications made to other federal, state, and/or local agencies;
8. identification of any hazardous materials released and an estimate of the quantity released;
9. a description of any injuries, fatalities, or property damage that occurred as a result of the incident;
10. finances or violations assessed or being processed by other agencies;
11. name, phone number, and e-mail address of the appropriate facility contact person having knowledge of the event; and
12. corrective actions to prevent a recurrence of the incident.

The project owner must maintain all incident report records for the life of the project, including closure, and must provide copies of all relevant data within 24 hours of a CPM request until Energy Commission certification is revoked or cancelled.

COM-14: Non-Operation

If the facility ceases operation temporarily, either planned or unplanned, for longer than one (1) week, but less than three (3) months (or other CPM-approved dates), the project owner must notify the CPM, interested agencies and nearby property owners. Notice of planned non-operation must be given at least two (2) weeks prior to the scheduled date. Notice of unplanned non-operation must be provided no later than one (1) week after non-operation begins.

For any non-operation, a Repair/Restoration Plan for conducting the activities necessary to restore the facility to availability and reliable and/or improved performance must be submitted to the CPM within one (1) week after notice of non-operation is given. If non-operation is due to an unplanned incident, temporary repairs and/or corrective actions may be undertaken before the Repair/Restoration Plan is submitted. The Repair/Restoration Plan must include:

- 1. identification of operational and non-operational components of the plant;**
- 2. a detailed description of the repair or restoration activities;**
- 3. a proposed schedule for completing the repair or restoration activities;**
- 4. an assessment of whether or not the proposed activities would require changing, adding, or deleting any conditions of certification or would cause noncompliance with any applicable LORS; and**
- 5. planned activities during non-operation, including any measures to ensure continued compliance with all conditions of certification and LORS;**

Written updates to the CPM for non-operational periods, until operation resumes, will include:

- 1. progress relative to the schedule;**
- 2. developments that delayed or advanced progress or that may delay or advance future progress;**
- 3. any public, agency or media comments or complaints; and**
- 4. projected date for the resumption of operation.**

During non-operation, all applicable conditions of certification and reporting requirements remain in effect. If, after one (1) year from the date of the project owner's last report of productive Repair/Restoration Plan work, the facility does not resume operation or does not provide a plan to resume operation, the Executive Director may assign suspended status to the facility and recommend commencement of permanent closure activities. Within ninety (90) days of the Executive Director's determination, the project owner must do one of the following:

- 1. If the facility has a closure plan, the project owner will update, submit for CPM approval, and initiate the closure activities in the approved plan.**

2. If the facility does not have a closure plan, the project owner must submit one consistent with the requirements in this Compliance Plan, for CPM review and approval.

COM-15: Closure Planning

To ensure that a facility's closure and long-term maintenance do not pose a threat to public health and safety or to environmental quality, the project owner must coordinate with the Energy Commission to plan and prepare for eventual permanent closure.

A. Provisional Closure Plan and Estimate of Permanent Closure Costs

To assure adequate facility closure, the project owner must submit a Provisional Closure Plan and Cost Estimate (Provisional Closure Plan), for CPM review and approval. The project owner must submit the Provisional Closure Plan within sixty (60) days after the Commission's decision. Costs estimated within the Provisional Closure Plan must consider all applicable final closure plan requirements delineated below, including interim and post-closure site maintenance, and reflect:

1. all relevant operation, maintenance, and administrative costs for all reclamation, including indirect costs, insurance coverage, and inflation
2. facility closure costs at a time in the facility's projected life span when the mode and scope of facility operation would make permanent closure the most expensive;
3. the use of an independent third party to carry out the permanent closure; and
4. no use of salvage value to offset closure costs.

A closure/decommissioning services consultant should prepare the Provisional Plan, and must provide for a phased closure process, including but not be limited to:

1. comprehensive scope of work and itemized budget;
2. closure plan development costs;
3. dismantling and demolition;
4. recycling and site clean-up;
5. mitigation and monitoring direct, indirect, and cumulative impacts;
6. site remediation and/or restoration;
7. interim operation and post-closure monitoring and maintenance, including long-term equipment replacement costs; and
8. contingencies.

The project owner must include an updated Provisional Plan in every third-year Annual Compliance Report for CPM review and approval. Each Provisional Plan update must reflect the most current regulatory standards, best management practices, applicable LORS, and an updated facility closure cost estimate.

B. Final Closure Plan

Three (3) years prior to initiating a permanent facility closure, the project owner must submit for CPM review and approval, a Final Closure Plan (Final Plan), Final Plan contents include, but are not limited to:

- 1. a statement of specific Final Closure Plan objectives;**
- 2. a statement of qualifications and resumes of the technical experts proposed to conduct the closure activities, with detailed descriptions of previous power plant closure experience;**
- 3. identification of any facility-related installations not part of the Energy Commission certification, designation of responsible parties, and an explanation of what will be done with the installations after closure;**
- 4. a comprehensive scope of work and itemized budget for permanent plant closure, with a description and explanation of methods to be used, broken down by phases, including, but not limited to:**
 - a. dismantling and demolition;**
 - b. recycling and site clean-up;**
 - c. impact mitigation and monitoring;**
 - d. site remediation and/or restoration;**
 - e. post-closure maintenance; and**
 - f. contingencies.**
- 5. a revised/updated cost estimate for all closure activities, by phases, including long-term, post-closure site monitoring and maintenance costs, and replacement of long-term post-closure equipment;**
- 6. a schedule projecting all phases of closure activities for the power plant site and all appurtenances constructed as part of the Energy Commission-licensed project;**
- 7. an electronic submittal package of all relevant plans, drawings, risk assessments, and maintenance schedules and/or reports, including an above- and below-ground infrastructure inventory map and registered engineer's or delegate CBO's assessment of demolishing the facility; additionally, for any facility that permanently ceased operation prior to submitting a Final Closure Plan and for which only minimal or no maintenance has been done since, a comprehensive condition report focused on identifying potential hazards;**
- 8. all information additionally required by the facility's conditions of certification applicable to plant closure;**
- 9. an equipment disposition plan, including:**
 - a. recycling and disposal methods for equipment and materials; and**
 - b. identification and justification for any equipment and materials that will remain on-site after closure;**

10. a site disposition plan, including but not limited to:
 - a. proposed rehabilitation, restoration, and/or remediation procedures, as required by the conditions of certification and applicable LORS,
 - b. long-term site maintenance activities, and
 - c. anticipated future land-use options after closure;
11. identification and assessment of all potential direct, indirect, and cumulative impacts and proposal of mitigation measures to reduce significant adverse impacts to a less-than-significant level; potential impacts to be considered shall include, but not be limited to:
 - a. traffic
 - b. noise and vibration
 - c. soil erosion
 - d. air quality degradation
 - e. solid waste
 - f. hazardous materials
 - g. waste water discharges
 - h. contaminated soil
12. identification of all current conditions of certification, LORS, federal, state, regional and local planning efforts applicable to the facility, and proposed strategies for achieving and maintaining compliance during closure;
13. updated mailing list or listserv of all responsible agencies, potentially interested parties, and property owners within one (1) mile of the facility;
14. identification of alternatives to plant closure and assessment of the feasibility and environmental impacts of these; and
15. description of and schedule for security measures and safe shutdown of all non-critical equipment and removal of hazardous materials and waste (see conditions of certification for Public Health, Solid Waste Management and Safety).

If a CPM-approved Final Closure Plan is not implemented within one (1) year of its approval date, it must be updated and re-submitted to the CPM for supplementary review and approval. If a project owner initiates but then suspends closure activities, and the suspension continues for longer than one (1) year, or subsequently abandons the facility, the Energy Commission may access the required financial assurance funds to complete the closure. The project owner remains liable for all costs of contingency planning and closure.

COM-16: Closure Financial Assurances

A. Financial Assurance Mechanism: Surety Bond

The project owner must provide financial assurances to the Energy Commission, guaranteeing adequate and readily available funds to finance interim operation, facility closure, and post-closure site care, as needed.

Within thirty (30) days following CPM approval of the project owner's first Provisional Closure Plan, pursuant to COM-15, the project owner must establish an irrevocable closure surety bond and standby trust fund. The surety bond must guarantee the project owner's performance of closure, as specified in the Provisional Closure Plan. The bond's obligation amount is initially set at \$4.13 million, and may subsequently be adjusted in the amount of the CPM-approved Provisional Closure Plan.

The standby trust fund shall have as its Beneficiary the California State Energy Resources Conservation and Development Commission.

Within sixty (60) days of CPM approval of each triennial Provisional Closure Plan prepared pursuant to COM-15, the surety bond amount may be adjusted to reflect any change in estimated costs, and the project owner must submit for CEP review and approval all documentation of the adjustment.

The project owner shall report the current value of the bond and standby trust fund in the Annual Compliance Report.

Using surety bond funds to implement closure may not fully satisfy the project owner's obligations under these conditions.

Provisions from the California Bond and Undertaking Law, as well as other statutory and case law may be applicable.

B. Insurance Mechanism: Coverage for Sudden Accidental Occurrences

In conjunction with submittal of the triannual provisional or final cost estimate update, the project owner must demonstrate to the Energy Commission financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from facility operations or closure. The project owner will have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$10 million per occurrence, exclusive of legal defense costs.

BRP must demonstrate the required liability coverage by having liability insurance. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states. BRP must provide a copy of the insurance policy with original signatures. The liability endorsement(s) must also contain original signatures and must be submitted to the CPM. If the insurance policy is scheduled to be cancelled, BRP must submit a notice of the upcoming cancellation to the CPM at least 90 days before cancellation of the policy. If the policy is otherwise cancelled, BRP must immediately notify the CPM.

REFERENCES

- BRP 2012. Bottle Rock Geothermal Power Plant (79-ARC-04C): Coleman Complaint Proceeding Amended Agreement and Release of Liability and Amended BRP Lease December 28, 2012, (Docket # 12-CAI-04, TN# 68987).
- BRP 2013a. Bottle Rock Power, LLC's Direct Testimony, Exhibit List, and Prehearing Statement Related to the January 22, 2013 Committee Hearing. January 4, 2013 (Docket 12-CAI-04 TN# 69025)
- BRP 2013b. BRP LLC's Petition to Amend, March 8, 2013 (TN #69879). BRP 2013c. Bottle Rock Power Plant Decommissioning Estimate, April 15, 2013 (TN #70304).
- BRP 2013d. Project Owner's Response to Staff's Issues Identification Report, May 29, 2012 (TN #71018).
- BRP 2013e. BRP, LLC's Objections to Staff's Data Requests, Set 1 (#1-5), July 18, 2013 (TN #71652).
- BRP 2013f. BRP, LLC's Objections and Responses to Data Requests, Set 1(#1-5) and Amended Decommissioning Estimate, July 28, 2013 (TN #200053).
- CEC 1979a. Bottle Rock Geothermal Project, Final Staff Assessment and California Energy Commission's Decision. Adopted November 5, 1980.
- CEC 1979b. Bottle Rock Geothermal Project, Draft Environmental Impact Report. State Clearinghouse No. 78112070.
- CEC 1983. Revised Compliance Monitoring Report for DWR Bottle Rock Geothermal Project (aka BRPP General Provisions and Conditions of Certification Appendix E to 1980 Decision). March 23, 1983.
- CEC 1993. Energy Commission's Order Approving Modified and Reduced Environmental Monitoring during the Suspension of Operations. Order No. 93-0426-02, adopted April 26, 1993.
- CEC 1997. Energy Commission's Order Approving Extension of Reduced Monitoring during Suspended Operations. Order No. 97-1203-1(a), adopted December 3, 1997.
- CEC 1998. Energy Commission's Order the Closure of Coldwater Creek Geothermal Power Plant (CCPA No. 1). Order No. 98-0715-03, adopted July 15, 1998. (P800-98-002).
- CEC 2001. Energy Commission's Order Approving Ownership Transfer. Order No. 01-0530-07, adopted May 30, 2001 (TN# 20552).
- CEC 2005. Energy Commission's Order Approving an Extension of the Environmental Monitoring Program During Suspended Operations. Order No. 05-0511-03, adopted May 11, 2005.

- CEC 2006. Energy Commission's Order Approving the Change of Ownership, The Restart of Operation After Suspension and 11 Facility Design Changes. Order No. 06-1231-12, adopted December 13, 2006 (TN #38646).
- CEC 2007. California Geothermal Energy Collaborative:...Geothermal Permitting Guide. Public Interest Energy Research Program, Blaydes & Associates, April 2007 (CEC-500-2007-027).
- CEC 2013a. California Energy Commission, Complaint Against Bottle Rock Geothermal Project, Hearing Transcript. January 22, 2013 (Docket # 12-CAI-04, TN #2916).
- CEC 2013b. Energy Commission's Decision Sustaining Complaint Against Bottle Rock Power, LLC. February 6, 2013 (TN #69413).
- CEC 2013c. Bottle Rock Geothermal Project Amendment (79-ARC-4C) Issues Identification Report. May 30, 2013 (TN #71023).
- CEC 2013d. Notice of Public Meeting and Committee Conference, May 31, 2013.
- CEC 2013e. BRP Committee Scheduling Order and Revised Petition Schedule, June 28, 2013 (TN #71458).
- CEC 2013f. Energy Commission Staff Formal Data Request Set 1 (#1-5) for the BRP, LLC Petition. June 28, 2013 (TN #71652).
- CEC 2013g. Energy Commission Order Extending the Stay of Surety Bond Requirement, adopted July 2, 2013 (Docket # 12-CAI-04 TN #71512).
- Colman, David. 2012. Compliant Regarding BRP, LLC's noncompliance with a Decision of the California Energy Commission. Filed October 11, 2012 (Docket # 12-CAI-04, TN# 67659).
- ESA 1997. Environmental Science Associates. The Central California Power Agency No. 1 (CCPA No. 1) Coldwater Creek Geothermal Project Draft Conceptual Restoration Plan, August 6, 1997.
- Lake 2008. Lake County Environmental Protection Guidelines – Article 64. Section 21-64 and Chapter 10 Geothermal Resources of the Lake County General Plan (Attachment 2) County Policy GR 2.23 Final Closure and Reclamation of Geothermal Operations.
<http://www.co.lake.ca.us/Assets/CDD/2008+General+Plan+Final+Version/2008+General+Plan+Docs/Chapter+10+-+Geothermal.pdf>
- Lake 2013. Use Permit Conditions and Bond Requirements for BRP, LLC Use Permits 85-27 and 09-01, submitted January 10, 2013 (Docket 12-CAI-04 TN #69110 or TN# 69025).

COMPLAINT LOG NUMBER: _____ DOCKET NUMBER: _____
PROJECT NAME: _____

COMPLAINANT INFORMATION

NAME: _____ PHONE NUMBER: _____

ADDRESS: _____

DATE COMPLAINT RECEIVED: _____ TIME COMPLAINT RECEIVED: _____

COMPLAINT RECEIVED BY: _____ TELEPHONE IN WRITING (COPY ATTACHED)

DATE OF FIRST OCCURRENCE: _____

DESCRIPTION OF COMPLAINT (INCLUDING DATES, FREQUENCY, AND DURATION): _____

FINDINGS OF INVESTIGATION BY PLANT PERSONNEL: _____

DOES COMPLAINT RELATE TO VIOLATION OF A CEC REQUIREMENT? YES NO

DATE COMPLAINANT CONTACTED TO DISCUSS FINDINGS: _____

DESCRIPTION OF CORRECTIVE MEASURES TAKEN OR OTHER COMPLAINT RESOLUTION: _____

DOES COMPLAINANT AGREE WITH PROPOSED RESOLUTION? YES NO

IF NOT, EXPLAIN: _____

NOISE

INITIAL NOISE LEVELS AT 3 FEET FROM NOISE SOURCE: _____ DBA DATE: _____

INITIAL NOISE LEVELS AT COMPLAINANT'S PROPERTY: _____ DBA DATE: _____

FINAL NOISE LEVELS AT 3 FEET FROM NOISE SOURCE: _____ DBA DATE: _____

FINAL NOISE LEVELS AT COMPLAINANT'S PROPERTY: _____ DBA DATE: _____

CORRECTIVE ACTION

IF CORRECTIVE ACTION NECESSARY, DATE COMPLETED: _____

DATE FIRST LETTER SENT TO COMPLAINANT (COPY ATTACHED): _____

DATE FINAL LETTER SENT TO COMPLAINANT (COPY ATTACHED): _____

OTHER RELEVANT INFORMATION: _____

"This information is certified to be correct."

PLANT MANAGER SIGNATURE: _____

DATE: _____

KEY EVENTS LIST

PROJECT: _____

DOCKET #: _____

COMPLIANCE PROJECT MANAGER: _____

EVENT DESCRIPTION	DATE
Certification Date	
Obtain Site Control	
On-line Date	
POWER PLANT SITE ACTIVITIES	_____
Start Site Assessment/Pre-construction	
Start Site Mobilization/Construction	
Begin Pouring Major Foundation Concrete	
Begin Installation of Major Equipment	
Completion of Installation of Major Equipment	
First Combustion of Gas Turbine	
Obtain Building Occupation Permit	
Start Commercial Operation	
Complete All Construction	
TRANSMISSION LINE ACTIVITIES	_____
Start T/L Construction	
Synchronization with Grid and Interconnection	
Complete T/L Construction	
FUEL SUPPLY LINE ACTIVITIES	_____
Start Gas Pipeline Construction and Interconnection	
Complete Gas Pipeline Construction	
WATER SUPPLY LINE ACTIVITIES	_____
Start Water Supply Line Construction	
Complete Water Supply Line Construction	

BOTTLE ROCK GEOTHERMAL FACILITY (79-AFC-4C)

Proposed Amendment to Compliance Conditions of Certification Relating to Financial Assurance

CLOSURE COST ESTIMATE ANALYSIS

**Prepared by Edward Brady
September 2013**

SUMMARY OF CONCLUSIONS

After visiting the project site and meeting with the project owner on June 26, 2013, and reviewing the various cost estimates prepared for surety to cover the non-operation and closure (decommissioning) of plant structures, systems and components at Bottle Rock Power Plant (BRPP), staff has determined that a reasonable estimate for this purpose in 2013, or current dollars, is \$4.13 million. The foregoing amount is for the geothermal power production facilities within the security fence of the existing power plant facility. Piping and pipeways, paving and grading, structures and facilities associated with well heads, steam delivery, and condensate return outside the plant security perimeter, are not included in the foregoing estimate because they are not under the jurisdiction of the California Energy Commission (Energy Commission). Lastly, per the protocols in Condition of Certification **COM-15**, the assumptions and cost estimates will be re-evaluated every three years, allowing for evolving site conditions and costs to be factored into the closure cost estimates.

INTRODUCTION

On March 8, 2013, Bottle Rock Power, LLC (BRP) filed a Petition to Amend (Petition) the Energy Commission's Final Decision (Decision) for the BRPP. In the Petition, BRP requests the Commission remove requirements in a May 30, 2001 Order that conditioned the transfer of ownership from the California Department of Water Resources (DWR) to a private party, on the maintenance of a decommissioning bond and environmental impairment insurance. The Petition also requests the Commission's approval of an update to the BRPP's decommissioning Conditions of Certification to closely mirror modern, standard requirements and to adopt new Conditions of Certification that require an up-front emergency response contingency and closure planning.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS COMPLIANCE

Staff has reviewed the laws, ordinances, regulations and standards (LORS) identified in the Energy Commission's Final Commission Decision for the Bottle Rock Geothermal Power Plant project (CEC 1979), and the Energy Commission's approval of previous Petitions to Amend the Decision (CEC 1997, 2005, 2006). Since there are no new LORS and the new amendment does not introduce any changes in operations, only a planning process for the eventual closure of the facility at an unknown future date, the project remains in compliance with all applicable LORS.

ANALYSIS

Staff compiled a cost estimate to identify the amount required to assure that BRPP would be disassembled and secured in a safe manner and one which would have a minimum impact on the surroundings. This estimate was based on staff's evaluation of eight most recent cost estimates prepared for the purpose of determining closure costs. Staff agreed with the project owner that it was more appropriate to retain the power plant building in place, remove the plant equipment and systems, retain the graded and paved surfaces within the plant security fence, handle and transport hazardous materials, remove the Stretford and non-condensable gas handling facilities, disassemble the cooling tower and backfill sub-grade sumps.

Despite agreement with the project owner on the likely scope of the BRPP non-operation and closure process and activities, not all cost estimates were limited to the same activities and scope. The eight cost estimates contained differing scopes, durations, and personnel, resulting in widely varying cost estimates. The cost estimates, including the first estimate prepared in 1996 by Dames and Moore consultants, six cost estimates prepared by Plant Reclamation of Richmond, California, and one estimate cost submitted by North American Dismantling Corp. of Lapeer, Michigan are shown in **Table 1** and summarized in **Appendix 1**.

Staff did not include the credits for potentially salvageable equipment and materials because the plant location is relatively remote. Staff made the assumption that the cost of handling, removal and disposal of salvage is equal to its usable value. Additionally, staff did not include ongoing retention and maintenance costs because none of the estimates included these custodial costs. Staff believes it is not appropriate to adjust the cost estimates for indirect costs (management and supervision) and regulatory costs. Some estimates included above ground turbine building demolition. While likely not to occur during site closure, staff did not delete these items because it was not always clear that the line items were distinct and separate. There may be assumed cost efficiencies due to shared personnel and equipment that may require adjustment to the remaining costs if a line item were deleted. Lastly, staff normalized⁹ all costs to 2013 dollars.

The average of the eight cost estimates used by staff, in 2013 Dollars, is \$3,303,976. However, given the variation in the scope of the estimates, the remote location of the project, concealed or uncertain site conditions, potential contaminants introduced from the geothermal gases and fluids, and the uncertainty about exact date when the non-operation and closure might occur, staff added a 25 percent contingency of \$825,994, resulting in a staff estimate of approximately \$4.13 million (2013 Dollars, rounded to the nearest 10k). See the following **Table 1** for the estimate summary. Staff has included an **Appendix 1** summarizing the eight cost estimates, highlighting differences in scope, duration, assumptions and costs.

⁹ Staff used the an inflation adjustment similar to recent annual Consumer Price Indices (CPI) for the Bay Area to bring the cost estimates up to January 2013 dollars (ABAG 2013). Staff did not adjust the April and July 2013 estimates back to January 2013.

Alternatively, if the highest (01/11/2008) and lowest (07/29/2013) cost estimates are excluded to reduce the effect of potential outliers, the average of the remaining six cost estimates, again, with a 25 percent contingency, is approximately \$4.09 million (2013 Dollars rounded to the nearest 10k), which is about one percent less than staff's estimate of \$4.13 million. Lastly, an alternative method is to add a contingency equal to one standard deviation. The standard deviation of the eight cost estimates is approximately \$1.47 million; the standard deviation of the six estimates (less the highest and lowest) is approximately \$1.20 million. The 25% contingencies staff used in either staff cost estimate averaging method is less the standard deviations, suggesting staff used a reasonable contingency of 25% for the uncertainty in estimating closure of an operating geothermal power plant at some indeterminate future date.

Table 1
Decommission Estimates for the Bottle Rock Power Plant

Date	Source	Adjusted Decommissioning Estimates (Dollars) ¹⁰	Adjusted Decommissioning Estimates (2013 Dollars) ¹¹
11/05/1996	Dames & Moore (CEC 2001b[1])	\$ 2,437,051	\$ 3,857,486
07/28/1997	Plant Reclamation (CEC 2001a[1])	\$ 2,095,839	\$ 3,207,784
04/19/2000	Plant Reclamation (CEC 2001b[2])	\$ 1,990,000	\$ 2,711,127
01/04/2001	Plant Reclamation (CEC 2001a[2])	\$ 4,136,282	\$ 5,347,326
01/11/2008	North American Dismantling (COLEMAN 2013)	\$ 4,890,400	\$ 5,388,659
10/06/2011	Plant Reclamation (BRP 2012)	\$ 1,347,000	\$ 1,416,832
04/15/2013	Plant Reclamation (BRP 2013b)	\$2,528,590	\$ 2,528,590
07/29/2013	Plant Reclamation (BRP 2013c)	\$1,974,000	\$1,974,000
Average			\$ 3,303,976
Contingency (25%)			<u>\$ 825,994</u>
TOTAL ESTIMATE			\$ 4,129,970

10. Staff adjusted the estimates to not include salvage value or indirect costs. Staff could not ensure all decommissioning activities and processes were consistently identified and included in each estimate – therefore the cost estimates varied considerably.

11. Staff adjusted the estimates to 2013 dollars using a CPI inflator of 3%, which is conservative for the Bay Area CPI, which has been averaging about 2.7% over the last 17 years (ABAG 2013). Since the Producer Price Index does not include services, staff believes that the CPI best estimates the time value of cost estimates that contain significant labor components.

LORS ANALYSIS

The proposed amendment is a planning process for the eventual closure of the facility at an unknown future date. Since the new amendment does not introduce any changes in operations, nor remove any present closure conditions of certifications, the project remains in compliance with all applicable LORS.

CONCLUSIONS AND RECOMMENDATIONS

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

- The changes requested in the Petition, after staff's analysis and proposed modifications, would not change or undermine the assumptions, rationale, or findings of the Energy Commission's Final Decision and subsequent amendment approvals and orders.
- BRPP would remain in compliance with all applicable LORS, and no new or additional unmitigated significant environmental impacts would occur with the adoption of Conditions of Certification **COM 12-15** and **COM-16**.
- There has been no substantial change in circumstances relating to the scope of analysis necessary to calculate a closures cost estimate since the Energy Commission's 2001 and 2006 Orders, and therefore the closure cost estimate changes requested by the Petitioner cannot be supported.

In light of the facts above, Staff concludes that the initial financial assurance mechanism for the facility is \$4.13 million. The amount will be revisited every three years, per the timing and protocols of Condition of Certification **COM-15**. This will ensure that the financial assurance mechanism will reflect the most current site and financial conditions to be able to close the BRPP pursuant to an Energy Commission-approved closure plan, to protect the environment, and to protect health and human safety.

PROPOSED COMPLIANCE CONDITIONS OF CERTIFICATION AMENDMENTS

As discussed in Compliance staff assessment, staff proposes a change in Condition of Certification **COM-16** requiring the initial obligation of the closure surety bond to be \$4.13 million. Condition of Certification **COM-15** proposed that the estimate be updated by the facility owner every three years to reflect new LORS or other conditions that may impact the closure cost estimate.

REFERENCES

- Bay Area Consumer Price Index, Association of Bay Area Governments (ABAG), 2013
<http://www.abag.ca.gov/planning/research/cpi.html>
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- BRP 2013a. BRP LLC's Petition to Amend, March 8, 2013 (TN #69879).
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- CEC 1997. Energy Commission's Order Approving Extension of Reduced Monitoring during Suspended Operations. Order No. 97-1203-1(a), adopted December 3, 1997.
- CEC 1998. Energy Commission's Order The Closure of Coldwater Creek Geothermal Power Plant (CCPA No. 1). Order No. 98-0715-03, adopted July 15, 1998. (P800-98-002).
- CEC 2001a_[1-2]. Petition for Ownership Change: Response to Request for Additional Information 79-AFC-4C, (TN# 20477) 1997 Plant Reclamation pdf pgs 79-84_[1]. 2001 Plant Reclamation Estimate pdf pgs 19-20_[2].
- CEC 2001b_[1-2]. Petition for Ownership Change 79-AFC-4C, (TN# 20467) Dames and Moore Cost Comparisons pdf pgs 16-18_[1]. Plant Reclamation Estimate pdf pgs 6-8_[2].
- CEC 2005. Energy Commission's Order Approving an Extension of the Environmental Monitoring Program During Suspended Operations. Order No. 05-0511-03, adopted May 11, 2005.
- CEC 2006. Energy Commission's Order Approving the Change of Ownership, The Restart of Operation After Suspension and 11 Facility Design Changes. Order No. 06-1231-12, adopted December 13, 2006 (TN #38646).
- COLEMAN 2013: David Coleman's Prehearing Statement, and Declaration of Service. Docket # 12-CAI-04 (TN# 69108) North American Dismantling Corp. BRPP Facility Removal Cost Estimate pdf pg. 90.

APPENDIX 1 - CLOSURE COST ESTIMATES

GENERAL

The following cost estimates were used by staff to approximate the monies required to be set aside for the possible closure of BRPP in The Geysers, Lake County, California. Staff compiled a cost estimate to identify the amount required to assure that BRPP would be disassembled and secured in a safe manner and one which would have a minimum impact on the surroundings. This estimate was based on staff's evaluation of eight most recent cost estimates prepared for the purpose of determining closure costs. Staff agreed with the project owner that it was more appropriate to retain the power plant building in place, remove the plant equipment and systems, retain the graded and paved surfaces within the plant security fence, handle and transport hazardous materials, remove the Stretford and non-condensable gas handling facilities, disassemble the cooling tower and backfill sub-grade sumps.

Staff did not include the credits for potentially salvageable equipment and materials because the plant location is relatively remote. Staff made the assumption that the cost of handling, removal and disposal of salvage is equal to its usable value. Additionally, staff did not include ongoing retention and maintenance costs because none of the estimates included these custodial costs. Staff believes it is not appropriate to adjust the cost estimates for indirect costs (management and supervision) and regulatory costs. Some estimates included above ground demolition turbine building. While likely not to occur during site closure, staff did not delete these items because it was not always clear that the line items were distinct and separate. There may be assumed cost efficiencies due to shared personnel and equipment that may require adjustment to the remaining costs if a line item were deleted. Lastly, staff normalized all costs to 2013 dollars using the recent annual Consumer Price Indices (CPI) for the Bay Area (ABAG 2013).

11/05/1996 DAMES & MOORE

Final report and cleanup cost estimates for BRPP, Lake County, California. Prepared by Dames & Moore for Creston Financial Group Dated November 5, 1996. Job No. 30681-001-043. The estimated costs include mobilization and management costs and regulatory costs, and included four scenarios including one which credits salvage value. Plant closure costs of \$2,437,051 were used as base values by staff after eliminating the line items costs for salvage and retiring three steam well heads. The plant closure cost was adjusted up to a 2013 dollar value of \$3,857,486.

07/28/1997 PLANT RECLAMATION

Proposal to remove and rehabilitate the Bottle Rock DWR Geothermal Power Station, Lake County, California. Prepared by Plant Reclamation of Richmond, California for Associates Services dated July 28, 1997 and September 15, 1997. The cumulative estimate included a 15 percent contingency fee. Mobilization and management costs and regulatory fees were not specified. Plant closure cost for the estimate used by staff was based on a single line item of \$2,095,839, adjusted to 2013 dollars of \$3,207,784.

04/19/2000 PLANT RECLAMATION

New work and cost study prepared by Plant Reclamation of Richmond, California for BRPP, dated April 19, 2000, The Geysers, Lake County (CA). The estimate included mobilization and management costs. The well head field restoration portions of the cost study were eliminated from the estimate by staff. Staff used the plant closure cost of \$1,990,000, which adjusted to \$2,711,127 in 2013 dollars.

01/04/2001 PLANT RECLAMATION

Valuation and Synopsis of DWR Bottle Rock Plant in Lake County, California. Prepared by Plant Reclamation for Associated Service Appraisal Partners, dated January 4, 2001. The report included Work Plan Decommissioning which delineated above grade and below grade demolition and clearing. The plan excluded plans for closure or permitting, fill and disposal costs, and removal below grade. The \$4,136,282 estimated was the most detailed among the eight estimates. The estimated was adjusted to \$5,347,326 in 2013 dollars.

01/11/2008 NORTH AMERICAN DISMANTLING

Budget cost estimate prepared by North American Dismantling Corporation of Lapeer, Michigan and submitted to Bottle Rock Power Corporation of Santa Rosa, California dated January 11, 2008. Budget estimate included above ground demolition and excluded utilities, on-site disposal of rubble and no hazardous materials handling or disposal. The \$2,950,000 line item for turbine building above ground demolition was included in staff cost of \$4,890,400, which was adjusted to \$5,388,659 in 2013 dollars.

10/06/2011 PLANT RECLAMATION

BRPP and Steam Field Decommissioning Report prepared by Plant Reclamation of Richmond, California and submitted to Bottle Rock Power, LLC of Cobb, California. The estimate included direct costs only. Well head closure costs were eliminated in the staff estimate. The \$1,958,032 closure cost was adjusted to \$2,059,541, in 2013 dollars.

04/15/2013 PLANT RECLAMATION

BRPP (79AFC-4C and 12-CAI-04) decommissioning estimate prepared by Plant Reclamation and submitted under cover letter from Stoel Rives, LLP to the Energy Commission, dated April 15, 2013. The estimate included a work duration schedule, removal, backfill and hazardous waste handling and disposal. A salvage estimate was included in this budget estimate, but not used in this review. Detailed assumptions were listed, which identified exclusions to the work scope. The estimate, included turbine building demolition, totaled \$2,528,590.

07/29/2013 PLANT RECLAMATION

Budget cost estimate included as part of the responses prepared by Bottle Rock Power, LLC to Energy Commission staff data requests, dated July 29, 2013 (Attachment A). The Attachment A estimate was an update of the budget cost estimate previously submitted on April 15, 2013, and reflected the option to retain the turbine building, grading and storm water control systems in place as part of the plant closure plan. The cost, leaving the turbine building structure and area grading within the plant security fence in place, totaled \$1,974,000.