

Summary

Alternative Compliance Plan for Water Right (A028469)

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INTRODUCTION

See [Information and Instruction Sheet](#) for assistance in completing this form. The form shall be completed by the water right owner, their agent, or for an Alternative Compliance Plan filed for a group, the designated contact. The vast majority of water right owners should be able to meet the measurement requirements. Participation in an Alternative Compliance Plan does not relieve the participant of the independent obligation to file an online annual Report of Water Diversion and Use.

All sections of the form below must be completed. An incomplete form does not excuse non-compliance with the regulation or release you from the obligation to measure. The Alternative Compliance Plan may not be used to avoid measurement and monitoring, but should be used to describe an alternative method of measurement and monitoring which will provide the information required by the Regulation. Estimated diversion records may not meet the Regulation's accuracy requirements without supporting documentation.

Note: The large text boxes in the form have a character limit of 2,000 characters. Responses requiring more than 2,000 characters for a particular text box should be submitted as an attachment in Section I of this form. Additional information should be attached in Section I.

SECTION A - WATER RIGHT OWNER INFORMATION

This section of the form describes the information that is required for each water right or claimed right covered under the Alternative Compliance Plan.

In Section I, attach a table (in Microsoft Excel .xlsx, comma-separated .csv, or tab-separated .txt format) containing the Application or Statement Number for each water right covered under the Alternative Compliance Plan. For your water right, answer the questions below.

(1) Owner Name(s) *

Virgil Mortensen

(2) Email Address *

[REDACTED]

(3) Phone Number *

[REDACTED]

(4) Mailing Address Line 1 *

[REDACTED]

(5) Mailing Address Line 2:

(6) City *

Weaverville

(7) State *

CA

(8) Zip Code *

96093

(9) Is the Water Right Owner also the Primary Contact? *

☐ Yes

☒ No

On questions 10 through 13, please tell us what you understand the requirements of the regulation to be for this water right to be.

(9) Installation Deadline *

☐ January 1, 2017

- ☒ July 1, 2017
☐ January 1, 2018

(10) Measurement Accuracy *

- ☒ 10%
☐ 15%
☐ Other, as specified in the Alternative Compliance Plan (if submitted)

(11) Required Monitoring Frequency *

- ☐ Hourly
☒ Daily
☐ Weekly
☐ Monthly

(12) Qualifications of the Individual Installing/Certifying *

- ☐ A California Licensed Professional Engineer (PE), a person working under the supervision of a California PE, a California-licensed contractor authorized by the State License Board for C- 57 well drilling or C- 61 Limited Specialty/D-21 Machinery and Pumps, or a Hydrologist or Engineer employed by a Federal Agency
☒ A person trained and experienced in water measurement (for diversions of less than 100 acre-feet per year - no specific training is required; the person using any equipment and reporting the information must know how to use the equipment and submit correct information)

SECTION B - INFORMATION ON PRIMARY CONTACT

This section of the form includes the contact information for the primary contact associated with the Alternative Compliance Plan.

(1) Name(s): *

Frank Moore

(2) Phone Number: *

[REDACTED]

(3) Email Address: *

[REDACTED]

(4) Mailing Address Line 1: *

[REDACTED]

(5) Mailing Address Line 2:

(6) City: *

Hyampom

(7) State: *

CA

(8) Zip Code: *

96046

(8) The Alternative Compliance Plan Primary Contact is a(n): *

- ☐ Water Right Owner
☒ Agent

SECTION C - INFORMATION ON QUALIFIED INDIVIDUAL

This section of the form includes the contact information for the Qualified Individual certifying the Alternative Compliance Plan.

(1) Name(s): *	<input type="text" value="Frank Moore"/>
(2) Phone Number: *	<input type="text" value="REDACTED"/>
(3) Email Address: *	<input type="text" value="REDACTED"/>
(4) Mailing Address Line 1: *	<input type="text" value="REDACTED"/>
(5) Mailing Address Line 2:	<input type="text"/>
(6) City: *	<input type="text" value="Hyampom"/>
(7) State: *	<input type="text" value="CA"/>
(8) Zip Code: *	<input type="text" value="96046"/>
(9) The qualifications of the individual certifying the Alternative Compliance Plan are: *	<div><p><input type="radio"/> California Licensed Professional Engineer (PE)</p><p><input type="radio"/> Person working under the supervision of a California Professional Engineer</p><p><input type="radio"/> California-licensed contractor authorized by the State License Board for C- 57 well drilling or C-61 Limited Specialty/D-21 Machinery and Pumps</p><p><input type="radio"/> Hydrologist or Engineer employed by a Federal Agency</p><p><input checked="" type="radio"/> Person trained and experienced in water measurement (for diversions of less than 100 acre-feet per year - no specific training is required; the person using any equipment and reporting the information must know how to use the equipment and submit correct information)</p></div>
(10) Qualifying Individual's PE or Contractor license number, if applicable:	<input type="text"/>

SECTION D - REQUEST FOR ALTERNATIVE COMPLIANCE

Water right holders who divert more than 10 acre-feet of water per year are required to measure the water they divert. A diverter may choose any measuring device, or combination of devices, that meet the measurement and monitoring requirements of the regulation. The measurement requirements are summarized on the [Reporting and Measurement Webpage](#) .

For each box checked in questions 1a through 3 below, submit a detailed explanation and attach substantiating documentation.

(1a) Diverter is seeking alternative compliance from the requirement(s) checked below. *

- ☐ Measuring Device Location
- ☒ Required Accuracy
- ☒ Certification of Accuracy
- ☐ Installation and Maintenance
- ☐ Monitoring Frequency
- ☐ Telemetry
- ☐ Other (describe in Section 1b)

(1b) Provide additional information for each of the reasons selected in question 1a: *

This water right is associated with a hydroelectric generating plant that is non-consumptive in design. All water diverted as detailed in the water permit 19733 is returned to the creek immediately after passing through the penstock, generator, and tailrace. The approximate rate of water usage can be estimated using an industry standard formula based on the amount of power generated: Hydroelectric Power is a Function of Height and Volume: $P = \eta Q \rho g h$ Variable Definition P power [W] η dimensionless efficiency of the turbine [approx. 0.9] ρ density of water [1,000 kg/m³] Q volumetric flow rate [m³/s] g acceleration due to gravity [9.8 m/s²] h height difference between inlet and outlet [m] The amount of power generation is recorded hourly by a SCADA system. The total amount of power generated per month can be determined and the average power generation per day can be calculated.

(5000 character max.)

?

(2a) Alternative compliance is being pursued because strict compliance with one or more of the requirements for measuring and monitoring (check all that apply): *

- ☐ Is not feasible.
- ☐ Would unreasonably affect public trust resources.*
- ☒ Is unreasonably expensive.**
- ☐ Would result in the waste or unreasonable use of water.

* Including fish, wildlife, recreation, navigation, and aesthetic values.

** Plans claiming that strict compliance is unreasonably expensive shall be accompanied by an attached supporting cost analysis. The cost analysis should compare the cost of the proposed alternate measuring devices to the cost of the measurement devices required by the Regulation. All Plans shall include a budget and shall identify sources of financing. The budget should provide sufficient detail to show the cost of the proposed alternate measuring devices, the cost of obtaining any necessary permits, and the cost of installation.

(2b) Provide additional information for each justification selected in question 2a: *

The cost of installing a measurement system to directly measure the amount of water passed through the hydroelectric plant via a 42 inch diameter pipe would cost over \$40,000 to install with unknown future costs related to its maintenance. It seems that this cost to measure non-consumptive use would result in the collection of data that can be more simply estimated. The accuracy of the estimated data can be determined not to be a significant factor since all water is returned to the creek system.

(5000 character max.)

?

(3a) Alternative compliance is requested under the following categories (check all that apply): *

- ☐ Highly variable flow rate at point of diversion.
- ☐ Point of diversion is inaccessible a portion of the year due to weather or other on-site conditions.
- ☐ Point of diversion is under tidal influence
- ☐ There is an existing measuring device or measurement method in use.
- ☐ Water is corrosive to measurement equipment.
- ☒ The diversion is measured by another entity (identify entity and method of measurement used).
- ☐ Other (provide complete description in section 3b)

(3b) Provide additional information for each of the categories selected in question 3a: *

As mentioned previously, an industry standard formula will be used using power generation data

logged by a SCADA system. Knowing the height of the intake above the generator and allowing for efficiency losses, the water usage can be estimated all the way down to hourly resolution.

(5000 character max.)



(4) Alternative Compliance Plans shall include alternative, objective measurement and performance standards that achieve the closest attainable compliance. Describe the measurement or alternative to measurement that will be used at each point of diversion in the plan to achieve closest attainable compliance. *

With the acceptance of this formula based water usage reporting methodology, a secondary method of verifying the accuracy will be implemented over the next 12 months. This secondary method will involve measuring a weir in the tailrace of the plant and using data collected during the next generating (rainy) season to determine some level of accuracy for the formula based water usage data.

(5000 character max.)

SECTION E - AREA COVERED BY THE ALTERNATIVE COMPLIANCE PLAN

Summarize the following for each water right covered by the Alternative Compliance Plan. In Section I, attach maps, aerial photographs, or other renderings showing the area covered by the Alternative Compliance Plan and delineating the acreage of each place of use served. For the area covered by the Alternative Compliance Plan, include a list of assessor's parcel numbers and the current owner of each parcel.

(1) Provide a general description of the area covered by the Alternative Compliance Plan. *

The hydroelectric plant intake as stated in water permit 19733 is located west 3600 feet and north 800 feet from the SE corner of section 8, township 3N. The powerhouse and tailrace is located on parcel 011-140-12 in Trinity County, section 10, township 3N. This parcel is owned by the water permittee.

(5000 character max.)

(2) Describe all diversion and conveyance works covered by the Alternative Compliance Plan. *

The intake and powerhouse have a 42 inch penstock conveying the diverted water.

(5000 character max.)

(3) Describe the type(s) of Beneficial Use(s). *

All of the diverted water is used for hydroelectric generation.

(5000 character max.)

(4) Have you attached a list of assessor's parcel numbers and the current owner of each parcel covered by the Alternative Compliance Plan? (Attachments may be made under Section I of this form.) *

☒ Yes | ☐ No

SECTION F - MEASUREMENT AND MONITORING

(1) For each Point of Diversion listed in the Alternative Compliance Plan, describe how the water is measured. *

As described previously, an industry standard formula will be used to estimate the amount of non-consumed water diverted. The formula will be based on the design of the plant and production data logged hourly by the SCADA system.

(5000 character max.)

(2) Identify the measurement accuracy associated with the measurement devices. *

The accuracy of this formula based methodology will be determined over time using a secondary system employing and logging data based on a weir in the tailrace at the powerhouse.

(5000 character max.)

(3) Describe how the accuracy of the Alternative Compliance Plan was calculated. *

To be determined.

(5000 character max.)

SECTION G - IMPLEMENTATION SCHEDULE (IF NECESSARY)

(1) If applicable, describe the implementation schedule for the Alternative Compliance Plan, including objective milestones from date of filing through final implementation. Milestones should include date of completion for construction and testing, expected dates of issuance of required permits, and expected date for compliance with the California Environmental Quality Act:

This methodology is already being used for the reporting of the 2017 calendar year. The secondary method using a weir will be employed during the next season to verify the accuracy of the formula method. The weir will be measured during summer of 2018 when the plant is idle. After a few months of data starting in December of 2018, the two methods of measurement will be evaluated.

(5000 character max.)

An Alternative Compliance Plan shall be submitted and implemented by the established regulatory deadlines (see form instructions for additional information) unless a Request for Additional Time has been granted.

SECTION H - OTHER PERMITS

(1) Describe any other permits required to implement the Alternative Compliance Plan. Include information on the agency that will issue the permit, and the expected date of issuance.

None.

(5000 character max.)

SECTION I - ATTACHMENTS



(1) Attach documents that support the Alternative Compliance Plan.

Choose File No file selected

Upload

(Uploaded files:)

BCWW water usage 1.pdf

0%

(2) Provide a brief description of the attached documents.

This is an informal document detailing the formula based methodology for measured the water usage at the Big Creek Water Works hydroelectric plant.

(5000 character max.)

SECTION J - IMPORTANT INFORMATION AND SIGNATURES

Each participant in an Alternative Compliance Plan (Plan) must sign this form or an "opt-in" form that must be retained by the Plan manager. Attach a listing of participants, as needed, in Microsoft Excel .xlsx, comma-separated .csv, or tab-separated .txt format. By signing this form or the Plan's "opt-in" form, each Plan participant acknowledges that the Plan will be timely implemented and that the measurement of diversions will substantially comply with the Measurement Regulation. Further, each Plan participant acknowledges that the water rights covered by the Plan will not be exercised outside the scope of the Plan. Each Plan participant is responsible for promptly

informing the Division of Water Rights or Delta Watermaster, as appropriate, if the participant withdraws from the Plan. The Plan manager is responsible for promptly informing the Division of Water Rights or the Delta Watermaster, as appropriate, if the Plan is modified or abandoned or if the Implementation Schedule is adjusted.

I hereby certify that the information in this Alternative Compliance Plan is true to the best of my knowledge and belief and that the Alternative Compliance Plan is in compliance with the requirements of Title 23, Division 3, Chapter 2.8, Section 931 through 938 of the California Code of Regulations. *

☒ Yes | ☐ No

Printed Name *

Francis G Moore

Division of Water Rights and Delta Watermaster staff may or may not evaluate the contents of an Alternative Compliance Plan at the time of receipt. Staff will initially determine if all the information has been filled out, and accept the Alternative Compliance Plan as complete or return it as incomplete. An Alternative Compliance Plan may be reviewed for compliance purposes at any time or as part of a systematic audit.