



DEPARTMENT OF THE ARMY
SOUTHWESTERN DIVISION, CORPS OF ENGINEERS
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

February 25, 1999

REPLY TO
ATTENTION OF:

ORIGINAL

Directorate of Engineering
and Technical Services

SUBJECT: Memorandum of Agreement Establishing Procedures for
Hydropower Operation at Wilbur D. Mills Dam

Mr. Gary C. Voigt
President/CEO
Arkansas Electric Cooperative Corporation
8000 Scott Hamilton Drive
P.O. Box 194208
Little Rock, Arkansas 72219

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OFFICE OF THE SECRETARY
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FEDERAL ENERGY
REGULATORY COMMISSION

Dear Mr. Voigt:

We are pleased to provide two signed originals of the subject operating agreement. We expect that our partnership will continue to provide many mutual benefits.

Please refer any questions to Mr. Patrick Evermon, (214) 767-2370.

Sincerely

Ed J. Arnold, Jr.
Edwin J. Arnold, Jr. 25 Feb 99
Brigadier General, U.S. Army
Commanding General

Enclosures

Copies Furnished:

Federal Energy Regulatory Commission
CESWL-OP-R

Federal Energy Regulatory Commission
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[Signature]
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UNITED STATES
DEPARTMENT OF THE ARMY
LITTLE ROCK DISTRICT, SOUTHWESTERN DIVISION, CORPS OF ENGINEERS
WILBUR D. MILLS DAM, ARKANSAS RIVER, ARKANSAS

FILED
OFFICE OF THE SECRETARY
99 MAR -8 PM 4: 51
FEDERAL ENERGY
REGULATORY COMMISSION

MEMORANDUM OF AGREEMENT
ESTABLISHING PROCEDURES FOR HYDROPOWER OPERATION
BY ARKANSAS ELECTRIC COOPERATIVE CORPORATION AT
WILBUR D. MILLS DAM, ARKANSAS RIVER, ARKANSAS
PURSUANT TO FEDERAL ENERGY REGULATORY COMMISSION

MAJOR LICENSE EXISTING DAM Federal Energy Regulatory Commission
FERC PROJECT NO. 3033

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THIS MEMORANDUM OF AGREEMENT, hereinafter referred to as the "Agreement," entered into and effective this 25 day of February 1999, between the UNITED STATES OF AMERICA, hereinafter referred to as the "Government", acting through the Department of the Army, Corps of Engineers, hereinafter referred to as the "Corps," and the Arkansas Electric Cooperative Corporation, acting by and through its Board of Directors, hereinafter referred to as the "Licensee."

WHEREAS, the Licensee filed a license application on April 19, 1982, and was issued a license, hereinafter referred to as the "License", on August 10, 1983, by the Federal Energy Regulatory Commission, hereinafter referred to as "FERC," to construct, operate, and maintain Project No. 3033, hereinafter referred as the "Hydropower Project", at Wilbur D. Mills Dam, located on the Arkansas River near Dumas, Arkansas, approximately 2.2 miles downstream of the mouth of the Arkansas Post Canal at Navigation Mile 19.0; and,

WHEREAS the Corps, acting through its Little Rock District (the District) or other elements, is responsible for operation of the Arkansas River navigation system, including operation of the Wilbur D. Mills Dam and its impoundment, Pool No. 2, as well as preservation of the dam's integrity; and,

WHEREAS the Hydropower Project, described in the License, includes three 36,000 KW horizontal-shaft, bulb-type hydroelectric generating units, and outdoor-type substation located on the powerhouse roof to step-up the generated voltage to 115 KV before the electricity enters the switching station west of the powerhouse; and

WHEREAS, on April 26, 1994, the Corps and the Licensee entered into a Memorandum of Agreement for establishing Procedures for Access and Site Activities (Site Access Agreement) defining permanent easements and maintenance procedures for the Hydropower Project; and

WHEREAS, Article 48 of the License requires the Licensee to enter into a memorandum of agreement with the Corps, prior to commencement of operation of the Hydropower Project, describing the mode of hydropower operation acceptable to the Corps;

NOW, THEREFORE, the parties agree to the following:

ARTICLE 1
OPERATIONAL REQUIREMENTS

Section A. General

1. The Corps is, and shall remain, responsible for development and revision of the Water Control Plan and Water Control Manual for Wilbur D. Mills Dam and Pool No. 2. The Corps is responsible for providing the Licensee copies of the current Water Control Plan and Water Control Manual, and revisions as they are adopted. The Licensee shall operate the Hydropower Project in accordance with the License, the terms of this Agreement, and the Water Control Plan for Wilbur D. Mills Dam.
2. The Licensee shall operate the Hydropower Project at all times in such manner as deemed necessary by the Corps to ensure that navigation and all other federal purposes, interests, and responsibilities will be protected. The Licensee recognizes that navigation is the primary purpose of Wilbur D. Mills Dam. If the Corps determines that a situation exists which threatens navigation or other federal purposes, interests, or responsibilities, the Licensee agrees to immediately follow the Corps' directives and/or instructions received through the Corps' Lockmaster or its chain of command for water management pertaining to the operation of the Hydropower Project.
3. The Licensee agrees to integrate the operation of the Hydropower Project into the Corps' emergency action plan.

Section B. Specific Operational Details

1. Under this Agreement, the Hydropower Project shall be operated as a run-of-river project (no dedicated storage for hydropower operations at Wilbur D. Mills Dam), and in coordination with Wilbur D. Mills Dam. Releases from the Hydropower Project will be in conformance with instructions and criteria established on a real-time basis by the Corps acting through its Lockmaster or its chain of command for water management.
2. During normal operation, the Hydropower Project will generate with one, two, or three units up to 24 hours per day when available river flows exist. All of the following flows are approximate. The flow range during which generation is possible is from 4,000 cfs (minimum turbine discharge) to 200,000 cfs (flow at which units are shut down due to insufficient operating head). River flows from 4,000 cfs to 53,400 cfs (Hydropower Project maximum discharge capacity) normally will be passed through the powerhouse but may be passed through either, neither, or both the powerhouse and Wilbur D. Mills Dam in a coordinated effort, as the Corps deems appropriate. It shall be the responsibility of the Licensee to assure release rates are made as set by the Corps. The Licensee shall schedule all hydropower releases in compliance with the Lockmaster's needs and instructions. For river flows between 53,400 cfs and 200,000 cfs, discharges will be made through both the powerhouse and Wilbur D. Mills Dam. At flows greater than 200,000 cfs, discharges will be made through Wilbur D. Mills Dam only. The Licensee agrees to fully cooperate with the Corps in the establishment of release schedules and in case of disagreement the Corps' decision will be final.
3. The Licensee agrees to notify the Lockmaster or other Corps' designee in advance of the starting or stopping of any generating units as described in Article

- 3 of this Agreement, and as soon as possible whenever a generating unit is subject to a forced outage. The Licensee agrees to keep the Lockmaster or other Corps' designee advised of any change in Hydropower Project operations that will affect the flow of water through the Hydropower Project or cause fluctuations in Pool No. 2 that are outside the criteria or needs of the Corps. During normal operations, the rate of increase or decrease in Hydropower Project releases will not exceed 5,000 cfs per minute or 15,000 cfs per hour unless directed otherwise by the Lockmaster.
4. The Corps will give the Licensee advance notice of any scheduled river maintenance, scheduled changes in discharge (such as, but not limited to, those caused by ice or trash passage), and runaway or grounded barges known to the Corps. The Corps will promptly notify the Licensee after any unscheduled changes in the discharge or discharge capacity affecting the Hydropower Project.
 5. The Licensee recognizes that deviations in operations of the Hydropower Project may be required when any conditions which impact upon navigation or other federal purposes, interests, or responsibilities develop on the Arkansas River. Examples of such operations include, but are not limited to, hinged pool operations and manipulation of pool elevations for extended periods for maintenance dredging, lock and dam repairs, and other purposes.
 6. The Licensee agrees to at all times permit the Corps to take whatever emergency action is appropriate to prevent or reduce hazards to life, significant property damage (including property of the United States), and significant adverse fluctuation of Pool No. 2. Licensee agrees that under such emergency conditions it will operate its generating units as directed by the Corps.

7. In the event that a barge breaks away from a tow or mooring upstream from the Hydropower Project, the Licensee will, upon being notified of the emergency condition, discontinue operation of its generating units in an effort to prevent damage to the Hydropower Project and Wilbur D. Mills Dam unless the Corps directs the Licensee to do otherwise, in which case the Licensee shall follow the Corps' instructions.
8. The Licensee agrees to pay the Corps for any reasonable additional operating and maintenance costs for Wilbur D. Mills Dam or Pool No. 2 resulting from operation of the Hydropower Project, and to make any structural changes to the Hydropower Project deemed by the Corps to be necessary to solve unforeseen operational problems.

ARTICLE 2
INSPECTION

The Licensee shall permit the Corps to inspect the Hydropower Project as a part of the Corps' Periodic Inspection and Continuing Evaluation of Completed Civil Works Structure Program. Any Hydropower Project operation deficiencies or difficulties detected by the Corps will be immediately reported to the Licensee and FERC. If such operation practices or deficiencies threaten imminent danger to life, significant property damage (including property of the United States), or interference with the operation of Wilbur D. Mills Dam, navigation, or other federal purposes, interests, or responsibilities, the Corps has the authority to direct the Licensee to modify or stop Hydropower Project operation and to otherwise take timely appropriate action to resolve the situation, and the Licensee agrees to abide by such direction, to cooperate with the Corps, and in case of disagreement to accept the Corps' decision as final. The Licensee shall provide to the F&A Office of the District the required funds for all Corps expenses associated

with inspection of the Hydropower Project within 7 calendar days of being notified in writing by the Corps of the funds required.

ARTICLE 3

COMMUNICATION NETWORK, INFORMATION EXCHANGE, AND REPORTING

1. The Licensee agrees to maintain communications between the Lockmaster at Lock No. 2 and either the data room of the Hydropower Project or the remote dispatcher of the Licensee, by means of a direct circuit or other direct means of real-time communications, as directed by the Corps, to coordinate the operation of the Hydropower Project.
2. The Licensee will set hourly release volumes through the turbines at the Hydropower Project as specified by the Lockmaster as needed for the Corps' operational purposes. The release requirements and release schedule are subject to change throughout the day in response to unforeseen river flow changes.
3. The Lockmaster will provide the Licensee release rate data for all gate operations at Wilbur D. Mills Dam as soon as possible after such gates have been operated. The data will include current release rates and release rates prior to gate changes. This report will be made by telephone or other direct means of communications, as directed by the Corps.
4. The Lockmaster or other Corps' designee will provide the Licensee a continuous readout of the headwater elevation data obtained at Wilbur D. Mills Dam.

5. The Licensee will provide the Lockmaster or other Corps' designee a continuous readout of the station flow and generator output data obtained at the Hydropower Project.
6. Each working day prior to 12:00 noon, the Corps' Reservoir Control Branch will provide the Licensee and the Lockmaster an updated 4-day forecast of expected mean daily inflow volumes and any projected changes in headwater elevation limits for Wilbur D. Mills Dam. The forecast will be furnished by telephone or other direct means of communications, as directed by the Corps.
7. Each working day prior to 2:00 p.m., the Licensee will furnish the Lockmaster and the District hourly turbine release schedules expected for the remainder of the current day and the following day. Expected schedules for weekends and holidays will be furnished on the last working day prior to the weekend or holiday and will include the schedule for the next working day. The schedules will be furnished by telephone or other direct means of communications, as directed by the Corps.
8. Any time the actual total turbine release rate deviates from the scheduled rate by more than 10 percent, or some other amount specified by the Lockmaster, the Licensee will report such change and expected additional changes to the Lockmaster with as much advance notice as possible but in any event as soon as the deviation occurs. Report will be by telephone or other direct means of communications, as directed by the Corps.
9. The Licensee will provide the Corps a weekly summary, by day, of actual hourly generation and release rates for each turbine and for the total Hydropower Project. This summary will be mailed to the District by the second working day of the following week or provided in some other manner agreeable to the Corps.

10. By no later than start-up of the Hydropower Project, the Licensee and the Corps shall have furnished, installed, and be prepared to operate and maintain their respective equipment and communication links that are compatible with the District's Water Control Data System (WCDS) and that meet the Lockmaster's need for operational data. Prior to installing this equipment, the Licensee shall contact the Chief of the Reservoir Control Branch at the District office, for the current WCDS needs. The equipment shall include, but is not limited to, direct data and voice circuits, telephones, recorders, sensors, encoders, data collection and transmitting platforms for satellite telemetry (DCP), and support software and hardware. The direct data equipment will be used to collect and transmit real-time and historical data on headwater and tailwater elevations and turbine release rates. Operational data needed in the District office shall be transmitted by DCP. The current operational data required is instantaneous headwater and tailwater elevations, hourly average total station discharge in cfs, and total electric generation in megawatts at one hour intervals. The DCP transmissions are required at four-hour intervals and each transmission should include the most recent eight hours of data. Real-time data for use by the Lockmaster will be furnished to the Corps' remote operations receiver station located at the east end of Wilbur D. Mills Dam. The communication links equipment and its installation and maintenance will be the responsibility of the Licensee, and the Licensee will replace and update the equipment when needed to keep it compatible to future Corps' needs. The Licensee shall neither remove or disable, nor cause or allow to be removed or disabled, any equipment for which it is responsible, if so doing could affect the operations of the Corps or its equipment or systems, unless and until the Licensee has obtained advance written approval from the Corps' Chief of Operations Division.

ARTICLE 4
MODIFICATIONS TO THE EXISTING DAM SPILLWAY GATES

Section A. General

1. The operation of the Hydropower Project requires the Corps to respond to changes in the Hydropower Project discharge by adjusting the Wilbur D. Mills Dam spillway gates. In order to do this promptly, additional equipment is required so that the gates can be remotely operated from Lock No. 2. This installation will include power transfer switching equipment, electronic control and data exchange equipment, video monitoring equipment, and public address equipment sufficient to safely perform and monitor the routine or emergency operation of the Wilbur D. Mills Dam spillway gates.

2. The Corps will be responsible for the installation of said equipment, except that the Licensee will be responsible for the installation of computer software and electronic support equipment in the Hydropower Project and the installation of the communication link between the Wilbur D. Mills Dam facility and the Corps' Lock No. 2 transmitting and receiving facility. The Licensee may install additional equipment if given advance written authorization by the Corps to do so. The Licensee will bear all costs of equipment installation whether performed by the Licensee or the Corps.
 - A. Power transfer equipment shall include adding remote startup capability to the existing emergency diesel generator at Wilbur D. Mills Dam along with the capability to transfer the generator to the spillway feeders as a backup power supply.

- B. Electronic control and data exchange equipment shall include necessary programming, software, and hardware additions to the existing data acquisition equipment at both the Wilbur D. Mills Dam and at Lock No. 2 for the Corps to monitor the operation of the Hydropower Project as described in Article 3 of this Agreement.
- C. Video monitoring equipment shall include a closed circuit television system at Wilbur D. Mills Dam with remote video monitoring at Lock No. 2 to allow the Corps' operators to view the individual gate sills and to inspect the upstream and downstream pools for boating activity to assure public safety.
- D. Communications from the Hydropower Project, Wilbur D. Mills Dam, and Lock No. 2 shall be via multiple path fiber optic cabling to carry signals for data acquisition equipment, status and control, closed circuit video and control, public address, and provisions for additional future uses. The route for the buried fiber optic cable shall be shown on Sheet 3 Exhibit 3 of the Site Access Agreement.
- E. Additional equipment may be required if, in the judgement of the Corps, it is necessary to protect public safety, navigation, or other Federal interests.
- F. In the event the Corps replaces or modifies any equipment or software which interfaces with the Licensee's equipment or software, the Licensee shall be responsible for making any modifications to its equipment or software necessary to continue or reestablish operation.

- G. The Licensee shall neither remove or disable, nor cause or allow to be removed or disabled, any equipment for which it is responsible, if so doing could affect the operations of the Corps or its equipment or systems, unless and until the Licensee has obtained advance approval from the Corps' Chief of Operations Division.

Section B. Operation and Maintenance

- 1. After construction of the above modifications is complete and has been accepted by the Corps, operation will become the responsibility of the Corps.

- 2. Responsibility for the maintenance, repair, and/or replacement of the specific equipment will be as follows:

- A. The Corps will be responsible for the cost and performance of maintenance, repair, and/or replacement of the equipment associated with the remote startup and automatic transfer of the backup power supply only to the extent needed to maintain local startup and manual transfer capability, except as provided below.

- B. The Licensee will be responsible for the cost and performance of maintenance, repair, and/or replacement of all other software and equipment installed for the purpose of remotely operating from Lock No. 2, including but not limited to:

- 1) Computer software and electronic support equipment associated with the remote startup and automatic transfer of the backup power supply.

2) Computer software and electronic support equipment installed in or adjacent to the Wilbur D. Mills Dam, Lock No. 2, and the Hydropower Project.

3) Video monitoring equipment, including any supplemental lighting required, installed near the Wilbur D. Mills Dam spillway gates or on the banks adjacent to Wilbur D. Mills Dam.

4) Public address equipment installed as part of the requirement for remote operation of the Wilbur D. Mills Dam spillway gates.

5) The communication link between Wilbur D. Mills Dam and the Corps's Lock No. 2 transmitting and receiving facility.

3. In the event that maintenance, repair, or replacement of any equipment is required as described above, the initiation or continuation of operation of the Hydropower Project shall be authorized on a case-by-case basis of safety as determined by the Lockmaster. Prior to authorizing operation of the Hydropower Project under these conditions, the Corps may require a physical inspection of the Wilbur D. Mills Dam facilities, including the upstream and downstream areas.

If the Lockmaster determines that the Hydropower Project can be safely operated prior to completing said maintenance, repair, or equipment replacement, the Licensee may, upon receipt of authorization from the Lockmaster, proceed with operation of the Hydropower Project. All associated Corps costs for such inspections shall be borne by the Licensee.

4. In the event that maintenance, repair, or replacement of any equipment is required as described above, the Licensee will be granted access to Federal

Property associated with either the Wilbur D. Mills Dam or the Lock No. 2 facility in accordance with the Site Access Agreement.

5. In the event that maintenance, repair, or equipment replacement which is normally the Corps' responsibility is required for initiation or continuation of Hydropower Project operation, the Licensee may, with the Corps' advance approval, elect to perform said maintenance to expedite Hydropower Project operation. Costs for such maintenance shall remain the responsibility of the Corps, except that solely the Licensee and not the Corps shall bear any such costs to the extent such costs exceed in amount what the Corps would have incurred if the work had been performed by the Corps. Further, if the Licensee performs such work, the Corps will be required only to request funding through normal Corps channels for its share of the expenses, and the Government shall not be liable for such costs if the administration fails to include them in its budget or if Congress fails to appropriate funds. In no event shall the Corps be liable for any lost benefits of Hydropower Project operation due to the required maintenance of Corps equipment.

ARTICLE 5 COOPERATION

The Licensee agrees to operate the Hydropower Project and to meet the Corps' operating requirements. The Hydropower Project will be operated to protect the purposes of Wilbur D. Mills Dam as well as other Federal interests and responsibilities, including navigation as well as, but not limited to, limiting flow and stage fluctuations of Pool No. 2. The Corps agrees to cooperate in the operation of the Hydropower Project, provided such operation is consistent with the purposes of Wilbur D. Mills Dam and

other Federal interests and with the Corps' responsibilities. The Licensee shall coordinate Hydropower Project generation schedules with the Corps.

ARTICLE 6
OTHER PROVISIONS

Nothing in this Agreement shall be deemed as a waiver of any requirement or obligation set forth in the Order Issuing License issued August 10, 1983, by the FERC, or in any amendments to the License.

ARTICLE 7
RIGHT TO REVIEW AND REVISE

The Corps and Licensee recognize that this Agreement is subject to revision from time to time upon request of either party as operating experience is gained and conditions warrant.

ARTICLE 8
DISPUTE RESOLUTION

As a condition precedent to either party bringing any suit for breach of this Agreement, that party must first notify the other party in writing of the nature of the purported breach and seek in good faith to resolve the dispute through negotiation. If the parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of non-binding alternative dispute resolution mediated by a qualified third party acceptable to both parties. The parties shall each pay 50 percent of any costs for the

services provided by such a third party as such costs are incurred. The existence of a dispute shall not excuse the parties from performance pursuant to this Agreement.

ARTICLE 9
INDEMNIFICATION

The Licensee shall hold harmless and save the Government free from all damages, including damages to government property and Government-supplied materials and equipment made available for the Licensee's use, beyond normal wear and tear, arising from services the Licensee performs or provides for construction, operation, maintenance, repair, or replacement. The Licensee agrees that the Government shall not be liable for any damages caused by the acts or omissions of third parties.

ARTICLE 10
RELATIONSHIP OF PARTIES

In the exercise of their respective rights and obligations under this Agreement, the Government and the Licensee each act in an independent capacity, and neither is to be considered the officer, agent, or employee of the other. In the exercise of its rights and obligations under this Agreement, neither party shall provide, without the written consent of the other party, any contractor with a release that waives or purports to waive any rights such other party has or may have to seek relief or redress against such contractor pursuant to any cause of action that such other party has or may have, or for any violation of any law.

ARTICLE 11
ASSIGNABILITY

No voluntary transfer of this Agreement or of any rights or obligations of the Licensee hereunder shall be made without the advance written approval of the Corps. Any successor to or assignee of the Licensee's rights, interests or obligations under this Agreement, whether by voluntary transfer, judicial sale, foreclosure sale, or otherwise, shall be subject to all the provisions and conditions of this Agreement to the same extent as though such successor or assignee were the original signatory hereunder.

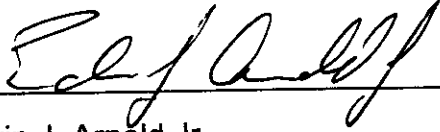
ARTICLE 12
SEVERABILITY

If any part, term, or provision of this Agreement should be held illegal, unenforceable, or in conflict with any federal, state or local law having competent jurisdiction over this Agreement, the validity of the remaining portions or provisions shall not be affected thereby, and the remainder of this Agreement shall be interpreted, to the extent possible, in a manner calculated to accomplish the objectives of the parties.

ARTICLE 13
ENTIRE AGREEMENT

This Agreement constitutes the entire understanding and agreement between the parties regarding all matters herein and supersedes any and all previous agreements or understandings; there are no other agreements or understandings, conditions or representations, oral or written, express or implied, regarding the subject matter of this Agreement.

UNITED STATES
DEPARTMENT OF THE ARMY



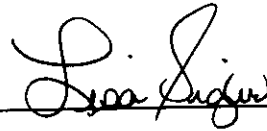
Edwin J. Arnold Jr.
Brigadier General, USA
Division Engineer

ARKANSAS ELECTRIC
COOPERATIVE CORPORATION



Gary C. Voigt
President/CEO

ATTEST:



Lisa Sigler
Assistant Secretary