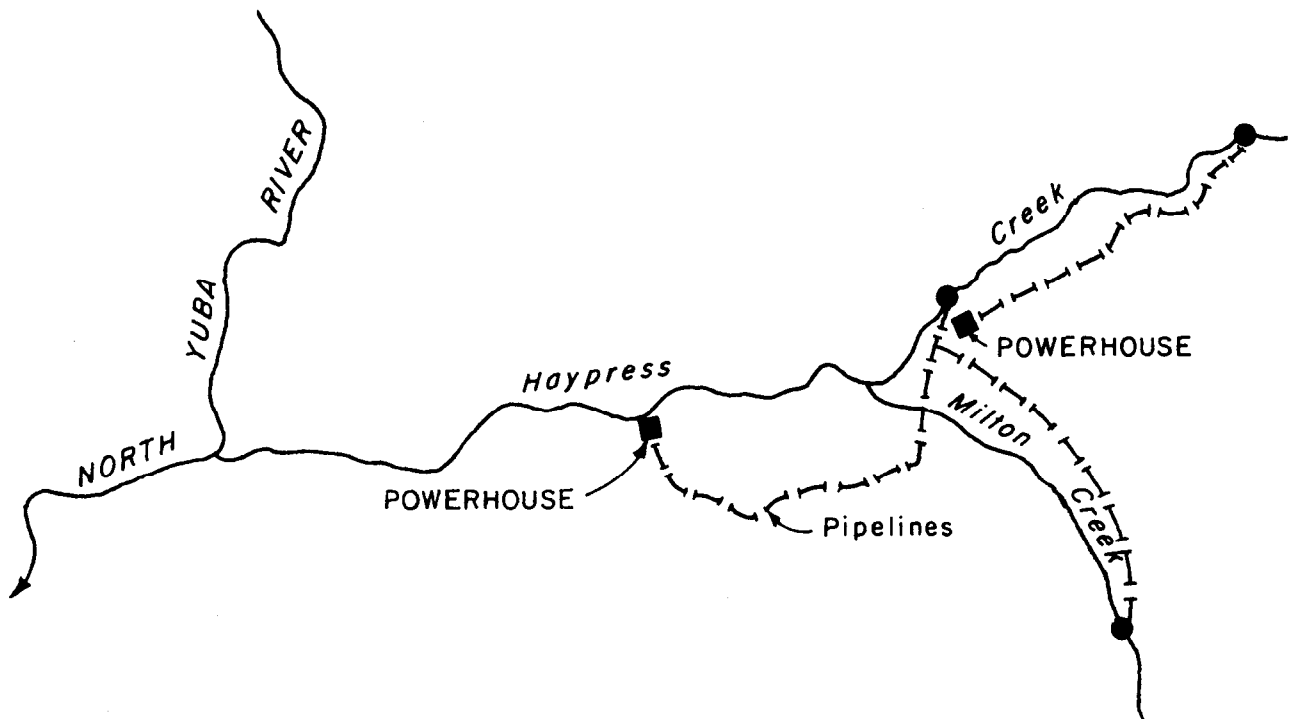


files

HAYPRESS-MILTON CREEKS HYDROELECTRIC PROJECT IN SIERRA COUNTY

APPLICATIONS 27178 & 28104

DECISION 1609



March 1986

STATE WATER RESOURCES CONTROL BOARD



STATE OF CALIFORNIA

George Deukmejian, Governor

STATE WATER RESOURCES
CONTROL BOARD

Raymond V. Stone, Chairman

Kenneth W. Willis, Vice Chairman

Darlene E. Ruiz, Member

Edwin H. Finster, Member

•
Michael A. Campos, Executive Director

STATE WATER RESOURCES CONTROL BOARD
THE PAUL R. BONDERSON BUILDING
901 P Street, Sacramento, CA
(916) 324-5715

DIVISION OF WATER RIGHTS
P.O. BOX 2000, Sacramento, CA 95810



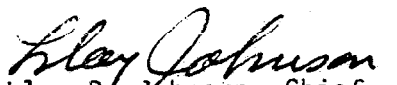
In Reply Refer
to:332:JHP

TO: ATTACHED MAILING LIST

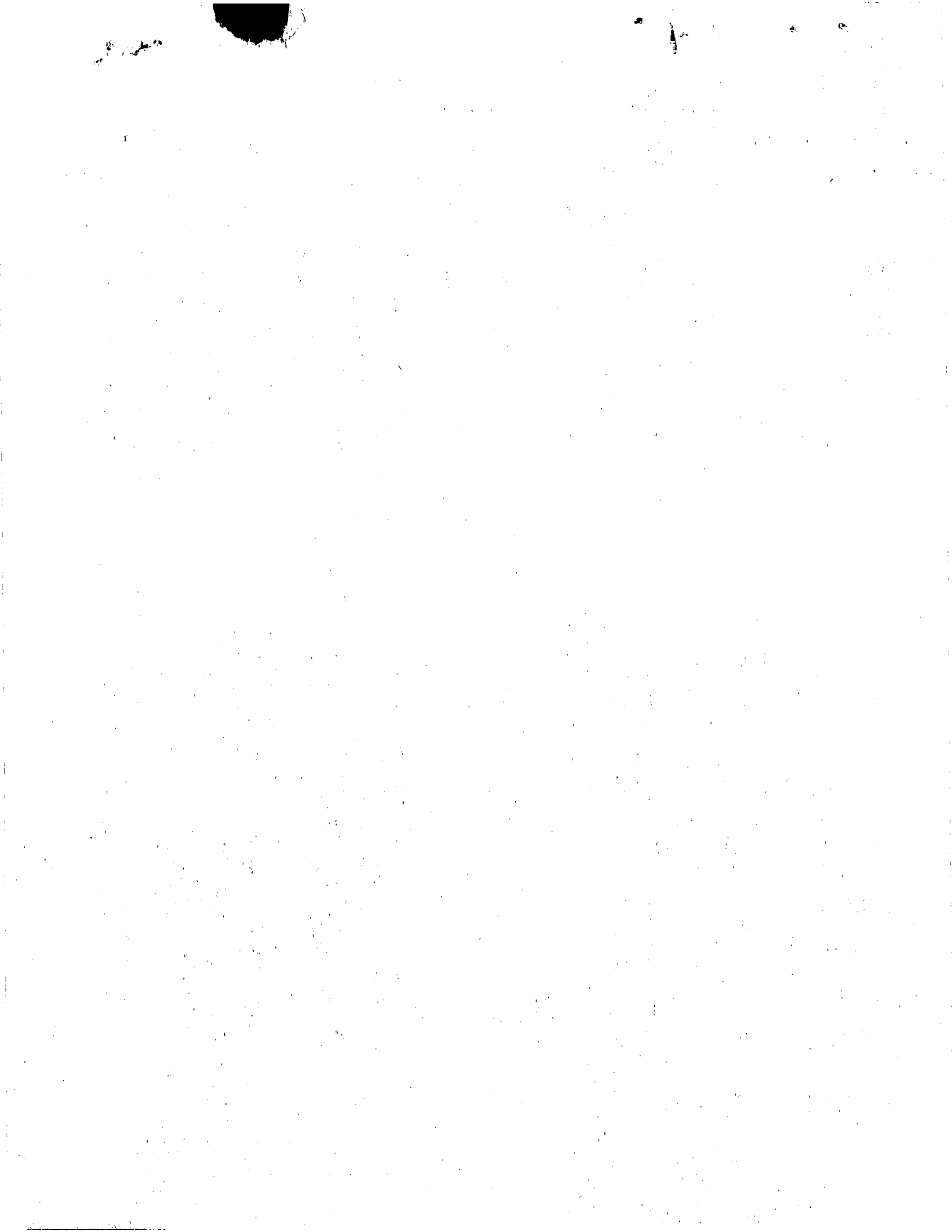
ORDER CORRECTING DECISION 1609
OF THE
STATE WATER RESOURCES CONTROL BOARD

Pursuant to Water Code Section 1359 and Board Resolution 85-34, the following corrections are made to Decision 1609 on Applications 27178 and 28104 of Southern Pacific Land Company:

1. Section 14.3.4 corrected from "...required in Condition 13.3.5:" to "...required in Condition 14.3.5:".
2. Section 14.3.5 is corrected from "...specified in Condition 13.3.4...." to "...specified in Condition 14.3.4...." .
3. Section 14.3.18 is corrected from "...permit conditions 13.3.8 and 13.3.9." to "...permit conditions 14.3.8 and 14.3.9."


Lloyd D. Johnson, Chief
Division of Water Rights

DATED: APRIL 15 1986



CONTENTS

	<u>PAGE</u>
1.0 INTRODUCTION	1
2.0 SUBSTANCE OF APPLICATION	1
3.0 PROJECT DESCRIPTION.	3
4.0 PROTESTS	3
5.0 APPLICABLE LAW	4
6.0 UNAPPROPRIATED WATER IS AVAILABLE	5
7.0 COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT	9
7.1 Draft and Final Environmental Impact Report	9
7.2 Decision to Prepare Supplemental EIR and Reversal	11
7.3 Reexamination of Cumulative Project Effects is Unmerited	12
7.4 Negotiated Bypass Flows May be Adequate	14
7.5 Consideration of Additional Mitigation Measures	18
8.0 PROJECT ECONOMICS	20
8.1 Project Costs	20
8.2 Project Revenue	21
8.3 Financial Feasibility	21
8.4 Project Financing	22
9.0 OTHER CONSIDERATIONS	23
9.1 Limitation on the Maximum Rate of Diversion	23
9.2 Schedule for Project Construction and for Applying Water to Beneficial Use	24
10.0 SECTION 729 FINDINGS	24

11.0	MANDATORY CEQA FINDINGS	26
12.0	ABUSE OF PROCESS BY PROTESTANT	26
13.0	CONCLUSIONS	28
14.0	ORDER (Conditions)	28

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Applications 27178
and 28104,

SOUTHERN PACIFIC LAND COMPANY,

Applicant,

CALIFORNIA SAVE OUR STREAMS COUNCIL,

Protestant.

DECISION 1609

SOURCE: Milton and Haypress
Creeks Tributary to
North Yuba River

COUNTY: Sierra

DECISION APPROVING APPLICATIONS 27178 AND 28104

BY BOARD MEMBER FINSTER:

1.0 INTRODUCTION

The Southern Pacific Land Company (applicant) having filed Applications 27178 and 28104 for permits to appropriate unappropriated water; the protest by California Save Our Streams Council (protestant) being unresolved; the Board having held a hearing on August 28 and 29, 1985; representatives of the applicant, the California Department of Fish and Game and the protestant having appeared and the evidence presented having been duly considered, the Board finds as follows:

2.0 SUBSTANCE OF APPLICATIONS

Applications 27178 and 28104 both seek to appropriate water from Haypress and Milton Creeks in Sierra County for the generation of hydroelectric power. The applications would use the same physical works, i.e., points of diversion, conveyance and generating

facilities. The second application seeks additional water to augment the initial application. Application 27178 was filed on January 14, 1982 and Application 28104 was filed on April 5, 1984.

Application 27178 seeks to appropriate 105 cubic feet per second (cfs) by direct diversion from January 1 through December 31 of each year. Water would be diverted at the following locations within T20N, MDB&M:

- o middle Haypress diversion -- the NW1/4 of SW1/4 of projected Section 30, R13E;
- o lower Haypress diversion -- the SW1/4 of SW1/4 of projected Section 25, R12E; and
- o Milton Creek -- the NE1/4 of SW1/4 of projected Section 36, R12E.

Power would be generated at two powerhouses situated on Haypress Creek at the following locations within T20N, R12E, MDB&M:

- o The SW1/4 of SW1/4, Section 25; and
- o the SE1/4 of SW1/4, Section 26.

Application 28104 seeks to appropriate an additional 68.4 cfs by direct diversion from January 1 through December 31 as follows:

- o 18 cfs at the middle Haypress Creek diversion; and

- o from the lower Haypress and Milton Creeks diversions, a total of 50.4 cfs.

Under both applications, the maximum rate of diversion would not exceed 173.4 cfs.

3.0 PROJECT DESCRIPTION

The proposed project will generate about 20 million kwh of electricity per year. The project will be located on Haypress Creek in Sierra County about two miles east of Sierra City, along state route 49. Project works will consist of three diversion works, two on Haypress Creek and one on Milton Creek, approximately three miles of pipeline and penstocks and two powerhouses situated on Haypress Creek. Milton Creek is tributary to Haypress Creek. The lower powerhouse is immediately upstream from the Wild Plum Campground operated by the Tahoe National Forest. From the lower powerhouse the other works extend up Haypress and Milton Creeks 1.8 and 1.5 miles, respectively. The undertaking will also require the construction of about one-half mile of new access road and about 11.5 miles of transmission line.

4.0 PROTESTS

The applications were protested by Philip D. McKibbin, California Trout, Inc., the Tahoe National Forest, the Northern California Council of Fly Fishing Clubs, the California Department of Fish and Game (DFG) and the California Save Our Streams Council, Inc. All protests, except that of California Save Our Streams Council, were

dismissed after an agreement was negotiated between the applicant and DFG. Bypass flows to protect the fishery were included in the agreement. The agreement is discussed in more detail under 7.4 Negotiated Bypass Flows May be Adequate, infra.

5.0 APPLICABLE LAW

In order to issue a permit, the Board must find that unappropriated water is available (Water Code Section 1375). The use of water for preservation of fish and wildlife resources is a beneficial use of water. When determining the amount of water available for other beneficial uses, the Board must take into account the water required for preservation of fish and wildlife (Water Code Section 1243). The Board shall include conditions to protect the public interest when approving applications to appropriate water (Water Code Section 1253). Jurisdiction may be reserved to impose additional conditions when additional studies are necessary (Water Code Section 1394). When considering the economic feasibility of proposed small hydroelectric projects of 100 or more kilowatts, the Board must make specific findings concerning the cost of mitigation measures and the value of the revenue foregone as a consequence of providing bypass flows to protect instream uses (Water Code Section 106.7(e)). Upon request, the Board is required to identify and evaluate the benefits and detriments, including economic and environmental factors, of the present and prospective beneficial uses of water (23 Calif.Admin.Code §729).

When acting as a responsible agency under the California Environmental Quality Act, the Board is required to mitigate or avoid, when feasible, significant project impacts over which it has jurisdiction (Public Resources Code Section 21002.1). An environmental impact report should give consideration to the cumulative impacts of the proposed project and reasonably anticipated future projects producing related or cumulative impacts (14 Calif.Admin.Code §15130). When an environmental impact report has been prepared, no subsequent or supplemental environmental impact report will ordinarily be prepared. However, a supplemental environmental impact report may be prepared if new information, of substantial importance, becomes available which was not known at the time the environmental impact report was certified as complete (Public Resources Code Section 21166, 24 Calif.Adm.Code §15162).

6.0 UNAPPROPRIATED WATER IS AVAILABLE

Unappropriated water is available to the applicant. Water is seasonally available in the Haypress and Milton Creek watersheds. The project will not interfere with the exercise of any existing consumptive uses of water. Because the proposed project will directly divert water (no storage), is nonconsumptive, and will return the diverted water to its source above any other user, the project will not interfere with any downstream rights to the use of water.

Notwithstanding the foregoing, the question of which months and what quantity of water is present in the streams is of importance. The quantity and seasonableness of water are critical for determining the quantity of water that should remain in the stream to protect the fishery and for determining the quantity of water available for generating hydroelectric power and project revenue. These issues will be discussed under 7.0 Compliance With the California Environmental Quality Act and 8.0 Project Economics, infra.

Haypress Creek is tributary to the North Yuba River about one mile east of Sierra City. The watershed above the proposed middle Haypress diversion is 20.8 square miles. The watershed above the proposed lower Haypress diversion and the Milton Creek diversion is 23.1 and 5.6 square miles, respectively, and totals 28.7 square miles for the lower powerhouse (T,I,58:13-59:2). On Haypress Creek, watershed elevations range from 4,955 feet at the lower Haypress diversion to about 8,000 feet along the highest portion of the drainage. On Milton Creek, elevations range from 4,935 feet at the proposed diversion to over 7,000 feet at the higher elevations (Staff, 17). Precipitation in the area averages 70 inches per year (Staff, 21). Snow accumulation and melt play a major role in the time season and duration of runoff with peak flows at the proposed diversion sites on Haypress Creek occurring during the month of May (Staff 20).

Flows in Haypress Creek have been directly measured at various times and locations. The applicant's hydrologist developed about 12 years

of flow data from a stream gage operated by Nevada Irrigation District and the United States Geological Service (USGS) from 1954 to 1966 (T,I,52:13-19). The gage was located near the proposed middle Haypress diversion. This data was supplemented by approximately two years of daily measurements by the applicant's hydrologist on Haypress Creek and on Milton Creek (T,I,57:20-58:12). The flow measurements on Milton Creek were correlated with the measurements on Haypress Creek to develop the flow relationship of Milton Creek to Haypress Creek (T,I,86:17-87:5). The following tables show the measured and estimated flows that will be available to the applicant at:

1. The middle Haypress diversion, and
2. the combined diversions on lower Haypress and Milton Creeks.

TABLE 1
 Middle Haypress Diversion Site
 Mean Monthly Flow
 1955-66 and 1983-84

MONTH	MEAN FLOW IN CFS	PERCENT OF ANNUAL RUNOFF
October	10	1.7
November	14	2.4
December	41	6.9
January	28	4.7
February	34	5.7
March	23	3.9
April	60	10.1
May	177	29.8
June	161	27.2
July	33	5.6
August	8	1.3
September	4	0.7
Annual	49	100.0

TABLE 2
 Lower Haypress and Milton Creek Diversion Sites
 Mean Monthly Flow
 1955-66 and 1983-84

MONTH	MEAN FLOW IN CFS	PERCENT OF ANNUAL RUNOFF
October	13	1.5
November	23	2.5
December	66	7.4
January	46	5.1
February	55	6.1
March	40	4.5
April	94	10.5
May	267	29.8
June	231	25.8
July	45	5.0
August	11	1.2
September	5	0.6
Annual	75	100.0

To estimate long-term flows, the average monthly flows from the records on Haypress Creek were correlated with the average monthly flows from the USGS stream gage near Goodyear's Bar on the North Yuba River (T,I,66:22-68:15). On an annual basis, the estimate resulted in an 11 percent increase in power generation vis-a-vis the 14 years of measured flows. Significantly, the extended 20-year record showed almost a 30 percent increase in power generation (flow) during the months of May through September, the contractual period for higher energy prices. There is no back-up data in the record explaining why the estimate for long-term flows is so unrepresentative of 14 years of actual measurement.

Additionally, the applicant concluded that the annual flow at Goodyear's Bar during the 12-year period when flow was measured on Haypress Creek averaged only 85 percent of the long-term mean. Similar calculations by the Board indicate that the Goodyear's Bar flow during this period was 93 percent to 96 percent of normal, depending on whether the 12-year period is compared with the 53-year mean or with the 50-year mean, respectively. The applicant's method of calculation is not included in the record (T,I,81:12-82:19).

Notwithstanding the foregoing reservations, the 12-year record of flow measurements on Haypress Creek, plus approximately two years of daily measurements, provide a relatively good basis for determining flow availability and its seasonal variations in the watershed. On this basis alone there is adequate flow to support the requested diversion rates.

7.0 COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

7.1 Draft and Final Environmental Impact Reports

Pursuant to the California Environmental Quality Act, Sierra County prepared the draft and final environmental impact report for the proposed project (CEQA, Public Resources Code Section 21000, et seq.). The June 1984 draft environmental impact report (DEIR) characterized the Haypress Creek fishery, within the lower project area, as having a self-sustaining wild rainbow trout population. That the proposed project would alter the natural flow regime and could significantly impact fisheries were among the major findings in the DEIR. Minimum flow requirements, established by the California

Department of Fish and Game were identified as mitigation (DEIR, pp. v. and vi.).

Responding to comments on the DEIR, in the October 1984 final environmental impact report (FEIR) the County stated that the applicant has agreed to a minimum instream flow bypass schedule to protect the fishery (FEIR, p. 9).

The agreement relied upon by the County was based upon an interim recommendation by DFG to the Federal Energy Regulatory Commission pending completion of aquatic monitoring and studies (Staff, 1 and 2). Although the Instream Flow Incremental Methodology (IFIM) study was being conducted by the applicant during mid-1984, no data regarding the impact of flow reductions on fishery resources was available during preparation of the initial study, DEIR and FEIR and such impacts were not discussed. Comments on the DEIR by the staff of the Board urged the County to defer action on the FEIR until completion of the study.

Following adoption of the FEIR, the County wrote the Board stating:

"The County has taken care to mitigate the project's adverse effects, but some of the project's impacts are beyond the County's direct control. The amount of instream flows, the season of water diversion, and the regulation of peak flows will influence the project's effect upon the environment. The EIR acknowledges the State's regulatory control of surface water rights. The County is relying on the State water appropriation process to set environmentally sound instream flow in accord with CDFG's recommendations. The County permit requires compliance with State water appropriation permits and licenses."

Decision to Prepare Supplement EIR and Reversal

In February 1985 a draft of the IFIM study became available for Haypress Creek. Preliminary IFIM results became available for Milton Creek in April 1985. This information indicated that the habitat for rainbow trout would be reduced at least 25 percent during spring and summer under the DFG post-project flow regimes (Staff, memo dated May 17, 1985). Because the new information showed significant project effects, the Board's staff issued a notice that a supplemental EIR would be prepared (Public Resources Code Section 21166; 14 Cal. Adm. Code §15162; Notice of Preparation, June 6, 1985).

Upon reconsideration, a decision was made to proceed without preparing a supplemental EIR. Because a hearing was required to resolve issues concerning potential impacts to instream uses, preparation of the supplemental impact report was cancelled (Staff 1., letters dated July 12, 1985). Importantly, the results of the IFIM studies were available before the hearing. Such studies evaluate the relationship of fishery habitat to reductions in stream flow (see 7.4 Negotiated Bypass Flows May Be Adequate, infra).

In this case, the water right hearing and the supplemental EIR process would have been redundant processes. The proposed supplemental EIR would have addressed the project's potential effect on instream resources, just as the administrative hearing addressed the project's potential effect upon instream resources. Both processes provide for disclosure of information concerning project effects upon instream resources, the opportunity for comment, the introduction of evidence,

the orderly analysis of information and the consideration of measures to avoid or mitigate impacts. Separate from CEQA, AB 951 (enacted in 1985) requires the Board to determine the cost of project mitigation measures when considering the economic feasibility of small hydroelectric projects (Water Code Section 106.7(e)). Further, the administrative hearing process provides for greater due process safeguards and for the critical weighing of evidence.* Finally, use of the hearing process to explore adequacy of the bypass flows eliminates a redundant process and avoids possible delays.

7.3 Reexamination of Cumulative Project Effects is Unmerited

Regarding cumulative impacts, CEQA guidelines provide, in part, as follows:

- "(a) Cumulative impacts shall be discussed when they are significant.
- "(b) The discussion of cumulative impacts shall reflect the severity of the impacts and the likelihood of occurrence.... The following elements are necessary to an adequate discussion of cumulative impacts:
 - (1) Either:
 - (A) A list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including projects outside the control of the agency; or
 - (B) A summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional or areawide conditions....

* This point is particularly relevant. Although a close question, our review of the evidence indicates that substantial evidence is lacking to support the conclusion that the proposed project will have effects over and above those previously considered by the County.

- (2) A summary of the expected environmental effects to be produced by those projects....
- (3) A reasonable analysis of the cumulative impacts of the relevant projects...."
(14 Cal. Adm. Code §15130.)

The Yuba River has three major tributaries, the South Yuba River, the Middle Yuba River and the North Yuba River. Haypress Creek is tributary to the North Yuba River. When preparing the EIR, Sierra County did consider cumulative impacts of projects proposed within the North Yuba River Basin. Nine small hydroelectric projects were identified within the DEIR (Staff 4, pp. 114-116). A map and table describing these projects was also contained in the FEIR (Staff 5, pp. 4 and 114). The County appears to have made a bona fide attempt to comply with CEQA's guidelines.

During the hearing, the protestant asserted that the FEIR failed to consider two other projects proposed for development in the Yuba River watershed (T,I,127:26-128:2). Two additional hydroelectric proposals were identified, one on the Middle Yuba River and one on the South Yuba River (T,I,125:26-126:1 and 129:23-130:1). Both projects are outside of Sierra County, in Nevada County.

The adequacy of a FEIR's evaluation of cumulative impacts can always be challenged by pointing to new proposals or proposals outside the cumulative study area. Neither resource agency guidelines nor case law has articulated criteria for determining how inclusive an area should be. Nevertheless, responsible agencies are directed to accept an EIR as final unless new information becomes available showing that

effects discussed in the EIR will be substantially more severe or that the proposed project will have significant effects not discussed in the EIR (Public Resources Code Section 21166, 14 Cal. Adm. Code §15162). The record does not show that the projects on the Middle and South Yuba River, when taken in conjunction with the applicant's project, will result in substantially more severe project effects or that substantial effects not previously addressed will occur. In the absence of such information reexamination of cumulative effects is unmerited.

7.4 Negotiated Bypass Flows May Be Adequate

Both Haypress and Milton Creeks have self-sustaining wild rainbow trout populations. In 1981 Haypress Creek was found to have 63 pounds of trout per surface acre of stream and in 1984 Milton Creek was found to have 43 pounds of trout per acre (T,II,249:12-14; SPLC,29 and 19). Both Haypress and Milton Creeks are relatively productive as compared to other Sierra streams containing trout in which about 35 pounds of trout per acre is the norm. Eighty percent of the Haypress Creek trout population and 90 percent of the Milton Creek trout population were catchable trout over six inches in length (T,II,250:5-12).

Throughout the investigation of this proposed project, DFG has recommended varying bypass flows for the protection of fish in Haypress and Milton Creeks. Following the February 1984 circulation of the draft IFIM for Haypress Creek, the applicant and DFG entered into agreements which, among other matters, called for the following bypass flows to protect fish resources:

TABLE 3

MIDDLE HAYPRESS	BYPASS (cfs)
May 1 - July 15	30
July 16 - October 31	15
November 1 - April 30	12

LOWER HAYPRESS	BYPASS (cfs)
November 1 - April 14	12
April 15 - July 15	40
July 16 - October 31	20

MILTON CREEK	BYPASS (cfs)
May 1 - July 31	10
August 1 - April 30	5

The flows were agreed upon for Milton Creek before the draft IFIM was prepared (SPLC,46; T,I,11:4-12:2 and II,215:10-219:7) .

The impacts of reduced stream flows on fish resources was evaluated through IFIM studies. The IFIM methodology was developed by the U. S. Fish and Wildlife Service and is commonly recommended by DFG for evaluating the effect of reduced stream flows on fish habitat. The methodology assesses how flow decrements will affect the quantity of habitat for the different life stages of fish, e.g., spawning, egg incubation, fry, etc. Habitat is characterized by reference to the depth and velocity of water and by substrate. Quantification of the flow/habitat relationship makes possible the assessment of the impact of proposed diversions on fish habitat.

The methodology is based, in part, upon the generalized assumption that the needs of fish can be met by assuring sufficient flows and

habitat during all life stages. Nevertheless, standing alone an IFIM study does not answer how many fish are in a stream or will be in a stream at specified flow levels. The effect of the loss of flow and habitat on fish populations can be evaluated only by additional studies which count fish populations and correlate the results with flow and habitat over an extended period of years. Depending upon natural variations in annual precipitation, runoff, and other factors more than three years of study may be required to identify, with any certainty, the relationship between flows and the number of fish in any given stream. In the absence of such studies, deference must be given to the opinion of fishery experts.

Determination of the significance of a given reduction of flow and habitat on a fishery is not a simple task. When evaluating the numerical results of an IFIM study, determining when a reduction in flows and habitat will cause a significant fishery loss may be difficult. No general scientific literature provides a rule of thumb for estimating fish loss associated with habitat loss and each stream is unique to some degree. In such situations, experts frequently differ. In this case, the applicant's fishery expert and DFG were of the general opinion that the proposed bypass flows "and other measures that have been agreed to" will not significantly reduce the pre-project fishery. From DFG's point of view, however, "other measures" may be as important as the bypass flows because "other measures" include post-project studies to determine whether the bypass flows are preserving the pre-project fishery population (T,II,227:26-228:6, 234:15-22).

DFG appears to assume the applicant will bypass higher flows if such studies demonstrate a need for additional flows and habitat; however, the agreement with the applicant does not include such a term. Unless acted upon, the studies are obviously of little value. As previously indicated, the IFIM does not answer how reduced flows will affect fish populations. Nevertheless we must admit to a degree of skepticism that the bypass flows will protect the fishery:

- o given the inherent limitations of IFIM studies,
- o when the flows were agreed to before the results of the IFIM were fully available, and
- o when the IFIM indicates that fishery habitat will be significantly reduced (for example, habitat will be reduced by around 30 to 60 percent, depending upon the season, in Milton Creek).

Under these circumstances, we believe that a post-project fishery study is essential and that jurisdiction must be reserved to adjust the bypass flows to mitigate any significant effects upon the fisheries (Water Code Section 1394). Post-project studies should include a comprehensive survey of the fish present in the stream segments that will be affected by the proposed project (See Staff Analysis of Record, Figure 11.1, p. 45 for map showing the affected stream segments). A post-project study of not less than three years, the normal trout spawning to maturation cycle, should be conducted.

Additional years will be required in the event atypical annual runoff or other factors require a study of longer duration. The results of the post-project study will be compared to the pounds per acre and percent of catchable trout found in Haypress and Milton Creeks in the 1984 and 1981 studies, respectively. Finally, given the substantial reduction in habitat on Milton Creek, the applicant should be required to satisfy its water requirements for the lower Haypress diversion from Haypress Creek before diverting water from Milton Creek.

7.5 Consideration of Additional Mitigation Measures

In addition to the measures previously discussed in the applicant/DFG agreements, the applicant has agreed to mitigation measures including but not limited to the construction of diversion works to assure bypass flows will occur, the installation of fish screens and continuous recording stream gages, annual flushing flows, elevation of the Milton Creek low-pressure conduit to minimize impacts on wetland habitat, etc. (See SPLC,46 and Staff,1, correspondence dated September 9, 1985). These conditions should be included in our approval of this project.

The DEIR, IFIM study and testimony elicited during the hearing indicate that reduced stream flow during winter months could result in the formation of ice dams or ice crystals resulting in the loss of fish (SPLC, 27,66; Staff Analysis of Record, 14.1.3 Potential for Winter Ice Formation on Milton Creek, pp. 74-75). We believe that a post-project study should also evaluate this potential problem and

that jurisdiction should be reserved to adjust bypass flows. Further, testimony received during the hearing indicated the project could modify the fishery habitat below the diversion works. The post-project study should also evaluate the project's effects on fishery habitat (SPLC,27,62; SPLC,27).

The protestant expressed concern that the proposed project would adversely affect the aesthetic character of the area, including the Pacific Crest Trail and the falls upstream of the campground. Mr. Otto, a planner for Sierra County, testified that he was familiar with the area (T,I,175:7-26). In his opinion, the spring and early summer bypass flows would not substantially alter the character or aesthetic experience of the falls or cascades above the campground (T,I,170:2-7). The bypass flows recommended by DFG will curtail the diversion of water from around late July through November in an average water year. Accordingly, most natural flows would be bypassed during the period of heaviest recreational use. Runoff during the spring snowmelt is substantially higher than the capacity of the proposed diversion works and spills should continue to produce a dramatic display at the falls (T,I,183:3-11). The United States Forest Service, Sierra County and the applicant have developed reasonable plans to reduce and to mitigate other visual impacts of the project including the relocation of facilities, burying pipelines, the feathering of vegetation in the pipeline corridors, and the planting of vegetative screens. The protestant provided no evidence indicating that additional measures should be required beyond those included in the lead agency's approval of this project.

8.0 PROJECT ECONOMICS

8.1 Project Costs

The proposed project is economically and financially attractive. The capitalized cost of both units of the project is about \$17.9 million including indirect development costs of \$2.2 million, direct construction cost of \$12.3 million and about \$3.4 million of other costs associated with the origination of debt financing (see Staff Analysis of Record, Table 8.1, p. 20, for a detailed summary of capitalized costs). About \$2.7 million of these costs will be obtained from investors and another \$14.5 million from bonds. About \$0.4 million of construction costs will be spent for mitigation measures, roughly 2.6 percent of construction costs (see Staff Analysis, Table 8.2, Mitigation Costs, p. 22 for details).

The costs associated with annual operation include: repayment of principal of debt, interest payments, operation and maintenance, real estate taxes, insurance and royalty payments (SPLC, 22 and 23). Royalty payments are the fraction of gross revenues paid to the landowner. Annual costs will average about \$2.8 million over 33 years. The exhibits assume that three years will be required to develop the project before power is sold and that the project will be operated for 30 years thereafter. Annual costs are estimated in current dollars and are then escalated through time to adjust for inflation, contractual provisions and the like.

8.2

Project Revenue

Project revenues are determined by the seasonal availability of water, the sizing of the turbine/generating units, head or the vertical drop of confined flow and the price paid for generated energy. Allowing for the DFG bypass flows (Table 3, see p. 15, supra), the project would produce an average of about 19.9 to 22.1 million kwh per year (see Staff Analysis of Record, Tables 7.3 and 7.4, pp. 15 and 16, for detailed estimate of power production). We believe the estimate for annual power production may be nearer the lower figure for reasons previously discussed (see 6.0 Unappropriated Water is Available, p.8, supra).

The applicant has a fixed price contract with the Pacific Gas and Electric Company (PG&E) for the first 10 years of project operation. Thereafter, the applicant will be paid PG&E's full short-run avoided operating cost. The applicant calculated the revenue which may be produced by the project on the basis of the contract and the higher estimate for power production (SPLC, 22 and 23). Using these figures, we estimate that average annual gross project revenue, over 33 years, is about \$5 million. But for the bypass agreement with DFG, gross revenue would be about \$6.3 million annually or 26 percent higher.

8.3

Financial Feasibility

Subtraction of average annual costs of \$2.8 million from \$5 million indicates that average annual net project revenue will be about \$2.2 million. The applicant has calculated that the after tax internal rate of return (IRR) for investors is about 15 percent. Our

calculations, however, indicate the IRR would be closer to 30 percent over 30 years. Further, it does not appear the IRR will be greatly reduced if the estimated average annual power production is less than anticipated (see 6.0 Unappropriated Water Is Available, p. 8, supra.)

8.4 Project Financing

The applicant proposes to finance over 80 percent of the estimated capital cost with tax-free, 30-year variable interest industrial development bonds (IDBs). Such bonds trade at approximately 50 percent of the prime interest rate, about 5 percent at the time of the hearing. For purposes of financial analysis, however, the applicant assumed that such rates would be around 7.5 percent (T,I,102:25-103:7).

IDBs are approved by the California Alternative Energy Source Financing Authority ("Authority"; T,I,111:11-24). On March 28, 1985 the Authority adopted resolutions approving the issuance of bonds for the project; however, no bonds will be issued until a final determination is made by the Authority that the project complies with the requirements of the act authorizing the Authority (Public Resources Code Section 26000, et seq.).

Obviously, the viability of IDBs may be affected by changes in the tax exempt status of such bonds. The applicant is aware of this possibility but was confident that the project would be financially feasible even if conventional financing were necessary (T,I,132:3-135:6).

No specific evidence was offered, however, as to the effect higher interest rates would have on net revenue and the internal rate of return for investors. Accordingly, we believe a condition should be included in our approval for the contingency that IDB bonds would not be available. The condition will require the applicant to substantiate that funds from the sale of IDBs are available. Further, in the event IDBs are not available, the condition will require the applicant to prepare a financial analysis based upon the proposed method of financing and demonstrating that the project is financially feasible. Finally, the condition will prohibit construction within the stream channel until the Chief, Division of Water Rights, concurs in writing with the substantiation or analysis.

9.0 OTHER CONSIDERATIONS

9.1 Limitation on the Maximum Rate of Diversion

The applicant proposes to design the middle and lower Haypress works for maximum flows of 123 cfs and 155 cfs, respectively. Under either the combined operation of the upper Haypress, lower Haypress and Milton Creek diversions or the lower Haypress diversion alone, the maximum rate of diversion would be 155.4 cfs (T,I,34:4-38:0). As filed, Application 27178 when combined with Application 28104 provides for the combined diversion of up to 173.4 cfs. Accordingly, the permit issued for Application 28104 should limit the maximum rate of diversion to 155.4 cfs when the right is exercised in conjunction with the permit issued for Application 27178.

9.2 Schedule for Project Construction and for Applying Water to Beneficial Use

Due diligence is required of permittees for the construction of project works and for applying water to beneficial use (Water Code Section 1395, et seq.). A witness for the applicant estimated that construction would commence during the spring of 1986, and would be completed during the summer of 1987, and that operation could commence around January 1, 1988 (T,I,139:3-18). We believe these times should be modified to provide additional time for coping with the difficulties encountered in developing projects such as this. Further, these times must be modified to allow more time in response to the conditions we will adopt requiring the post-project fishery study.

10.0 SECTION 729 FINDINGS

By letter dated July 22, 1985 the protestant requested that the Board make findings pursuant to 23 Cal. Adm. Code, Section 729. Section 729 provides, in part, as follows:

"... the board shall at the request of any party to the proceeding or by its own motion, to the extent practicable, identify and evaluate the benefits and detriments, including but not limited to, economic and environmental factors, of the various present and prospective beneficial uses of the waters involved and alternative means of satisfying or protecting such uses, and make findings with respect thereto. The applicant may be required, and other parties may be requested, to provide such information as is determined necessary by the board to accomplish the foregoing."

By letter dated August 1, 1985 the protestant was advised he should present evidence at the hearing, concerning the requested findings,

which he wished the Board to consider. No specific evidence was presented by the protestant concerning its request for Section 729 findings. Accordingly, our findings will be largely drawn from the evidence presented by the applicant and from the EIR.

Project benefits are the generation of about 20 million kwh of electricity per year and income to private investors from the sale of energy. We estimate that over 30 years the investors will receive an after tax internal rate of return of about 30 percent per year.

Other present and prospective beneficial uses of water downstream from the project will not be preempted because the project will not make consumptive use of the water and the water will be returned to Haypress Creek. Instream flows will be reduced, however, in Haypress Creek and Milton Creek for about 1.8 and 1.5 miles respectively. These reduced flows may affect trout fisheries.

No proposal for the conventional development of hydroelectric power is possible without the diversion of water. Depending upon the season of diversion and the quantity of water diverted, such projects may have little or great effect upon instream beneficial uses. The evidence presented during the hearing suggests that the bypass flows agreed to by the applicant will protect the fishery from injury and will protect the aesthetic experience at the falls. Because of some uncertainty, we are reserving jurisdiction to adjust bypass flows to protect the fisheries after completion of studies.

11.0 MANDATORY CEQA FINDINGS

Pursuant to CEQA, Sierra County prepared the draft and final environmental impact report (FEIR) for the proposed project. The FEIR indicated that the proposed project would alter the natural flow regime of affected streams and could significantly impact fisheries; however, the lead agency concluded that the applicant had agreed to bypass flows that would mitigate the adverse impact to the fisheries. Subsequently, the applicant conducted additional fishery studies, agreed to higher bypass flows for Haypress Creek and has agreed to post-project studies. Experts during the hearing indicated that the bypass flows will not result in significant impacts to the fisheries. However, our review of this information leaves us uncertain whether impacts will not occur on Milton Creek. On the basis of the present record, the bypass flows required by this decision should avoid or substantially lessen significant fishery impacts. However, because of our uncertainty, we are reserving jurisdiction to adjust bypass flows after completion of post-project studies and opportunity for hearing.

12.0 ABUSE OF PROCESS BY PROTESTANT

Numerous applications for the appropriation of water for hydroelectric power are on file with the Board. The projects represented by these applications have raised a great deal of environmental concern. More specifically, many environmentally interested groups are concerned about the location of such projects in or close to recreational areas, and the effect of wholly or partially dewatering streams on instream beneficial uses, such as fishing, riparian vegetation and wildlife. Virtually every application for the appropriation of water for hydroelectric power has been protested.

Often, environmental concerns are allayed by mitigation measures developed during the environmental review process or negotiated by the applicant and a protestant, such as fish bypass flow agreements negotiated with DFG. When this occurs, many of the protests are withdrawn. If any protest is unresolved, a hearing is held to receive evidence concerning the disputed issues.

In one other instance, a hearing was held to receive evidence concerning issues raised by the protestant (SOS) when all other protests were withdrawn. The Board's decision stated in part that "... the participation of SOS turned out to be short on presentation of helpful factual evidence" (Decision 1605). In the present case the greater part of the protestant's effort was aimed at trying to produce evidence by cross-examination of the applicant's expert witnesses. Beyond cross-examination, one non-expert witness spent a few minutes summarizing information readily available in the EIR (T,II,305:1-312:6). We are well aware that volunteer environmental groups have few resources and difficulty in obtaining qualified witnesses. However, even by the standard of the efforts made by such groups, the protestant does not appear to have made a good faith effort to prepare and present evidence. While it cannot be concluded with certainty, the protestant may be merely using our administrative hearing process to delay project approvals and to escalate project costs for applicants.

We do not wish to discourage the protestant from vigorously contesting any project for which an application has been filed. Nevertheless, we

will consider revising our procedures for this protestant if, in the future, the protestant appears to be using our administrative hearing process to delay projects and to escalate project costs.

13.0 CONCLUSIONS

The Board finds that unappropriated water is available during most months, wholly or partially, to satisfy the application for the proposed hydroelectric project and that with the proposed bypass flows to protect instream beneficial uses the project is financially feasible. Subject to the following conditions to conserve the public interest in the water sought for appropriation, Applications 27178 and 28104 should be approved.

14.0 ORDER

IT IS HEREBY ORDERED:

14.1 Application 27178

The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 105 cubic feet per second to be diverted from January 1 through December 31 of each year at any one or a combination of the three points of diversion.

14.2 Application 28104

The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 68.4 cubic feet per second to be diverted from January 1 to December 31 of each year as follows:

18 cubic feet per second from Haypress Creek at the Middle Haypress diversion structure and a combined total of 50.4 cubic feet per second

from Haypress Creek at the lower Haypress diversion structure and from Milton Creek at the Milton Creek diversion structure.

The maximum rate of diversion under this permit together with the maximum rate of diversion under permit issued pursuant to Application 27178 shall not exceed 155.4 cubic feet per second.

14.3 Applications 27178 and 28104

- 14.3.1 Construction shall begin within two years of the date of this permit and shall thereafter be prosecuted with reasonable diligence, and if not so commenced and prosecuted, this permit may be revoked.

Construction work shall be completed by December 1, 1990.

Complete application of the water to the authorized use shall be made by December 1, 2000.

- 14.3.2 Prior to beginning any construction on the diversion works, permittee shall submit:

- a. Information substantiating that financing for the project has been secured and that all necessary funds, including equity, are available for expenditure.
- b. A final financial analysis based on the method of financing which will be used for project construction, unless financing will be by means of 30-year term industrial development bonds.

These submittals shall be made to the Chief, Division of Water Rights for approval to proceed with construction.

14.3.3 Permittee shall, prior to construction, file a Report of Waste Discharge pursuant to Water Code Section 13260 with the California Regional Water Quality Control Board, Central Valley Region (Regional Board), and shall comply with all waste discharge requirements issued by the Regional Board. If the Regional Board waives issuance of waste discharge requirements, the permittee shall comply with Parts I and II of the "Guidelines for Protection of Water Quality During Construction and Operation of Small Hydro Projects" (Guidelines) as contained in the Water Quality Control Plans of the Central Valley Basin.

Specific requirements set forth in the permit shall prevail over any specific or general requirements in the referenced Guidelines in the event of conflict.

When complying with the Guidelines, pursuant to this condition, the permittee shall not commence construction until the Erosion Control Plan and any baseline data required by the Guidelines have been submitted to and approved in writing by the Regional Board; and before commencing sluicing operations, the permittee shall submit and receive written approval from the Regional Board of the Sluicing Operation Plan.

14.3.4 For the protection of fish and wildlife, permittee shall bypass the following minimum instantaneous flows, or the natural streamflow, if less, at each of the points of diversion as measured by the measuring devices required in Condition 13.3.5:

- o Middle Haypress Diversion Structure
 - a. 12 cubic feet per second from November 1 through April 30;
 - b. 30 cubic feet per second from May 1 through July 15;
 - c. 15 cubic feet per second from July 16 through October 31.
- o Lower Haypress Diversion Structure
 - a. 12 cubic feet per second from November 1 through April 14;
 - b. 40 cubic feet per second from April 15 through July 15;
 - c. 20 cubic feet per second from July 16 through October 31.
- o Milton Creek Diversion Structure
 - a. 10 cubic feet per second from May 1 through July 31;
 - b. 5 cubic feet per second from August 1 through April 30.

14.3.5 Prior to the diversion of any water, permittee shall:

- a. Obtain the written approval of the Chief, Division of Water Rights regarding the design and location of measuring devices capable of providing a continuous and accurate record of the bypass flows specified in Condition 13.3.4 as well as any spill;
- b. Obtain the written approval of the Chief, Division of Water Rights, that such devices have been properly installed and that operating and maintenance instructions are readily available to the permittee's operating personnel.

The measuring devices shall be properly maintained and operated so as to provide an accurate record of instream flow passing the diversion structures.

14.3.6 Permittee shall collect streamflow data on a continuous basis and shall reduce this data to provide the following outputs:

- a. average daily flow;
- b. minimum instantaneous flow that occurred during that day;
- c. maximum instantaneous flow that occurred during that day.

14.3.7 These outputs and the raw data shall be kept on file by the permittee and shall be certified. Certification shall take one of the following forms:

1. Submittal of records maintained by a disinterested third party such as the United States Geological Service.
2. A statement made under the penalty of perjury by either the individual who prepared the records or under whose supervision the records were prepared stating that the attached records were either prepared by themselves or under their direct supervision and are true and correct.

Copies of the streamflow records, including certification, shall be submitted to the Board at the request of the Chief, Division of Water Rights within the time frame specified by the Chief, Division of Water Rights.

Copies of the streamflow records, including certification, and the daily power generation records shall be provided to the Department of Fish and Game annually by December 31 of each year for the preceding October 1 - September 30 water year.

- 14.3.8 Permittee shall conduct a post-project study to determine the project's impacts on fishery habitat and fish populations.

The permittee shall prepare a study plan in consultation with the California Department of Fish and Game. The plan shall be approved by the Chief, Division of Water Rights before the project commences operation.

The plan shall include, but not be limited to, the identification of the target life stages to be studied, study sites and the timing, frequency and duration of field and measurements. The methodology to be used for the study shall be described. The study shall include representative control sites outside the stream segments affected by the project. The study shall be for not less than three years and additional years will be required if, in the judgment of the Chief, Division of Water Rights, atypical runoff or other events affect the validity of the study.

The study shall commence during the first year of project operation and the results of the study shall be sent to the Chief, Division of Water Rights, within 90 days after the study is complete.

- 14.3.9 Continuous recording thermographs shall be installed and maintained in the affected reaches of Haypress and Milton Creeks. Post-project winter surveys for ice formation shall be conducted along each affected stream reach. These surveys shall be conducted a minimum of two times during each winter of post-project monitoring and shall take place when water temperatures are below 32°F when minimum flows are being bypassed. Control sites outside each affected reach shall be surveyed at the same time to establish whether project operations are affecting ice formation. The surveys shall describe whether subsurface ice was observed and whether dead, dying or stranded fish were observed. The survey report shall be submitted to the Chief, Division of Water Rights, for evaluation and approval within 60 days from the date the survey is complete.
- 14.3.10 An automatic control device shall be installed so that water, in excess of bypass flows, shall first be diverted from the lower Haypress diversion structure and then, as needed, from the Milton Creek diversion structure.
- 14.3.11 Permittee shall install fish screens that have been approved in advance by the Department of Fish and Game on all intake structures. The screens shall be properly maintained by permittee. A fish ladder, approved by the Department of Fish and Game, shall be installed at the Milton Creek diversion structure.
- 14.3.12 To prevent fish stranding, increases in the amount of water diverted shall be gradual and at a rate not to exceed 30 percent of the total streamflow per hour.

- 14.3.13 In accordance with Section 1603 of the Fish and Game Code, no work shall be started on the diversion works and no water shall be diverted until permittee has entered into a Streambed Alteration Agreement with the Department of Fish and Game and the Department has determined that measures to protect fishlife have been incorporated into the plans for construction of such diversion works. Construction, operation, and maintenance costs of any required facility is the responsibility of permittee.
- 14.3.14 Once every water year, permittee shall allow a 24-hour bypass of flow equal to or exceeding the 5 percent exceedence level based on an annual flow duration curve at each point of diversion. These bypass flows shall be made in each water year as soon as possible, but in the event the 5 percent exceedence does not occur by May 31, the entire stream flow shall be bypassed for a 24-hour duration on June 1, provided that such a bypass will result in a greater instream flow than has occurred previously that same water year.
- 14.3.15 In wetland areas adjacent to Milton Creek, the Milton Creek low-pressure conduit shall be elevated and placed on concrete piers. If an alternative pipeline route which could eliminate the impacts on wetland habitat is identified in the future, this alternative shall be pursued. Prior to construction, permittee shall coordinate construction of the Milton Creek low-pressure conduit with the Department of Fish and Game, the U. S. Forest Service, and the County of Sierra.

14.3.16 Permittee shall, by a method acceptable to the Central Valley Regional Water Quality Control Board and the Department of Fish and Game, remove sand and sediment from the pools immediately upstream from the diversion structures on Haypress and Milton Creeks and from the afterbay at the upper end of the lower Haypress diversion conduit to a site acceptable to the aforementioned agencies. All accumulated materials greater than or equal to one-half inch in greatest dimension shall be returned in an approved manner to Haypress and Milton Creeks downstream from the diversion structures.

14.3.17 All rights and privileges to appropriate water for power purposes under this permit and any subsequently issued license are subject to depletions resulting from future upstream appropriation for domestic and stockwatering uses within the watershed. Such rights and privileges under this permit may also be subject to future upstream appropriations for uses within the watershed other than domestic and stockwatering if and to the extent that the Board determines, pursuant to Water Code Sections 100 and 275, that the continued exercise of the appropriation for power purposes is unreasonable in light of such proposed uses. Any such determination shall be made only after notice to permittee or licensee of an application for any such future upstream appropriation and the opportunity to be heard; provided, that a hearing, if requested, may be consolidated with the hearing on such applications.

14.3.18 The State Water Resources Control Board reserves jurisdiction over this permit to amend the bypass flows as a result of studies described in permit conditions 13.3.8 and 13.3.9. Action by the Board will be

taken only after notice to interested parties and opportunity for hearing.

CERTIFICATION

The undersigned, Executive Director of the State Water Resources Control Board, does hereby certify that the foregoing is a full, true, and correct copy of a decision duly and regularly adopted at a meeting of the State Water Resources Control Board held on March 20, 1986.

AYE: Darlene E. Ruiz
E. H. Finster
Eliseo Samaniego
Danny Walsh

NO: None

ABSENT: Raymond V. Stone

ABSTAIN: None

Raymond Walsh
Raymond Walsh
Interim Executive Director



2

2



2

2

