

Hydropower Project License Summary

NORTH FORK FEATHER RIVER, CA

ROCK CREEK CRESTA HYDROELECTRIC PROJECT (P-1962)



Kayakers below the Cresta Dam

Photo: Hydropower Reform Coalition

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Hydropower Reform Coalition

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DESCRIPTION:

The Rock Creek-Cresta Project is located on the North Fork Feather River in northeastern California. The North Fork Feather originates near the southern boundary of Lassen Volcanic National Park and courses generally southward to its mouth at Lake Oroville. The river basin contains extensive forested lands, grazing and ranching lands in the headwater valleys, and highly productive farm lands in the Central Valley. Principal municipalities in the basin include Oroville, Quincy, Marysville, and Yuba City.

The project is located on the North Fork Feather River about 35 miles northeast of Oroville, in Butte and Plumas Counties, California, and in part on lands within the Plumas National Forest. The project includes the Rock Creek and Cresta Developments.

The combined flow from Rock Creek and Bucks Creek facilities, along with the flow from several small tributaries along the North Fork Feather River, enters the Cresta reservoir. Water is diverted through a tunnel to two parallel penstocks that serve the Cresta powerhouse. Water released from this powerhouse enters the Poe Project's reservoir, which begins immediately downstream of the Cresta powerhouse.

The Cresta dam and about one-half of Cresta reservoir lie within the Plumas National Forest. Below Cresta Dam, the river runs through Forest lands.

A. SUMMARY

1. License application filed: 1979
2. License Issued: Oct. 24, 2001
3. License expiration: Sept. 30, 2034
4. Capacity: 185 MW
5. Waterway: North Fork Feather River
6. Counties: Butte, Plumas
7. Licensee: Pacific Gas and Electric (PG&E)
8. Settlement Agreement Signed: September 18, 2000
9. Settlement Parties: Pacific Gas and Electric Company, United States Department of Agriculture Forest Service, United States Department of the Interior Fish and Wildlife Service, California Department of Fish and Game, California State Water Resources Control Board, Natural Heritage Institute, American Whitewater, Friends of the River, Plumas County, California Outdoors, California Trout, Chico Paddleheads, and Shasta Paddlers
10. Project Facilities:
 - a. The Rock Creek development, which is the upstream development, consists of: the Rock Creek reservoir with a gross storage capacity of 4,400 acre-feet and a

surface area of 118 acres; a 126-foot-high, 567-foot-long dam; an intake structure within the reservoir about 100 feet upstream of the dam; a tunnel approximately 6.5 miles long; two penstocks, 906 and 938 feet long, respectively; and a powerhouse containing two turbine-generator units with a total installed capacity of 114,000 kilowatts (kW). There is an 8.4-mile-long bypassed reach.

- b. The Cresta development, located immediately downstream of the Rock Creek development, consists of: the Cresta reservoir with a gross storage capacity of 4,140 acre-feet and a surface area of 95 acres; a 114-foot-high, 378-foot-long dam; an intake structure within the reservoir about 100 feet upstream of the dam; a tunnel almost four miles long; two penstocks, 800 and 775 feet long, respectively; a powerhouse containing two turbine-generator units with a total installed capacity of 71,000 kW; and a 52-footlong tailrace. There is a 4.9-mile-long bypassed reach

B. IMPORTANT PROVISIONS AND REQUIREMENTS IN LICENSE

1. Water Quality [Reference: Settlement Agreement, Section I]

To protect cold freshwater habitat, PG&E is required to maintain mean daily water temperate of 20°C or less in the Rock Creek and Cresta Reaches. PG&E is required to implement a water temperature monitoring program, which shall consist of continuous temperate and flow monitoring in the Rock Creek, Cresta, Belden and Seneca reaches, along with temperature monitoring in their major tributaries from June 1 through September 30.

2. Coldwater Habitat and Fishery Mitigation and Enhancement Fund

[Reference: Settlement Agreement, Section I]

After issuance of license, PG&E was required to establish a tracking account and funds a total of \$5 million for expenditure on water temperate control measures. By January 2008, PG&E is required to add to the Fund an additional amount not to exceed \$2 million for the Ecological Resources Committee and Forest Service to make affirmative determination, based on the first 5 years of monitoring results, that further measures are necessary to maintain mean daily water temperatures of 20°C in the Rock Creek and Cresta reaches.

3. Flows [Reference: Settlement Agreement, Section II]

The settlement requires the following flows:

Rock Creek			
	Original	November through April	50 cfs
		May through October	100 cfs
	Year 1 - 5	December	200 cfs

North Fork Feather River, California

		January through February	225 cfs
		March through May	250 cfs
		June	220 cfs
		July through November	180 cfs
	Year 6 – 10	December through May	350 cfs
		June through November	260 cfs
	Year 11 – 15	December through May	525 cfs
		June through November	390cfs
The Rock Creek flows are projected to increase by up to 475 cfs over 15 years.			

Cresta			
	Original	Year Round	50 cfs
	Year 1 - 5	December through February	240 cfs
		March through May	250 cfs
		June	240 cfs
		July through November	220cfs
	Year 6 – 10	December through May	350 cfs
		June through November	325 cfs
	Year 11 – 15	December through May	525 cfs
		June through November	440 cfs
The Cresta flows are projected to increase by up to 475 cfs over 15 years.			

The Settlement requires the following Ramping Rates during the first three years after acceptance of the new license, when the rates can be controlled. These rates will be followed as close as reasonably practicable given radial gate operating limitations. Water to accommodate future adjustments to Ramping Rates as applied to controlled Pulse Flow releases shall be made up from the total volume of water for such Pulse Flows, or Minimum River Flows.

March, April and May	250 cfs/hr. up-ramp and 150 cfs/hr. down-ramp
June 1 - June 15	300 cfs/hr. up-ramp and 150 cfs/hr. down-ramp
Remainder of the year	400 cfs/hr. up-ramp and 150 cfs/hr. down-ramp

4. Land Protection in Humbug Valley [Reference: Appendix B, Section III, No. 1]
 As part of the Settlement (but not required by the license), PG&E agreed to enhance fish and wildlife resources in 2,300 acres of high mountain meadow and a blue ribbon trout stream (Yellow Creek) from development and overgrazing in Humbug Valley. The improvements would be implemented in three phases commencing with license issuance and extending throughout the license term, Phases A, B, and C.

Phase A

- Enhancing a 230-acre parcel of land in upper Humbug Valley by installing cattle fencing, selectively planting riparian vegetation, making stream improvements, and controlling and/or limiting grazing;
- Developing and implementing a general resource management plan that includes provisions for enhancing Yellow Creek aquatic and riparian habitat, minimizing consumptive water use under the present grazing lease, minimizing erosion and sediment transport in Yellow Creek, evaluating the compatibility of grazing with other future resource needs, and making recommendations for the best use of existing resources;
- Vegetating the riparian zone of Yellow Creek in the area of the "Cal-Trout fence," closing off a gap in the "Cal-Trout fence," and armoring two existing cattle fords within the "Cal-Trout fence" area;

Phase B

- Developing and implementing a plan that includes provisions for 0.5 mile of wire cattle fencing, stream improvements, selective riparian vegetation plantings, and controlled cattle grazing

Phase C

- Providing annual funding of \$25,000 (in year 2000 dollars) for the years 2011 through 20 and \$12,000 (also in year 2000 dollars) for years 2021 through license expiration for future enhancement work. [In 2000 dollars, this commitment is worth \$418,000.]

5. Recreation [Reference: Settlement, Section V]

The following recreation flows schedule is to be implemented.

<i>MONTH</i>	Release amount in Cubic Feet per Second (cfs)		Release Days per Month				User Day Triggers			
	Dry *	Normal **	Dry Start	Dry Cap	Normal Start	Normal Cap	Rock Creek Reach		Cresta Reach	
							Normal /Dry Up	Down	Normal /Dry Up	Down
June	1000cfs	1600 cfs	1 day	4 days	1 day	5 days	120/110	60	60/50	40
July	800 cfs	1200 cfs	1 day	4 days	1 day	4 days	130/130	60	60/65	40
Aug	800 cfs	1000 cfs	1 day	4 days	1 day	4 days	150/160	60	80/80	50
Sep	800 cfs	1000 cfs	1 day	4 days	1 day	4 days	180/190	80	100/95	60
Oct	800 cfs	1000 cfs	0	0	1 day	2 days	180	80	100	60

* Dry and Critically Dry years

** Normal and Wet years

The settlement requires recreation improvements including 1 additional release day to be added each 3 years up to year 10. PG&E must provide for weekend whitewater boating opportunities and recreation river flows during the months of June through October on the project river reaches. It must provide river flow information to the public to maximize whitewater boating opportunities. PG & E is required to develop a river recreation access plan that provides up to \$300,000 from licensee to improve public access to the river.

The Settlement requires PG&E to allow flow releases at both the Rock Creek and Cresta dams on Saturdays or Sundays between the hours of 10am and 4pm during wet or normal water years, and between the hours of 10am and 1pm during dry years. When scheduling flow releases, holiday weekends will be given priority over non-holiday weekends.

PG&E is required to make recreation stream flow information available to the public via toll-free phone and/or Internet. Summer streamflow release schedules and streamflows below the diversion dams shall be provided during various periods and in various formats.

C. MAP

There are two convenient ways to become familiar with this project on the Hydropower Reform Coalition website, www.hydroreform.org.

- Go directly to the project page <http://www.hydroreform.org/projects/rock-creek-cresta-p-1962>
- To understand the geographical context of the project, visit the *On Your River* section of the site. This link (<http://www.hydroreform.org/on-your-river/California>) will take you to the section for rivers in California. Then zoom in toward Chico and move northeast along the Feather River branch of Lake Oroville. Rock Creek Cresta project is located along Hwy 70.