

**POWERHOUSE CANAL HYDROELECTRIC PROJECT
PERMITTED APPLICATION 27531**

ORDER 88-3

**ORDER APPROVING CHANGE IN POINT OF DIVERSION
AND DISMISSING COMPLAINT**

FEBRUARY 1988



STATE WATER RESOURCES CONTROL BOARD



STATE OF CALIFORNIA

George Deukmejian, Governor

**STATE WATER RESOURCES
CONTROL BOARD**

W. Don Maughan, Chairman

Darlene E. Ruiz, Vice Chairwoman

Edwin H. Finster, Member

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James L. Easton, Executive Director

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Permit 19004)
Issued on Application 27531,)

BES HYDRO, INC.,)

Permittee,)

WALTER HAMMEKEN,)

Protestant.)

ORDER: WR 88-3

SOURCE: Powerhouse Canal

COUNTY: Mendocino

ORDER APPROVING CHANGE IN POINT OF DIVERSION
AND DISMISSING COMPLAINT

BY THE BOARD:

1.0 INTRODUCTION

BES Hydro having filed a petition for a change in point of diversion on Permit 19004; notice having been given and protests filed; a complaint having been filed against permittee's diversion of water; a public hearing having been held on October 30, 1987 by the State Water Resources Control Board; permittee and protestant Walter Hammeken having appeared at the hearing; testimony and other evidence having been presented by the parties and duly considered by the Board; the Board finds as follows:

2.0 SUBSTANCE OF PERMIT

Permit 19004 (Application 27531) was issued on September 30, 1983.

The permit authorizes diversion of 350 cubic feet per second from the

Powerhouse Canal tributary to the East Fork of the Russian River in Mendocino County. The authorized diversion season runs from January 1 through December 31 of each year, and the purpose of use is hydroelectric power generation at a powerhouse located within the NW1/4 of the NE1/4 of Section 7, T17N, R11W, MDB&M. The designated point of diversion is within the NE1/4 of the NW1/4 of Section 7, T17N, R11W, MDB&M. The water is to be returned to the Powerhouse Canal at a location immediately below the powerhouse.

3.0 PROJECT DESCRIPTION

The point of diversion for the project, as originally planned, was to be located at an existing energy dissipating structure located under the bridge where Powerhouse Road crosses the Powerhouse Canal.

Permittee proposed to add five feet of flashboards to the existing dam, thereby increasing the head available for power generation.

(Staff 1, Files on Application 27532, written description of project attached to application.) Canal flows were to be diverted by the flashboards through a flume to the powerhouse and discharged back into the canal at the toe of the existing dam. Petitioner presented testimony that the petitioner's intention at the time of filing the application was to maintain the water level in the upstream pool at high flow depth; i.e., by raising the water level about five feet above the existing dam through use of flashboards, the effect upstream would be the same whether the canal was running at high-flow or low-flow levels. (T,60:19-61:1.)

During shutdowns or power outages, a gate would be closed in the powerhouse flume, dewatering the powerplant. Water levels in the canal would then rise to a point where the water would flow over the flashboards. At maximum flows, the water would flow over the flashboards at a depth of two feet. (T,125:6-126:7.) The backwater created under such conditions would be contained within the existing channel.

4.0 PETITION TO CHANGE POINT OF DIVERSION

The change in the location of the BES Hydro diversion came about as the result of a condition in the County of Mendocino conditional use permit which BES Hydro believed made it impractical to utilize the existing structure located beneath the Powerhouse Road Bridge. In order to avoid complications with the county and additional expense, BES Hydro chose to construct a new diversion structure approximately 35 feet upstream from the bridge. Walter Hammeken filed a complaint dated March 10, 1987 after he became aware of the change. Hammeken alleged that the change was infringing on his rights under Permit 20017, that the BES Hydro project was significantly different from the project described in Permit 19004, and that BES Hydro should be required to file a new water right application.

In response to the complaint, Board staff conducted a field investigation on March 13, 1987. Based upon the findings of the investigation, BES Hydro was directed to file a petition to change the point of diversion from the location specified in the original

application. On April 20, 1987, BES Hydro filed a petition to change the point of diversion to the location 35 feet upstream from the Powerhouse Road Bridge. BES Hydro's position is that the changes in the project are minor and do not affect the water rights of other parties.

5.0 PROTESTS TO CHANGE PETITION

The petition for a change in point of diversion was noticed on April 24, 1987 and protests against the petition were filed by the California Save Our Streams Council, the California Sportfishing Protection Alliance and Walter Hammeken. The protests of the California Save Our Streams Council and the California Sportfishing Protection Alliance were based on environmental concerns. Both groups withdrew their protest prior to the Board hearing. Hammeken's protest alleges that the changes made by BES Hydro will back water up Powerhouse Canal beyond the point originally contemplated and that such a result will impair the capability of his project to produce power. The October 30, 1987 hearing was scheduled to receive evidence relevant to resolution of the protest by Hammeken.

6.0 COMPLAINT BY WALTER HAMMEKEN

On September 9, 1987, Walter Hammeken filed a second complaint against BES Hydro. The complaint alleges that (1) BES Hydro was diverting water at the point designated in the change petition before the petition was approved and (2) the BES Hydro diversion caused

inundation of Hammecken's upstream hydroelectric project thereby interfering with the exercise of Hammecken's water rights under Permit 20017. Due to the similarity of the issues raised in Hammecken's complaint and protest, Hammecken was notified that the Board would consider the issues raised by his complaint at the October 30, 3.987 hearing on the change petition.

7.0 ANALYSIS

7.1 Overview

Approval of a petition to change an authorized point of diversion requires the Board to make findings that: (1) the proposed change does not in effect constitute the initiation of a new right and (2) the proposed change will not result in injury to any other appropriator or lawful user of water. (23 California Code of Regulations, Section 791.) Other issues listed in the hearing notice in this matter included the environmental effects resulting from the proposed change, the need to prepare an environmental impact report or other environmental documentation for the proposed change, and the effect of the proposed change on the economic feasibility of the project. These subjects are addressed below.

7.2 Initiation of a New Right

The petitioner requests Board approval of moving the point of diversion approximately 35 feet upstream from the location described in the original application. No other changes in the terms and conditions of the permit are requested. Water Code Section 1701

expressly authorizes a permittee to change the point of diversion authorized in a permit upon permission of the Board. In view of the express statutory authorization for changes in point of diversion specified in existing permits or licenses, there is no basis for contending that the minor change in the point of diversion proposed by the petitioner constitutes the initiation of a new right. If the requested change is approved, the existing permit may be amended to accurately state the new point of diversion.

The attachment to Wammeken's protest indicates that protestant's argument regarding initiation of a new right is based upon the contention that an appropriative water right for a hydroelectric project imposes a limit on the amount of head which may be utilized for generation of power. Thus, protestant contends, an increase in the head utilized for power production constitutes an expansion of the appropriation for which a new water right application is necessary. The only argument offered in support of protestant's contention that an increase in head requires a new water right application is that at the time Application 27531 was filed, application fees for hydroelectric projects were based upon the theoretical horsepower of a project. All other factors being equal, an increase in head results in an increase in horsepower which could result in an increase in application fees.

The fee schedule in effect when Application 27531 was filed assessed a fee of \$1.00 for each 200 theoretical horsepower or fraction thereof. Based on an estimated theoretical horsepower of 400, Application 27531 would have been subject to a fee of \$2.00. Since this is less than the minimum application filing fee of \$10.00, which was then in effect, no additional fee was assessed based on theoretical horsepower. At the rate of \$1.00 for each 200 theoretical horsepower, the horsepower of the project proposed in Application 27531 could have been increased five fold before the fee chargeable would equal the minimum application fee which BES Hydro paid. Since the design changes in the project resulted in much less than a five-fold increase in theoretical horsepower, it is apparent that BES Hydro did not avoid payment of a greater application fee by underestimating the theoretical horsepower in the original application.

More fundamentally, the Board rejects the contention that the amount of the water right application fee payable on a hydroelectric project defines the extent of the underlying water right. This position is consistent with the fact that, effective February 15, 1987, the application fee structure for small hydroelectric projects was amended to provide that application fees shall be based upon the costs incurred in processing an application. (23 Calif. Code of Regulations Section 677.) In any event, the design changes which occurred during the development of the BES Hydro project would not have required a higher application fee than would otherwise be payable either under the application fee structure in effect in 1982 or presently.

In summary, BES Hydro's water right is not defined by the amount of the application fee which was paid to the Board nor by the amount of head utilized by the project. Rather, the right is defined by the specific provisions of Permit 19004 which identify the source of the water to be diverted, the purpose of use, the rate of diversion, the point of diversion, the place of use, the season of use, and numerous other conditions. The permit imposed no limitations on the amount of head to be utilized by the project. With the exception of the changed location of the point of diversion for which Board approval is requested, the design changes in the project authorized by Permit 19004 do not involve a change in any of the basic parameters defining the water right. Approval of the petition to change the point of diversion is authorized by Water Code Section 1701 and such approval would not constitute initiation of a new right.

7.3 Effect of Proposed Change on Other Lawful Users of Water

7.3.1 Nature and Extent of Protestant Hammeken's Right

Protestant Walter Hammeken is the only water user who alleges that the change in the point of diversion under BES Hydro's Permit 3.91104 will interfere with his use of water. Protestant Hammeken filed water right Application 28668 on December 18, 1985 and Permit 20017 was issued on February 25, 1987 for development of a hydroelectric project approximately one half mile upstream of the BES Hydro point of diversion. Prior to Hammeken filing his application, the predecessors

in interest to BES Hydro filed Application 27531 on September 24, 1982. BES Hydro's application was approved and Permit 19004 was issued on September 30, 1983. Since BES Hydro's application was filed and approved prior to Hammeken's application, BES Hydro's right under Permit 19004 clearly has priority over Hammeken's right under Permit 20017. After receiving notice of Hammeken's application, BES Hydro expressly called Hammeken's attention to its pre-existing permit, but advised the Board that BES had no objection to issuance of a permit to Hammeken provided that there was no interference with BES Hydro's project. (T,214:13-215:20; BES Hydro, Exhibit C.)

Hammeken's Permit 20017 was issued subject to prior rights and subject to other specified conditions including the requirement that no water be used under the permit "until all . . . necessary approvals have been obtained including compliance with any applicable FERC requirements." (Staff 1, Permit 20017, Term 19.) Water Code Section 1702 authorizes approval of a change in point of diversion provided that the change does not injure any legal user of water. Diversion of water outside the scope of the permit does not qualify as a legal use of water entitled to Board protection. Thus, the issue in this proceeding is not whether the BES Hydro project is interfering or will interfere with any use of water which protestant Hammeken may desire to make. Rather, the issue is whether the operations of BES Hydro will interfere with the use of water which Hammeken is authorized to make pursuant to Permit 20017.

7.3.3 Elevation of BES Hydro Diversion Dam and Effects on Water Elevation at Site of Hammecken Project

Hammecken's primary objection to the BES Hydro project is that the operation of the project using the new diversion dam results in raising the upstream water level at the site of Hammecken's project under Permit 20017. As noted above, however, Permit 20017 was issued subject to prior rights, including the water right of RES Hydro under Permit 19004. Thus, any increase in water level which reasonably could have been anticipated to occur due to the development of the RES Hydro project as originally authorized provides no basis for objecting to the current operation of the project or approval of the proposed change in point of diversion. Hammecken's Permit 20017 confers no right to utilize water for hydroelectric power production at a particular elevation if so doing would infringe upon the prior right of BES Hydro under Permit 19004.

Although the Federal Energy Regulatory Commission (FERC) licensing proceedings have since established specific elevation levels within which the BES Hydro project may operate, the issue of the specific water elevation behind the BES Hydro diversion dam was not raised before the Board during the processing of Application 27531. As a result, the information in the record regarding the effect of the originally proposed diversion dam on the upstream water elevation is not extensive. The clearest indication of the effect of the originally proposed project on the water levels in the Powerhouse Canal behind the BES Hydro diversion dam is provided in an attachment to Application 27531 which reads in part as follows:

"The project will produce electrical energy by utilizing river [canal] flows and hydraulic head at an existing dam in Potter Valley. The existing dam will be raised about 5-feet by installing flashboards on its spillway. ... The pools upstream and downstream of the dam will remain essentially unchanged, except that the upstream pool will be maintained at high-flow depths.

"For power plant outages a gate would be closed in the flume, dewatering the power plant. Water levels would begin rising behind the dam and in the flume. Water would then begin spilling over the flashboards on the dam and over the side channel spillway provided in the flume. When maximum flows of 320 cfs are present in the river [canal], overflow depths at the dam and flume spillways would be about 2-feet."

Although the above description does not specify precise elevations, it establishes that, as originally proposed, the project would result in increased water levels in the canal upstream of the diversion dam. The top of the dam would be "about 5-feet" above the original dam at the Powerhouse Road Bridge and the depth of water during periods of power plant shutdown would be approximately seven feet above the original dam. Utilizing standard engineering procedures and a U. S. Government benchmark located approximately a mile and a half away, the elevation of the original dam was determined to be 972 feet above mean sea level. (T,26:9-27:7.) Therefore, the maximum water level at the dam identified in the original application would be expected to be approximately 979 feet, an elevation which would be reached during periods of shutdown.

The testimony presented at the hearing indicates that the newly constructed dam was also built to utilize flashboards on top of a permanent structure. The elevation of the new permanent structure is 972 feet above mean sea level or the same as the elevation of the dam under the Powerhouse Road Bridge. Through use of flashboards on top of the new dam, the operational level of the redesigned project was raised to between 977 and 978 feet. (T,26:2-29:13.) The petitioner presented expert testimony explaining that the reason for having a variable height in the flashboards is to allow the flashboards to be higher during low flows and lower during high flows. The typical high flow operating level would be 977 feet. (T,133:8-133:22.) If the project were shut down and the water allowed to flow over the flashboards, the water elevation behind the dam during high flows would rise approximately two feet above the flashboards. (T,43:13-46:1.) Increasing the water elevation by two feet over the high flow operating level of 977 feet would result in a maximum water level at the diversion dam of 979 feet. (T,133:8-133:26.) Under the present design, 979 feet is the maximum water level ever expected at the point of diversion. (T,134:1-134:3.)

BES Hydro and Hammeken agree that raising the water level to 979 feet at BES Hydro's point of diversion will increase the water level at Hammeken's project site and thereby decrease the potential head available to Hammeken below the amount which would have been available in the absence of the BES Hydro project. Based on the evidence in the record, however, the Board finds that operation of the BES Hydro

project utilizing the newly constructed diversion dam will not raise the maximum upstream water level above the maximum level which would have resulted if the project had been constructed in accordance with the authorization of the permit as originally issued. Since Hammeken's right was issued subject to the prior rights of BES Hydro under Permit 19004, Hammeken should have anticipated an increase in water elevation at his site. With respect to the "backwater curve" alluded to at the hearing, the effect of a 35-foot change in the location of the BES diversion dam on the water elevation approximately one-half mile upstream at Hammeken's site would be almost immeasurable.

7.3.3 FERC Restrictions on Operations of Hammeken Project

Hammeken's right to divert and use water under Permit 20017 is subject to compliance with any applicable FERC requirements. (Staff 1, Permit 20017, Term 1.9.) Although the Board did not specify particular elevations within which Hammeken or BES Hydro may divert water for hydroelectric power production, FERC has addressed the issue of such elevations. In an October 28, 1987 ruling upon a complaint by Walter Hammeken alleging that the operations of BES Hydro, Inc., were adversely affecting Hammeken's upstream project, FERC noted that BES Hydro's application for a FERC license in 1985 stated that the proposed diversion structure would raise the water surface elevation to 981) feet, an elevation which exceeds BES Hydro's present "maximum normal operating pool of 977.3 feet." (BES Hydro, Exhibit P.) FERC concluded that the BES Hydro project as constructed was consistent

with the authorization of the FERC license for Project No. 5936 and that it had no greater impacts, upstream or elsewhere, than the project proposed in BES Hydro's FERC license application.

With respect to Hammeken's request that FERC condition BES Hydro's license to prevent interference with Hammeken's upstream project, FERC noted that the BES project has a higher hydraulic capacity and concluded that it would result in less than optimal utilization of the available falling water resource to reduce the head available to the BES project in order to increase the head available to Hammeken.

Finally, the Commission concluded that Hammeken's rights as an exemptee from the FERC licensing requirements were granted subject to the previously licensed rights of BES Hydro. Since Hammeken's water right permit was conditioned upon compliance with applicable FERC requirements, the Board concludes that Hammeken has no right to divert and use water in a manner which would interfere with the rights of FERC licensee, BES Hydro.*

7.3.4 Conclusion Regarding Effects on Other Users of Water

The only contention that the BES Hydro operations or change petition will result in injury to any lawful user of water was presented by

* The Board takes official notice of the fact that on December 28, 1987, FERC granted Walter Hammeken's request for reconsideration of FERC's October 28, 1987 ruling regarding Hammeken's complaint against BES Hydro. In the event that FERC imposes new constraints on the maximum water elevation which BES Hydro may utilize for hydroelectric generation under its FERC license, the Board presumes that both BES Hydro and Hammeken will operate in accordance with the FERC ruling. Such a restriction on BES Hydro's operations would reduce the head available to BES Hydro, but it would not be inconsistent with Board approval of BES' pending petition for a change in point of diversion. At present, BES Hydro's operations are in accordance with the requirements of its FERC license.

Walter Hammeken. As explained above, BES Hydro's operations as originally authorized under Permit 19004 would result in increasing the water level at Hammeken's project site and thereby reduce the amount of head available to Hammeken for power generation. Hammeken's right under Permit 20017 was issued subject to BES Hydro's prior right under Permit 19004. Operation of the BES Hydro project utilizing the point of diversion designated in the change petition will not increase the water elevation at Hammeken's site above the level that could have occurred consistent with BES Hydro's original authorization under water right Permit 19004 and the FERC License for Project No. 8936. Since the anticipated impact on Hammeken is no greater if BES Hydro utilizes the new point of diversion, the Board concludes that the proposed change in point of diversion under Permit 19004 will not injure any other lawful user of water.

7.4 Environmental Effects of Proposed Change

In addition to the protest of Walter Hammeken, protests were filed by the California Save Our Streams Council and the California Sportfishing Protection Alliance alleging that the proposed change in point of diversion would result in adverse environmental effects. Both protests were withdrawn prior to the hearing and no evidence was presented at the hearing showing any adverse environmental impacts caused by the changed location of the diversion dam. Board staff has conducted an environmental review of the proposed change and has determined that the project constitutes only a minor alteration to land, water and vegetation which will not cause significant

environmental impacts. In accordance with Section 15304 of Title 14 of the California Code of Regulations, the Board finds that the project is exempt from CEQA.

7.5 Economic Feasibility of Project

There was no evidence presented that the proposed change in point of diversion will adversely affect the economic feasibility of the project. To the contrary, the petitioner presented testimony that the construction of the diversion dam at the new location would be less expensive than utilizing the existing dam located within the county road easement at the Powerhouse Bridge location. The project is substantially complete and a contract with Pacific Gas and Electric Company has been executed for purchase of the 360 kilowatts which the plant is capable of producing. Petitioner presented testimony that the project is expected to generate a net income of \$65,000 to \$70,000 annually on an investment of approximately \$405,000. (T,64:14-65:22.) The Board finds that the proposed change in point of diversion will not adversely affect the economic feasibility of the project.

8.0 CONCLUSION

Based on the foregoing findings, the Board concludes that the requested change does not constitute the initiation of a new water right and will not adversely impact any other legal user of water from Powerhouse Canal. Therefore, the petition for a change in point of diversion should be approved and Permit 19004 should be amended

accordingly. With respect to the complaint of Walter Hammeken, the Board finds that BES Hydro filed a petition to change the point of diversion promptly upon being notified that such a petition was necessary. Operation of the BES Hydro facility as constructed is consistent with the terms and conditions of Permit 19004 as amended. Therefore, no enforcement action is necessary and the complaint Of Walter Hammeken should be dismissed.

ORDER

NOW, THEREFORE, IT IS OROERED that the pending petition for a change in the point of diversion be approved, that Permit 19004 be amended to specify the new point of diversion and that the complaint of Walter Hammeken be dismissed.

CERTIFICATION

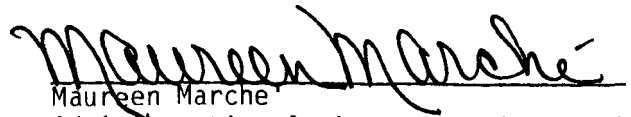
The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on February 18, 1988.

AYE: W. Don Maughan, Chairman
Darlene E. l?uiz, Vice Chairwoman
Edwin H. Finster, Member
Eliseo M. Samaniego, Member

NO: None

ABSENT: None

ABSTAIN: Danny Walsh, Member


Maureen Marche
Administrative Assistant to the Board

