

Low Impact Hydropower Institute

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LOW IMPACT HYDROPOWER QUESTIONNAIRE

[Excerpted from Part VI, Section E of the Low Impact Hydropower Certification Program. Words in italics are defined in Part VI, Section C, and line-by-line instructions are available in Section D of the program, available on-line in PDF format at <http://www.lowimpacthydro.org>.

E. LOW IMPACT HYDROPOWER QUESTIONNAIRE

Background Information	
1) Name of the <i>Facility</i> .	Mother Ann Lee Hydroelectric Station (previously named the Lock 7 Plant by previous owner).
2) Applicant's name, contact information and relationship to the Facility. If the Applicant is not the Facility owner/operator, also provide the name and contact information for the Facility owner and operator.	Lock 7 Hydro Partners, LLC 414 South Wenzel Street Louisville, KY 40204 Attn: David Brown Kinloch, President/CEO
3) Location of Facility by river and state.	Lock & Dam 7 on the Kentucky River State: Kentucky
4) Installed capacity.	2,040 kW
5) Average annual generation.	8,300,000 kWh – historic
6) Regulatory status.	FERC License No. 539 – Issued August 19, 1926. Current Relicense issued - May 26, 1992 Licensed transferred to Applicant – Nov. 23, 2005

7) Reservoir volume and surface area measured at the high water mark in an average water year.	The pool behind this old navigational dam is about 250 wide and 22.9 miles long or about 700 acres.
8) Area occupied by non-reservoir facilities (e.g., dam, penstocks, powerhouse).	Negligible. The powerhouse is part of the dam in the river. There are no penstocks or other facilities.
9) Number of acres inundated by the Facility.	None. The pool is formed by a 15 foot dam and lies completely within the existing river banks.
10) Number of acres contained in a 200-foot zone extending around entire impoundment.	1,110 acres
11) Please attach a list of contacts in the relevant Resource Agencies and in non-governmental organizations that have been involved in Recommending conditions for your Facility.	Kentucky Division of Water, Dept. of Natural Resources and Environmental Protection (401 Certification agency) U.S. Fish and Wildlife Service (Dept. of Interior) Kentucky Dept. of Fish and Wildlife Resources Kentucky Heritage Council (SHPO) U.S. Army Corps of Engineers Kentucky River Authority - Contact information for these agencies is attached
12) Please attach a description of the Facility, its mode of operation (i.e., peaking/run of river) and a map of the Facility.	This is a run-of-river facility, as required by Article 401 of the FERC license (see attached). A description of the facility, which includes a map, is attached.
Questions for For “New” Facilities Only: If the Facility you are applying for is “new” i.e., an existing dam that added or increased power generation capacity after August of 1998 please answer the following questions to determine eligibility for the program	The existing project could be classified as a “new” project, because the previous owner stopped using the plant in 1999 (when all three units were no longer operable) and planned to decommission the plant and surrender the FERC license. Instead of decommissioning the plant, it was sold to the Applicant on December 30, 2005.
13) When was the dam associated with the Facility completed?	1897
14) When did the added or increased generation first generate electricity? If the added or increased generation is not yet operational, please answer question 18 as well.	The Applicant began the renovation of this plant in March 2006. We project getting one of the three generating units up and running on a limited basis by the end of September 2006. The current renovation schedule calls for an 8 year restoration of the plant, costing about \$3 million, to be completed by 2014. With improved efficiencies from new replacement equipment, we are hoping for an average output of 11,400,000 kWh per

	year.
15) Did the added or increased power generation capacity require or include any new dam or other diversion structure?	No. There will be no changes made to the dam of any kind.
16) Did the added or increased capacity include or require a change in water flow through the facility that worsened conditions for fish, wildlife, or water quality, (for example, did operations change from run-of-river to peaking)?	No. There will be no changes to the amount of flow through the facility, the increased output will come through more efficient equipment. We are hoping to replace the fixed propeller runners with runners which the blade angle can be adjusted, thus allowing for better run-of-river operation and reducing the on-and-off cycles needed to maintain a constant pool level.
17 (a) Was the existing dam recommended for removal or decommissioning by resource agencies, or recommended for removal or decommissioning by a broad representation of interested persons and organizations in the local and/or regional community prior to the added or increased capacity? (b) If you answered “yes” to question 17(a), the Facility is not eligible for certification, unless you can show that the added or increased capacity resulted in specific measures to improve fish, wildlife, or water quality protection at the existing dam. If such measures were a result, please explain.	No. During the license surrender process begun by the previous owner on April 1, 2004, all letters from the public (including environmental groups) supported the restoration and continued operation of the facility (copies of the letters are attached). No resource agency has recommended removal of the dam, since the citizens of Mercer County, KY rely upon the dam for water supply. (Please note that the reference to “demolition” in some of the letters is a reference to the plans of the previous owner to remove the powerhouse only – no one has recommended that the dam be removed).
18 (a) If the increased or added generation is not yet operational, has the increased or added generation received regulatory authorization (e.g., approval by the Federal Energy Regulatory Commission)? If not, the facility is not eligible for consideration; and (b) Are there any pending appeals or litigation regarding that authorization? If so, the facility is not eligible for consideration.	Yes. The FERC had pressured the previous owner to make the plant operational again. The previous owner chose to get rid of the plant instead of making it operational again. The main reason that the FERC approved the transfer of the FERC license to the Applicant was that we were able to demonstrate to the FERC that we had a restoration plan that was reasonable, we had the financing in place, and we had demonstrated the ability to accomplish this plan.
A. Flows	PASS
1) Is the Facility in <i>Compliance with Resource Agency Recommendations</i> issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations) for	YES = Pass, Go to B N/A = Go to A2 Yes. The operation of the plant
	FAIL
	NO = Fail

<p>both the reach below the tailrace and all bypassed reaches?</p>	<p>will comply with Article 401 of the FERC License issued May 26, 1992, which requires run-of-river operations, and Article 403 that requires monitoring of the run-of-river operation.</p>	
<p>2) If there is no flow condition recommended by any Resource Agency for the Facility, or if the recommendation was issued prior to January 1, 1987, is the Facility in Compliance with a flow release schedule, both below the tailrace and in all bypassed reaches, that at a minimum meets Aquatic Base Flow standards or “good”_habitat flow standards calculated using the Montana-Tennant method?</p>	<p>YES = Pass, go to B NO = Go to A3</p>	
<p>3) If the Facility is unable to meet the flow standards in A.2., has the Applicant demonstrated, and obtained a letter from the relevant Resource Agency confirming that demonstration, that the flow conditions at the Facility are appropriately protective of fish, wildlife, and water quality?</p>	<p>YES = Pass, go to B</p>	<p>NO = Fail</p>
<p>B. Water Quality</p>	<p>PASS</p>	<p>FAIL</p>
<p>1) Is the Facility either:</p> <p>a) In Compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification issued for the Facility after December 31, 1986? Or</p> <p>b) In Compliance with the quantitative water quality standards established by the state that support designated uses pursuant to the federal Clean Water Act in the Facility area and in the downstream reach?</p>	<p>YES = Go to B2</p> <p>The facility was issued a continuation of its existing 401 certification as part of the FERC license which was reissued on May 26, 1992 (in a letter dated August 1, 1990). In preparation for this LIHI application, the Applicant reviewed the FERC license conditions and noticed that there were no requirements with respect to Dissolved Oxygen. To remedy this omission, the Applicant voluntarily went to the KY</p>	<p>NO = Fail</p>

	Division of Water and asked for a new stricter 401 certification to be issued to this project that would contain Dissolved Oxygen requirements. On October 17, 2005, the KY Division of Water issued this project a new updated 401 certification which contained requirements for Dissolved Oxygen. A copy of the new 401 Certificate is attached.	
2) Is the Facility area or the downstream reach currently identified by the state as not meeting water quality standards (including narrative and numeric criteria and designated uses) pursuant to Section 303(d) of the Clean Water Act?	YES = Go to B3 NO = Pass NO	
3) If the answer to question B.2 is yes, has there been a determination that the Facility is not a cause of that violation?	YES = Pass N/A	NO = Fail
C. Fish Passage and Protection	PASS	FAIL
1) Is the Facility in Compliance with <i>Mandatory Fish Passage Prescriptions</i> for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?	YES = Go to C5 N/A = Go to C2 N/A - No requirements since no anadromous and catadromous fish are present	NO = Fail
2) Are there historic records of anadromous and/or catadromous fish movement through the Facility area, but anadromous and/or catadromous fish do not presently move through the Facility area (<i>e.g.</i> , because passage is blocked at a downstream dam or the fish run is extinct)? a) If the fish are extinct or extirpated from the Facility area or downstream reach, has the Applicant demonstrated that the extinction or extirpation was not due in whole or part to the Facility?	YES = Go to C2a NO = Go to C3 NO. There are only records of resident species of fish. It is not possible to know if catadromous species such as eels historically used this river since dams have been present on the lower section of the Kentucky River	NO = Fail

<p>b) If a Resource Agency Recommended adoption of upstream and/or downstream fish passage measures at a specific future date, or when a triggering event occurs (such as completion of passage through a downstream obstruction or the completion of a specified process), has the Facility owner/operator made a legally enforceable commitment to provide such passage?</p>	<p>since 1836.</p> <p>YES = Go to C2b N/A = Go to C2b</p> <p>YES = Go to C5 N/A = Go to C3</p>	<p>NO = Fail</p>
<p>3) If, since December 31, 1986:</p> <p>a) Resource Agencies have had the opportunity to issue, and considered issuing, a Mandatory Fish Passage Prescription for upstream and/or downstream passage of anadromous or catadromous fish (including delayed installation as described in C2a above), and</p> <p>b) The Resource Agencies declined to issue a Mandatory Fish Passage Prescription,</p> <p>c) Was a reason for the Resource Agencies' declining to issue a Mandatory Fish Passage Prescription one of the following: (1) the technological infeasibility of passage, (2) the absence of habitat upstream of the Facility due at least in part to inundation by the Facility impoundment, or (3) the anadromous or catadromous fish are no longer present in the Facility area and/or downstream reach due in whole or part to the presence of the Facility?</p>	<p>NO = Go to C5 N/A = Go to C4</p> <p>NO. Resource Agencies had an opportunity to review the issue and issued no Mandatory Fish Passage Prescription when the current license was issued in 1992, because there are no anadromous or catadromous fish present in the Kentucky River. Resource Agencies were asked to comment on whether license conditions, modified with the stricter 401 Certificate conditions were currently sufficient to protect fish and wildlife resources. Both the U.S. Fish and Wildlife Service and Kentucky Fish and Wildlife Resources commented that these current operating conditions</p>	<p>YES = Fail</p>

	were sufficient. Comment letters from these two agencies are attached.	
4) If C3 was not applicable: a) Are upstream and downstream fish passage survival rates for anadromous and catadromous fish at the dam each documented at greater than 95% over 80% of the run using a generally accepted monitoring methodology? Or b) If the Facility is unable to meet the fish passage standards in 4.a., has the Applicant demonstrated, and obtained a letter from the US Fish and Wildlife Service or National Marine Fisheries Service confirming that demonstration, that the upstream and downstream fish passage measures (if any) at the Facility are appropriately protective of the fishery resource?	YES = Go to C5	NO = Fail
5) Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of <i>Riverine</i> fish?	YES = Go to C6 N/A = Go to C6 YES. There are no specific Mandatory Fish Passage Prescriptions for upstream and downstream passage of Riverine fish since Riverine fish have an opportunity to pass upstream or downstream during high water when this low-head dam is completely underwater. No fish specific fish passage requirement are necessary for this facility.	NO = Fail
6) Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?	YES = Pass, go to D N/A = Pass, go to D N/A. There are no additional Resource Agency Recommendations. Inlet water speeds are less than 1.5 ft/sec.	NO = Fail

	which minimizes fish entrainment.	
D. Watershed Protection	PASS	FAIL
1) Is there a buffer zone dedicated for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low-impact recreation) extending 200 feet from the high water mark in an average water year around 50 - 100% of the impoundment, and for all of the undeveloped shoreline	YES = Pass, go to E and receive 3 extra years of certification	NO = go to D2 NO. The banks (shoreline) of the Kentucky River is entirely privately owned, and not owned by the Applicant. The Applicant has no ability to implement a buffer zone. (Note: Pool 7 runs through the Kentucky Palisades, an area that is mostly undevelopable due to steep cliff walls.
2) Has the facility owner/operator established an approved watershed enhancement fund that: 1) could achieve within the project's watershed the ecological and recreational equivalent of land protection in D.1.,and 2) has the agreement of appropriate stakeholders and state and federal resource agencies?	YES = Pass, go to E and receive 3 extra years of certification	NO = go to D3 NO. The banks (shoreline) of the Kentucky River is entirely privately owned, and not owned by the Applicant. The Applicant has no ability to implement any watershed enhancement plans.
3) Has the facility owner/operator established through a settlement agreement with appropriate stakeholders and that has state and federal resource agencies agreement an appropriate shoreland buffer or equivalent watershed land protection plan for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low impact recreation)	YES = Pass, go to E	NO = go to D4 NO. The banks (shoreline) of the Kentucky River is entirely privately owned, and not owned by the Applicant. The Applicant has no ability to implement a buffer zone. (Note: Pool 7 runs through the Kentucky Palisades, an area that is mostly undevelopable

		due to steep cliff walls
4) Is the facility in compliance with both state and federal resource agencies recommendations in a license approved shoreland management plan regarding protection, mitigation or enhancement of shorelands surrounding the project.	YES = Pass, go to E YES. There are no state or federal resource agency recommendations in our FERC license because the banks (shoreline) of the Kentucky River is entirely privately owned, and not owned by the Applicant. The Applicant has no ability to implement any management plans on this private land.	No = Fail
E. Threatened and Endangered Species Protection	PASS	FAIL
1) Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?	YES = Go to E2 NO = Pass, go to F NO. In the Environmental Assessment done by the FERC, issued September 26, 1991, with respect to issuing a new FERC license for this project, no endangered species were identified.	
2) If a recovery plan has been adopted for the threatened or endangered species pursuant to Section 4(f) of the Endangered Species Act or similar state provision, is the Facility in Compliance with all recommendations in the plan relevant to the Facility?	YES = Go to E3 N/A = Go to E3	NO = Fail
3) If the Facility has received authority to incidentally <i>Take</i> a listed species through: (i) Having a relevant agency complete consultation pursuant to ESA Section 7 resulting in a biological opinion, a habitat recovery plan, and/or (if needed) an incidental Take statement; (ii) Obtaining an incidental Take permit pursuant to ESA Section 10; or (iii) For species listed by a state and not by the federal	YES = Go to E4 N/A = Go to E5	NO = Fail

government, obtaining authority pursuant to similar state procedures; is the Facility in Compliance with conditions pursuant to that authority?		
4) If a biological opinion applicable to the Facility for the threatened or endangered species has been issued, can the Applicant demonstrate that: a) The biological opinion was accompanied by a FERC license or exemption or a habitat conservation plan? Or b) The biological opinion was issued pursuant to or consistent with a recovery plan for the endangered or threatened species? Or c) There is no recovery plan for the threatened or endangered species under active development by the relevant Resource Agency? Or d) The recovery plan under active development will have no material effect on the Facility's operations?	YES = Pass, go to F	NO = Fail
5) If E.2. and E.3. are not applicable, has the Applicant demonstrated that the Facility and Facility operations do not negatively affect listed species?	YES = Pass, go to F	NO = Fail
F. Cultural Resource Protection	PASS	FAIL
1) If FERC-regulated, is the Facility in Compliance with all requirements regarding Cultural Resource protection, mitigation or enhancement included in the FERC license or exemption?	YES = Pass, go to G N/A = Go to F2 Yes. In the Environmental Assessment done by the FERC, issued September 26, 1991, with respect to issuing a new FERC license for this project, no eligible properties would be adversely affected. When the previous owner had proposed the removal of the powerhouse, the SHPO determined that this	NO = Fail

	action would have an adverse impact (see attached public comment letters). Because we are saving and restoring this facility, the SHPO's concern has been resolved.	
2) If not FERC-regulated, does the Facility owner/operator have in place (and is in Compliance with) a plan for the protection, mitigation or enhancement of impacts to Cultural Resources approved by the relevant state or federal agency or <i>Native American Tribe</i> , or a letter from a senior officer of the relevant agency or Tribe that no plan is needed because Cultural Resources are not negatively affected by the Facility?	YES = Pass, go to G	NO = Fail
G. Recreation	PASS	FAIL
1) If FERC-regulated, is the Facility in Compliance with the recreational access, accommodation (including recreational flow releases) and facilities conditions in its FERC license or exemption?	YES = Go to G3 N/A = Go to G2 Yes. The facility is in compliance because there are no requirements for recreation in the FERC license due to the remote location of the facility (there are no roads to the plant – it is accessible only by boat or private foot path not open to the public for safety reasons (the Applicant does not own the foot path but has an easement that allows use by us only).	NO = Fail
2) If not FERC-regulated, does the Facility provide recreational access, accommodation (including recreational flow releases) and facilities, as Recommended by Resource Agencies or other agencies responsible for recreation?	YES = Go to G3	NO = Fail
3) Does the Facility allow access to the reservoir and downstream reaches without fees or charges?	YES = Pass, go to H	NO = Fail

	N/A – There is no access to the upstream or downstream pools from the facility. All land along the banks of the Kentucky River are privately owned, and none is owned by the Applicant. Access can only be gained through a private land owner, over which we have no control. Access to upper and lower pools is possible by using private boat ramps which may be used by the public for a small fee.	
H. Facilities Recommended for Removal	PASS	FAIL
1) Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?	NO = Pass, Facility is Low Impact NO. No resource agency has recommended removal of the dam, since the citizens of Mercer County, KY rely upon the dam for water supply. The previous owner proposed to remove the powerhouse only (to reduce the Company's liability) – no one has recommended that the dam be removed. As part of the License Surrender process begun by the previous owner, public comment was received which unanimously supported saving and restoring the generating facility, as opposed to removing it (including from environmental groups).	YES = Fail