



County of Santa Cruz ⁰¹²⁹

BOARD OF SUPERVISORS

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TONY CAMPOS
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JEFF ALMQUIST
FIFTH DISTRICT

AGENDA: 10/19/99

October 7, 1999

BOARD OF SUPERVISORS
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

RE: REPORT OF THE COUNTY ENERGY COMMISSION
REGARDING CONTROL OF CALIFORNIA HYDROELECTRIC
GENERATING FACILITIES

Dear Members of the Board:

The County Energy Commission recently submitted the attached letter outlining their concerns with regard to statewide electric utility deregulation. Specifically, the Commission's letter conveys strong concerns relative to ownership of hydroelectric generating facilities and the need to ensure that hydroelectric generating facilities remain under strict State control.

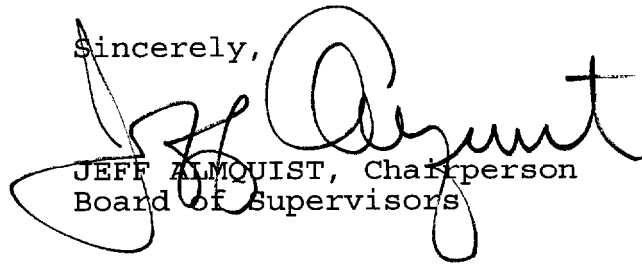
I believe that the Commission has provided a very thoughtful analysis of the problems which could be encountered if adequate environmental and other protections are not put in place by action of the State Legislature. Therefore, in accordance with the recommendations of the County Energy Commission, I recommend that the Board take the following actions:

1. Direct the Chairperson to write to our representatives in the Senate and Assembly urging that they develop and implement a plan at the State level which would focus on the following:
 - a. Protection of all hydroelectric and geothermal energy generation assets fully paid for by California residents, based upon natural resources of the State of California, so that these resources are allowed to be developed specifically for the benefit of California citizens and businesses.

BOARD OF SUPERVISORS
October 7, 1999
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- b. Protection and maintenance of the lands associated with hydroelectric and geothermal energy generation facilities as outlined above.
 - c. Safeguarding scarce water resources and protecting our fish, plant, insect and wildlife habitat.
- 2. Direct the Chairperson to write to Boards of Supervisors of all coastal counties and counties in which PG&E projects currently exist so that they can be aware of the concerns expressed by the County's Energy Commission.
 - 3. Direct the Chairperson to convey our County's concerns to the Senate Energy, Utilities and Communications Committee, Environmental Quality Committee, and Natural Resources and Wildlife Committee and to the Assembly Consumer Protection, Government Efficiency, and Economic Development Committee, the Natural Resources Committee, the Utilities and Commerce Committee and the Water, Parks, and Wildlife Committee.

Sincerely,



JEFF ALMQUIST, Chairperson
Board of Supervisors

JA:ted
Attachment

cc: Santa Cruz County Energy Commission

1732A6



22 September 1999

Jeff Almquist, Chair
BOARD OF SUPERVISORS
County of Santa Cruz
701 Ocean Street
Santa Cruz, California 95060

0131

RE: CONTROL OF CALIFORNIA HYDROELECTRIC GENERATING FACILITIES

Dear Chairman Almquist,

The County Energy Commission is extremely concerned with the direction state-wide electric utility deregulation has taken with regard to the divestiture of generating facilities. In particular we are concerned that ownership of hydroelectric systems, facilities based on and in some cases monopolizing California's natural resources, will be transferred to unregulated, profit-driven control. We urge the Board to voice County opposition to any such action with both the State Legislature and the California Public Utilities Commission (CPUC).

In order to foster genuine competition and insure that ownership of all of California's major generating facilities not remain under the control of the existing utilities, a competitive advantage others would be unable to overcome, Assembly Bill 1890 required the State's "Big 3" utility firms to divest 50% of their non-nuclear plants. Anxious to get out from under the tight control of the CPUC and the influence of California's numerous watchdog and environmental special interest groups, PG&E took immediate action to get out of the power generating business in California entirely, announcing that it would sell all generating plants in the State (even while purchasing unregulated generation facilities in other states and constructing plants in other countries). The Moss Landing facility was among the first on the market when AB 1890 made deregulation a certainty, and is now owned and operated by Duke Energy of North Carolina. In a Securities and Exchange Commission filing last week PG&E announced the intent to auction off remaining facilities, including 174 hydroelectric dams, 68 powerhouses, 99 reservoirs, and 382 miles of canal in their five watershed systems. This follows their earlier (failed) rush-through bid in the State Legislature for permission to transfer the hydro facilities to U.S. Generating Company of Maryland, a wholly-owned but unregulated PG&E subsidiary.

To safeguard important natural resources and protect California's new power markets from supply and price manipulation these hydroelectric facilities and related assets must remain under strict State control, either through continued ownership and operation by PG&E or by transfer to a statewide public agency. With unbridled competition the avowed goal of deregulation these facilities must be held back, not be sold into commercial ownership, auctioned to the highest bidder, or transferred between corporations.

Because they can spill more or less water through their turbines on very short notice, hydroelectric plants are well suited for providing certain kinds of emergency and backup power. This feature also gives operators unique price-impact abilities. California's newly created Power Exchange operates much like a commodities market, and price-manipulation through delivery and withholding of power in ways that "play" this market has already been seen. Such manipulation was charged as the cause of the two-hour state-wide brown-out in June of 1998. Deregulation to encourage competition facilitates the practice of generating and selling of power to maximize profits and influence prices, an obvious operational and marketing tool that no profit-driven owner would pass up. With 16% of California power provided by hydro facilities, such market manipulation could have very disruptive fiscal consequences to both public and business interests. Down-river from plants operated so as to maximize profit the consequences could be disruptive in the extreme, with potentially irreparable harm to river and tributary ecosystems, irrigation, recreation, flood control, public water supplies, fisheries, and wildlife habitat.

While under CPUC control and PG&E operation, strict environmental measures and habitat protection has been demanded, by the public and various special interest groups. The CPUC enforced these controls and allowed the costs to be added into our rates. With the CPUC no longer regulating energy prices, and competitive pressure on suppliers to provide power at the lowest cost possible, neither requirement nor incentive remains for plant operators to provide similar levels of environmental stewardship. It is a virtual certainty that much of the watershed and "buffer" lands included in the systems will be sold off to reduce overhead and maintenance costs and to provide operating revenue. Even in the event of strict regulation as to how systems are operated, diverse ownership will make enforcement extremely difficult. It is also difficult to verify the fiscal health of private commercial operators, directly impacting service reliability. The issue of whether to upgrade or abandon powerhouses with only marginal profitability, or whether to make costly, technically difficult repairs to older dams in the system or to dams suffering seismic damage, will become a business decision rather than one based on public interest. The ongoing stable operation of these facilities is a very important energy consideration for the State, and is crucial to the control, protection, access, and use of many of the State's most precious natural resources. For untold insect, plant, fish, and wildlife species, continued stable operation is life or death.

Rivers are public resources and may not be owned by private companies. These are assets of the people of California, natural resources, and in some cases National treasures. PG&E has been allowed to control many of our most magnificent waterways and guaranteed a profit from the operation of generating facilities, but construction of these dams and power plants has made them integral to the resources they depend upon. Through specific rate increases, typically approved in advance and used to secure funding, California citizens have paid 100% of the costs associated with these projects - analysis, acquisition, debt burden, construction, operation, and upgrades. PG&E took no risks, neither return on investment nor operating profits were jeopardized, and no owner capital was ventured.

Dams and hydroelectric systems require vast geographic plots, inundating all plant, animal, and insect life in the target area, wiping out acres and often miles of habitat and having a profound impact on the environment. They rely on exclusive use and control of water resources acquired through "eminent domain" or similar action intended to provide the greatest good for the greatest number of people. PG&E's huge service area is made up of five watershed territories from Redding to Bakersfield, with waterways and reservoirs in the Sierra and the Cascades and including virtually every undeveloped basin east of the Central Valley (A sheet with information on each of the watershed systems is attached). Since the late 1800's access to and use of wild rivers, streams, canyons, and natural wonders has been taken from the public in order to develop these systems, and in some cases whole towns have been flooded over. Alteration and control of invaluable and irreplaceable resources was allowed on the premise that the benefits of doing so would accrue to us all, and on the promise that we would retain oversight and control. Sale into private ownership and operation in any competitive manner was never part of the equation. PG&E does not own the right to change the flow of a river, they may not decide what valley or canyon can be flooded to create a hydro reservoir nor which waterway will no longer accommodate steelhead trout and salmon that have fought their way 100 miles upstream from their ocean home to spawn. These are extremely difficult public decisions, made with painful knowledge of the consequences. To allow private ownership and open-market competitive operation of these systems that are so linked to our public resources disregards a century of grief and soul-searching and valiant effort to minimize the consequences of those decisions.

Both of our local State political representatives have a record of concern and action for environmental protections. The Energy Commission urgently recommends that your Board meet and/or correspond with them to request their aggressive involvement in developing and shepherding through the legislature a plan to (1) protect all hydroelectric and geothermal energy generation assets fully paid-for by Californians and based upon natural resources of the State of California, allowed to be developed specifically for the benefit of California citizens and businesses, (2) insure the protection and maintenance of the hundreds of thousands of acres of lands associated with these systems, (3) constantly safeguard our precious water resources, essential to state-wide economic health and development, and (4) defend our remaining fish, plant, insect, and wildlife habitat and our invaluable environmental interests.

Sincerely,

H. Pielage
HENRY PIELAGE
Chair

S A N T A C R U Z C O U N T Y E N E R G Y C O M M I S S I O N

1st District
HANK PIELAGE

2nd District
JACK BEST

3rd District
JESSE BREGMAN

4th District
DENNIS OSMER

5th District
MICHAEL LUSSIER

26.2

0134

PG&E Hydroelectric System

Shasta Watershed



The Shasta watershed is the most northern of PG&E's hydro areas. The area consists of 42 dams on six streams in Tehama and Shasta counties. Although possessing the smallest reservoir capacity at 159,000 acre-feet, the Manton-Burney area contains the largest amount of conventional hydro capacity (810 MW) of the five PG&E areas. Much of the water that feeds the rivers comes from underground volcanic springs which provide a stable and dependable supply of water.

Counties: Tehama and Shasta

Nearby towns: Manton, Burney,
Fall River Mills

River/stream systems: Hat Creek, Fall River,
Pit River, McCloud River, Battle Creek,
Cow Creek

Number of Dams: 42

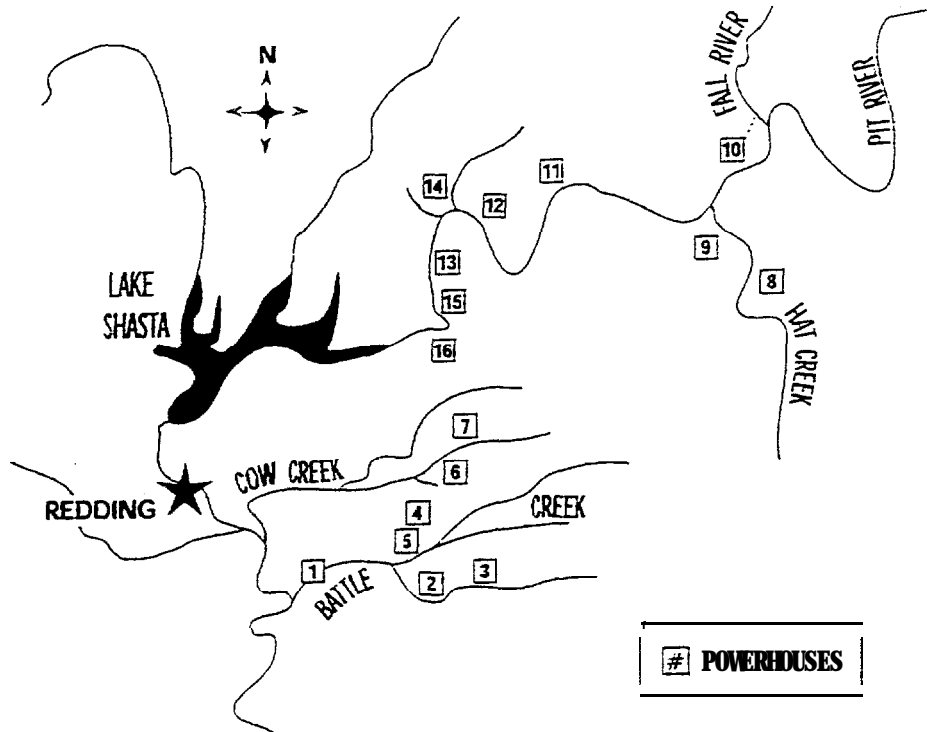
Total reservoir usable storage: 159,360 ac-ft

Miles of Canals: 43.8

Miles of Flumes: 4.41

Miles of tunnels: 27.98

Total MW capacity: 809.9



Powerhouse	No of units	Original Date Installed	Location (County)	Normal Operating Capacity (MW)
1 ... Coleman	1	1979	Shasta	13.0
2 ... Inskip	1	1979	Tehama	8.0
3 ... South	1	1979	Tehama	7.0
4 ... Volta No. 1	1	1980	Shasta	9.0
5 ... Volta No. 2	1	1981	Shasta	0.9
6 ... Cow Creek	2	1907	Shasta	1.8
7 ... Kilarc	2	U1 - 1903 U2 - 1904	Shasta	32
8 ... Hat Creek No. 1	1	1921	Shasta	8.5
9 ... Hat Creek No. 2	1	1921	Shasta	85
10 ... Pit No. 1	2	1922	Shasta	61.0
11 ... Pit No. 3	3	1925	Shasta	70.0
12 ... Pit No. 4	2	1955	Shasta	95.0
13 ... Pit No. 5	4	1944	Shasta	160.0
14 ... James B. Black	2	w- 1966 U2 - 1965	Shasta	172.0
15 ... Pit No. 6	2	- 1965	Shasta	80.0
16 ... Pit No. 7	2	1965	Shasta	112.0

PG&E's Hydroelectric System

DeSabra Watershed



The DeSabra watershed contains a little more than one-half (1,332,000 acre-feet) of PG&E's total reservoir capacity. Forty-six dams are fed by five streams in Butte and Plumas counties. Lake Almanor is located between the Cascade mountains to the north and the Sierra Nevada mountains to the south. The area boasts the second-largest conventional hydro capacity of 763 MW, generated in 15 powerhouses.

Counties: Butte and Plumas

Nearby towns: Paradise, Chester

River/stream systems: North Fork Feather River, West Branch Feather River, Butte Creek, Bucks Creek, Butte Creek

Number of dams: 46

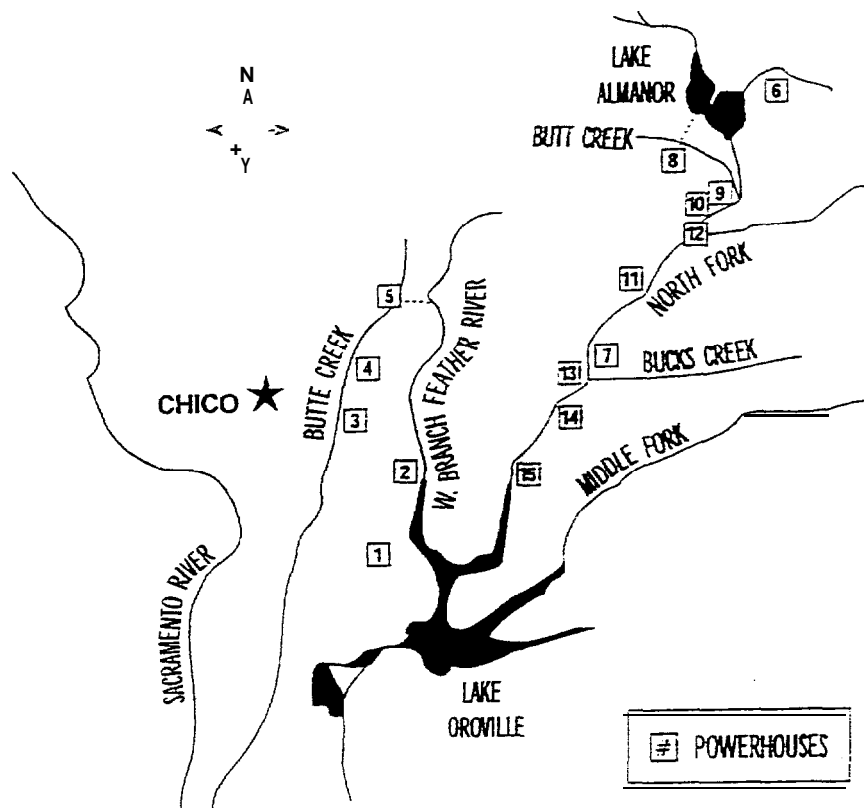
Total reservoir usable storage: 1,331,527 ac-ft.

Miles of canals: 49.16

Miles of flumes: 7.4

Miles of tunnels: 35.21

Total MW capacity: 763.4



Powerhouse	No of units	Original Date Installed	Location (County)	Normal Operating Capacity (MW)
1 ... Coal Canyon	1	1907	Butte	0.9
2 ... Lime Saddle	2	1906	Butte	2.0
3 ... Centerville	2	1900	Butte	6.4
4 ... DeSabra	1	1963	Butte	18.5
5 ... Toadtown	1	1986	Butte	15
6 ... Hamilton Branch	2	1927	Plumas	4.8
7 ... Bucks Creek	2	1928	Plumas	65.0
8 ... Butte Valley	1	1958	Plumas	41.0
9 ... Caribou 1	3	1921	Plumas	75.0
10 ... Caribou 2	2	1958	Plumas	120.0
11 ... Belden	1	1969	Plumas	125.0
12 ... Oak Flat	1	1985	Plumas	13
13 ... Rock Creek	2	1950	Plumas	112.0
14 ... Cresta	2	U1-1949 U2 - 1950	Butte	70.0
15 ... Poe	2	1958	Butte	120.0

PG&E's Hydroelectric System

Drum Watershed (includes Potter Valley)

0136



The Drum watershed consists of 14 powerhouses located in Nevada, Placer, and El Dorado counties in the Sierra Nevada mountains and one powerhouse in Mendocino County, located on the Pacific coast of northern California. Five rivers feed 39 dams. The headwaters of the rivers extend east to Donner Summit and many ski resorts. Its 15 powerhouses include the two newest, Newcastle and Wise #2, built in 1986, and have a total generating capacity of 218 MW.

Counties: Nevada, Placer, El Dorado and Mendocino

Nearby towns: Auburn, Nevada City, Ukiah

Rivers/stream systems: North Yuba River, South Yuba River, Bear River, American River, Eel River

Number of dams: 39

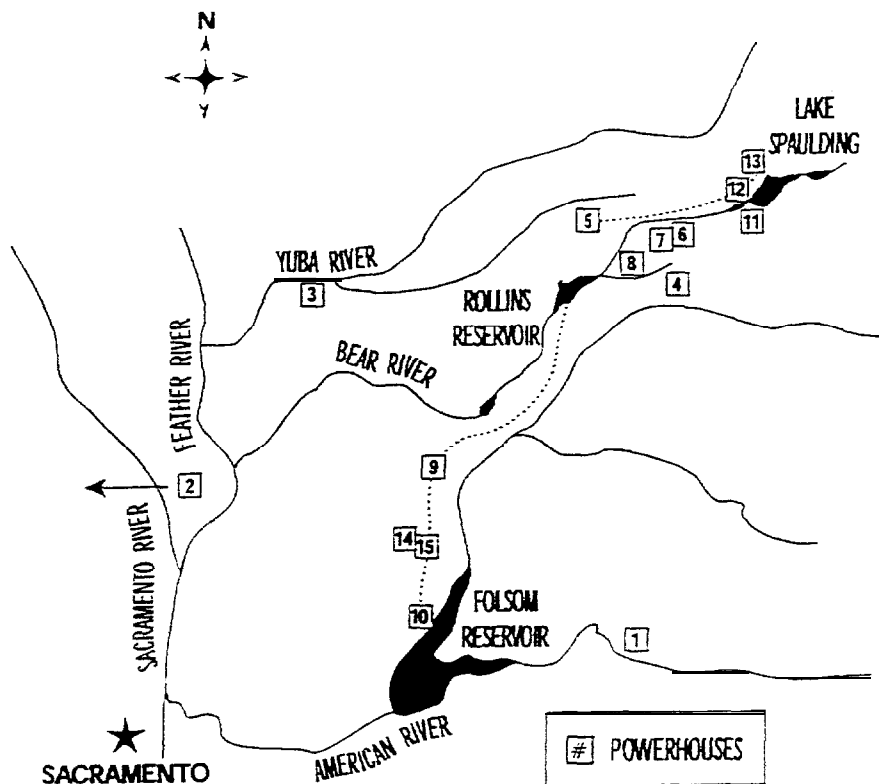
Total reservoir usable storage: 235,349 ac-ft.

Miles of canals: 64.76

Miles of flumes: 9.92

Miles of tunnels: 11.34

Total MW capacity: 218.2



Powerhouse	No. of Units	Original Date Installed	Location (County)	Normal Operating Capacity (MW)
1 -- Chili Bar	1	1965	El Dorado	7.0
2 -- Potter Valley	3	1908	Mendocino	92
3 -- Narrows No.1	1	1942	Nevada	120
4 -- Alta	2	1902	Placer	2.0
5 -- Deer Creek	1	1908	Nevada	5.7
6 -- Drum No. 1	4	1913	Placer	54.0
7 -- Drum No. 2	1	1965	Placer	49.5
8 -- Dutch Flat No. 1	1	1943	Placer	22.0
9 -- Halsey	1	1916	Placer	11.0
10 -- Newcastle	1	1986	Placer	11.5
11 -- Spaulding No. 1	1	1917	Nevada	7.0
12 -- Spaulding No. 2	1	1920	Nevada	4.4
13 -- Spaulding No. 3	1	1929	Nevada	5.8
14 -- Wise No. 1	1	1917	Placer	14.0
15 -- Wise No. 2	1	1986	Placer	3.1

PG&E's Hydroelectric System

Motherlode Watershed

0137

The Motherlode watershed is located in Amador, Tuolumne and Merced counties in the Sierra Nevada. Lying southwest of Lake Tahoe and northwest of Mono Lake, the area contains 27 dams located on three rivers. Located in the middle of the Sierra Nevada mountains, the rivers drain the area west of Mt. Reba-Bear Valley. Total capacity of the system is 312 MW. The site of California's Gold Rush, the canals date back to the late 1800's.

Counties: Amador, Tuolumne and Merced

Nearby towns: Jackson, Sonora

River/stream systems: Mokelumne River, South and Middle Forks Stanislaus River, Merced River

Number of dams: 27

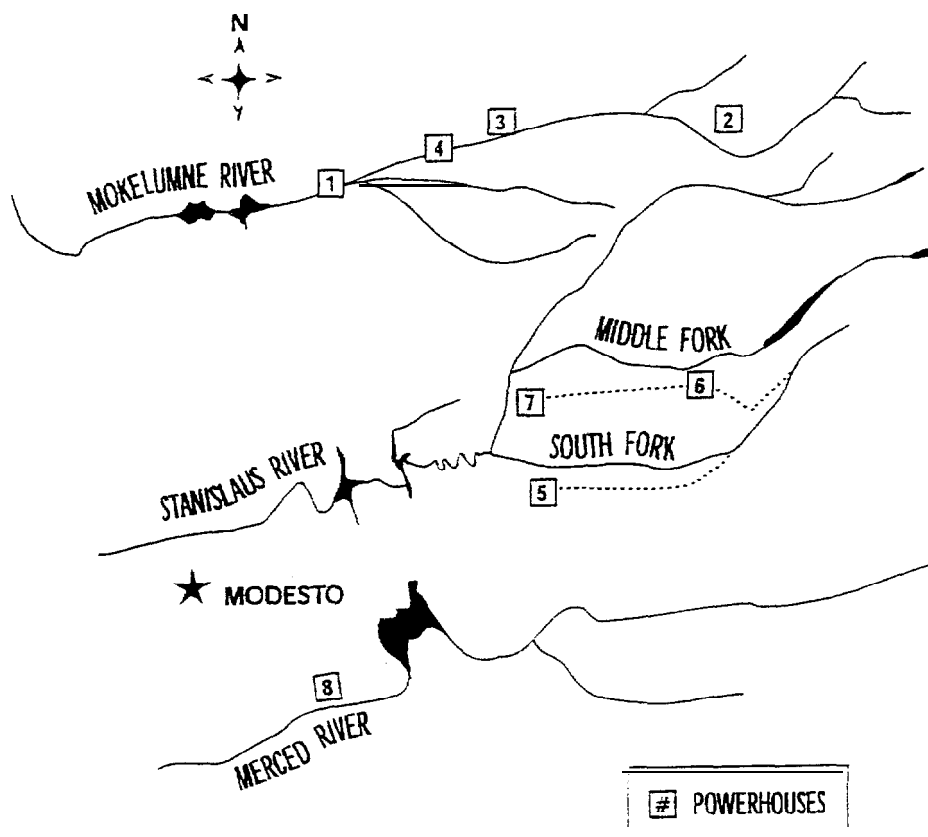
Total reservoir usable storage: 257,117 ac-ft

Miles of canals: 1758

Miles of flumes: 2023

Miles of tunnels: 27.71

Total MW capacity: 312.0



Powerhouse	No. of Units	Original Date Installed	Location (County)	Normal Operating Capacity (MW)
1 ... Electra	3	1948	Amador	92.0
2 ... Salt Springs	2	U1-1931	Amador	11.0
		U2-1953	Amador	33.0
3 ... Tiger Creek	2	1937	Amador	58.0
4 ... West Point	1	1948	Amador	14.5
5 ... Phoenix	1	1898	Tuolumne	2.0
6 ... Spring Gap	1	1921	Tuolumne	7.0
7 ... Stanislaus	1	1963	Tuolumne	91.0
8 ... Merced Falls	1	1930	Merced	3.5

0138

PG&E's Hydroelectric System

Helms/Kings Crane Watershed



The Helms/Kings Crane watershed spans four counties in the southern part of PG&E's territory and covers the largest geographic area. The area contains some of California's highest headwaters with mountain peaks exceeding 12,000 feet. The area is home to the giant Helms pumped storage facility built in 1984 with 1,212 MW. The Southern area contains 1,787 MW, about 46% of PG&E's total hydro capacity. Six streams feed 20 dams with a reservoir capacity of 300,000 acre feet.

Counties: Madera, Fresno, Tulare, and Kern

Nearby towns: Fresno, Auberry, Shaver Lake, Springville

River/stream systems: Merced River, San Joaquin River, North Fork Kings River, Tule River, Kern River, Willow Creek

Number of Dams: 20

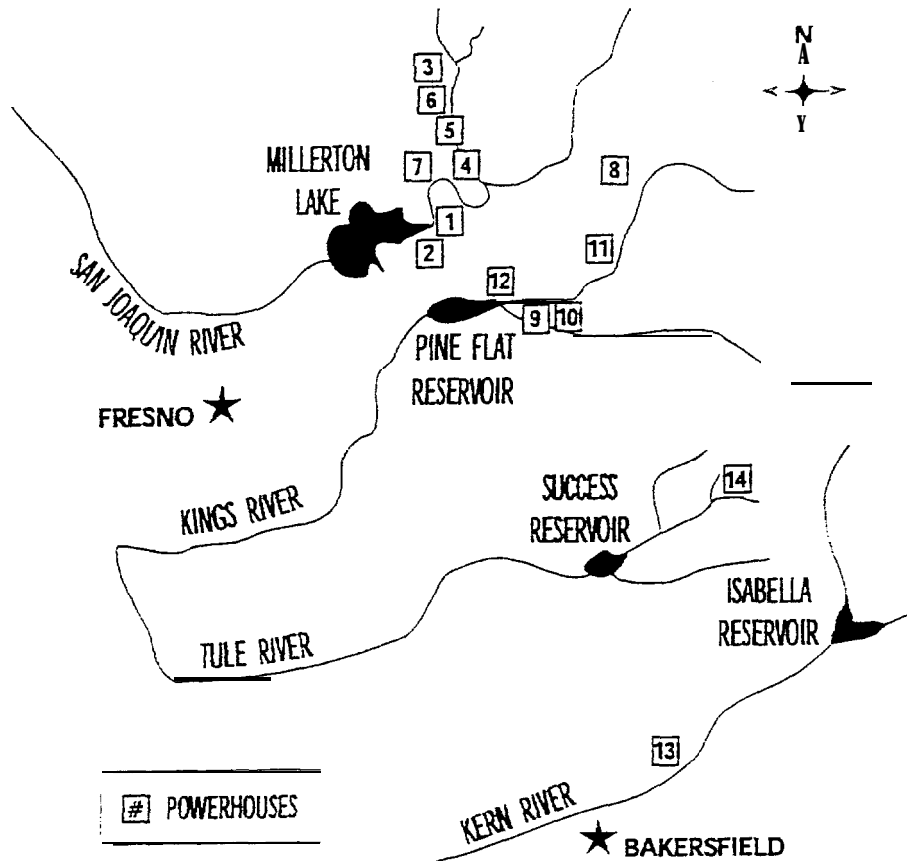
Total reservoir usable storage: 300,114 ac-ft

Miles of Canals: 8.84

Miles of Flumes: 2.01

Miles of tunnels: 32.82

Total MW capacity: 1,786.6



Powerhouse	units	Original Date Installed	Location (County)	Normal Operating Capacity (MW)
1 ... Kerckhoff No. 1	3	1920	Fresno	38.0
2 ... Kerckhoff No. 2	1	1983	Fresno	155.0
3 ... Crane Valley	1	1919	Madera	0.9
4 ... San Joaquin 1A	1	1919	Madera	0.4
5 ... San Joaquin No. 2	1	1917	Madera	32
6 ... San Joaquin Na3	1	1906	Madera	12
7 ... A. G. Wishon	4	1910	Madera	2ao
8 ... Helms Pumped	3	1984	Fresno	1,2120
Storage Facility				
9 ... Balch No. 1	1	1927	Fresno	34.0
10 ... Balch No. 2	2	1958	Fresno	105.0
11 ... Haas	2	1958	Fresno	144.0
12 ... Kings River	1	1962	Fresno	520
13 ... Kern Canyon	1	1921	Kern	11.5
14 ... Tule River	2	1914	Tulare	6.4