

Attachment 2 – Previous Project Estimates



AMERICAN HYDRO CORPORATION

"The Service Company"

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December 14, 1993

Mr. Ron E. Israelsen
Harza Engineering Company
Sears Towers
233 South Wacker Drive
Chicago, IL 60806-6392

SUBJECT: Project No. 5564 G, Four Blade Propeller

Dear Mr. Israelsen:

The requested budgetary prices are (one unit):

Headcover	\$105,000
Wicket Gates and Mechanism	\$165,000
Runner (Stainless steel blades, mild steel hub)	\$170,000
Turbine Shaft	\$ 50,000
Intermediate Shaft	\$100,000
Discharge Ring	\$ 95,000
Stay Ring	\$175,000
Bearing Housing and Shaft Seal	\$ 90,000
Turbine Disassembly and Reassembly	\$280,000

I hope this is helpful.

Very truly yours,

William H. Colwill
Vice President
Marketing

WHC/dfi

Kentucky Utilities

**Decommissioning of
Hydro Electric Generating Station
Lock No. 7
Kentucky River**

Conceptual Budget Report

February 28, 1997

***Prepared by
3D Enterprises Construction Management Corporation***

CONCEPTUAL BUDGET PRICE BREAKDOWN

Option 1

Pricing for demolition above existing spill floway (El. 514.6 upstream to El. 511.35 downstream) including equipment removal with necessary reconstruction for abandonment of area below Elevation 514.6. Demolition includes all connector walls, divider walls and pier stubs above Elevation 514.6 as detailed in the report.

Construction Management

<i>Pre-Construction Services</i>	<i>\$175,000</i>
- <i>Regulatory Agency (permitting/approval assistance)</i>	
- <i>Develop and Manage Program Schedule</i>	
- <i>Lead Project Team in Final Demolition Design</i>	
- <i>Assist Design Engineer in Developing Contractual Documents</i>	
- <i>Provide Cost Estimate</i>	
- <i>Assemble Project Construction Team and Agreements</i>	

<i>Construction Phase Services</i>	<i>\$200,000</i>
- <i>Assure work is being performed according to Contract Documents</i>	
- <i>Schedule and Coordinate sequence of Construction</i>	
- <i>Coordinate Work Activity with Regulatory Agencies/ Shakertown, etc.</i>	
- <i>Provide Photographic Documentation</i>	
- <i>Verification of Proper Disposal of Debris</i>	

<i>Mobilization & Demobilization</i>	<i>\$400,000</i>
<i>River Access (allowance)</i>	<i>\$25,000</i>
<i>Generator Equipment Removal</i>	<i>\$212,000</i>
<i>Demolish Powerhouse</i>	<i>\$486,000</i>
<i>Demolish Piers</i>	<i>\$753,000</i>
<i>Concrete Fill</i>	<i>\$384,000</i>
<i>Engineering & Design Services (allowance)</i>	<i><u>\$125,000</u></i>
<i>Total</i>	<i>\$2,760,000</i>

OPTION 2

Pricing for complete Hydro Power Generating Station demolition to approximately Elevation 480.0, and reconstruction of Dam to equal to original state before Power Station construction.

When evaluating this option, it became apparent that it was going to be expensive. In order to extend the main river dam from the training wall across to the west bank of the Kentucky River, a Cofferdam of cell piles would be installed upstream of the existing dam and tied into the back side of the existing dam. This area would then be dewatered and excavated and the new dam constructed in the first and second year's construction seasons. The extension of the main river dam would be constructed of reinforced concrete.

In the second year's construction season, you would construct a downstream Cofferdam and possibly begin demolition of the Hydro Power Generating Station from the downstream side. Once the existing facility was demolished, the downstream Cofferdam would be removed, followed by the upstream Cofferdam. This work would be completed in the third construction season. It is expected that the complete project could be performed in three years and would require operating double shifts due to the amount of work to be performed in such short windows of construction season. The tendency of the Kentucky River to flood and maintain a high water level from December to May dictates the short season of work.

Projected cost is in excess of \$20,000,000 and does not include an allowance for Design Engineering or Construction Management Services. Please see below for conceptual values.

<i>Mobilization and Demobilization</i>	<i>\$800,000</i>
<i>Cofferdam Install/Remove</i>	<i>\$3,300,000</i>
<i>Demolish Existing Facility</i>	<i>\$8,000,000</i>
<i>Construct Dam (Reinforced Concrete)</i>	<i><u>\$8,500,000</u></i>
<i>Total</i>	<i>\$20,600,000</i>

Attachment 3 – FERC Project License

Kentucky Utilities Company, Project No. 539-000

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[¶62,186]

Kentucky Utilities Company, Project No. 539-000**Order Issuing New License (Major Project - 5 MW or Less)**

(Issued May 26, 1992)

Fred E. Springer, Director, Office of Hydropower Licensing.

On March 24, 1975, Kentucky Utilities Company (Kentucky Utilities), the existing licensee for the 2.04-megawatt (MW) Lock No. 7 Project No. 539, located on the Kentucky River, in Mercer County, Kentucky, filed an application for a new major license under the Federal Power Act (FPA).¹ Kentucky Utilities is not proposing to add any new capacity, or make any major modifications to the project. The Kentucky River is a navigable waterway of the United States,² and the project uses surplus water or water power from the U.S. Army Corps of Engineers' (Corps) Kentucky River Lock and Dam No. 7.³

Notice of the application was published April 17, 1991. No protests were filed in this proceeding, and no agency objected to issuance of this license. The Electric and Water Plant Board of the City of Frankfort, Kentucky (Frankfort) and the Cities of Barbourville, Benham, Corbin, and Falmouth, Kentucky (collectively, Kentucky Municipals), intervened⁴ and advocated

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that the license be renewed, but proposed that certain conditions be included in the new license. The Department of the Interior, the Corps, and Kentucky Department of Fish and Wildlife Resources filed comments. All comments received from interested agencies and individuals have been fully considered in determining whether to issue this license, as discussed below.

Section 15 of the FPA provides that, in acting on applications for new license following the expiration of existing licenses, the Commission shall consider the requirements of section 10 of the FPA and certain additional specified factors.

Comprehensive Plans and Recommendations of Other Agencies (Sections 10(a)(2)(A) and (B))

Section 10(a)(2)(A) of the FPA requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. Under section 10(a)(2), federal and state agencies filed nine comprehensive plans that address resources in Kentucky. Of these, staff identified one plan which was relevant to this project.⁵ No conflicts were found.

Section 10(a)(2)(B) requires the Commission to consider the recommendations of federal and state agencies exercising administration over flood control, navigation, irrigation, recreation, cultural and other relevant resources of the state in which the project is located. However, no recommendations from such agencies were filed.

Consumption Efficiency Improvement Programs (Section 10(a)(2)(C))

Section 10(a)(2)(C) of the FPA requires the Commission to consider the applicant's electricity consumption efficiency program, "including its plans, performance, and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively."

Kentucky Utilities has submitted a comprehensive document which describes the ongoing conservation efforts with respect to: (1) Conservation education programs; (2) load management directed to reduced peak demand; (3) rate provision based on power factor; (4) high efficiency electrical equipment and appliance use; (5) training and awareness workshop; (6) energy efficiency provisions in residential construction; and (7) generator unit efficiency improvement.

Kentucky Utilities also is involved in an ongoing study to evaluate the potential for cost-effective demand-side management programs. The study involves a plan to conduct residential use studies to determine actual appliance demand reduction potential. In 1992, Kentucky Utilities will survey its commercial and industrial sectors to determine demand-side management applications.

Based on the review of available information, I conclude that Kentucky Utilities is making reasonable, good-faith electric power conservation efforts.

Antitrust Concerns (Section 10(h))

The Kentucky Municipals argue that Kentucky Utilities' refusal to wheel Southeastern Power Administration (SEPA) power, its past conduct with respect to the Kentucky-Indiana Pool (KIP Pool), its refusal to negotiate with Frankfort for coordination of transmission services, and its resistance to the provision of partial requirements service raise concerns about Kentucky Utilities' future antitrust conduct and the disposition of the project's power.⁶

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They argue that, pursuant to section 10(h) of the FPA, the Commission should include certain conditions in the license to prevent such anticompetitive behavior.⁷

Citing *Indiana and Michigan Electric Company* traditionally has required that any allegations of anticompetitive conduct be made in sufficient detail based upon specific alleged facts before the Commission would intervene in the matter, and points out that the Kentucky Municipals have not detailed specific allegations of anticompetitive conduct or set out any facts as evidence of such conduct. It states that the Kentucky Municipals merely rely upon citations to three previous proceedings before the Commission, maintaining that the Commission's orders in those proceedings show that Kentucky Utilities has engaged in conduct in contravention of the policies of the antitrust laws. Kentucky Utilities maintains that the Kentucky Municipals' characterization of those proceedings is unsupportable and constitutes an attempt to retry the issues resolved in them.⁸ I agree.

The Kentucky Municipals have not presented any evidence to support their antitrust contentions other than the three prior proceedings to which Kentucky Utilities refers. The results of those proceedings do not support the Kentucky Municipals' contentions that Kentucky Utilities has violated section 10(h)(1) or section 10(h)(2) of the FPA. Therefore, the proposed conditions will not be included in the license. A detailed analysis of the parties' arguments follows below.⁹

1. The SEPA Orders

The Kentucky Municipals, which operate municipally owned electric distribution systems and are wholesale, full-requirements customers of Kentucky Utilities, state that each of them has also been allocated federally generated power and energy by the Southeastern Power Administration (SEPA)¹⁰ since at least

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1973. They maintain that Kentucky Utilities has refused and continues to refuse to transmit the allocated SEPA power to the Kentucky Municipals and others within Kentucky Utilities' service area. Based solely upon the Commission's order in *Southeastern Power Administration v. Kentucky Utilities Co.*, 25 FERC ¶61,204 (1983) (*SEPA I*),¹¹ they argue that Kentucky Utilities' refusal to wheel power for SEPA is an anticompetitive use of its monopoly power over transmission in its service area which denies the municipals access to low-cost, federally generated power, and is therefore tantamount to a violation of section 10(h)(1) of the FPA.

This argument is without merit. The Kentucky Municipals' reliance upon section 10(h)(1) is misplaced, and *SEPA II* does not stand for the proposition for which they cite it. Section 10(h)(1) prohibits combinations, agreements, arrangements, or understandings, express or implied, to limit the output of electrical energy, to restrain trade, or to fix, maintain, or increase prices for electrical energy or service. The Kentucky Municipals have not suggested, nor does *SEPA II* suggest, that Kentucky Utilities participated in a combination, agreement, arrangement, or understanding with any other entity to deprive SEPA of transmission services.

It is possible that the Kentucky Municipals meant to argue a violation of section 10(h)(2) of the FPA, which is not limited to combinations, agreements, etc., but which addresses conduct under the license that results in the contravention of the policies expressed in the antitrust laws and provides for inclusion of antitrust conditions in a license as a possible remedy.¹² However, the Kentucky Municipals' sole evidence, the citation of *SEPA II*, does not support its position that Kentucky Utilities' refusal to transmit the SEPA power results in the contravention of the policies expressed in the antitrust laws.

In the *SEPA* proceeding, SEPA, which owns no transmission lines, asked Kentucky Utilities to wheel its power. Kentucky Utilities and SEPA then attempted to negotiate a wheeling agreement satisfactory to both, and when the attempts proved unsuccessful, SEPA filed an application pursuant to sections 211 and 212 of the FPA.¹³ does not refer to antitrust concerns, and SEPA did not file its request under any other sections which might involve antitrust concerns.

In *SEPA I* the presiding administrative law judge (ALJ) found that the request for wheeling did not meet the requirements of section 211, and determined that such an order would not, in any event, "reasonably preserve existing competitive relationships," as required by section 211(c)(1).¹⁴

On exceptions, SEPA and certain intervening cities¹⁵

the ALJ had interpreted it to limit competition. They argued that the legislative history of section 211(c)(1) showed Congress intended to use wheeling to remedy anticompetitive conduct, and that the Commission must order wheeling under section 211 where a utility which owns the only transmission lines to the municipalities is the sole supplier of a customer and maintains that position by exercising its monopoly power in transmission to exclude competitors.¹⁶

In *SEPA II*, the Commission agreed with the ALJ's view that a wheeling order would not "reasonably preserve the existing competitive

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relationship" between Kentucky Utilities and SEPA, as required by section 211(c).¹⁷ The Commission found, contrary to SEPA and the cities' interpretation, that the legislative history demonstrates that the Commission is not to use section 211(c)(1) to remedy antitrust conduct.¹⁸ The Commission added that the legislative history also suggests that section 211(c)(1) is not to bar redress for antitrust conduct under other sections of the FPA, and that allegations concerning competition and use of monopoly power might be relevant to a proceeding pursuant to sections 205 and 206 of the FPA, if one were brought. It speculated that if such a proceeding were brought and a proper record established, an order requiring wheeling might be justified. However, the Commission did not find that any record supporting the existence of monopoly or use of monopoly power had been presented or established in the *SEPA* proceeding.¹⁹

Finally, the Kentucky Municipals argue that, regardless of whether the Commission determines that Kentucky Utilities has violated section 10(h) of the FPA, the Commission has authority under *FPC v. Idaho Power Co.*²⁰ to make the transmission of SEPA power a condition of the license. However, they do not explain why the assertion of such authority would be warranted absent the showing of any violation.

2. The Kentucky-Indiana Power Pool (KIP) Orders

The Kentucky Municipals cite *Electric & Water Plant Board v. Kentucky Utilities Co.*²¹ (the KIP proceeding) to support their contention that Kentucky Utilities has violated section 10(h)(1). They state that in Opinion No. 15-A the Commission found that Kentucky Utilities maintains monopoly power within its service area and rejected Kentucky Utilities' position that it may lawfully preclude its wholesale customers from gaining entry into the wholesale market through discriminatory denials of service.

Kentucky Utilities responds that the Commission did not find that it had precluded wholesale customers from gaining entry into the wholesale market, but rather, it found that because Frankfort was not ready to enter the generating business, Kentucky Utilities had not unduly refused to discuss coordination of services or any bilateral service request.

The Kentucky Municipals take the statements made in Opinion No. 15-A out of context. The KIP orders do not support their contention that Kentucky Utilities has violated section 10(h)(1). In the KIP proceeding Frankfort alleged that Kentucky Utilities acted in concert with other members of the Kentucky-Indiana Power Pool (KIP) to foreclose Frankfort's ability to enter the bulk power market.²²

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In the Initial Decision the ALJ found that Kentucky Utilities does not have dominant control over transmission in its market. In Opinion No. 15 the Commission adopted and affirmed the ALJ's decision.

On rehearing in Opinion No. 15-A, the Commission found that Kentucky Utilities does have monopoly power and that it therefore has an obligation to offer electric services on a nondiscriminatory basis. Noting that Kentucky Utilities provides coordination services to the City of Owensboro, the Commission stated that to refuse generating utilities within the area access to services it provides to other generating systems would be unduly discriminatory. However, the Commission did not find that Kentucky Utilities had misused its monopoly power to discriminate. Rather, it found that, because Frankfort was not a generating utility, there was not then an obligation to provide transmission service to Frankfort.

Despite its finding that Kentucky Utilities did not then have an obligation to provide Frankfort with transmission service, the Commission directed Kentucky Utilities to provide such service within 60 days of a receipt of a request for service if Frankfort should develop its own generation in the future. In Opinion No. 15-B stated that, since Kentucky Utilities only had an obligation to provide transmission service to generating utilities, and since Frankfort was not a generating utility and was not reasonably likely to become one, there was no discrimination. It further stated that it was erroneous to speculate on and impose conditions related to a hypothetical discrimination which might never arise.²³ The Commission also stated that, under the antitrust laws, a plaintiff not already in the business must prove it is likely to enter, that Frankfort had not done so, and that under these circumstances, Kentucky Utilities had not acted contrary to the antitrust laws by refusing to discuss coordinating transmission with Frankfort.²⁴ In Opinion No. 15-C for rehearing.

In their reliance on the Commission's general discussion in Opinion No. 15-A of what would constitute discrimination and anticompetitive conduct, the Kentucky Municipals try to dismiss the finding in Opinion No. 15-B as merely stating that a decision based upon this discussion is premature. However, in Opinion No. 15-B, the Commission was not just delaying a decision. It clearly stated that the discussion in the prior opinion was speculative, that under the circumstances involved Kentucky Utilities' conduct did not constitute discrimination, and that Frankfort had not made a case to support a finding of anticompetitive conduct.

Furthermore, Kentucky Utilities did not argue, as the Kentucky Municipals claim, that it may lawfully preclude its wholesale customers from gaining entry into the wholesale market through discriminatory denials of service. It argued that no issue of discrimination in the provision of coordination service would arise until Frankfort actually built a generating unit, requested service, and was refused. While the Commission rejected this position, stating that the FPA protects against discrimination those proposing to enter the business as well as those already in it, the Commission determined that it must be shown that such entrance is reasonably likely, and that Frankfort had not made such a showing.²⁵ point at which an issue of discrimination may arise, it nevertheless found that Kentucky

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Utilities had not discriminated against Frankfort:

3. The Kentucky Utilities Orders

Citing *Kentucky Utilities*, 29 FERC ¶61,225 (1984), *petition for review dismissed*, 789 F.2d 1210 (6th Cir. 1986), the Kentucky Municipals assert without elaboration that Kentucky Utilities has also resisted the possibility of providing partial requirements service to its wholesale customers.

Kentucky Utilities responds that the issue in the cited proceeding was not whether Kentucky Utilities had refused to provide partial requirements service but whether it had ever offered to provide such service, and whether the terms and conditions contained in certain contracts obligated it to provide such service.

In the *Kentucky Utilities* proceeding Kentucky Utilities filed a revised contract, revised rate schedule, and revised rules and regulations, and the ALJ ordered modifications in the proposed terms and conditions.²⁶ In an opinion on the decision, the Commission altered the ALJ's requirements somewhat, but also required modifications before accepting them.²⁷ On rehearing, Kentucky Utilities argued that the Commission's modifications constituted an imposition of partial requirements service, which it opposed. The Commission rejected this argument, stating that it had not required Kentucky Utilities to provide partial requirements service, but had merely found that Kentucky Utilities could not foreclose the possibility of providing partial requirements service without presenting justification.²⁸ However, the Commission also stated that if a customer should request partial requirements service it must also justify its request.²⁹ Thus, while the Kentucky Municipals' statement that Kentucky Utilities opposed the provision of partial requirements is correct, that fact by itself does not prove a violation of antitrust law or policy. In *Kentucky Utilities*, the Commission did not find that refusal to provide partial requirements to wholesale customers improper, only that Kentucky Utilities must present support for any proposed exclusion of partial requirements.³⁰

Recommendations of Federal and State Fish and Wildlife Agencies (Section 10(j))

Section 10(j) of the FPA,³¹ requires the Commission to include license conditions, based on recommendations of federal and state fish and wildlife agencies, for the protection, mitigation, and enhancement of fish and wildlife. In the Environmental Assessment (EA) for the Lock No. 7 Project, attached to and made part of this license, the staff addresses the concerns of the federal and state fish and wildlife agencies and the license is consistent with the recommendations of those agencies.

The Plans and Abilities of the Applicant to Comply with the Articles, Terms, and Conditions of any License Issued to It and Other Applicable Provisions of Part I of the FPA (Section 15(a)(2)(A))

Staff has reviewed Kentucky Utilities' license application and its record of compliance with the existing license in an effort to judge its ability to comply with the articles, terms, and conditions of any license issued, and with other applicable provisions of Part I of the FPA.

I conclude that, based on Kentucky Utilities prior record, it can satisfy the conditions of the new license.

The Plans of the Applicant to Manage, Operate, and Maintain the Project Safely (Section 15(a)(2)(B))

Staff has reviewed the plans of the applicant to manage, operate, and maintain the project safely. Kentucky Utilities' E. W. Brown Plant

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management is responsible for both the personnel and the generation facility at Lock No. 7. As such, the Lock No. 7 station and all employees working therein (including transportation to and from) are specifically included in the safety program followed by the E. W. Brown Plant personnel. This program includes provisions for routine work audits, inspections by safety personnel, employee training and education, accident investigations, and record keeping. Kentucky Utilities provided a copy of the 1987 program. In the last five years, there have not been any employee accidents at the Lock No. 7 facility.

The Commission's Chicago Regional Office (CRO), in its inspection report dated July 17, 1991, stated that the licensee is maintaining the project structures in a satisfactory condition.³²

The leakage, at the exposed rock ledge located immediately downstream from the left abutment, near the short overflow concrete spillway section is systematically monitored by the licensee. Kentucky Utilities will continue to monitor the leakage in accordance with its monitoring program. The leakage is small and fluctuates seasonally.

The project has telemetering facilities to monitor the power plant operation. The plant is remotely controlled from the licensee's Brown Generating Station. The telemetering equipment monitors the headwater elevation continuously. The system also activates a warning horn that is installed on the downstream powerhouse wall. The horn operates satisfactorily.

The Commission has classified the project as having low hazard potential. By a letter issued May 3, 1989, by the Director, Division of Dam Safety and Inspections, the licensee was granted an exemption from Part 12, subpart D of the Commission's regulations, which requires the filing of an independent consultant safety inspection report. Operating personnel inspect the site and the project structures twice each week, and perform maintenance as needed and as scheduled. It appears that the licensee is maintaining the project structures satisfactorily.

The Emergency Action Plan (EAP), updated December 28, 1990, is kept at the licensee's Brown Generating Station. A weekly operators meeting is held to discuss project safety and implementation of the EAP. The licensee also maintains a "drop-rope" restraining barrier upstream from the left overflow spillway and the powerhouse. Warning signs are posted on the upstream and downstream sides of the powerhouse, and there are also warning buoys in the river channel upstream and downstream from the project.

I conclude that the existing project will be safe and adequate if it is operated in a similar manner as it has been operated in the past, and that Kentucky Utilities has the programs in place and personnel necessary to operate and maintain the project in a safe manner.

The Plans and Abilities of the Applicant to Operate and Maintain the Project in a Manner Most Likely to Provide Efficient and Reliable Electric Service (Section 15(a)(2)(C))

Kentucky Utilities reports that it made the following efforts to operate and maintain the project in a manner most likely to provide efficient and reliable electric service:

- Lock No. 7 is operated by remote control at the Brown Generating Station which is more efficient than maintaining a workforce at the facility. To attempt to operate by manning the facility around the clock would have a major impact of increasing the cost and might create additional complications because the facility is not easily accessible.
- Kentucky Utilities evaluated the feasibility of installing hydroelectric facilities along the Green and Kentucky Rivers in 1981. Using the "Simplified Methodology for Economic Screening of Potential Low-Head Small-Capacity Hydroelectric Sites" discussed in Electric Power Research Institute's Report EM-1679, it was concluded that additional generation at Lock No. 7, was uneconomical.
- Kentucky Utilities has taken steps to reduce the number of hours that the plant is inoperable because of unscheduled maintenance. Kentucky Utilities has collected data regarding the maximum output of each unit and the minimum output at which the units can be operated. This data is used to enable the units to operate at their maximum capability.

Based on a review of the data, I conclude that Kentucky Utilities has been operating the project in a manner that maximizes the power production of the facilities within the terms and conditions of the existing license, and would continue to do so in the future.

The Need of the Applicant Over the Short and Long Terms for the Electricity Produced by the Project to Serve its Customers (Section 15(a)(2)(D))

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Kentucky Utilities has owned and operated the project since 1928. That the power produced by the project has been serving the energy requirements of Kentucky Utilities' customers for more than 63 years demonstrates a continuing need for the project power.

Staff concurs with the Kentucky Utilities' conclusion that if the Kentucky Utilities were to replace the generation from Lock No. 7 at the current time, its energy needs could be accommodated by other existing generation facilities for the immediate future. However, in the long term, if a license were not granted, additional capacity would have to be constructed sooner than it would otherwise have to be constructed.

In the long term, the relative impact of 2 MW, in a system having a total generation capability of approximately 3,300 MW is difficult to quantify, but nevertheless real. The current capital investment cost for peaking capacity is \$400-\$450/kW and for base-load fossil generation is \$1,500-\$1,600/kW.

The Existing and Planned Transmission Services of the Applicant (Section 15(a)(2)(E))

Because the project is small, and the output feeds directly into Kentucky Utilities' Dix/Brown complex, where it is integrated into the electric system, the project has relatively small impact on the electric system losses, voltage, and stability. On the other hand, although small, the project makes a significant contribution to the reliability of transmission. The generating station at Lock No. 7 is connected to Kentucky Utilities' system by approximately 0.86 miles of 34.5-kV line to the High Bridge Substation. Thus, the Lock No. 7 output can serve the High Bridge Substation's load if needed under emergency conditions.

In addition, the project's output serves as a back-up to Kentucky Utilities' system control center. The units are tied directly into the 34.5-kV bus³³ that serves the control center, and the units are capable, if occasion demands, of serving the entire load of the center. This is a tremendous asset in bringing a totally down electrical system back into service (black starting the system).³⁴ Kentucky Utilities' black-start procedures are dependent on its hydro installations. These units contribute materially to that hydro capacity and can be considered as a valuable back-up resource at such times. This is true because Kentucky Utilities' hydro installation at Dix Dam is located on a tributary which enters the Kentucky River upstream from the Lock No. 7 Project. When water is released to generate at Dix Dam, it also provides sufficient water for generation at Lock No. 7, even at periods of reduced flow in the Kentucky River.

I conclude that the project, in combination with Kentucky Utilities' transmission facilities, significantly enhances the reliability of the interconnected electric power system.

15(a)(2)(F)

Kentucky Utilities plans no project changes except those periodically required to ensure project safety. I conclude that the project, as currently constructed and as Kentucky Utilities proposes to operate it, fully develops the economical hydropower potential of the site, and will continue to provide power in a cost-effective manner.

Kentucky Utilities' compliance record with the terms and conditions of the existing license is satisfactory. It has made timely filings and submittals, and has maintained the project in a satisfactory manner.

Comprehensive Development (Section 10(a)(1))

In determining, under section 10(a)(1) of the FPA,³⁵ development, the Commission must consider and balance all public interest considerations, and equal consideration must be given to the purposes specified in section 4(e) of the FPA, including the improvement and utilization of water power development and the protection, mitigation, and enhancement of fish and wildlife resources.

The project would generate annually an estimated 8,200 MWh of relatively low-cost electricity from a clean, domestic, reliable, and renewable energy resource for use by Kentucky consumers.³⁶ to the value of the electric power generated. There are no unavoidable adverse impacts associated with the project.³⁷

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In determining whether and under what conditions the Kentucky Utilities' Lock No. 7 Project should be relicensed, staff has considered the project's impacts on the resources of the Kentucky River in the project area, and has not found any significant conflicts between continued operation of the project as proposed by the applicant and the environmental values of the project area. The license requires a run-of-river operation, along with measures to protect and enhance the environment. The required measures will not significantly affect the project's generating capacity and will be of moderate cost.

Based upon a review of the agency and public comments filed in this proceeding, and on staff's independent analysis, I conclude that the Lock No. 7 Project would be best adapted to a comprehensive plan for Kentucky River Basin.

Summary of Findings

The EA issued for this project and attached to this order contains background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment. There are no conflicts between the water quality certification and the conditions in this license. Issuance of this license is not a major federal action significantly affecting the quality of the human environment.

As discussed in detail in the Safety and Design Assessment, the design of this project is consistent with the engineering standards governing dam safety. The project will be safe if operated and maintained in accordance with the requirements of this license. Analysis of related issues is provided in the Safety and Design Assessment.³⁸

I conclude that the project will not conflict with any planned or authorized development, and is best adapted to comprehensive development of the waterway for beneficial public uses.

The Director orders:

(A) This license is issued to Kentucky Utilities Company (Licensee) for a period of 30 years, effective the first day of the month in which this license is issued, to operate and maintain the Lock No. 7 Project. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the Licensee's interests in those lands, enclosed by the project boundary shown by exhibit G:

Exhibit G- FERC No. 539- Showing

G-1 20 Project Location Map

(2) Project works consisting of: (a) a concrete substructure, about 116 feet long, with a 36-foot-long solid concrete section and an 80-foot-long hollow dam/spillway, containing trashracks, six intake gates, three turbines, and discharge facilities; (b) a 93-foot-long, 25-foot-wide and 6.5-foot-high superstructure/powerhouse located above the spillway, supported by hollow concrete piers, with three 680-kilowatt (kW) generating units having a total capacity of 2,040 kW; (c) a forebay about 120 feet long and 100 feet wide; (d) a substation located on the west bank; (e) a foot bridge, about 85 feet long, connecting the substation with the powerhouse; (f) a trash boom, about 170 feet long; (g) a 34.5-kilovolt (kV), 0.86-mile-long transmission line, with a right-of-way ranging from 50 feet to 200 feet wide; and (h) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of exhibits A and F below:

Exhibit F FERC No. Showing

F-1 539-21 Power House, Upstream Elevation
F-2 539-22 Power House, End Elevation
F-3 539-23 Cross Section Through Power House
F-4 539-24 Details of Generator Floor
F-5 539-25 Power House, Excavation Plan
F-6 539-26 Power House, Foundation Plan
F-7 539-27 Architectural Details of Powerhouse

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(3) All of the structures, fixtures, equipment or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project and located within or outside the project boundary, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The exhibits A, F, and G described above are approved and made part of the license.

(D) This license is subject to the articles set forth in Form L-5 (October 1975) [reported at 54 FPC 1832], entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters and Lands of the United States." The license is also subject to the following additional articles:

Article 201. The licensee shall pay the United States the following annual charges as determined by the Commission, effective the

a. Reimbursing the United States for the cost of administration of Part I of the FPA. The authorized installed capacity for that purpose is 2,800 horsepower.

b. Recompensing the United States for utilization of surplus water or water power from a government dam.

Article 202. Pursuant to section 10(d) of the FPA, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly includable in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 203. If the licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license.

Article 401. The licensee shall operate the Lock No. 7 Project as directed by the Department of the Army, Corps of Engineers (Corps) and shall consult with the State of Kentucky concerning the operation of the project. To the extent possible within the constraints established by the Corps, the licensee shall operate the Lock No. 7 Project in a run-of-river mode for the protection of fish and wildlife resources in the Kentucky River. The licensee shall at all times act to minimize the fluctuation of the reservoir surface elevation by maintaining a discharge from the project so that, at any point in time, flows, as measured immediately downstream from the project tailrace, approximate the sum of inflows to the project reservoir. Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and the Kentucky Department of Fish and Wildlife Resources. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 402. If the federal government transfers responsibility for the Lock and Dam No. 7 to a nonfederal entity, the licensee shall, within one year from the effective date of the transfer, acquire all property or rights necessary to assure the continued operation of the hydroelectric project, including the dam and reservoir.

Also within one year, the licensee shall, unless it is the new owner of the dam and reservoir, file for Commission approval, an

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agreement with the new owner of the dam and reservoir that will allow the licensee to maintain the water-retaining structures to meet the Commission's criteria, and will specify how the hydroelectric project will operate. At the same time, the licensee shall file an application to amend its license, modifying the project boundary to include the dam and reservoir.

Article 403. Within 90 days after the date of issuance of this license, the licensee shall file with the Commission for approval a plan to monitor flows and water surface elevation to determine compliance with the run-of-river mode of operation as stipulated by article 401. The plan shall include, but not be limited to:

- (1) the installation, operation, and maintenance of stream flow gages and water surface elevation gages;
- (2) an implementation schedule for installing the stream flow monitoring equipment;
- (3) the proposed location, design and calibration of the monitoring equipment;

(4) the method of flow data collection; and

(5) a provision for providing flow data to the U.S. Geological Survey (USGS), the U.S. Fish and Wildlife Service (FWS), and the Kentucky Department of Fish and Wildlife Resources (KDFWR) within 30 days from the date of the agency's request for the data.

The licensee shall prepare the plan after consultation with the FWS, the USGS, and the KDFWR. The licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 404. The licensee, before starting any land-clearing or land-disturbing activities within the project boundaries, other than those specifically authorized in this license, including recreation developments at the project, shall consult with the State Historic Preservation Officer (SHPO).

If the licensee discovers previously unidentified archeological or historic properties during the course of constructing or developing project works or other facilities at the project, the licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the properties and consult with the SHPO.

In either instance, the licensee shall file for Commission approval a cultural resource management plan prepared by a qualified cultural resource specialist after having consulted with the SHPO. The plan shall include the following items: (1) a description of each discovered property indicating whether it is listed on or eligible to be listed on the *National Register of Historic Places*; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for mitigating effects and conducting additional studies. The Commission may require changes to the plan.

The licensee shall not begin land-clearing or land-disturbing activities, other than those specifically authorized in this license, or resume such activities in the vicinity of a property, discovered during construction, until informed that the requirements of this article have been fulfilled.

Article 405. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any noncomplying structures and facilities.

(b) The type of use and occupancy of project lands and water for which the licensee may grant permission without prior Commission approval

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are: (1) landscape plantings; (2) noncommercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed

construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) nonproject overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) nonproject overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved exhibit R or approved report on recreational resources of an exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved exhibit R or approved report on

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recreational resources of an exhibit E; or, if the project does not have an approved exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to insure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary

circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

Article 501. The Commission retains authority to reopen the license to consider any future questions which may arise concerning antitrust conduct under the license and to add conditions deemed appropriate as a result of such consideration.

(E) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(F) This order is delegated to the Director and constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. §385.713.

Environmental Assessment

Federal Energy Regulatory Commission

Office of Hydropower Licensing

Division of Project Review

Date: September 26, 1991

Project Name: Lock No. 7 Hydroelectric Project

FERC Project No. 539 - 000

A. Application

1. Application type: New license, major project
2. Date filed with the Commission: July 16, 1973
3. Applicant: Kentucky Utilities Company (KUC)
4. Water body: Kentucky River; River basin: Ohio
5. Nearest city or town: High Bridge, Jessamine County, KY
6. County: Mercer; State: Kentucky

B. Purpose and Need for Action

1. Purpose. The existing project generates an estimated 8.2 gigawatthours (GWh) of electric energy per year which would continue to be utilized by Kentucky consumers.

2. Need for power. The power from the project would be useful in meeting a small part of the need for power projected by Mid-America Interconnected Network (MAIN) Regional Electric Reliability Council. The project would continue to displace fossil-fueled power generation in the MAIN Region, thereby conserving nonrenewable fossil fuels and reducing the emissions of noxious by-products caused by the combustion of fossil fuels.

C. Proposed Project and Alternatives

1. The project is located on the Kentucky River at the Corps of Engineers' (Corps) Lock and Dam 7, at river mile 117 in Mercer County near High Bridge, Jessamine County, Kentucky (figure 1) [omitted in printing].

The project was completed in April 1928. A license for the project was originally issued to Kentucky Hydro Electric Company on August 19, 1926, and was transferred to KUC effective December 31, 1928.

The existing project (figure 2) [omitted in printing] consists of: (1) a concrete substructure, about 116 feet long, with a 36-foot-long solid concrete section and an 80-foot-long

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hollow dam/spillway, containing trashracks, six intake gates, three turbines, and discharge facilities; (2) a 93-foot-long, 25-foot-wide and 6.5-foot-high superstructure/powerhouse located above the spillway, supported by hollow concrete piers, with three 680-kilowatt (kW) generating units having a total capacity of 2,040 kW; (3) a forebay about 120 feet long and 100 feet wide; (4) a substation located on the west bank; (5) a foot bridge, about 85 feet long, connecting the substation with the powerhouse; (6) a trash boom, about 170 feet long; (7) a 34.5-kilovolt (kV), 0.86-mile-long transmission line, with a right-of-way ranging from 50 feet to 200 feet wide; and (8) appurtenant facilities.

KUC estimates that the average annual generation would be 8,200 megawatt hours (MWh). The project would be operated run-of-river utilizing the Corps' Lock and Dam No. 7. The project would operate automatically when the flow of the river is above the crest of the dam.

2. Applicant's proposed mitigative measures.

a. Construction. No construction is being proposed.

b. Operation. KUC proposes to continue to operate in a run-of-river mode, as it has in the past.

3. Federal lands affected.

Yes; Corps of Engineers; acreage = >1; (agency)

Conditions have not been provided.

4. Alternatives to the proposed project.

a. No reasonable action alternatives have been found.

b. Alternative of no action. No action would result in relicensing the existing project with no changes in project operation or enhancement measures. No changes to the existing environment would result.

D. Consultation and Compliance

1. Fish and wildlife agency consultation (Fish & Wildlife Coordination Act).

a. U.S. Fish & Wildlife Service (FWS): Yes.

b. State(s): Yes.

c. National Marine Fisheries Service (NMFS): Yes.

2. Section 7 consultation (Endangered Species Act).

a. Listed species: Present.

b. Consultation: Not required.

Remarks: The project is within the range of the Indiana bat (*Myotis sodalis*) and gray bat (*M. grisescens*), both federally listed endangered species. Continued project operation would not affect either of these species (pers. comm. with R. Bay, FWS Field Office, Cookeville, Tennessee, on August 26, 1991).

3. Section 401 certification (Clean Water Act).

Required; applicant requested certification on 6/7/73. Status: Granted by the certifying agency on 6/13/73.

Remarks: By letter dated August 1, 1990, the Kentucky Department for Natural Resources and Environmental Protection (KDNREP) verified that the certification is still valid.

4. Cultural resource consultation (Historic Preservation Act).

a. State Historic Preservation Officer: Yes.

- b. National Park Service (NPS): Yes.
 - c. *National Register* status: None.
 - d. Council: Not required.
 - e. Further consultation: Not required.
5. Recreational consultation (Federal Power Act).

- a. U.S. Owners: Yes.
- b. NPS: Yes.
- c. State(s): Yes.

6. Wild and scenic rivers (Wild and Scenic Rivers Act).

Status: None.

7. Land and Water Conservation Fund lands and facilities (Land and Water Conservation Fund Act).

Status: None.

E. *Comments*

1. The following agencies and entities provided comments on the application or filed a motion to intervene in response to the public notice dated April 10, 1991.

Commenting agencies and other entities -- Date of letter

U.S. Department of the Interior -- July 2, 1991

Intervener motion -- Date of letter

Electric and Water Plant Board of the City of Frankfurt, Kentucky, and the Cities of Barbourville, Benham, Corbin, and Falmouth (Kentucky Municipals) -- June 21, 1991

2. The applicant responded to the motion to intervene, which does not oppose project licensing, by letters dated June 28, 1991 and July 22, 1991. No environmental resource issues were raised.

F. *Affected Environment*

- 1. General description of the locale.

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a. Description of the Kentucky River Basin. The Kentucky River, a tributary of the Ohio River, is located entirely within the State of Kentucky (figure 1) [omitted in printing]. The Kentucky River, formed at the confluence of the North, Middle, and South Forks of the Kentucky River near Beattyville, Kentucky, is roughly 265 miles long, flowing into the Ohio River about 117 miles downstream from the project. The Kentucky River basin drains an area of 6,970 square miles.

Land use in the Kentucky River basin is diverse including agriculture, mining and manufacturing. Starting in the 1830's, the Kentucky River was developed for navigation, culminating with the completion of the Department of the Army's lock and dam system in 1917. The navigation channel extends 265 miles from the Ohio River to Beattyville. The river's navigation system is now considered obsolete because of the shallow depth of the navigation channel and the small locks. The river is used for recreational watercraft.

b. Existing licensed projects and exempted projects (indicated by an "*" after the FERC Project No.) in the river basin, as of August 31, 1991. Projects without a FERC Project No. are not licensed by FERC.

Project name	Water body
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9684 * Weisenberger Mill Elkhorn Creek
 -- Dix Dix River

c. Pending license applications and exemption applications in the basin, as of August 31, 1991.

Project name

None

d. Cumulative impacts

Cumulative impacts are defined as impacts on the environment that result from the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 C.F.R., Part 1508.7).

A target resource is an important resource that may be cumulatively affected by multiple development within the basin. We have not identified any target resources.

2. Descriptions of the resources in the project impact area (Source: Lock No. 7 Hydroelectric Project, application, exhibit E, unless otherwise indicated).

The staff has reviewed the project which has been operating in run-of-river mode since April 1928 in relationship to the environmental resources in the project impact area. Since no construction or change in operation has been proposed and no enhancement measures have been identified, it is concluded that there would be no relevant or material adverse environmental impacts on geologic, vegetation, wildlife, land use, aesthetics or socioeconomic resources.

a. *Streamflow:*

high flow: 16,000 cfs exceeded 10 percent of the time

low flow: 380 cfs exceeded 90 percent of the time

Remarks: The Lock No. 7 Project receives flow from the Kentucky River. The flow parameters are extrapolated from years 1926 through 1978 of United States Geological Survey (USGS) records for hydrologic gaging station No. 03287000, located on the Kentucky River at Lock No. 6 about 16 miles downstream of the project. The drainage area at this gage is 5,102 square miles and the drainage area at the project is 4,800 square miles.

b. *Water quality:* The water quality certification for the project, granted by the KDNREP in 1973, identifies no specific terms or conditions for maintaining water quality. In a letter dated August 1, 1990, the Division of Water, KDNREP indicated that operation of the project shows no detrimental impacts on water quality in the Kentucky River.

c. *Fisheries:*

Anadromous: Absent.

Resident: Present.

The Kentucky River supports a diversity of warmwater fish species. Resident species with economic or recreational significance found near the project area include occasional musky, largemouth bass, smallmouth bass, white crappie, bluegill, white bass, sauger, freshwater drum, flathead catfish, channel catfish, bullhead, and hybrid striped bass.

The Kentucky Department of Fish and Wildlife Resources (KDFWR) periodically stocks the Kentucky River with hybrid striped bass and a trophy trout fishery has been established in the Dix River (a cold water discharge) upstream of the project (letter dated July 24, 1990, from Peter W. Pfeiffer, Director, Division of Fisheries, KDFW).

d. *Cultural:*

National Register (listed and eligible) properties have not been recorded.

e. *Recreation:* There is no recreational use on project lands and little recreational use in the vicinity. There is some fishing

downstream from the project and boating use in the dam No. 7 impoundment. While some recreational boat traffic uses Lock No. 7 to pass the dam, most boating on the Kentucky River is within

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avigation pools (pers. comm. with R. Bay, FWS Field Office, Cookeville, Tennessee, on August 26, 1991).

G. Environmental Issues and Proposed Resolutions

There are 2 issues addressed below.

1. Project operation. The project is a run-of-river development which utilizes the natural flow of the Kentucky River. Flows which are not used for generation pass over the spillway or through Lock No. 7. The project reservoir, impounded by Lock and Dam No. 7, is a Corps-regulated facility. The reservoir extends between Lock and Dam 7 and Lock and Dam 8, about 23 miles, and has a width of 200 to 400 feet. KUC states they have no control of the reservoir level or water releases. The hydropower facility has no gate structure to regulate reservoir levels. The project operates automatically, utilizing flows between 0.4 feet below the top of the dam and 6.0 feet above the top of the dam. The crest of the dam is at elevation 514.6 above mean sea level (m.s.l.), thus the project would receive flows when the headpond is between 514.2 and 520.6 m.s.l.

The project operates intermittently depending on flows. In 1989, the year of peak generation, the three turbines operated approximately 69 percent of the time, generating 10,263 MWh. The project has operated less often in other years. For example in 1983, the lowest generation year between 1983 and 1989, the project generated 5,809 MWh or operated approximately half as often as in 1989. According to the annual flow duration curve and stream flow data provided by KUC, flows exceed the minimum turbine capacity (200 cfs) 97 percent of the time. Flows exceed the maximum turbine capacity (2,203 cfs for 3 turbines) approximately 52 percent of the time, thus when the project is operating flows generally spill over the spillway.

KUC proposes to continue the current run-of-river mode of operation. The KDFWR and Interior concur with this mode of operation. The KDFWR indicates that undue impact on fish would not likely occur with the continued operation of the project (letter dated January 15, 1991 from Peter W. Pfeiffer, Director, Division of Fisheries, KDFWR). The Corps also has no objections to the continued operation of this facility (letter dated August 6, 1990 from Richard C. Armstrong, Director of Engineering, U.S. Army Engineer Division, Ohio River, U.S. Army Corps of Engineers, Cincinnati, OH).

Continued run-of-river operation would minimize water level fluctuations upstream and downstream of the project, and since flows in the tailrace would remain unchanged, aquatic resources downstream of the project would also be protected. For example, fluctuating water surface levels can reduce fish spawning success and strand fish and invertebrates, subjecting them to desiccation and predation (Cushman, 1985). Continued project operation in run-of-river mode would allow seasonal flow volumes to remain unchanged, and thereby not disrupt fish spawning or reduce spawning success. Therefore, the project should be operated in a run-of-river mode.

The licensee is responsible for monitoring stream flow and reservoir levels and keeping records which accurately reflect project operations. To monitor compliance with our recommendation for run-of-river operation, KUC, after consultation with the KDFWR, and FWS should file a plan with the Commission to monitor flows in the project tailrace and water surface elevations in the project reservoir, to include the installation, operation, and maintenance of stream flow reservoir level monitoring equipment at the project, as necessary. The plan should include provisions for providing operation and flow data to the applicable agencies within 30 days of the agencies' request.

2. Cultural resources. We have determined that no eligible properties would be adversely affected. Nevertheless, there is still the possibility that there could be significant undiscovered properties in the project area that could be adversely affected by the project. If such properties are found during project operation which is approved in the license, the licensee should (a) consult with the State Historic Preservation Officer (SHPO); (b) based on consultations with the SHPO, prepare a plan describing the appropriate course of action and a schedule for carrying it out; (c) file the plan for Commission approval; and (d) take the necessary steps to protect the discovered properties from further impact until notified by the Commission that all of these requirements have been satisfied.

H. Environmental Impacts

1. Assessment of impacts expected from the applicant's proposed project (P), with the applicant's proposed mitigation and any conditions set by a federal land management agency; the proposed project with any additional mitigation recommended by the staff (Ps); and any action alternative considered (A). Assessment symbols indicate the following impact levels:

O = None;	1 = Minor;
2 = Moderate;	3 = Major;
A = Adverse;	B = Beneficial;
L = Long-term;	S = Short-term.

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Resource	Impact		
	P	Ps	A
a. Geology-Soils	0		
b. Streamflow	0		
c. Water quality:			
Temperature	0		
Dissolved oxygen	0		
Turbidity and sedimentation	0		
d. Fisheries:			
Anadromous	0		
Resident	0		
e. Vegetation	0		
f. Wildlife	0		
g. Cultural:			
Archeological	0		
Historical	0		
h. Visual quality	0		
i. Recreation	0		
j. Land use	0		
k. Socioeconomics	0		

Remarks: None.

2. Denial of the license application could require that lower-cost, nonpolluting generation derived from a renewable primary energy resource be replaced with increased purchases of higher-cost capacity and energy from another source. Further, alternate energy sources are likely to adversely affect air quality (table 1) [omitted in printing]. Sulfur dioxide and nitrous oxide are considered to be prime contributors to acid rain and carbon dioxide is considered to be a significant contributor to global warming.

I. Comprehensive Development and Recommended Alternative

Sections 4(e) and 10(a)(1) of the Act, 16 U.S.C. section 797 equal consideration to all uses of the waterway on which a project is located. When the Commission reviews a project, the recreational, fish and wildlife, and other nondevelopmental values of the involved waterway are considered equally with power and other developmental values. In determining whether, and under what conditions, a hydropower license should be issued, the Commission must weigh the various economic and environmental tradeoffs involved in the decision.

The project would provide a number of benefits. An estimated 8,200 MWh of relatively low-cost electricity would continue to be generated annually from a clean, domestic, reliable, and renewable energy resource for use by Kentucky consumers.¹ Project operation and maintenance costs are negligible in relation to the value of the electric power generated.

There are no unavoidable adverse impacts associated with our recommended alternative.

J. Consistency With Fish and Wildlife Recommendations

Pursuant to section 10(j) of the Act, this Environmental Analysis addresses the concerns of the federal and state fish and wildlife

K. Conclusion

Finding of No Significant Impact. Approval of the recommended alternative would not constitute a major federal action significantly affecting the quality of the human environment; therefore, an environmental impact statement (EIS) will not be prepared.

L. Literature Cited

Cushman, R.M. 1985. Review of ecological effects of rapidly varying flows downstream from hydroelectric facilities. North American Journal of Fisheries Management. 5:330-339. Bethesda, MD.

Federal Power Commission. 1966. Planning Status Report. Ohio River Basin, Cincinnati to Mouth. Washington, DC. 13 pp.

Kentucky Utilities Company. 1973. Application for license for a major water power project. Lock No. 7 Hydroelectric Project. FERC Project No. 539, July 16, 1973.

----- 1991. Supplement to application for license for a major water power project. Lock No. 7 Hydroelectric Project. FERC Project No. 539, January 30, 1991.

M. List of Preparers (Name -- Position Title)

R. Feller -- Ecologist (Coordinator)

W. Park -- Electrical Engineer

M. TerHaar -- Fisheries Biologist

D. Tarnay -- Civil Engineer

-- Footnotes --

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¹ The original license was issued to Kentucky Hydro Electric Company on August 19, 1926. The license was transferred to Kentucky Utilities on December 31, 1928. The original license expired August 18, 1976, and Kentucky Utilities has been operating under annual licenses pending a determination concerning its application for a new license.

² See Sixth Annual Report of the Federal Power Commission, pp. 89, 91 (1926).

³ Although the Corps currently owns the Kentucky River Lock and Dam No. 7, it has referred the lock and dam to the General Services Administration as excess property for disposal under applicable law. The Corps states that when this disposal is concluded the federal government's interest in the project will expire. The State of Kentucky is negotiating with the Corps to purchase the Corps' interest. In the interim, the lock is leased to Kentucky, which operates the structure during the recreation season. If the Corps transfers responsibility for the Lock and Dam No. 7 to a nonfederal entity, the licensee is required by the license to acquire all rights necessary to assure the continued operation of the project in a manner in keeping with the requirements of the FPA and the Commission's standards. This will include filing a license amendment to include the dam and reservoir within the project boundary.

⁴ Frankfort filed a motion to intervene on February 17, 1975 which Kentucky Utilities opposed. However, after the application was noticed on April 17, 1991, the Kentucky Municipals, including Frankfort timely filed a motion to intervene, requesting that as to Frankfort, the second motion to intervene be treated as a supplement to Frankfort's February 17, 1975 motion. Kentucky Utilities did not oppose this motion to intervene. Thus, the joint movants, including Frankfort, became parties to the proceeding pursuant to rule 214 of the Commission's regulations. Furthermore, in order to consider the content of Frankfort's 1975 motion, by notice issued May 6, 1992, as relates to Frankfort, the second motion was treated as a supplement to Frankfort's February 17, 1975 motion, which was granted.

[63,486]

⁵ Kentucky Statewide Comprehensive Outdoor Recreation Plan, and the Assessment and Policy Plan which assessed the Comprehensive Outdoor Recreation Plan, 1984, Kentucky Department of Local Government.

⁶ In its 1975 intervention motion Frankfort also alleged that Kentucky Utilities' refusal to provide transmission services for Frankfort constituted a violation of Baldwin's Kentucky Revised Statutes, section 278.020(4), which declared all carriers or conveyors of electricity to be common carriers subject to common carrier obligations. Frankfort alleged that satisfaction of section 278.020(4) was a prerequisite to obtaining a certificate of convenience and necessity from Kentucky to construct or operate a transmission line, and that Kentucky Utilities' license application was silent as to its compliance with Kentucky's common carrier requirements. Consequently, Frankfort argued, Kentucky Utilities was in violation of section 9(b) of the FPA (now section 9(a)(2), 16 U.S.C. §802), which requires satisfactory evidence that the license applicant has complied with state laws concerning the right to engage in the business of developing, transmitting, and distributing power. Frankfort also alleged a violation of section 19 of the FPA, 16 U.S.C. §812, which requires a licensee to abide by such reasonable regulation of the services to be rendered to customers or consumers of power as may from time to time be prescribed by any duly constituted agency of the state in which the service is rendered. However, in exhibit D to its license application Kentucky Utilities states that it is not required to obtain a certificate of convenience and necessity with respect to the continued operation of its existing installation. (Nor has Kentucky argued that a certificate is required.) I agree. To require

Kentucky Utilities to obtain a state certificate of convenience and necessity for the project would amount to giving the state a veto power over the project. Kentucky's comments were solicited and considered in the proceeding, but its authority to approve the project is preempted under the FPA. See *Weyerhaeuser Company*, 55 FERC ¶61,079, at pp. 61,247-248 (1991). In any event, section 278.020 was amended and no longer includes the common carrier provision. Kentucky Revised Statutes, Annotated Official Edition (Mitchie), effective December 1, 1989.

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⁷ The proposed licensed conditions are:

(1) Within 60 days of the effective date of this license, licensee shall file with the Commission rate schedules for the transmission of power and energy from the Southeastern Power Administration to utilities within licensee's service area to whom the Administration has allocated or shall allocate such power and energy. Licensee shall make all necessary ancillary filings to permit the economic and efficient utilization of such power and energy immediately, notwithstanding such notice requirements as might otherwise be applicable.

(2) All rates charged and service rendered by licensee for service in interstate commerce shall be reasonable, nondiscriminatory and just to the consumer.

(3) Licensee shall offer to each of its wholesale customers an opportunity to participate on reasonable and nondiscriminatory terms and conditions in any new generating capacity constructed or purchased by licensee, including contracts for purchase of capacity of a duration of five years or greater, inclusive of all options for extension. In connection with such offers, licensee shall offer such transmission, back-up and coordination services, at just, reasonable and nondiscriminatory rates, as may be necessary for the beneficial use of the offered capacity by the licensee's wholesale customers; and

(4) The Commission reserves the right, after notice and opportunity for hearing, to prescribe such further conditions pursuant to the Federal Power Act as may be found appropriate to remedy licensee's anticompetitive or monopolistic practices, if any.

The Kentucky Municipals also argue for inclusion of an antitrust reopener clause and inclusion in the license of the requirement that all services provided and rates charged shall be reasonable, nondiscriminatory, and just to the customer. Finally, they argue that the license should require the licensee to offer its wholesale customers interests in any new capacity constructed or acquired by the company.

⁸ Kentucky Utilities also argues that section 10(h)(2) of the FPA provides for the imposition of remedial conditions in the license only where the contravention of the policies expressed in the antitrust laws results from conduct under the license. It maintains that even if, *arguendo*, it had been found in the prior proceedings that it had engaged in anticompetitive conduct, no evidence was presented to connect the alleged conduct to the use and operation of the Lock No. 7 project, and that therefore such conduct would not have been "conduct under the license" as required by section 10(h)(2) of the FPA.

⁹ In a licensing or relicensing proceeding, the Commission has an obligation, independent of what the parties may or may not raise, to consider whether the license applicant has violated sections 10(h)(1) and (2) of the FPA. However, an independent review of Kentucky Utilities' record as a licensee does not reveal conduct under the license which has resulted in a contravention of the antitrust laws or of the policies expressed in the antitrust laws. However, this license includes an article in the license which retains for the Commission the authority to reopen the license to add appropriate conditions in the event that future questions arise concerning conduct under the license.

¹⁰ SEPA is a regional agency with the Department of Energy which markets electric power and energy generated at 21 water control dams built and maintained by the Army Corps of Engineers in eight southeastern states. SEPA doesn't have any transmission lines of its own. It relies upon other utility systems to transmit power to its customers.

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¹¹ This was the Commission's opinion on the administrative law judge's (ALJ) decision. The ALJ's decision, 16 FERC ¶63,051 (1981), will be referred to as SEPA I.

¹² Section 10(h)(2) of the FPA states:

That conduct under the license that: (A) results in the contravention of the policies expressed in the antitrust laws; and (B) is not otherwise justified by the public interest considering regulatory policies expressed in other applicable law (including but not limited to those contained in Part II of this Act) shall be prevented or adequately minimized by means of conditions included in the license prior to its issuance. In the event it is impossible to prevent or adequately minimize the contravention, the Commission shall

refuse to issue any license to the applicant for the project and, in the case of an existing project, shall take appropriate action to provide thereafter for the operation and maintenance of the affected project and for the issuing of a new license in accordance with section 15 of this Part.

¹³ 16 U.S.C. §§824 j and 824k (Supp. 1979).

⁴ Section 211(c) states:

No order may be issued under subsection (a) unless the Commission determines that such order would reasonably preserve existing competitive relationships

¹⁵ Barbourville, Bardstown, Corbin, Galmouth, Frankfort, and Paris.

¹⁶ As set out in the Commission's order, the argument concerning the legislative history appears to have been presented in the context of determining the purpose of section 211(c)(1). It does not appear that either SEPA or the cities presented evidence of Kentucky Utilities' monopoly power or use of monopoly power, or alleged specific violations by Kentucky Utilities of antitrust law or policy.

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¹⁷ 25 FERC at p. 61,531. The Commission stated that an order to wheel would result in Kentucky Utilities providing about 18 percent less of the municipals' power requirements and about six per-cent less of their energy requirements.

¹⁸ In *SEPA III* the Commission stated that the statute itself in subsection 211(c)(1) prohibits the issuance of wheeling orders that have a significant procompetitive effect, since the subsection provides that, even if the order would conserve energy, promote efficiency, or improve reliability, no order may be issued if existing competitive relationships are not reasonably preserved. See 26 FERC ¶61,127, at p. 61,323 (1984).

¹⁹ See 25 FERC at pp. 61,538-39. The Kentucky Municipals also argue that Kentucky Utilities' failure to perform transmission services for SEPA violates section 20 of the FPA, 16 U.S.C. §813 licensee shall be reasonable, nondiscriminatory, and just to the customer, and prohibits all unreasonable discriminatory and unjust rates or services. However, even assuming that section 20 applies, the Kentucky Municipals proffer no evidence, beyond the mere fact of nonperformance, that the refusal to perform transmission service for SEPA has resulted in rates charged or services rendered by Kentucky Utilities being unreasonable or discriminatory to the customer.

²⁰ 344 U.S. 17 (1952). The Federal Power Commission had issued a license for a project which included a primary transmission line that occupied public lands, with the condition that the licensee would permit interconnection of its lines with transmission facilities of the United States and would transfer over its lines energy generated in power plants owned by the United States. The Court of Appeals held that the Commission had no authority to attach the condition, but the Supreme Court upheld the imposition of a license condition requiring transmission of government power as within the Commission's authority under sections 4(g), 6, and 10(a) of the FPA. As in *FPC v. Idaho*, Kentucky Utilities' project, located at a United States dam under the control of the Army Corps of Engineers, is on public land. However, the interconnection required in *FPC v. Idaho* was between facilities of the United States and the company's transmission lines for the particular project being licensed. Here, the requested conditions are not tied to the Lock No. 7 Project, but are broad conditions concerning transmission generally.

²¹ Opinion No. 15-A, 12 FERC ¶61,004 (1980), *vacating* 3 FERC ¶61,262 (1978) (Initial Decision) and 3 FERC ¶63,004 (1977) (Opinion No. 15), *aff'd in part and withdrawn in part*, 20 FERC ¶61,173 (Opinion No. 15-B), *reh'g denied*, 20 FERC ¶61,399 (1982) (Opinion No. 15-C)

²² Among the actions cited by Frankfort were: (1) that East Kentucky Rural Electric Cooperative Corporation (East Kentucky) had backed out of its discussions about the possibility of power supply arrangements alternative to Kentucky Utilities, because East Kentucky would be precluded from joining the KIP pool if it contracted with Frankfort; (2) that Big Rivers also refused to negotiate such arrangements, because of restrictions on transmission in an agreement between Kentucky Utilities, East Kentucky, and Big Rivers; (3) that the president of Kentucky Utilities refused to come to a meeting with Frankfort and East Kentucky to discuss such arrangements, declining even when the Deputy General Counsel of the Commission attempted to arrange a meeting; and (4) that Kentucky Utilities never responded to Frankfort's request for transmission of power it had contracted for with the City of Paris. Frankfort also raised these arguments in its 1975 intervention petition in this proceeding. Since there had been no order issued in the KIP proceeding when Frankfort first raised the arguments here, the arguments did not constitute a collateral attack on a Commission order. However, the Commission's findings in the KIP proceeding, based upon a full record, disposed of the arguments.

In the Initial Decision in the KIP proceeding, the ALJ concluded events were not consistent with Frankfort's claim that KIP

members had required East Kentucky to agree not to do business with Frankfort as a prerequisite to pool membership, and that no deal with Frankfort was aborted because of any act by Kentucky Utilities or other KIP members. See 3 FERC at pp. 65,049. The ALJ concluded that the record was exhaustive and compelled the conclusion that there was no agreement, written or oral, that Big Rivers would not take any of Kentucky Utilities' customers away. See 3 FERC at pp. 65,049-50. The ALJ also found that Frankfort's invitations to a meeting were a tactical move and that Kentucky Utilities was not required by the antitrust laws to attend. See 3 FERC at p. 65,051. These findings were not reversed by any of the later orders in the proceeding.

[63,490]

²³ 20 FERC at p. 61,346.

²⁴ *Id.* at p. 61,348 n.12.

²⁵ The Commission found that Frankfort had only expressed hopes, desires, and intentions that were not grounded in economic reality; that is, it had not shown sufficient financial capability, and actual and substantial affirmative steps toward entrance. 20 FERC at pp. 61,346-47.

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²⁶ See 10 FERC ¶63,057 (1983).

²⁷ *Kentucky Utilities*, 23 FERC ¶61,317 (1983). Kentucky Utilities' new proposed rates and terms and conditions of service were intended to supplant its then-existing contracts with certain municipals. The municipals objected to a clause in the proposed rate schedule which would have limited the availability of the proposed rate to customers purchasing all of their requirements of electricity from Kentucky Utilities. Kentucky Utilities maintained that the proposed rate was inappropriate for any type of service other than full requirements and that to eliminate the proposed restriction was to require Kentucky Utilities to provide partial requirements service. The Commission found that, since the prior rate schedule did not have such a restriction, the limitation in the new rate schedule constituted a change in service which Kentucky Utilities must, and did not, justify.

²⁸ 25 FERC ¶61,205, at p. 61,544 (1983).

²⁹ The Commission noted that none of the customers had received any service but full requirements, and that none had pending a request for any other kind of service. The Commission stated that if a customer should request partial requirements service it would have to show that the particular service requested is consistent with the existing contract, or that the rate appropriately reflects the costs of providing the service. See 25 FERC at pp. 61,543-44.

³⁰ Subsequently, in the order cited by the *Kentucky Municipals*, 29 FERC ¶61,225 (1984), *petition for review denied*, 789 F.2d 1210 (6th Cir. 1986), the Commission found that the filing Kentucky Utilities submitted to comply with the Commission's determination failed to comply, and that Kentucky Utilities was attempting to use the compliance filing to reargue the issues determined in the prior proceedings. The Commission did not reject the filing, but altered it to comply and accepted the altered compliance filing.

³¹ 16 U.S.C. §803(a)(2).

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³² The Corps currently has primary responsibility for the safety of Lock and Dam No. 7. If the dam is transferred to a nonfederal entity (*see* note 3, *supra*), the licensee will have to file an application to amend its license, modifying the project boundary to include the dam and reservoir, and assuming primary responsibility for safety of the Lock and Dam No. 7.

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³³ The bus is a switch that switches electricity to different lines.

³⁴ Black starting is obtaining power from other sources to replace power lost in a blacked-out area.

³⁵ 16 U.S.C. §803(a)(1).

³⁶ The electricity generated by the project is equivalent to the energy that would be produced by burning 13,828 barrels of oil or 3,422 tons of coal annually in a steam-electric power plant, without the attendant pollution, such as sulfur dioxide and nitrous oxide,

that would be produced by coal-fired or oil-fired, steam-electric power plants.

³⁷ The Department of the Interior (Interior) notes that the Corps is in the process of ending federal interest in the lock and dam, and suggests that since navigation is being abandoned the impacts of impoundment can no longer be attributed to commercial navigation. It suggests that the Commission consider whether or not to do an environmental impact statement (EIS) which takes into account this change in circumstance. As discussed in the attached Environmental Assessment, an EIS is not necessary since granting a license will not have an adverse effect on the environment.

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³⁸ Staff has prepared a Safety and Design Assessment for the Kentucky River Lock No. 7 Project No. 539, which is available in the Commission's public file associated with this project.

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¹ The electricity potentially generated by the proposed project is equivalent to the energy that would be produced by burning 13,828 barrels of oil or 3,422 tons of coal annually in a steam-electric power plant. Table 1 [omitted in printing] shows pollutants that would be produced by coal-fired or oil-fired, steam-electric power plants, generating the amount of energy equivalent to that which would be generated by the project.

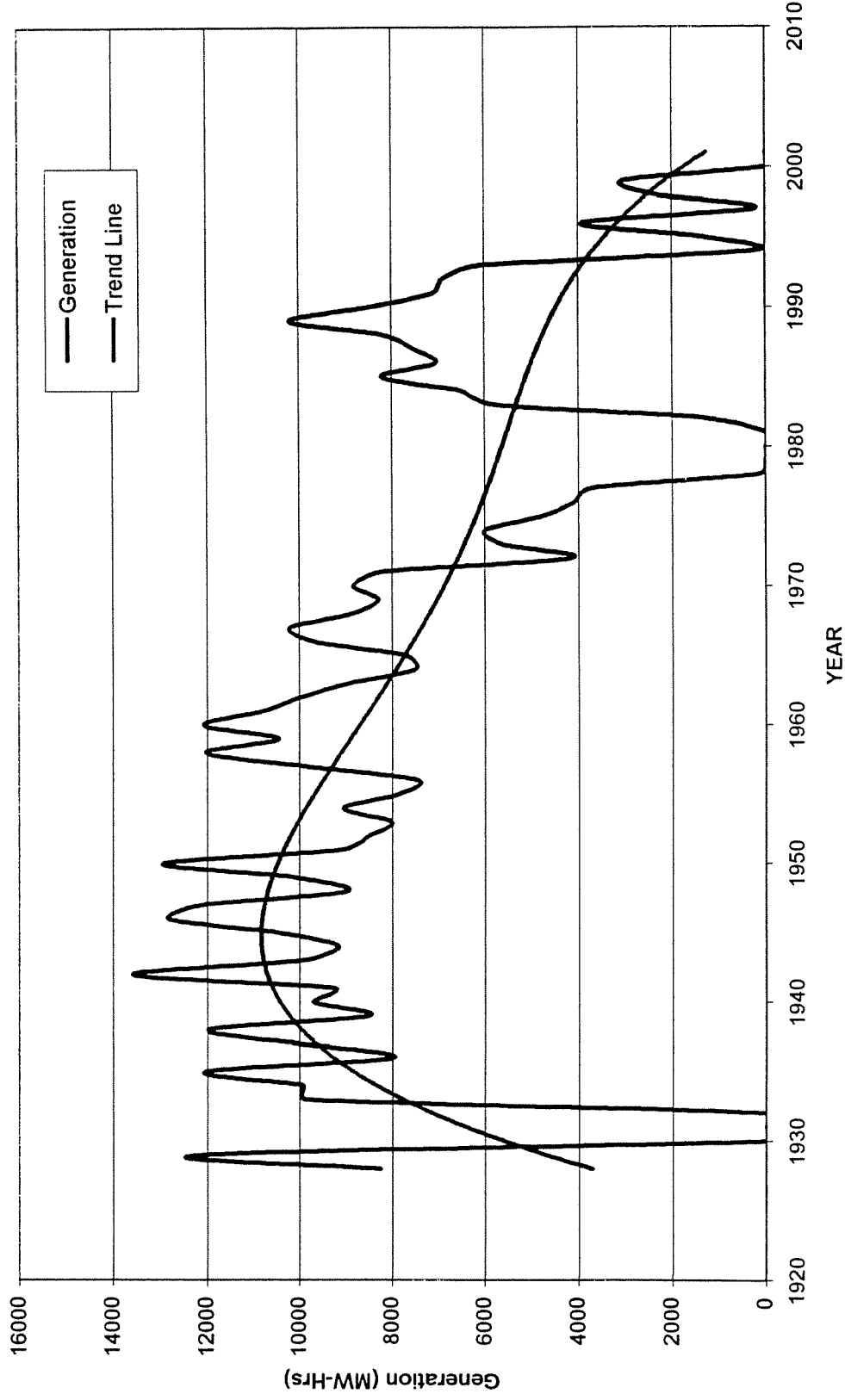
Attachment 4 – Annual Generation Data

Table 5 - Summary of Generation output last 20 years for Lock No. 7

Year	Generation	Year	Generation
1928	8,248	1965	7,706
1929	12,192	1966	9,650
1930	0	1967	10,210
1931	0	1968	8,902
1932	0	1969	8,289
1933	9,880	1970	8,826
1934	9,909	1971	8,248
1935	12,043	1972	4,153
1936	7,985	1973	5,620
1937	10,020	1974	5,996
1938	11,967	1975	4,763
1939	8,505	1976	4,084
1940	9,702	1977	3,746
1941	9,241	1978	117
1942	13,586	1979	0
1943	9,918	1980	0
1944	9,153	1981	0
1945	10,450	1982	1,331
1946	12,806	1983	5,809
1947	12,148	1984	6,518
1948	8,983	1985	8,223
1949	10,129	1986	7,041
1950	12,933	1987	8,730
1951	9,074	1988	7,750
1952	8,494	1989	9,422
1953	8,003	1990	9,242
1954	9,038	1991	8,489
1955	7,867	1992	6,497
1956	7,447	1993	6,119
1957	9,840	1994	3,512
1958	12,019	1995	1,418
1959	10,448	1996	3,914
1960	12,073	1997	215
1961	10,802	1998	2,319
1962	9,936	1999	3,046
1963	8,900	2000	0
1964	7,477		

Lock & Dam No. 7 Historic Generation

Figure A4.1



	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Annual Revenues											
Revenues - energy	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000
Annual Costs	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000
Fixed Costs O & M	\$81,774	\$84,636	\$87,598	\$90,664	\$93,837	\$97,122	\$100,521	\$104,039	\$107,681	\$111,449	\$115,350
Variable Costs O & M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Costs											
Depreciation (straight line)	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211
Total Costs	\$307,985	\$310,847	\$313,809	\$316,875	\$320,048	\$323,333	\$326,732	\$330,250	\$333,891	\$337,660	\$341,561
EBIT	-\$143,985	-\$146,847	-\$149,809	-\$152,875	-\$156,048	-\$159,333	-\$162,732	-\$166,250	-\$169,891	-\$173,660	-\$177,561
Interest	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EBT	-\$143,985	-\$146,847	-\$149,809	-\$152,875	-\$156,048	-\$159,333	-\$162,732	-\$166,250	-\$169,891	-\$173,660	-\$177,561
Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Income	-\$143,985	-\$146,847	-\$149,809	-\$152,875	-\$156,048	-\$159,333	-\$162,732	-\$166,250	-\$169,891	-\$173,660	-\$177,561
Add Back Depreciation	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211	\$226,211
Cash flow from Operations	\$82,226	\$79,364	\$76,402	\$73,336	\$70,163	\$66,878	\$63,479	\$59,961	\$56,319	\$52,551	\$48,650
Net Cash Flow	\$82,226	\$79,364	\$76,402	\$73,336	\$70,163	\$66,878	\$63,479	\$59,961	\$56,319	\$52,551	\$48,650
Life expectancy of project	20	20	20	20	20	20	20	20	20	20	20
Energy Price \$/MWH	\$20	\$20	\$20	\$20	\$20	\$20	\$20	\$20	\$20	\$20	\$20
Station Generation MWH	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200
Maximum Revenue / Unit	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000	\$164,000
Borrowed amount	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Interest rate	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
interest amount	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tax rate	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Discount Rate	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Fixed Costs	\$81,774	\$84,636	\$87,598	\$90,664	\$93,837	\$97,122	\$100,521	\$104,039	\$107,681	\$111,449	\$115,350
Variable Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Inflation Labor	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%

Attachment 5 – Additional Photos

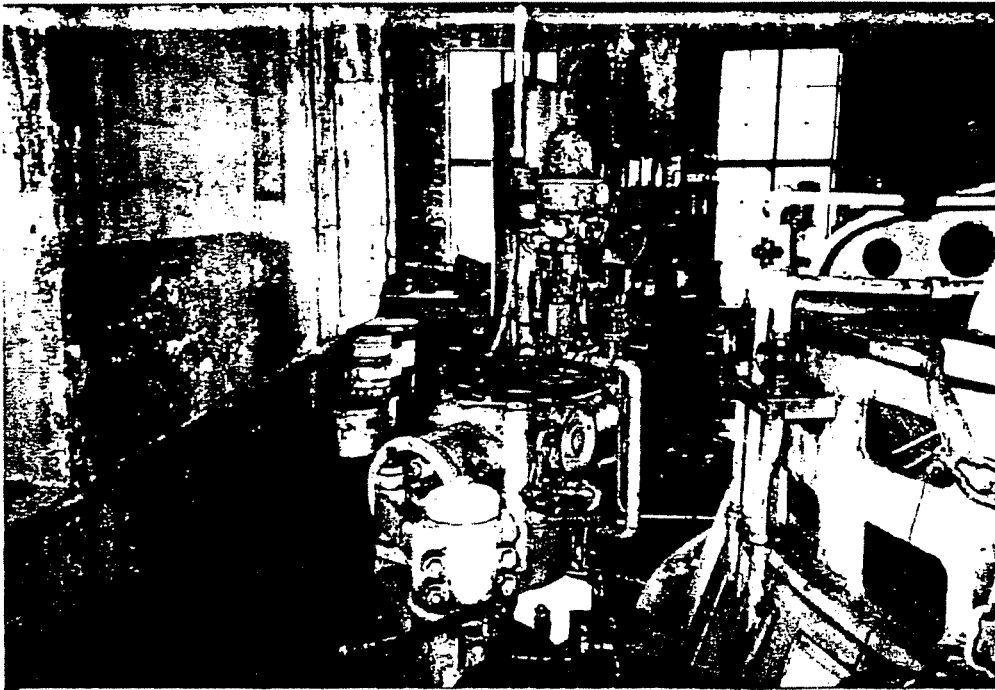
Picture 6 - Corps Dam & Lock No. 7 Viewed from Powerhouse



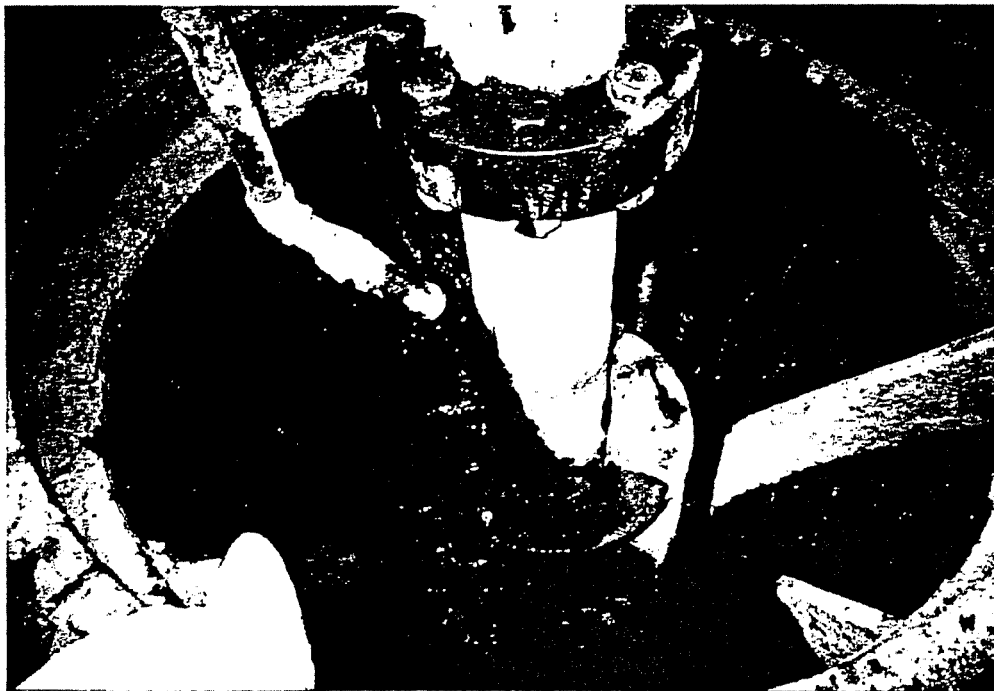
Picture 7 - Debris Buildup at Intake



Picture 8 – Unit 3 Woodward Governor



Picture 9 – Unit 3 Turbine Guide (Wood) Bearing with Hedge Applewood Staves Visible



KENTUCKY UTILITIES COMPANY

**Response to 1st Data Request of Commission Staff
Dated November 10, 2005**

Case No. 2005-00405

Question No. 3

Witness: John P. Malloy

Q-3. Describe KU's consideration of renovating the Lock No. 7 facility itself and marketing the output as Green Power at a premium price.

A-3. A description of the Company's consideration of repair options for the Lock No. 7 facility is included at Section IV, beginning on page 20, of the March 18, 2002 Duke Engineering & Services report.

KU did not consider marketing the output of Lock No. 7 as Green Power at a premium price, because KU undertakes least cost resource planning for meeting native load obligations, rather than for wholesale marketing opportunities.

KENTUCKY UTILITIES COMPANY

**Response to 1st Data Request of Commission Staff
Dated November 10, 2005**

Case No. 2005-00405

Question No. 4

Witness: John P. Malloy / John Wolfram

- Q-4. Other than the information requested above, provide any other relevant information supporting KU's current decision to transfer the Lock No. 7 facility. Include information relating to current coal prices and natural gas prices or the current cost of electric energy in the wholesale market.
- A-4. Since the early 1990's, KU has investigated the condition and future operation of the Lock No. 7 facility. In 2001, Duke Engineering & Services ("Duke") was retained to evaluate the current condition of the facility and provide advice to KU. Duke evaluated six options including transfer of the license and facility to another operator or the Kentucky River Authority, multiple repair options and two demolition options. Duke recommended transfer of the license as the most economic approach, with decommissioning of the facility as the second most economic option.

The risks of the repair options are identified in the cost-benefit analysis provided by Duke Engineering & Services. The analysis identifies additional risks to the repair options due the age of the facility. These additional risks were a consideration to KU in determining to transfer the asset based on the recommendation of Duke. Certain conditions in the FERC License were also considered, as described on page 12 of the Duke Report. The Lock No. 7 facility thus is being sold "as is" and without warranty and KU makes no representations and warranties concerning the condition or sufficiency of the facility.

Under the Asset Purchase Agreement, the Buyer will assume all of KU's obligations under the FERC License.

KENTUCKY UTILITIES COMPANY

**Response to 1st Data Request of Commission Staff
Dated November 10, 2005**

Case No. 2005-00405

Question No. 5

Witness: John P. Malloy / John Wolfram

Q-5. Provide the accounting entries KU will make if the proposed transaction is approved. Explain how KU will address any loss or gain associated with the transaction.

A-5. Consistent with SFAS No. 71, Accounting for the Effects of Certain Types of Regulation, and the FERC Uniform System of Accounts, KU will make the entries listed below, based on October 31, 2005 information. Entries will be made using the updated information at the time of closing. The noted (*) entries listed below will change based on the date of closing.

To record the sale of Lock 7:

Account 131 – Cash	\$35,965.00
Account 102 - Electric Plant Purchased or Sold	\$35,965.00

To reduce Plant in Service for the Original Cost:

Account 102 – Electric Plant Purchased or Sold	\$853,507.91
Account 101 – Electric Plant in Service	\$853,507.91

To reduce accumulated provision for depreciation: *

Account 108 – Accumulated Provision for Depreciation	\$719,939.31
Account 102 – Electric Plant Purchased or Sold	\$719,939.31

To move the retained earnings associated with Lock 7:

Account 215.1 – Appropriated Retained Earnings	\$114,735.25
Account 216 – Unappropriated Retained Earnings	\$114,735.25

To record the loss associated with the sale of Lock 7 (difference between the sale price and the net book value): *

Account 421.1 – Loss on Disposition of Electric Plant	\$97,603.60
Account 102 – Electric Plant Purchased or Sold	\$97,603.60

To record Current Federal Taxes applicable to the sale: *	
Account 236 – Taxes Accrued	\$26,325.00
Account 409.2 – Income Taxes, Other Income	\$26,325.00
To record Deferred Federal Taxes applicable to the sale: *	
Account 282 – Accumulated Deferred Income Taxes- Other Property	\$5,372.00
Account 411.2 – Federal Deferred Tax Credit – Other Income	\$5,372.00
To record Current State Taxes applicable to the sale: *	
Account 236 – Taxes Accrued	\$5,661.00
Account 409.2 – Income Taxes, Other Income	\$5,661.00
To record Deferred State Taxes applicable to the sale: *	
Account 282 – Accumulated Deferred Income Taxes	\$1,380.00
Account 411.2 - State Deferred Tax Credit – Other Income	\$1,380.00

KENTUCKY UTILITIES COMPANY

**Response to 1st Data Request of Commission Staff
Dated November 10, 2005**

Case No. 2005-00405

Question No. 6

Witness: John P. Malloy / John Wolfram

Q-6. Refer to Attachment 1, FERC Application and Exhibits.

- a. Provide a detailed description of Salt River Electric Cooperative's ("Salt River") role in the acquisition, renovation, and operation of the Lock No. 7 facility. Include a description of Salt River's capital contribution as a principal of Lock 7 Hydro Partners ("Lock 7 Partners"), its capital contribution to and its role in the renovation of the Lock No. 7 facility, and its role in the operation of the renovated facility.
- b. Provide a detailed description of Shaker Landing Hydro Associates' ("Shaker Landing") role in the acquisition, renovation, and operation of the Lock No. 7 facility. Include a description of Shaker Landing's capital contribution as a principal of Lock 7 Partners, its capital contribution to and its role in the renovation of the Lock No. 7 facility, and its role in the operation of the renovated facility.
- c. Describe how the power generated from Lock No. 7 will be transmitted to Salt River. Include in the discussion the status of any negotiations relating to transmission service.

A-6. a,b.

Acquisition:

On April 1, 2004, Kentucky Utilities filed the Initial Consultation Document in Support of the Application for License Surrender, the first step in surrendering the FERC Hydropower License for the Lock 7 plant.

On April 19, 2004, Kentucky Utilities signed a Due Diligence and Indemnification Agreement with Soft Energy Associates, to allow for the investigation of whether it was feasible for Soft Energy Associates to rehabilitate the Lock 7 plant.

On August 6, 2004, Soft Energy Associates incorporated Shaker Landing Hydro Associates, Inc. and a separate company to pursue the acquisition, renovation and operation of the Lock 7 plant.

In early September 2004, Soft Energy Associates proposed to Salt River Electric that they jointly pursue acquiring, renovating, and operating the Lock 7 plant, on a 50%/50% ownership basis. Salt River began its own Due Diligence evaluation, and hired Anders Dyrge, General Manager of the James Leffel Co. to perform a technical evaluation. A favorable due diligence evaluation was submitted by Mr. Dyrge on December 20, 2004.

On, December 30, 2004, Kentucky Utilities signed a Letter of Intent with Shaker Landing Hydro Associates and Salt River Electric, to sell the Lock 7 plant to partnership to be formed between Shaker Landing Hydro Associates and Salt River Electric.

On February 25, 2005, Lock 7 Hydro Partners, LLC was organized in the Commonwealth of Kentucky as a partnership between Shaker Landing Hydro Associates and Salt River Electric, which each party owning a 50% share in the new Company.

On September 26, 2005, Lock 7 Hydro Partners, LLC signed an Asset Purchase Agreement with Kentucky Utilities to purchase the Lock 7 plant, contingent on the transfer of the FERC License.

Since September 2004, when Salt River Electric was approached about becoming a part owner of the project, both Salt River Electric and Shaker Landing Hydro Associates have actively participated in the negotiation of all agreements necessary to acquire and operate the Lock 7 plant.

Renovation:

The renovation of the Lock 7 plant will be performed by Shaker Landing Hydro Associates, Inc., under contract with Lock 7 Hydro Partners, LLC. Oversight of the renovation project will be done by Salt River Electric, through control of renovation funds. Renovation plans, in phases, must be approved by the Lock 7 Hydro Partners' Board of Directors, which includes three members from Salt River Electric and three members from Shaker Landing Hydro Associates. On a day to day basis, accounting will be performed by the Company's Secretary, who is also the Controller for Salt River Electric.

Salt River Electric made an initial capital contribution to Lock 7 Hydro Partners, LLC of \$100,000, to balance the initial efforts of Shaker Landing Hydro Associates, through its owners, to assemble the acquisition and

renovation plan, and bring the project to the point at which Salt River could join. The entire renovation project is projected to cost approximately \$2.75 million. The cost of the renovation project will be paid for by retained earnings, and equal capital contributions to be made by Shaker Landing Hydro Associates and Salt River Electric.

Operation:

The operation of the Lock 7 plant will be performed by Shaker Landing Hydro Associates, Inc., under contract with Lock 7 Hydro Partners, LLC. Oversight of the operation of the project will be done by Salt River Electric, through control of Lock 7 Hydro Partners bank account. Operation plans, must be approved by the Lock 7 Hydro Partners' Board of Directors, which includes three members from Salt River Electric and three members from Shaker Landing Hydro Associates. On a day to day basis, accounting will be performed by the Company's Secretary, who is also the Controller for Salt River Electric.

- c. As a merchant power plant operator moving energy at wholesale across the grid, the Lock 7 Hydro Partners will take service under the applicable FERC-approved transmission tariffs. At present, the governing tariff is the Midwest ISO Transmission and Energy Markets Tariff ("TEMT"). The Lock 7 Hydro Partners have not yet submitted a request for transmission service with MISO.