

AGREEMENT  
FOR OPERATION AND MAINTENANCE OF  
NARROWS #1 HYDROELECTRIC PROJECT  
BETWEEN THE  
UNITED STATES OF AMERICA AND  
PACIFIC GAS AND ELECTRIC COMPANY

THIS AGREEMENT, (hereinafter "Agreement") for the operation and maintenance of Narrows #1 Hydroelectric Project (herein "Project") located near the U.S. Army Corps of Engineers' Harry L. Englebright Dam is made and entered into this 28 day of March, 1994, by and between the UNITED STATES OF AMERICA, acting through the Department of the Army, Corps of Engineers (hereinafter "Corps") and PACIFIC GAS AND ELECTRIC COMPANY (hereinafter "Pacific"), a corporation organized and existing under the laws of the state of California; Corps and Pacific hereinafter at times being referred to collectively as "Parties" and individually as "Party". The Agreement becomes effective on the day of execution by all signatories.

WITNESSETH THAT

WHEREAS, the 1941 Contract between the Parties for Pacific's use of Englebright's outlet works and storage space expired coincidentally (on July 31, 1991) with the original license issued by the Federal Energy Regulatory Commission (hereinafter "Commission" or "FERC") for the Project (FERC Project No. 1403); and

WHEREAS, Pacific has obtained a new license, issued February 11, 1993, by the Commission for the continued operation of the Project; and

WHEREAS, pursuant to FERC license Article 102, Pacific and the Corps are to enter into an Operations Memorandum of Agreement; and

WHEREAS, the Parties intend to enter into a "Storage Agreement" per FERC license Article 101 authorizing Pacific the continued use of the outlet facilities and storage space provided by Englebright, until the Project license terminates or is transferred to another party.

NOW, THEREFORE, the Parties agree, subject to the terms and conditions of the license issued by the Commission to Pacific for the Project, to the following:

1. OWNERSHIP

Title to Project facilities and appurtenant features, including, but not limited to, the powerhouse, turbine, generator, switchyard, transmission line, access roads, and Pacific's tunnel, adit plug and lining, and penstock, shall be and remain in the name of Pacific. Title to Englebright Dam, its outlet works and appurtenant facilities, and lands of the United States as described in Exhibit G of the Project's FERC license shall remain in the name of the United States. In the event Pacific abandons the Project, or if the outlet facilities from Englebright Dam are no longer needed for the continued operation of the Project, title to the concrete tunnel adit plug, steel lining and dished head will pass to the Corps.

2. ACCESS

Pacific shall grant the Corps, its agents, or contractors free and unrestricted access to, through, and across all Project lands and

appurtenances whenever it is required for performance of their official duties as well as during times when such access would be required to protect public health and safety. The Corps will provide Pacific with timely notification when access for normal O&M and inspection duties are required.

Pacific shall have access to the associated power outlet facilities and, except for emergencies, shall have exclusive control of the operation of the emergency gate in the outlet tunnel. Pacific will notify the Corps immediately of any operational deficiencies or changes Pacific might make or observe which could effect the operation of the emergency gate.

### 3. EMERGENCY SITUATIONS:

During Emergency Situations, including, but not limited to earthquakes, flood, downstream emergency, excessive leakage into the abutment, mechanical failure of gates or valves, or any other event as determined by the Corps that presents a dam safety or public safety threat, the Corps will provide, if appropriate, notice of the situation to Pacific via telephone or radio supplied to the Corps by Pacific prior to taking appropriate action, including closing the emergency gate.

The Corps reserves the right to direct Pacific to cease operation of the Project if it is deemed to be detrimental to the water quality or water control objectives of Englebright Dam and Reservoir, public safety, or any other event as determined by the Corps that threatens structural integrity or control of Englebright Dam and Reservoir.

Pacific reserves the right to act immediately if an emergency threatens its facilities as long as such actions do not intentionally interfere with the Corps' emergency activities. In such instances, Pacific shall notify the Corps as soon as possible.

### 4. MAINTENANCE:

The Corps shall maintain in good order and repair said Englebright dam and outlet facilities in accordance with Englebright's authorized purposes. Pacific shall be responsible for maintenance of the Project's facilities as defined in paragraph 1 above which were constructed by Pacific. Throughout the term of this Agreement, Pacific shall pay all costs necessary for the maintenance, repair, and replacement of Pacific's property, and for grounds care, safety, and security measures for the areas occupied by the Project.

#### a. Stream Gage Data

Pacific shall operate and maintain all measuring and data processing equipment for the recording of releases made at the Project. Pacific will provide the Corps with flow data records as measured at the gage near Smartsville (USGS gage number 114180.00) or substitute measurement facilities as approved by the U.S. Geological Service capable of providing total river flow on a quarterly basis and will cooperate with the Corps in providing flow data on a Corps determined basis during the flood control season by telephone, FAX, or other form acceptable to both Parties.

#### b. Scheduling of Operation and Maintenance Activities

Pacific shall provide timely notification to the Corps of contemplated operations and maintenance work that affect the Corps' operation and maintenance program of the Corps' facilities, and shall make all reasonable attempts to cooperate with the Corps in scheduling the work by

advancing or postponing the time of performance so as not to unnecessarily cause power loss or inconvenience to either Party. Pacific normally performs planned or scheduled heavy maintenance during the months of January through March.

c. Inspections

The Corps, at its own expense, shall have the right to inspect the Project's water conveyance system (i.e., tunnel, penstock, gates, valves, etc.) during its pre-flood and periodic inspections of Englebright Dam. Timely advance notice shall be given to Pacific of such inspections and shall be scheduled to the extent practicable to minimize disruption of each Party's activities. If required by the Corps, Pacific shall shut down the power plant and dewater the tunnel to facilitate inspection. Pacific will oversee the Corps' operation of the emergency gate during the inspection process to ensure the Corps' familiarity with the gate's operation. The plant shall also be shut down upon notification by the Corps to permit inspection of its facilities when a significant seismic event has occurred, as defined in the Corps' publication SPK OM 1110-2-4, as amended, a copy of which shall be provided to Pacific.

Copies of the applicable portions of the inspection reports covering Project's water conveyance system shall be given to Pacific and FERC by the Corps following such inspections.

d. Maintenance Deficiencies:

Pacific will promptly correct all deficiencies associated with the Project's water conveyance system for which Pacific is responsible, including those resulting from Pacific's deviation from the requirements of this Agreement to the extent such deficiencies pertain to the structural integrity, operation (including public safety), and maintenance of Englebright Dam. Except for Emergency Situations, should Pacific fail to make the necessary repairs in a timely or acceptable manner, and the Corps and Pacific cannot after a good faith attempt reach an agreement pursuant to ¶9, the repairs will be made by the Corps, and Pacific shall reimburse the Corps for the reasonable costs of said repairs including engineering, inspection, and administrative costs.

e. Protection of Lives and Property:

Pacific's and the Corps' operation and maintenance activities shall be conducted to provide reasonable protection of the lives and health of the employees and other persons, prevention of damage to property, material, suppliers and equipment and where such jurisdiction is applicable, shall comply with the Standards issued by the Secretary of Labor at 29 CFR part 1926 and 1910, all pertinent provisions of the Corps' Safety and Health Requirements Manual, EM 385-1-1, dated October 1992, as amended. The Parties further agree that each Party shall abide by the others reasonable "safe clearance procedures".

5. **MAJOR MODIFICATIONS:**

Pacific shall provide timely notification to the Corps of proposals concerning major design, operation (including public safety), and maintenance changes to Project's water conveyance system. Any said changes which, in the opinion of the Corps may affect public safety, the structural integrity, operation of Englebright Dam, or the Corps' responsibility in the operation and maintenance of the Englebright Dam shall not be made by Pacific without first obtaining the written concurrence of the Corps.

The Corps reserves the right to change the operating procedures of Englebright Dam and Reservoir at any time.

6. OTHERS NOT TO BENEFIT:

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this Agreement if made with a Corporation for its general benefit.

7. LIABILITY:

Pacific agrees to indemnify and hold harmless the United States, its offices, agents and employees, from any loss or damage and from any liability on account of personal injury, death, or property damage of any nature whatsoever and whomsoever made arising out of Pacific's activities under this Agreement, except for damages due to fault or negligence of the United States or its agents. The United States shall be liable to Pacific to the extent permitted by federal law.

a. Environmental Litigation

The term "environmental litigation" as used herein, means a lawsuit or any administrative proceeding, alleging that the operation or maintenance of the Project will have an adverse effect upon the environment or that Pacific or the Corps have not duly considered, either substantively or procedurally, the effect of the operation or maintenance of the Project or Englebright Dam and Reservoir on the environment. If the operation or maintenance of the Project is suspended, delayed or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, each Party shall be responsible for their own costs.

8. PROJECT OPERATIONS:

a. Use of Storage Space:

Pacific shall have the right to use said associated power outlet facilities and, subject to the terms and conditions of the "Storage Agreement" and this Agreement, such storage space presently available at Englebright between elevations 450 and 527 feet, and may regulate the quantity of water stored in, and released from the reservoir to best serve Pacific's own needs and purposes in the generation of hydroelectric energy.

b. Power Plant Operations:

Pacific will operate the Project in accordance with its FERC license for Project No. 1403, the provisions of this Agreement to the extent they do not conflict with the FERC license, and provisions of agreements that may be in effect from time to time between Pacific and Yuba County Water Agency for the coordinated operation of the Project and YCWA's Narrows No. 2 Powerhouse (FERC No. 2246).

The Project currently operates primarily as a semi-automatic base load plant, operated in tandem with the Narrows No. 2 powerhouse to maximize efficiencies. The normal maximum flow rate for the Project is 730 cfs. When flows from Englebright are between 630 and 2,560 cfs, Narrows No. 1 is normally shut down and Narrows No. 2 operated. The Project is remotely operated and monitored by PG&E operators at the off-site Wise Switching Center, a continuously attended facility. If problems occur with the Project's turbine/generator unit, it will shutdown automatically, but must be restarted manually.

The vertical Francis turbine has an installed capacity of 13500 hp. Currently the turbine is capable of operating at a maximum flow of 730 cfs at a head of 240 feet. Flows can be bypassed through a 72-inch diameter needle bypass valve. Like the turbine this valve can be remotely and locally operated. In the event of a turbine trip, turbine flows are automatically bypassed through the needle valve. Bypass flows occur simultaneously with the closure of the wicket gates. Due to the remoteness of the site, no downstream warning sirens are activated; however, the area is posted with warning/danger signs.

As stipulated in FERC license article 402, Pacific will operate the Project to supplement the releases of FERC Project No. 2246 from Englebright for the conservation and development of fish resources of the Yuba River.

Pacific will limit the maximum rate of change in river flow (ramping rate) downstream of Pacific's powerhouse for the protection of fish resources as stipulated in FERC license article 405.

c. Emergency Shut Down Procedures:

In the event the Corps or Pacific directs an emergency shut down of the turbine/generator unit, the Wise Switching Center operator can signal the unit to shut down. In addition, the unit can also be shut down through the operation of the Corps' emergency gate located in the Corps' intake structure. The emergency gate, a fixed wheeled bulkhead gate, operates by an electrically operated drum and cable and is designed to close by gravity. As the gate closes, pressure sensors in the penstock will notice the drop in head and automatically shut down the turbine. Air supplied through the Corps' intake and Pacific's air vent chamber is intended to prevent collapse of the penstock and lined tunnel as the emergency gate seals off the tunnel.

d. Dewatering and Rewatering Penstock Procedures:

As required by either Pacific or the Corps, the Project and portions of the Corps' facilities can be inspected by dewatering the tunnel and penstock. This is accomplished through the jointly developed dewatering and rewatering procedures attached as Exhibit A (as amended) to the Agreement.

e. Water Quality

Pacific will operate the hydroelectric Project to prevent any degradation to the existing water quality. The Project shall be operated and maintained in compliance with the Federal Water Pollution Control Act of 1948 and its amendments, including the Clean Water Act of 1977, the Water Quality Act of 1987, Executive Order 12088, Federal Compliance with Pollution Control Standards, and satisfy the Yuba River requirements of the Sacramento River Basin Plan (5A) as established by the Regional Water Quality Control Board.

f. Water Quality Control Plan:

In accordance with Corps Engineering Regulation ER 1110-2-1462, "Water Quality and Water Control Considerations for Non-Federal Hydropower Development at Corps of Engineers Projects", Pacific has developed the following Water Quality Control Plan (herein Plan). The Plan does not require the monitoring of dissolved oxygen.

The operation of Englebright Dam from a water quality standpoint is highly dependent upon the relatively large volume of cold water

inflow from New Bullards Bar Reservoir which refreshes the hypolimnion in Englebright. A complete exchange of the reservoir is possible within 10-15 days. Since the operation of New Bullards Bar, the thermocline has raised, but data indicates that the dissolved oxygen content is abundant both above and below the thermocline. During the FERC licensing process, no water quality problems were identified by either Pacific or any of the resource agencies. Based upon this information, a dissolved oxygen monitoring program will not be implemented.

Should a water quality problem arise in the future, notification between the Parties will be initiated as soon as possible and Pacific will immediately initiate corrective action.

The Corps may from time to time review this Plan and request Pacific to revise and implement a new Plan in response to changes in DO or other water quality compliance criteria, monitoring sites, or analytical methods as the Corps or other agencies with appropriate jurisdiction may require.

**9. DISPUTE RESOLUTION:**

Disputes between Pacific and the Corps will be settled at Corps' Division and District levels if at all possible. Unresolved differences will be referred to the Corp's Office of the Chief of Engineers and Pacific's Vice President -Power Generation for review and attempted resolution. Disagreements remaining unresolved after the previous referral will be forwarded to FERC for review and attempted resolution. Following a good faith attempt to resolve disagreements as specified herein, or such other alternative dispute resolution processes agreed to by the Parties, nothing shall prohibit any Party from bringing an action in an appropriate court.

**10. TERM OF AGREEMENT:**

The Agreement terminates on expiration of Pacific's current FERC license for the Project (January 31, 2023) or, as Pacific is granted an extension of its license by FERC, provided however, that neither Party shall waive any right that such Party may have pertaining to breaches of the Agreement occurring prior to termination nor rights obligating or permitting repair as is specified herein. Provided further that these rights must be exercised within 6 months of this Agreement's termination.

**11. NOTICES:**

All written notices shall be directed as follows:

To Pacific: Pacific Gas and Electric Company  
Attention: Vice President - Power Generation  
P.O Box 770000  
San Francisco, CA 94177

To Corps (Collectively):  
Department of the Army  
Sacramento District  
Corps of Engineers  
Attention: District Engineer and Chief, Operations  
Branch  
1325 "J" Street  
Sacramento, CA 95814

In cases of emergencies, the Parties shall, in addition to the above, shall notify each Party in accordance with the Project's Emergency Action Plan (EAP). Pacific shall be responsible for updating the EAP on an annual basis.

12. AGREEMENT NOT TO VIOLATE STATUTE:

This Agreement and each of its provisions, shall be subject to all applicable federal, state and local laws and regulations. In the event of any conflict between the provisions of this Agreement and the Project license, the provision of the Project license shall control.

13. MISCELLANEOUS:

a. Assignment: The rights and obligations under this Agreement may be assigned or transferred by Pacific to another entity. Pacific shall notify the Corps 60 days prior to assigning or transferring the license or this Agreement or both. Corps permission, which shall not be unreasonably withheld, is required before Pacific may assign or transfer this Agreement.

b. Amendment: This Agreement will be reviewed on a periodic basis and modified by written amendment as the Parties may agree.

c. Severability: The invalidity or illegality of any provision shall not affect the validity of the remainder of the Agreement.

d. Multiple Originals: This Agreement may be executed in counterparts, any of which shall be treated as an original.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the Date first above written.

THE UNITED STATES OF AMERICA

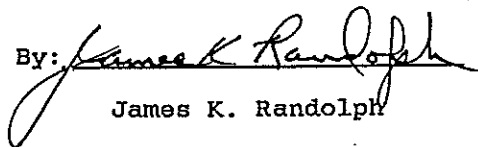
PACIFIC GAS AND ELECTRIC COMPANY

By:



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By:



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