

STATE OF CALIFORNIA
STATE WATER RIGHTS BOARD

In the Matter of Applications 14785,
15717, 15718, and 15719 of Pacific Gas
and Electric Company to Appropriate
from Elk Creek, Squaw Valley Creek,
McCloud River, and Iron Canyon Creek
in Siskiyou and Shasta Counties

Decision No. D 978

ADOPTED AUG 25 '60

Substance of the Applications

Application 14785 is for a permit to appropriate 2,650 cubic feet per second by direct diversion and 110,000 acre-feet per annum by storage, year-round, for power and incidental domestic purposes from Elk Creek, Squaw Valley Creek, and McCloud River. Water would be appropriated from McCloud River at the proposed Upper McCloud Diversion Dam and diverted through the proposed Upper McCloud Tunnel into Elk Creek above the proposed Elk Creek Diversion Dam. Elk Creek water would be appropriated and diverted and McCloud River water rediverted at the Elk Creek Diversion Dam through the proposed Elk Creek Tunnel into Squaw Valley Creek above the proposed Squaw Valley Dam. Squaw Valley Creek water would be appropriated and diverted and McCloud River and Elk Creek water rediverted by the Squaw Valley Creek Dam through the proposed Squaw Valley Tunnel and McCloud Power House on McCloud River above the proposed McCloud River Diversion Dam. McCloud River, Elk Creek, and Squaw Valley Creek water which is transported through the Squaw Valley

Tunnel would be rediverted by the McCloud Diversion Dam through the proposed McCloud Tunnel to the proposed Iron Canyon Reservoir, where it would be regulated and released through the proposed Iron Canyon Tunnel and Penstock to the proposed McCloud-Pit Power House on Pit River. Water would be released from this power house into Pit River and would be rediverted farther downstream through the existing Pit 6 Power House and existing Pit 7 Power House on the Pit River. After passing through Pit 7 Power House, the water appropriated would discharge into Shasta Lake.

Application 15717 is for a permit to appropriate 35,300 acre-feet per annum by storage, year-round, from McCloud River, in Shasta County, for power and incidental domestic purposes. Water is to be stored in the reservoir created by the McCloud Diversion Dam and later diverted through McCloud Tunnel to Iron Canyon Creek. At that point the water appropriated is to be controlled and utilized in a manner identical to that described under Application 14785 relative to water diverted through the McCloud Tunnel to Iron Canyon Reservoir.

Application 15718 is for a permit to appropriate 700 cubic feet per second by direct diversion, year-round, from Hawkins Creek, in Shasta County, for power and incidental domestic purposes. Water is to be diverted at the proposed Hawkins Creek Diversion Dam into the McCloud Tunnel and conveyed to the Iron Canyon Reservoir for use in the manner set forth under Application 14785 relative to water diverted through the tunnel to Iron Canyon Reservoir.

Application 15719 is for a permit to appropriate 500 cubic feet per second by direct diversion and 24,400 acre-feet per annum

by storage, year-round, from Iron Canyon Creek in Shasta County for power and incidental domestic purposes. Water appropriated is to be controlled and utilized in a manner identical to that described under Application 14785 relative to water diverted through the McCloud Tunnel to Iron Canyon Reservoir.

Hearing

Applications 14785, 15717, 15718 and 15719 were completed in accordance with the Water Code and applicable administrative rules and regulations. A public hearing under the provisions of the California Administrative Code, Title 23, "Waters," was held before the State Water Rights Board (hereinafter referred to as "the Board") on April 28, 29, July 7, 8, and 9, 1959, at San Francisco, California, before Board members Ralph J. McGill (presiding) and W. P. Rowe, and on September 10 and 11, 1959, at San Francisco, California, before Board members Kent Silverthorne (Chairman), W. P. Rowe, and R. J. McGill (presiding). The applicants, protestants, and other interested parties were duly notified of all sessions of the hearing.

Change in the Project As Set Forth in the Applications

The applicant made no showing of any plan, purpose, or intent to proceed with Application 14785 insofar as that application relates to the appropriation of water from the McCloud River at the Upper McCloud Diversion Dam and from Elk Creek and Squaw Valley Creek. The applicant requested the Board to defer action on these portions of the application.

Description of Watershed

The McCloud River rises near the Siskiyou-Shasta County line in Section 29, T39N, R2E, MDB&M, about 5 miles southeast of the settlement of Bartle and flows first northwesterly and thence southwesterly, passing through the establishment of the Hearst Corporation at Wyntoon, approximately 25 miles from the source. The Corporation has another establishment a mile farther downstream at The Bend. Elk Creek discharges into McCloud River two miles upstream from Wyntoon. The site of the McCloud River Diversion Dam proposed by Pacific Gas and Electric Company under Applications 14785 and 15717 is located 7 miles downstream from The Bend. At the maximum elevation the reservoir to be created by the dam will extend upstream to the vicinity of The Bend. From Wyntoon, McCloud River courses a distance of 32 miles through a narrow, steep canyon to its discharge into Shasta Lake. Hawkins Creek discharges into McCloud River 1.4 miles downstream from the dam site. Squaw Valley Creek enters McCloud River 14.5 miles downstream from the dam site.

Iron Canyon Creek rises in Section 4, T37N, R1W, and flows in a southerly direction a distance of 3.5 miles to the site of Iron Canyon Dam. From the dam site the creek continues in a southerly direction a distance of 4 miles to its confluence with Pit River. The Pit River-Iron Canyon Creek confluence is 17 miles upstream from the point of discharge of Pit River into Shasta Lake.

Availability of Unappropriated Water

Stream flow records are available at the United States Geological Survey gaging station "McCloud River near McCloud" for the period from April, 1931, through September, 1957. This station is about seven miles upstream from the proposed McCloud Diversion Dam and a few hundred feet downstream from the Hearst establishment at Wyntoon. The tributary area above this gaging station is 382 square miles. The average annual flow for the period of record is 634,200 acre-feet or, on a continuous flow basis, 876 cubic feet per second. The maximum recorded discharge occurred on December 21, 1955, and was 11,800 cubic feet per second. A new gaging station was installed in 1955 about one-quarter mile above the site of McCloud Diversion Dam and is designated by the United States Geological Survey in the Water Supply Papers as "McCloud River above Panther Creek." There are 420 square miles of drainage area tributary to this station. In 1956, the recorded runoff at the new station was 960,900 acre-feet, as compared to 820,800 acre-feet at the "near McCloud" gaging station.

Present and future requirements for consumptive uses of water between McCloud Diversion Dam and Shasta Lake are inconsequential. In view of the large amount of storage provided at Shasta Lake, lawful users of water downstream from Shasta Lake will not be substantially affected by the proposed appropriations as the diversions from McCloud River will be mingled with the waters of Pit River, a tributary to Shasta Lake.

Disposition of Protests

The California-Oregon Power Company, an applicant for a competing power project on the McCloud River, and the United States Bureau of Reclamation have filed notice of withdrawal of their protests since the conclusion of the hearing on the applications.

The protest of E. K. Wheeler was withdrawn following the applicant's announcement that it did not presently intend to proceed on the Squaw Valley Creek portion of its project.

The issues involved in the protests of the California Department of Fish and Game, the McCloud River Club, Bollibokka Land Company, and the Hearst Corporation are discussed in the succeeding portions of this decision.

Preservation of McCloud River and Its Tributaries as a Fishery

The length of the channel of McCloud River between the McCloud River Diversion Dam and Shasta Lake is 25.1 miles. Of this distance, 10.5 miles of stream channel are owned and controlled by the McCloud River Club, 9 miles are owned and controlled by the Bollibokka Land Company, and 4 miles are owned and controlled by the Hearst Corporation. The remaining 2.6 miles of stream channel between the McCloud River Diversion Dam and Shasta Lake, although probably open for public use, are substantially physically inaccessible, being typified by steep, narrow canyon terrain and an absence of access roads.

The record indicates that only about ten members of the McCloud River Club are active fishermen; their fishing activities are carried on primarily on tributaries of the McCloud River, inasmuch as mud flows from Elk Creek make the main channel too murky for good fishing. Even less use is made by Bollibokka Land Company of McCloud River for fishing purposes. There is no evidence that the reach of the McCloud River controlled by the three aforementioned private organizations will be accessible to the public for fishing purposes within the foreseeable future.

The major element of the fishery resources of the McCloud, insofar as public interest is concerned, is the extent to which the river furnishes spawning grounds, or access to spawning grounds for Kokanee salmon and rainbow trout from Shasta Lake, which is an important public fishery. The evidence presented by the protestant Department of Fish and Game in regard to the use of the McCloud and its tributaries for such purposes, to substantiate its conclusion that year-round flows of an absolute minimum of 300 cubic feet per second are necessary, is vague and indefinite (RT 1065 et seq., RT 1049). The record reveals little foundation for the Department's estimates of the number of fish using the McCloud and its tributaries for spawning and of the flows necessary for migration from Shasta Lake.

Section 1243 of the Water Code directs the Board, in determining what water is available for other beneficial uses, to take into account whenever it is in the public interest, amounts of water necessary for the preservation and enhancement of fish resources. Although the evidence is insubstantial concerning the

importance of the McCloud River below applicant's proposed dams as a habitat for fish, it is not necessary for a proper decision in this matter to choose between development of water for generation of power and preservation of the existing fishery. The evidence shows that suitable releases of water can be made for preservation of fish life without jeopardizing the feasibility of applicant's project.

Mr. Brian Curtis, a fishery biologist, testified as an expert witness for the applicant. According to Mr. Curtis, the release proposed by the applicant on the McCloud River of 100 cubic feet per second during the summer months and 50 cubic feet per second during the winter months would be sufficient to meet the requirements of spawning and migrating fish (RT 1163) and would be sufficient to preserve the river as a fishery as it is presently being fished and as it has been fished in the past (RT 1212). It was his further testimony that in some respects the fishing conditions would be improved by the project as lesser flows would increase the size of the fish through higher temperatures, create more favorable spawning velocities in certain sections of the river, and increase the supply of available bottom food through the reduction of silt deposits (RT 1169). Mr. Curtis stated that there are a number of variable factors involved in the maintenance of fish life from which it would follow that a mere increase in the volume of a stream is no positive assurance of a corresponding benefit to the fishery (RT 1185).

The County of Shasta, in which the McCloud River is located, is dependent on recreation as its second most important industry (RT 1087). Its Board of Supervisors went on record as endorsing the project of the applicant including the proposed releases on the McCloud River as consistent with the preservation of the area as a fishery (RT 1082). Their representative, Mr. Clair Hill, a fishing enthusiast with considerable experience fishing on the McCloud River under various conditions, and by profession a civil engineer well qualified to estimate flows, testified that the proposed releases would insure a good fishing stream (RT 1089).

The Department of Fish and Game presented testimony through Mr. Chester A. Woodhull, Fisheries Biologist of that department, who has comparable professional background and knowledge of the area to that of Mr. Curtis. Mr. Woodhull arrived at a widely divergent opinion as to releases necessary (300 cubic feet per second year round) to maintain the McCloud River as a fishery in its present condition (RT 1030). The production of a conflicting opinion as to the effect of different hypothetical flows on the fish life, which was admitted by both expert witnesses to be a field of science not subject to mathematical exactitude and in which well-qualified experts may be expected to differ is not considered to be a sufficient showing to meet the burden of proof assumed by the protestant.

A waterfall on Iron Canyon Creek a short distance above the confluence of the creek and Pit River constitutes a barrier to the upstream migration of fish. At present there are no roads

which provide access to the reach of Iron Canyon Creek between this barrier and the proposed Iron Canyon Dam. The stream channel in that reach is extremely rugged and steep, and access thereto is impossible except by foot. However, the stream is a limited fishery and has possibilities as a catchable trout stream (RT 1103) which would justify an order requiring the release of the 5 cubic feet per second in the winter months and 10 cubic feet per second in the summer months as proposed originally by the applicant (Applicant's Exhibit No. 13).

Hawkins Creek, a self-supporting trout stream, will become more accessible to anglers upon the construction of project roads (F&G Exhibit 2, p. 26), and as it has some value as a spawning area, the Board concludes that the recommended flows by the Department of Fish and Game of 20 cubic feet per second, or the natural flow, if less, are proper and necessary for the preservation of fish life on this stream.

Preservation of Other Recreational Values

The remaining protestants, Hearst Corporation, Bollibokka Land Company, and McCloud River Club also protest the construction of the applicant's project if it is to be operated so as to interfere with the recreational potential of the area which, without listing its various attractions and possibilities, is substantial and largely dependent on sufficient flows in the river.

The Board finds that the flows proposed to be released by the applicants for the preservation of fish life will adequately protect the recreational values and scenic qualities of the area.

In the consideration of the effect of the proposed project on the recreational value of the area, the benefit of the McCloud Diversion Reservoir created by the McCloud Diversion Dam must be taken into account. In this regard, Hearst Corporation presented evidence that the reservoir fluctuations should be held to the upper 25-foot level through Labor Day or the recreational facilities afforded by the river would be seriously impaired (RT 756, 757). Such a permit condition is not deemed advisable for the following reasons: First, the operational study furnished by the applicant (Exh. 15), covering the historical flows of the river over a period of twenty-three years, shows that from 1939 to 1950 during the month of August, the principal recreational month, the reservoir level would have averaged less than 20 feet below maximum level, and only during the critical years of 1930 through 1936 would it be substantially lower than 20 feet (RT 578). Second, to restrict the operation of the reservoir to a 20-foot fluctuation would interfere with the intended purpose of the applicant's project as a low-capacity factor plant integrated into its total system and would require the construction of additional steam plants (RT 579, 580).

Reservation of Water for Beneficial Use

Hearst Corporation, in its opening brief, page 10, requests that any permits issued to the applicant be made subject to reduction by future appropriation of water for reasonable beneficial use within the watershed tributary to the McCloud Diversion Dam.

In support of this position, Condition 14 of the Board's Decision D 869 (Putah Creek) is referred to, wherein it is provided that a permit issued for downstream irrigation use outside the watershed is subject to depletion for reasonable beneficial uses within the watershed tributary to the permittee's point of diversion. However, it should be noted that in the opinion portion of Decision D 869 (pages 17-19) it is apparent that in that particular instance the upstream development would be limited almost entirely to irrigation.

The apparent purpose of Hearst Corporation in making the request referred to in the preceding paragraph is to obtain a priority for Application 17576 of the Hearst Corporation that it does not now enjoy. Application 17576 is essentially for the diversion of large quantities of water for the operation of a pulp mill or other industrial purposes connected with processing the wood products to be taken from the tree farm. Such industrial uses are not, as a matter of law, higher than uses for power purposes, and it is not apparent that the public interest requires the subordination of power use to industrial use in this particular case. To so hold is not inconsistent with anything found in previous decisions of this Board.

The Department of Water Resources, appearing at the hearing under authority of Water Code Section 184, submitted its views and recommendations (DWR Exh. 1) with regard to the subject applications. The Department concluded, among other things, that the applicant's project will develop the power resources to a reasonable extent, that the project is not in conflict with the California

Water Plan, but that "Any permits issued should be conditioned on the establishment of a priority for higher uses of water over the use for power by the applicant."

The Department points out that present water use in the McCloud River Basin is primarily devoted to domestic and logging purposes for the town of McCloud and for irrigation on land, most of which is located in Squaw Valley, that the ultimate supplemental requirement for domestic, agriculture, and other uses is relatively small (RT 29). It then suggests that the permits be conditioned as follows: "No use of water shall be made under this permit which will in any way interfere with uses of water that have higher priority under the law of California whether such higher priority uses are made under prior or subsequent rights."

The Board agrees that the public interest necessitates conditioning permits to be issued to applicant so as to reserve water for those future uses that have higher priority under the law of California but believes that such higher uses should be limited to those specified in the Water Code, i.e., municipal, domestic, and irrigation, and that the reservation should only extend to future use in the watershed of McCloud River upstream from the proposed diversion dam.

Conclusions

Sufficient cause has not been shown for withholding action on those portions of Application 14785 relating to appropriation of water from McCloud River at Upper McCloud Diversion Dam, from Elk Creek and Squaw Valley Creek.

Unappropriated water of the McCloud River is available to supply the applicant under Application 14785 at the site of the McCloud Diversion Dam. Also, unappropriated water is available in Hawkins Creek and Iron Canyon Creek at the points that Pacific Gas and Electric Company proposes to take and appropriate water under Applications 15718 and 15719. Subject to suitable conditions, such water may be diverted and used in the manner proposed without causing substantial injury to any lawful user of water.

The release of 50 cubic feet per second past the McCloud Diversion Dam from November 1 to April 30 and 100 cubic feet per second from May 1 to October 31, coupled with accretions to the McCloud River between McCloud Diversion Dam and Shasta Lake, will provide a sufficient quantity of water to maintain a fishery on the McCloud River of reasonably adequate proportions and will also provide suitable spawning conditions for fish migrating upstream from Shasta Lake for that purpose.

The release of 20 cubic feet per second, or the natural flow, whichever is less, to be allowed to by-pass the Hawkins Creek Diversion Dam will maintain in good condition the fish that may be planted or exist below that dam.

The release of 10 cubic feet per second in summer months and 5 cubic feet per second in winter months to be allowed to by-pass the Iron Canyon Dam will maintain in good condition the fish that may be planted or exist below that dam.

The public does not now have access to the reach of McCloud River that will be inundated by the reservoir that will be created by McCloud River Diversion Dam. Pacific Gas and Electric

Company's plan for the operation of the project provides that the public shall have free access to this reservoir as well as free access to its other project areas. Thus, the construction of the Diversion Dam and other project works along with appurtenant access roads will create an entirely new recreational facility for the enjoyment of the public. Fluctuations in reservoir water surface levels under the Company's proposed operating criteria will not materially detract from the use of the reservoir for recreation or fishery purposes.

The public interest requires that any appropriations made under permits issued pursuant to Applications 14785 and 15717 be subject to reduction by future appropriations of water for reasonable beneficial uses for domestic, irrigation and municipal purposes within the watershed tributary to the McCloud Diversion Dam. The subordination of appropriations made under permits issued pursuant to these applications to appropriations for beneficial uses, other than municipal, domestic and irrigation, is not warranted.

The plan proposed by Pacific Gas and Electric Company under Applications 15717, 15718, and 15719, and under Application 14785 insofar as that application relates to the direct diversion of 2,650 cubic feet per second, is in conformity with the basic concepts of The California Water Plan.

From the foregoing findings the Board concludes that Application 14785 should be approved in part and denied in part, that Applications 15717, 15718, and 15719 should be approved, and that permits should be issued to the applicant subject to the terms and conditions set forth in the following Order.

ORDER

IT IS HEREBY ORDERED that Application 14785 be, and the same is, approved in part, and that Applications 15717, 15718, and 15719 be, and the same are, approved and that permits be issued to the applicant subject to vested rights and to the following terms and conditions:

1. The amount of water to be appropriated under permit issued pursuant to Application 14785 shall be limited to the amount which can be beneficially used and shall not exceed 2,650 cubic feet per second by direct diversion to be diverted from January 1 to December 31 of each year from McCloud River.

2. The amount of water to be appropriated under permit issued pursuant to Application 15717 shall be limited to the amount which can be beneficially used and shall not exceed 35,300 acre-feet per annum by storage in McCloud Diversion Reservoir to be collected from January 1 to December 31 of each year from McCloud River.

3. The amount of water to be appropriated under permit issued pursuant to Application 15718 shall be limited to the amount which can be beneficially used and shall not exceed 700 cubic feet per second by direct diversion to be diverted from January 1 to December 31 of each year from Hawkins Creek.

4. The amount of water to be appropriated under permit issued pursuant to Application 15719 shall be limited to the amount which can be beneficially used and shall not exceed 500 cubic feet per second by direct diversion to be diverted from January 1 to December 31 of each year and 24,400 acre-feet per annum by storage

in Iron Canyon Reservoir to be collected from January 1 to December 31 of each year from Iron Canyon Creek.

5. Permittee shall release past its point of diversion on the McCloud River under permits issued pursuant to Applications 14785 and 15717 an amount of water not less than 50 cubic feet per second from November 1 to April 30, and 100 cubic feet per second from May 1 to October 31 for maintenance of fish life.

6. Permittee shall release at all times past its point of diversion on Hawkins Creek under permit issued pursuant to Application 15718 not less than 20 cubic feet per second, or the natural flow, whichever is less, for maintenance of fish life.

7. Permittee shall release past its point of diversion on Iron Canyon Creek under permit issued pursuant to Application 15719 an amount of water not less than 5 cubic feet per second from November 1 to April 30 and 10 cubic feet per second from May 1 to October 31, or the natural flow, whichever is less, for maintenance of fish life.

8. The amounts which may be diverted under rights acquired, or to be acquired, under permits issued pursuant to Applications 14785 and 15717 are, and shall remain, subject to reduction by future appropriations of water for reasonable beneficial use for domestic, irrigation and municipal purposes within the watershed tributary to the McCloud River Diversion Dam to be constructed under permits issued pursuant to said applications.

9. In accordance with Water Code Section 1393, permittee shall clear the site of the proposed McCloud River and Iron Canyon

Creek Reservoirs of all structures, trees and vegetation which would interfere with the use of the reservoirs for water storage and recreational purposes.

10. The maximum amounts herein stated may be reduced in the licenses if investigation warrants.

11. Actual construction work shall begin on or before June 1, 1962, and thereafter be prosecuted with reasonable diligence, and if not so commenced and prosecuted, these permits may be revoked.

12. Said construction work shall be completed on or before December 1, 1965.

13. Complete application of the water to the proposed use shall be made on or before December 1, 1968.

14. Progress reports shall be filed promptly by permittee on forms which will be provided annually by the State Water Rights Board until licenses are issued.

15. All rights and privileges under these permits, including method of diversion, method of use, and quantity of water diverted are subject to the continuing authority of the State Water Rights Board in accordance with law and in the interest of the public welfare to prevent waste, unreasonable use, unreasonable method of use, and unreasonable method of diversion of said water.

16. Permittee shall, at its own expense, install, maintain and operate the necessary water measuring devices to obtain flow records as hereinafter set forth, shall construct necessary access roads, bridges, etc., and shall allow the State Water Rights Board and the California Department of Fish and Game reasonable access for the purpose of gathering information and

data relative to stream flow. The location and type of devices shall be subject to the approval of the State Water Rights Board. All records, except as otherwise provided, are to be daily records in conformity with United States Geological Survey standards. Project facilities referred to hereunder are those shown on map of Pacific Gas and Electric Company entitled "Plan and Profile, McCloud-Pit Development, Filed With Division of Water Resources (1954)", Drawing No. 416209 on file with State Water Rights Board. The water measuring devices mentioned shall be installed at such locations and in such a manner that the following records will be obtained:

McCloud River

- (a) Flow of McCloud River immediately downstream from McCloud Diversion Dam.
- (b) Flow of McCloud River immediately upstream from the high water line of McCloud Diversion Reservoir; provided, however, that a gage at this location is not required so long as the United States Geological Survey gage "McCloud River near McCloud, California" is maintained and operated and records of flow are available from that agency.
- (c) Quantity of water diverted from McCloud River into McCloud Tunnel.
- (d) Quantity of water in storage in the McCloud River Diversion Reservoir on the first day of each month.

Hawkins Creek

- (a) Flow of Hawkins Creek both immediately upstream and downstream from Hawkins Creek Diversion Dam.

(b) Quantity of water diverted from Hawkins Creek into McCloud Tunnel.

Iron Canyon Creek

(a) Flow of Iron Canyon Creek immediately downstream from Iron Canyon Dam.

(b) Quantity of water in storage in Iron Canyon Reservoir on the first day of each month.

(c) Quantity of water diverted from Iron Canyon Reservoir into conduit leading to McCloud-Pit Power House.

The aforementioned records shall be filed annually with the State Water Rights Board, or more frequently on request of the Board, during the life of these permits and subsequent licenses.

Insofar as Application 14785 proposes appropriation of water by storage and by direct diversion from McCloud River at Upper McCloud Diversion Dam, from Elk Creek, and from Squaw Valley Creek, it is denied.

Adopted as the decision and order of the State Water Rights Board at a meeting duly called and held at Sacramento, California, on the ____ day of _____, 1960.

Kent Silverthorne, Chairman

W. P. Rowe, Member

Ralph J. McGill, Member