EXHIBIT B: PROJECT OPERATIONS AND RESOURCE UTILIZATION

For the purposes of this License Surrender Application (LSA), only relevant provisions of 18 CFR Section 4.51(c) are included in the discussion where appropriate.

B.1 Project Operation

The Project is located in two separate drainage areas: Old Cow Creek (Kilarc Powerhouse) and South Cow Creek (Cow Creek Powerhouse). Kilarc Powerhouse is supplied with water diverted from North Canyon Creek, South Canyon Creek, and Old Cow Creek. Cow Creek Powerhouse is supplied with water diverted from Mill Creek and South Cow Creek.

A list of Project facilities is provided in Exhibit A, Project Description. Project operations are summarized below.

B.1.1 Kilarc Operation

The Kilarc development operates as a run-of-river facility.[1] The Old Cow Creek watershed encompasses approximately 80 square-miles, including 25-square miles located upstream from the Kilarc Diversion Dam. The average yearly runoff at the dam is 48,900 acre-feet, about 55 percent of which is diverted to the Kilarc Powerhouse.

The North Canyon Creek Canal diverts water from North Canyon Creek to South Canyon Creek. Water from South Canyon Creek is diverted to South Canyon Creek Canal, which enters Canyon Creek Siphon and then the Kilarc Main Canal. Water from Old Cow Creek is also diverted to the Kilarc Main Canal which flows to Kilarc Forebay. From Kilarc Forebay, water flows through the penstock to Kilarc Powerhouse; water is returned to Old Cow Creek near the powerhouse.

The Kilarc Powerhouse is designed for semi-automatic operation with forebay level control. The powerhouse operates unattended with alarms connected to the Pit 3 Powerhouse.

The spillway at Kilarc Forebay is rated for 50 cubic feet per second (cfs), which is Kilarc Main Canal's approximate capacity. Kilarc Forebay has a gross and useable storage capacity of 30.4 acre-feet. Normal water level fluctuation is about 1 foot. The current minimum flow requirement at the Kilarc Diversion Dam is 3.0 cfs.

[1] Run-of-river is a type of hydroelectric generation whereby the natural flow and elevation drop of a river is used to produce electricity. Power stations of this type are built on rivers with a consistent and steady flow, either natural or through the use of a large reservoir at the head of the river.

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B.1.2 Cow Creek Operation

The Cow Creek Development operates as a run-of-river facility. The South Cow Creek watershed encompasses approximately 78 square miles, including 53 square-miles located upstream from the South Cow Creek Diversion Dam. The average annual runoff at the dam is 79,500 acre-feet, about 37 percent of which is diverted to Cow Creek Powerhouse.

The Mill Creek-South Cow Creek Canal conveys diverted water from Mill Creek into South Cow Creek. From South Cow Creek, the water is diverted into the South Cow Creek Main Canal and into the Cow Creek Forebay. From Cow Creek Forebay, water flows through the penstock to Cow Creek Powerhouse, into Hooten Gulch, and back into South Cow Creek.

The Cow Creek Powerhouse is designed for semi-automatic operation, with forebay level control. It operates unattended, with alarms connected to the Pit 3 Powerhouse.

The spillway at Cow Creek Forebay is rated for 50 cubic feet per second (cfs), which is South Cow Creek Main Canal's approximate capacity. Cow Creek Forebay has a gross and useable storage capacity of 5.4 acre-feet. Normal water level fluctuation is about 1 foot. The current minimum flow requirements are 4.0 cfs under normal water year criteria, and 2.0 cfs under dry water year criteria.

B.2 Capacity and Average Annual Energy Production

The Project, including both the Kilarc and the Cow Creek developments, has a total installed capacity of 5 megawatts and an estimated dependable capacity of 1.6 megawatts.[2] Annual energy production for the two developments averaged 31.1 million kilowatt-hours over the 25-year period from 1977 to 2001.

B.2.1 Kilarc Average Annual Energy Production

The Kilarc Powerhouse contains two Westinghouse™ synchronous generators rated at 1,500 and 1,730 kilowatts, and supplies base load energy to the grid. The estimated dependable capacity of the Kilarc Powerhouse is about 1.2 megawatts and the average annual energy generated over the 25 year period 1977 to 2001 was 19.1 million kilowatt-hours. The average annual plant factor for this run-of-river powerhouse is 68 percent.

B.2.2 Cow Creek Average Annual Energy Production

The Cow Creek Powerhouse contains two 900-kilovolt-ampere General Electric™ synchronous generators, and supplies base load energy to the grid. The estimated dependable generating

[2] Dependable capacity is the load carrying ability of a hydroelectric plant under adverse hydrologic conditions for the specified time interval and period of a particular electric system load. The Project dependable capacity is based on the Project's load carrying ability during the critical hydrologic period (e.g., 1977) coincident with PG&E's peak electric system load. Currently, the peak system load occurs during summer heat storms, typically in July or August in PG&E's service territory.

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capacity of the Cow Creek development is approximately 400 kilowatts, and the estimated average annual energy generated over the 25 year period 1977 to 2001 was 12 million kilowatt hours. The average annual plant factor for this run-of-river powerhouse is 76 percent.

B.3 Power Utilization

PG&E historically used Project power to meet the needs of its electric customers. In addition to being an electricity resource, the Project is an "eligible renewable energy resource" per California's Renewables Portfolio Standard (RPS)[3]. The RPS was adopted by California in 2002 and requires that an electrical corporation increase its total procurement of eligible renewable energy resources by at least an additional 1 percent of retail sales per year such that 20 percent of its retail sales are procured from eligible energy resources no later than December 31, 2010. In order to replace the power production of the Project, another source of renewable electrical energy would need to be obtained.

In July 2007, the California Energy Commission (CEC) released "California Energy Demand 2008-2018, Staff Draft Forecast (Staff Draft Report CEC-200-2007-015SD)." Table B.3-1 from this report shows PG&E Planning Area electricity consumption. Peak load is forecast to increase about 1.3 percent per year over the next ten years (Table B.3-2).

Table B.3-1. PG&E Planning Area Forecast Comparison

	Consumption (GWH)			Peak (MW)		
	CED 2006	**Staff Draft**	**Percent Difference Staff Draft / CED 2006**	**CED 2006**	**Staff Draft**	**Percent Difference Staff Draft / CED 2006**
1990	86,806	86,803	0.00%	17,039	17,013	-0.15%
2000	101,528	101,334	-0.19%	20,698	20,666	-0.16%
2005	102,746	102,070	-0.66%	21,162	21,354	0.90%
2008	107,366	108,918	1.45%	22,142	23,424	5.79%
2013	114,863	116,668	1.57%	23,761	25,032	5.35%
2016	118,390	120,942	2.16%	24,600	25,981	5.61%

Notes: Historical values are shaded

CED = California energy demand

GWH = gigawatt-hour

MW = megawatt

[3] In California, an "eligible renewable energy resource" requires that 20 percent of an electrical corporation's retail sales be procured from eligible renewable energy resources no later than December 31, 2010.

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Table B.3-2. Annual Average Growth Rates

	Consumption (GWH)		Peak (MW)	
	CED 2006	**Staff Draft**	**CED 2006**	**Staff Draft**
1990-2000	1.58%	1.56%	1.96%	1.96%
2000-2005	0.24%	0.14%	0.44%	0.66%
2005-2008	1.48%	2.19%	1.52%	3.13%
2008-2016	1.23%	1.32%	1.32%	1.30%

Notes:

CED = California energy demand

GWH = gigawatt-hour

MW = megawatt

Although the Project is an emissions-free, RPS-eligible renewable energy resource, it is no longer needed to meet the electricity needs of PG&E's electricity consumers since lower-cost, emissions-free, RPS-eligible renewable energy is forecast to be available to replace it.

B.4 Proposed Project Operation

PG&E proposes to discontinue operating the Project in accordance with its Proposed Decommissioning Plan (Appendix A).

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