

# LIHI Certification Program Application for Conventional Hydropower Facilities

**DRAFT ~~ Dated 04/17/09**

## TABLE OF CONTENTS

INTRODUCTION .....	1
BRIEF SUMMARY OF THE LIHI CERTIFICATION PROCESS .....	1
GENERAL INSTRUCTIONS.....	2
DEFINITIONS.....	3
LIHI CERTIFICATION QUESTIONNAIRE.....	6
• BACKGROUND INFORMATION .....	6
• CRITERION A: GENERAL ELIGIBILITY .....	8
• CRITERION B: SETTLEMENT AGREEMENTS.....	10
• CRITERION C: FLOWS.....	12
• CRITERION D: WATER QUALITY .....	14
• CRITERION E: RESERVOIR LEVELS.....	15
• CRITERION F: FISH PASSAGE AND FISH PROTECTION .....	17
• CRITERION G: WATERSHED PROTECTION .....	20
• CRITERION H: THREATENED AND ENDANGERED SPECIES PROTECTION .....	21
• CRITERION I: ENERGY EFFICIENCY.....	24
• CRITERION J: CULTURAL RESOURCE PROTECTION.....	24
• CRITERION K: RECREATION.....	25

**LIHI Certification Program Application for  
Conventional Hydropower Facilities**

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**INTRODUCTION**

The Low Impact Hydropower Institute (“LIHI”) has established the LIHI Certification Program (“Certification Program”) to certify hydropower Facilities that are operated in accordance with objective and scientific environmental standards. The Certification Program’s goals are to reduce the environmental impacts of hydropower generation, and to create a credible and accepted standard for consumers to use in evaluating hydropower. This questionnaire applies to *Conventional Hydropower Facilities*, including *Incremental Hydropower* (see Definitions section); LIHI plans to develop a separate set of criteria for instream hydrokinetic Facilities.

The Certification Program requires that Conventional Hydropower Facilities meet certain criteria in the following eleven areas:

- A. General eligibility
- B. Settlement agreements
- C. River flows
- D. Water quality
- E. Reservoir levels
- F. Fish passage and protection
- G. Watershed protection
- H. Threatened and endangered species protection
- I. Energy efficiency
- J. Cultural resource protection
- K. Recreation

A Conventional Hydropower Facility that meets all certification criteria will receive LIHI certification, and will be able to use this certification when marketing power to consumers. This application document provides a brief summary of the certification process, general instructions, a questionnaire, and key definitions. See the separate **LIHI Program Handbook** for additional important information about the LIHI Certification Program.

**BRIEF SUMMARY OF THE LIHI CERTIFICATION PROCESS**

The LIHI Program is designed to be a fair and efficient process. A potential *Applicant* must complete this LIHI Certification Program Application (except as noted for Criterion B. Settlement Agreements), attach supporting information, and forward the materials to LIHI. LIHI posts the complete application on its Web site for a 60-day public comment period, and notifies stakeholders of the availability of the application package. Stakeholders to be notified include individuals on FERC’s mailing and service lists for the Facility, a list of agency and nongovernmental organization representatives provided by the Applicant, and LIHI’s mailing list (which includes the Hydropower Reform Coalition). The application package (with any public comments) is forwarded to the application reviewer, who is either a LIHI staff member, or outside consultant.

The application reviewer reviews the package, conducts any investigation needed to resolve

factual disputes and evaluate the veracity of claims, and submits a report to LIHI staff. LIHI staff reviews the application reviewer's report and submits it to the LIHI Governing Board. In cases where the application reviewer is a contractor, the LIHI staff will prepare a staff recommendation to accompany the report. Once the LIHI Governing Board makes a certification decision, LIHI posts the decision on its Web site for 30 days if there were public comments in opposition to the LIHI Board's decision. If there were no comments in opposition, the 30 day period is waived and the Board's decision will stand as final. If no appeal is requested during the 30-day time period by either the Applicant or any member of the public who commented (by the comment deadline) on the application package, the decision will stand as final. Any appeals are referred to LIHI's Appeals Panel for review. Certification recommendations from the Appeals Panel are referred to the Governing Board, which makes the final certification decision. Please refer to the LIHI Program Handbook for detailed descriptions of all of the above procedures.

## **GENERAL INSTRUCTIONS**

These instructions provide guidance on completing the questionnaire that follows. Remaining requirements for a complete certification application are described in the LIHI Program Handbook; see in particular "Submission of Application Package."

Questionnaire organization. The questionnaire includes a section requesting Background Information, followed by a section for each of eleven criteria relating to protection of natural, cultural, and recreational resources. To receive LIHI Certification, a Facility must pass all eleven criteria.

Key definitions. Applicants are urged to carefully review the Definitions section below. Defined terms are capitalized throughout this application, and *italicized* when they are first used. Please review in particular the definitions of *Compliance*, *Resource Agency*, *Resource Agency Letter*, and *Resource Agency Recommendations* for guidance in answering any question referring to a Resource Agency Recommendation.

Submittal of Resource Agency letters. As part of the application review, the Application Reviewer will be contacting the relevant Resource Agency officials to confirm that: (1) the Resource Agency Recommendations identified by the Applicant are still valid and are the most recent Recommendations issued; and (2) the Applicant is in Compliance with the Recommendations. A letter from the Resource Agency submitted by the Applicant as part of the Application Package will make this review process simpler and faster. If the Applicant is not able to obtain such a letter, this does not create a bar to submitting an application to LIHI. Rather, if the Applicant is unable to obtain such a letter, the Applicant should submit the Application Package, include an explanation of why no letter was obtained, and provide any information acquired in oral conversations with the Resource Agency. If the letter will take a while to obtain from the Resource Agency, the Applicant may submit its Application Package, include an explanation of correspondence with the Resource Agency regarding the letter, and forward the letter to LIHI when it is received. For some criteria, under certain circumstances, a letter from a Resource Agency is allowed to stand in place of a recent Resource Agency Recommendation and serve as the standard with which the Applicant must comply; in those cases, the Applicant must obtain a Resource Agency Letter to comply; an explanation of why the Applicant was unable to obtain the letter will not be sufficient.

Settlement Agreements. In general, LIHI encourages comprehensive settlement agreements as the basis for relicensing and interprets Settlement Agreements to be the valid, most recent Resource Agency Recommendations. However, LIHI's Settlement Agreement criterion requires that

Settlement Agreements be consistent with certain principles of inclusiveness, transparency, governance, and other attributes that achieve an equilibrium between competing interests and priorities. The Settlement Agreement criterion, below, includes background and guidance on completing this element of the application.

Applying to certify multiple Facilities in a single watershed. If an Applicant owns or operates multiple Facilities in a watershed that are *Hydrologically or Operationally Connected*, and seeks LIHI certification for more than one of those Facilities at the same time, the Applicant may choose to submit a consolidated application for those Facilities. Each Facility must independently qualify under all criteria. However, supporting information and materials may be submitted jointly. Evidence that the multiple Facilities meet the requirements of the Watershed Protection criterion may be submitted as a package, and need not be expressly allocated to individual Facilities as long as the total watershed protection provided is equal to the sum of the amounts that would be required for each Facility if it were considered individually.

Applying to certify one, or only a subset, of multiple Facilities in a single watershed. If an Applicant (or a parent company) owns or operates multiple Facilities in a watershed that are Hydrologically or Operationally Connected, but applies to certify only one or a subset of those Facilities, Applicants must describe the other Facilities, and explain why certification is not being sought for those Facilities. LIHI reserves the right to consider the *Cumulative Impacts* of multiple hydropower operations under common ownership. Multiple Facilities in the same watershed that are not owned by the Applicant must simply be listed in application and their ownership identified.

January 1, 1990 as a key date. The date of January 1, 1990 is used as a key date throughout the criteria because the Electric Consumers Protection Act, with its explicit requirement for balancing power and non-power values in Federal Energy Regulatory Commission (FERC) licensing proceedings, went into practical effect after that date.

Submittal of application in searchable electronic form. The completed application must be submitted in a searchable electronic format (e.g., Microsoft Word and/or Adobe Acrobat that has been scanned using optical character recognition). Please provide photographs and other graphics in a resolution suitable for online viewing (i.e., smaller file size).

Applicants are encouraged to consult with the Low Impact Hydropower Institute if they have any questions about preparing an application.

## **DEFINITIONS**

Defined terms are capitalized throughout and italicized when they are first used in the questionnaire.

**“Applicant:”** The party applying for Low Impact Hydropower Certification. This will usually be, but need not be, the Facility owner or operator.

**“Compliance:”** A Facility is in Compliance with a requirement or recommendation if it complies at the time the questionnaire is filled out and has not had any material violations or formal notices of violation issued by a state or federal agency within the last year. If the Facility has been in violation of a requirement or recommendation but the Applicant does not believe the violation is material, the violation must be disclosed and its materiality explained in the application.

**“Conventional Hydropower:”** Conventional hydropower Facilities use one-way water flow to generate electricity. There are two categories of conventional plants, run-of-river and store and release. Not included in the definition of Conventional Hydropower are pump storage, tidal, or damless technologies.

**“Cultural Resource:”** Material remains of past human life or activities that are of significant cultural or archaeological interest. Of cultural or archaeological interest means capable of providing scientific or humanistic understandings of past human behaviors, cultural adaptation, and related topics through the application of scientific or scholarly techniques such as controlled observation, contextual measurement controlled collection, analysis, interpretation and explanation. This term includes, but is not limited to, objects made or used by humans, such as pottery, basketry, bottles, weapons, weapon projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, or any portion or piece of the foregoing items, and the physical site, location or context in which they are found, or human skeletal materials or graves.

**“Cumulative Impacts:”** The total positive and negative impacts of a Facility on all relevant resources within appropriate spatial and temporal boundaries.

**“Facility:”** A hydropower dam and associated Facility works, with one power generation source (*i.e.*, powerhouse). If a licensed hydropower Facility contains multiple dams and power sources, each power source shall be considered a separate Facility and shall complete this form separately. For instance if a Federal Energy Regulatory Commission (“FERC”) license has four dams and four powerhouses, there are four Facilities. If the FERC license has two dams but only one powerhouse there is one Facility. If a single dam has multiple powerhouses, there is one Facility if the powerhouses are operated together as a unit. Resources jointly held by multiple Facilities may be allocated among Facilities within the same watershed, and consolidated applications may be submitted for multiple Facilities within a watershed. However, the owner/operator must document that the jointly held resources have not been allocated for the certification of another Facility.

**“Fish Passage:”** Safe, timely, and effective upstream and downstream passage for fish at the dam(s) and through the Facility area. Includes but is not limited to construction, operation, and maintenance of a fish lift, attraction flows, tailrace barrier, and downstream migrant facilities. For the purposes of these criteria, Resource Agency Recommendations may include an Endangered Species Act Biological Opinion or Recovery Plan.

**“Hydrologically and Operationally Connected:”** LIHI deems Facilities to be Hydrologically or Operationally Connected if the Applicant has direct or indirect ownership of upstream storage or is a party to headwater storage agreements and shares associated costs with another entity, or other contractual arrangement.

**“Incremental Hydropower:”** Generating capacity authorized (e.g. licensed by the Federal Energy Regulatory Commission) to be added to an existing non-hydropower development such as a dam, diversion, or impoundment, or additional hydropower added to an existing powerhouse (e.g., via additional or upgraded turbines) on or after January 1, 1990.

**“Migratory Fish:”** Migratory Fish may include but are not limited to anadromous, catadromous, potadromous, or riverine fish species that currently move through the Facility Area or an affected

reach, or for which there is evidence of historical movement through the Facility Area or an affected reach.

**“Native American Tribe:”** Federally-recognized Native American tribes which are affected by the Facility and with governing authority over natural resources reserved by or protected in treaties, executive orders or federal statutes.

**“Reservoir:”** A reservoir is the entire waterbody whose natural water levels have been altered due to impoundment behind a man-made alteration or structure to a river, lake or pond.

**“Resource Agency:”** A state, federal or tribal agency whose mission includes protecting fish and wildlife, water quality and/or administering reservations held in the public trust. This includes the US Fish and Wildlife Service, the National Park Service, the US Bureau of Indian Affairs, the US Bureau of Land Management, the National Marine Fisheries Service, the US Forest Service, the US Environmental Protection Agency, the Northwest Power Planning Council, Native American Tribes, the state department of environmental protection, the state departments of natural resources and fish and game, and any other similar agency. “Resource Agency” does not include the Federal Energy Regulatory Commission, nor does it include the Tennessee Valley Authority, the Bonneville Power Administration, the US Army Corps of Engineers, or the Bureau of Reclamation in their capacity as owner or operator of a Facility.

**“Resource Agency Letter:”** In order to document Compliance with several of the criteria, the Applicant is required to seek a letter from the Resource Agency official authorized to make recommendations for the Resource Agency in other comparable circumstances, such as in FERC proceedings. This requirement to seek a letter from the Resource Agency provides an opportunity for the Applicant to expedite the application review process and ensures that all relevant Resource Agency officials are notified of the impending application.

**“Resource Agency Recommendation” (or “Recommendation”):** A recommendation or conditions for operation, maintenance, construction of structures of the Facility submitted by Resource Agencies for the Facility. Resource Agency Recommendations considered in LIHI certifications shall be:

- a) *Issued pursuant to a proceeding.* Valid Resource Agency Recommendations are those issued pursuant to a legal or administrative proceeding or other legally enforceable agreements between a Resource Agency and the dam owner/operator. The proceeding anticipated to apply for most privately-owned Facilities is a FERC licensing or exemption proceeding. For a FERC-regulated Facility, these recommendations would include prescriptions, conditions, recommendations, or reservations of authority submitted through the FERC licensing or other processes pursuant to Federal Power Act Sections 4(e), 18, 10(a) or 10(j), Clean Water Act Section 401, the Endangered Species Act or other applicable state or federal provisions and included in a license issued by FERC that has been accepted by the Applicant. For non FERC-regulated Facilities, the proceedings anticipated to apply include consultation pursuant to the Endangered Species Act, federal or state Clean Water Act proceedings, Northwest Power Act proceedings and other proceedings resulting in a legally enforceable agreement between the Facility owner/operator and a Resource Agency. Resource Agency Recommendations that are subsequently overturned by a legal proceeding cease to be valid for the purposes of certification.
- b) *Recent.* If a single Resource Agency has made multiple recommendations, the most recent recommendation shall apply. This principal also applies when there is a Settlement

Agreement. If a Resource Agency is party to a Settlement Agreement, or otherwise formally concurs in a Settlement Agreement, the Settlement Agreement terms are considered to be the most recent Resource Agency Recommendation for these purposes. If, however, a Resource Agency is not party to a Settlement Agreement and does not formally concur in the Settlement Agreement, the most recent recommendation of that Resource Agency, and not the Settlement Agreement terms, apply for purposes of certification.

- c) *Environmentally Stringent.* The most environmentally stringent recent Resource Agency Recommendation shall apply where different Resource Agencies have made differing recommendations. If a condition in the Facility's FERC license or exemption (or other operating requirement, if not FERC licensed) is less environmentally stringent than a Resource Agency Recommendation, the Facility must meet the Resource Agency Recommendation to be certified as Low Impact Hydropower. For example, if the US Fish and Wildlife Service originally recommended a 100 cfs minimum flow, and the State Department of Fish and Game recommended 50 cfs, then the US Fish and Wildlife Service revised its recommendation to 80 cfs, and FERC issued a license with a 40 cfs minimum flow, to qualify as Low Impact Hydropower the Facility must release 80 cfs.
- d) *Resolution of Conflicting Resource Agency Recommendations.* Where there are conflicting Resource Agency Recommendations and the conflict is not resolved by applying the most Recent and most Environmentally Stringent Recommendations, the conflict shall be resolved by applying the Recommendations based upon the health of threatened or endangered biological organisms first, the health of other biological organisms second, Cultural Resources third and recreation fourth, unless there is a statutory mandate to resolve the conflict otherwise. For example, Recommendations designed to protect threatened or endangered species (a Biological Opinion, for instance) would prevail over recommendations regarding recreation. If a conflict still exists among Resource Agency Recommendations, the Governing Board will make a determination which Recommendation shall apply. For guidance regarding conflicts among Resource Agency Recommendations, consult LIHI staff.

**“Riverine Fish:”** A fish that spends its entire life cycle in the river, and does not migrate to the ocean. Riverine Fish are often called resident fish.

**“Settlement Agreement:”** A Settlement Agreement is a legal document binding between signatories to settle disputed legal and factual issues. Settlement Agreements in FERC or other proceedings, where a Resource Agency is party to, or concurs in, the Settlement Agreement, have the effect of becoming the latest Resource Agency Recommendation for that Resource Agency on the topics covered by the settlement, if it can be shown that the Settlement Agreement meets LIHI's Settlement Agreement criterion.

**“Take:”** For purposes of impacts to threatened or endangered species, Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct.

## LIHI CERTIFICATION QUESTIONNAIRE

### BACKGROUND INFORMATION

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Note: you must provide the information requested in Questions 2 – 13 for *each* Facility for which you are seeking LIHI certification.

1. Applicant's name, contact information (including telephone and email) 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.
2. Name of the Facility.
3. Location of Facility by river, state, and county/ies.
4. Installed capacity.
5. Average annual generation.
6. Regulatory status.  Please describe the Facility's regulatory status. For federal Facilities please provide a citation to the authorizing law. For FERC-regulated Facilities please provide:  a. The FERC license or exemption number b. Dates of licensing and next relicensing. c. A copy of your current license and any applicable settlement agreement. d. Status of any relicensing or post-licensing proceedings, or any recent or ongoing legal or regulatory proceedings that affect or may potentially affect operations at the Facility. e. A description of Compliance with post-licensing requirements.
7. Reservoir elevation and surface area measured at the high water mark, elevation of maximum drawdown, and reservoir surface area at maximum drawdown.
8. Annual mean inflow into impoundment and square miles of watershed above the Facility.
9. Number of acres contained in a 200-foot zone extending around entire impoundment.  Provide the area of the perimeter of the impoundment extending from the reservoir high water mark in an average water year to a distance of 200 feet perpendicular to the perimeter of the impoundment.
10. Operations. Please attach a description of the Facility, its mode of operation (i.e., peaking/run of river) and a map of the Facility.  Please include any information you believe would be useful in explaining your Facility to a person knowledgeable about hydropower operations. Enclose photographs, maps and/or diagrams that will give the reviewer(s) a sense of the Facility's dam, reservoir, and bypass reaches. (Note: please provide graphics and photos in electronic formats that minimize file size, e.g., jpg or pdf)

11. Contacts. Please attach a list of contacts in the relevant Resource Agencies and in non-governmental organizations that have been involved in developing Resource Agency Recommendations for your Facility. You must include a telephone number and, if available, an email address.

The Resource Agency contacts should be the offices or persons who would be the most knowledgeable about the Resource Agency Recommendations made regarding the Facility and who have the greatest knowledge about its operations. Also include contacts for any non-governmental organizations or individual who had significant participation in the most recent licensing process for the Facility or other involvement in proceedings involving the operations of the Facility (e.g., intervenors in relicensing, plaintiffs in lawsuits, participants in stakeholder proceedings).

12. Multiple Facilities in the same watershed not submitted for LIHI certification.

If your company or a parent company own other Facility/ies in the same watershed or in a watershed that is otherwise Hydrologically or Operationally Connected to the Facility/ies for which you are seeking certification, please provide for each Facility the information required in Questions 2–5, Questions 6 a. and b., and Questions 7, 8, and 10 above.

If other Facility/ies in the same watershed or watersheds are Hydrologically or Operationally Connected to the Facility/ies for which you are seeking certification and are under separate ownership, please provide a list of those Facilities and their ownership.

**CRITERION A: GENERAL ELIGIBILITY**

OVERVIEW: This criterion seeks to ensure that the Applicant’s Facility meets LIHI’s minimum requirements for Facility type and regulatory status. As regards incremental hydropower in particular, LIHI recognizes as eligible for LIHI certification only additional hydropower added to an existing powerhouse (e.g., via additional or upgraded turbines) or those hydroelectric power Facilities incrementally added on to an existing but non-hydroelectric related reservoir, so long as it achieves non-polluting power benefits without contributing to additional environmental impacts or extending existing ones. If incremental hydroelectric power is added to a non-hydro reservoir and its existence is entirely independent of the economic survival or operation of the reservoir it will be treated as neutral and pass; Facilities at new dams constructed after August 1998 (the date of LIHI’s establishment) for the purpose of hydropower generation are ineligible.

<b>A.1. General Eligibility: Threshold Questions</b>		
A.1.a. Is the hydropower Facility a Conventional Hydropower Facility?	YES = Go to question A.1.b.	NO = Facility is not eligible.
A.1.b. If the Facility is licensed by FERC, is it in Compliance with the terms of its license?	YES = Go to question A.1.c.  NA = Go to question A.1.d.	NO = Facility is not eligible.
A.1.c. If the Facility is licensed by FERC, is the Facility currently the subject of a proceeding to contest provisions of its FERC license?	NO or NOT APPLICABLE = Go to question A.1.d.	YES= Facility is not eligible.

A.1.d. Was the construction of all dams, impoundments, or diversion structures at your Facility completed prior to August 1998? <i>Note: LIHI determined as a matter of policy that the organization would not certify projects at dams constructed after LIHI's creation in 1998.</i>	YES = Go to A.2	NO = Facility is not eligible.
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<b>A.2. General Eligibility: Incremental Hydropower</b>		
A.2.a. Was the Facility's generating capacity authorized (e.g. licensed by the Federal Energy Regulatory Commission) to be added: i. to an existing development such as a dam, diversion, or impoundment that was not previously operated for hydropower generation; or ii. to an existing powerhouse (e.g., via additional or upgraded turbines)?	YES = Go to A.2.b.	NOT APPLICABLE = Go to A.3
A.2.b. Are there any pending appeals or litigation regarding that authorization?	YES = Facility is not eligible.	NO = Go to A.2.c.
A.2.c. Was the existing dam, diversion, or impoundment at the Facility recommended for removal or decommissioning by Resource Agencies or by a broad representation of interested persons and organizations in the local and regional community prior to the addition of the Facility's generating capacity?	YES = Facility is not eligible.	NO = Go to question A.2.d.
A.2.d. For a Facility added to an existing development that was not previously operated for hydropower generation, is the Facility independent of the continued purpose, economic rationale, and operating regime for the dam, diversion, or impoundment?	YES or N/A = Go to A.2.e.	NO = Facility is not eligible.
A.2.e. Did the addition of generating capacity to the Facility result in changes to flows or reservoir levels (is the water surface elevation at any given location and time at an elevation different than what would have occurred in the absence of the hydroelectric Facility?)	YES = Go to A.2.f.	NO = Go to A.3.
A.2.f. Were any changes to flows or reservoir levels the result of agency recommendations or license conditions that were intended solely to improve the environmental quality of the affected waterway? A Resource Agency Letter confirming the intent of the conditions and describing how they improved the environmental quality of the waterway is encouraged.	YES = Go to A.3.	NO = Facility is not eligible

<b>A.3. General Eligibility: Facility Removal Recommendation</b>		
Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?	NO = Go to criterion B. Settlement Agreements	YES = Facility is not eligible.

**CRITERION B: SETTLEMENT AGREEMENTS**

OVERVIEW: Settlement Agreement questions apply only to Facilities whose operations are governed, in whole or in part, by a Settlement Agreement (see Definitions section, below). LIHI encourages comprehensive Settlement Agreements as the basis for relicensing. Settlement Agreements represent openness, local decision-making, and an equilibrium between competing interests and priorities. LIHI accepts Settlement Agreements consistent with these principles as representative of the most recent Resource Agency Recommendations.

<b>B. Applicability of Settlement Agreement Criterion</b>		
Are the Facility/ies’ operations governed, in whole or in part, by a Settlement Agreement?	YES = Review LIHI Guidance on Settlement Agreements and respond to questions.	NO = Pass, go to C. F lows.

**LIHI Guidance on Settlement Agreements**

Though licenses increasingly are reached through negotiated settlements, a small number of licenses achieved by Settlement Agreement do not reflect the principles summarized above, and described in greater detail below. LIHI therefore reserves the discretion to determine that a Settlement Agreement will or will not constitute recent Resource Agency Recommendations for the purpose of LIHI’s criteria review.

LIHI will not second-guess the outcome of the Settlement Agreement, the intentions of the settling parties, or the balance that those parties were able to achieve at the negotiating table. Nor will LIHI ask questions about the private and confidential discussions that went into the development of any final settlement agreement. Rather, LIHI wants to encourage – and ensure – that the public portion of the licensing process that led to that Settlement Agreement is one that reflects the principles of openness, transparency, and public participation.

LIHI treats Settlement Agreements that are part of a FERC proceeding, where a Resource Agency is party to, or concurs in, the Settlement Agreement, as having the effect of becoming the latest Resource Agency Recommendation for that Resource Agency on the topics covered by the settlement, if it can be shown that the Settlement Agreement has the following attributes:

- **Inclusiveness:** all interested stakeholders are invited to participate in settlement negotiations related to their interests.
- **Transparency:** the study methods, data, and results are readily available to stakeholders.
- **Governance, Education, and Funding:** the Applicant and stakeholders established mutually agreeable “ground rules” for the Settlement Agreement process.

- **Study Requests, Study Plans and Contractor Selection:** the Applicant made reasonable efforts to resolve disputes about study requests, study plans, and contractor selection (lawyers, scientists, engineers, and other professionals).

An Applicant may respond to the Settlement Agreement questions that follow in one of two ways. One option is to respond via interview with a LIHI staff person, who will prepare a written summary that an Applicant can review and edit prior to the summary’s inclusion in the final application. Alternatively, the Applicant may provide written responses in a draft application, with the understanding that LIHI staff may request supplemental information to achieve a complete response.

**LIHI SETTLEMENT AGREEMENT QUESTIONS**

<b>B.1. Pre-Application Document</b>
If a pre-application document was required for your most recent licensing proceeding, please describe your outreach to interested stakeholders during the development of this document, and how such outreach contributed to the document.
<b>B.2. Studies</b>
B.2.a. If a pre-application document was required for your most recent licensing proceeding, please describe your outreach to interested stakeholders during the development of this document, and how such outreach contributed to the document.
B.2.b. Did the Applicant permit interested stakeholders to participate in meetings with Resource Agencies to develop or implement the study plan?
B.2.c. Did the Applicant disclose the computer models, other methodologies, data, and results from all studies so that interested participants could independently analyze study assumptions and results? If not, please explain.
B.2.d. Did the development of the study plan involve any informal dispute resolution? If so, please describe the nature of each dispute and its resolution. <ul style="list-style-type: none"> <li>i. Did the Applicant reject any study requests, in part or whole, made by state or federal agencies? Please describe.</li> <li>ii. Were there any formal study plan disputes filed with FERC? If so, please describe the nature of each dispute and its resolution.</li> <li>iii. If stakeholders requests additional studies or information after the initial adoption of the study plan, how did the Applicant respond to such requests?</li> </ul>
<b>B.3. Settlement</b>
B.3.a. Did the Applicant permit interested stakeholders to participate in settlement discussions dealing with proposed license terms and conditions?
B.3.b. Did any Resource Agencies or stakeholders decline to sign the final settlement agreement? If so, please describe the nature of their objection to the settlement.

<p>B.3.c. Did the Applicant or any party seek a hearing under the Energy Policy Act of 2005 (EPAct) disputing issues of material fact underlying federal agency preliminary conditions or prescriptions under § 4(e) or § 18 of the Federal Power Act? If so, what was the result of this hearing?</p> <p>i. If the above dispute was resolved through a negotiated settlement between the Applicant and the relevant federal agency, were other parties who intervened in the EPAct hearing invited to participate in such settlement negotiations?</p> <p>ii. Did the above dispute involve disputed issues that were the subject of a rejected agency study request? If so, please explain.</p>
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After responding to the Settlement Agreement questions the Applicant should continue to Criterion C. Flows.

**CRITERION C: FLOWS**

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**OVERVIEW:** The Flows Criterion is designed to ensure that the river provides healthy flows for riverine and riparian ecosystems, fish, wildlife and water quality.

<b>C.1. Flows: True Run of River Operations</b>		
C.1.a. Are instantaneous inflows (allowing for evaporation, transpiration, and seepage) equal to outflows?	YES = GO TO C.1.B	NO = go to C.3
C.1.b. Are flows into the Facility altered by any dam or hydropower Facility upstream?	YES = GO TO C.2	NO = go to C.1.c.
C.1.c. Does the Facility include a bypass reach?	YES = GO TO C.3	NO = Pass, go to criterion D. Water Quality

**GOAL:** To distinguish Facilities that do not alter natural flows from those that do, and to direct the latter to provide additional information relating to flows affected by hydropower operations in the watershed.

**STANDARD:** Inflows to the Facility are unaltered, and the Facility lacks a bypass reach and its operation cannot alter river flows in any manner save for incidental evaporation, transpiration, and groundwater seepage in the reservoir.

<b>C.2. Flows: Modified Run of River Operations</b>		
C.2.a. Does the Applicant for LIHI certification (or a parent or subsidiary company, or otherwise associated entity) have operational control in whole or in part over flow alterations upstream of the Facility?	YES = go to criterion C.3	NO = go to C.2.b.
C.2.b. Does the Facility include a bypass reach?	YES = go to criterion C.3	NO = Pass, go to criterion D. Water Quality

**GOAL:** To distinguish those Facilities that do not significantly affect downstream flows and do not have a bypass reach, and whose owners (or related entities) have no operational control over flows modified upstream of the Facility, from those that do.

**STANDARD:** Operational control means either by direct or indirect ownership of upstream storage or by having headwater storage agreements and sharing associated costs with another entity, or other contractual arrangement.

<b>C.3. Flows: Regulated Flows – Quantitative Approach</b>		
C.3.a. Does the Facility operate in a daily peaking or load-following mode?	YES = go to C.4.	NO = Go to C.3.b.
C.3.b. Do <i>all</i> Facility-affected reaches (including bypass reaches, if applicable) meet Aquatic Base Flow standards or “good” habitat flow standards calculated using the Montana-Tennant method?	YES = Pass, go to criterion D. Water Quality	NO = Go to C.4.

**GOAL:** Among Facilities that affect flow regimes, to distinguish those that allow the river to function more or less as a natural river and do not engage in load following (i.e., within-day fluctuations) and whose operations still provide important elements of the natural flow paradigm.

**STANDARD:** The Facility does not engage in load following, and the Facility is in Compliance with a flow release schedule, both below the tailrace and in all bypassed reaches, that at a minimum meets Aquatic Base Flow (ABF) standards or “good” habitat flow standards calculated using the Montana-Tennant method.

Note: In 2010 LIHI will amend this question to replace the ABF and Tennant methods with a new quantitative method. Recent advances in river science have emphasized the importance of a range of flow levels and flow components (e.g., floods, high-flow pulses) for river health, a concept often referred to as the natural flow paradigm. Most river scientists today understand that a flow regime that only includes minimum or baseflows will not adequately protect river function and health. Because standard-setting methods such as ABF and Tennant evaluate primarily, or only, baseflow levels, these quantitative methods do not reflect current understanding of river function. Therefore, LIHI will replace those methods with a new quantitative method that is based on the natural flow paradigm. Beginning in 2009, LIHI plans to convene a process for developing a new quantitative method and will solicit public input about the development of such a method. Applicants who begin the review process before the promulgation of the new quantitative method will have the continued option of using ABF or Tennant.

<b>C.4. Flows: Regulated Flows – Qualitative Approach</b>		
C.4.b Is the Facility in Compliance with Resource Agency Recommendations issued after January 1, 1990 regarding flows for fish and wildlife protection, mitigation and enhancement (including seasonal and episodic variations) that FERC has included as a condition in a license or that are otherwise legally binding? Please document that Compliance.	YES = Pass, Go to D. Water Quality.	NO = Facility is not eligible.

**GOAL:** To provide Facilities that do not have a run-of-river flow regime, or those that include a bypass reach, with an alternative means of demonstrating that the river has healthy flows for fish, wildlife and water quality.

**STANDARD:** The flow regime complies with the most Recent Resource Agency Recommendations, provided those recommendations were issued after January 1, 1990.

**CRITERION D: WATER QUALITY**

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**OVERVIEW:** The Water Quality Criterion is designed to ensure that water quality in the river is protected. The Water Quality criterion has two parts. First, a Facility must demonstrate that it is in Compliance with state water quality standards, either by producing a recent Clean Water Act Section 401 certification or providing other demonstration of Compliance. Second, a Facility must demonstrate that it has not contributed to a state finding that the river has impaired water quality under Clean Water Act Section 303(d).

<b>D.1. Water Quality: Compliance with Section 401 Certification or Water Quality Standards</b>		
D.1.a. Was the Facility licensed or relicensed after January 1, 2010? <i>[Note: This is a date after which the new LIHI criteria are expected to be in effect, and projects in the LIHI certification “pipeline” already processed.]</i>	YES = Go to D.1.b.	NO = Go to D.1.c.
D.1.b. Is the Facility in Compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification?  <u>Or</u>  If there is a Settlement Agreement governing water quality, is the Facility in Compliance with the water quality requirements of that Settlement Agreement?	YES = Go to D.2.	NO = Facility is not eligible.
D.1.c Is the Facility in Compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification issued for the Facility after January 1, 1990?  <u>Or</u>  Is the Facility 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 all Facility-affected reaches?  <u>Or</u>  If there is a Settlement Agreement governing water quality, is the Facility in Compliance with the water quality requirements of that Settlement Agreement?	YES = Go to D.2.	NO = Facility is not eligible.

**GOAL:** To ensure Facility Compliance with state water quality standards.

**STANDARD:** The Facility is in Compliance with state water quality standards.

If the Facility was licensed before January 1, 2010, the Applicant should obtain a Resource Agency Letter confirming that: (1) the Facility is in Compliance with all conditions issued pursuant to a valid water quality certification issued after January 1, 1990; or (2) if the relevant Resource Agency did not issue a water quality certification, the project is 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 all Facility-affected reaches. A waiver of certification authority by the state does not qualify as water quality certification. If the Facility was licensed by FERC after January 1, 2010, the Applicant must have a valid water quality certification and should obtain a Resource Agency Letter confirming that the Facility is in Compliance with all conditions issued pursuant to that certification. Once again, a waiver of certification authority by the state does not qualify as water quality certification.

<b>D.2. Water Quality: Impaired Waters</b>		
D.2.a. Is the Facility area or any Facility-affected 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 D.2.b.	NO = Pass, go to E. Reservoir Levels.
D.2.b. If the answer to question D.2 is yes, has there been a determination that the Facility is a cause of that violation?	NO = Go to E. Reservoir Levels.	YES = Facility is not eligible.

**GOAL:** To clarify whether the relevant stretch of river is identified by the state pursuant to Clean Water Act Section 303(d) as having impaired water quality and to ensure that the Facility is not a source of any such impairment.

**STANDARD:** Documentation for this question should include the relevant portion of the most recent list of water bodies designated under Section 303(d). If the relevant stretch of river has been designated as having impaired water quality under Section 303(d), the Facility may still pass the water quality criterion if there has been a determination that the Facility does not contribute to the water quality problem. This determination may include the state’s identification of a list of causes of the violation that does not include the Facility, a Resource Agency Letter explaining that the Facility is not a cause, or a letter from the Facility owner/operator that explains obvious exclusions from causation (*e.g.*, violations due to toxic chemicals from an upstream plant unrelated to the Facility).

**CRITERION E: RESERVOIR LEVELS**

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**OVERVIEW:** Reservoirs commonly change streams and rivers from free-flowing to impounded ecosystems. Reservoirs experiencing changes in water levels that exceed natural fluctuations and timing for lakes in the same region may experience compromised littoral and wetland ecosystems,

water quality, and recreational opportunities created by the reservoir. The Reservoir Criteria are designed to ensure that daily and/or seasonal impoundment fluctuations adequately protect fish, littoral species, wetlands, wildlife including migratory birds, recreation, and water quality, where relevant.

<b>E.1 Incremental Hydropower</b>		
E.1.a Does the Facility meet the LIHI definition of Incremental Hydropower?	YES = Go to E.1.b	NO = go to E.2
E.1.b. Did the Facility pass criterion A.2, General Eligibility: Incremental Hydropower?	YES = Pass criterion E and go to F. Fish Passage and Protection	NO = Facility is not eligible.

<b>E.2 Reservoir Present</b>		
E.2.a Does the Facility involve a reservoir?	YES = Go to E.3	NO = go to F. Fish Passage and Protection

**GOAL:** The Reservoir Criterion is designed to ensure that if the Facility involves a reservoir, that ecological, recreational and water quality values are not compromised by reservoir operations.

**STANDARD:** A Facility will pass this criterion at this point if it does not rely on an impoundment and reservoir drawdowns are not of concern. Otherwise, the Applicant must respond to the questions that follow.

<b>E.3 Reservoir Operations – Run of River</b>		
E.3.a. If the Facility reservoir is operated in run of river (ROR) mode, are reservoir fluctuations within the range of unregulated natural lakes for the region or operated in a range that protects and enhances water level-sensitive species?	YES = Go to E.3.b.	NO =Reservoir operation is not ROR, go to E.4
E.3.b. Is the Facility in Compliance with Resource Agency Recommendations issued after January 1, 1990 regarding handling of emergencies, flashboard operations and maintenance exceptions that: i) provide adequate consideration and protection for water level sensitive resources, and ii) that FERC has included as a condition in a license or that are otherwise legally binding?	YES = go to F. Fish Passage and Protection	NO = Facility is not eligible.

**GOAL:** The reservoir criterion is designed to recognize that ROR operations typically best maximize the lentic (pond/lake) ecosystem values created by the reservoir.

**STANDARD:** The Facility relies on an impoundment, but reservoir drawdowns approximate ‘natural’ water level fluctuations, or are implemented according to a regime that protects and

enhances water level-sensitive species; and drawdown exceptions for emergencies, flashboards and maintenance consider resource protection, where applicable.

<b>E.4 Reservoir Operations – Non-Run of River</b>		
Is the Facility in Compliance with Resource Agency Recommendations issued after January 1, 1990 for a drawdown regime and protocols for emergencies, flashboard operations and maintenance exceptions to protect ecologically and recreationally sensitive resources of concern (e.g. held within an identified range for critical time periods to protect waterfowl and loon nesting needs, meet summer recreation needs, provide an intentional flow release for downstream resources, etc.)?	YES or NOT APPLICABLE = Go to F. Fish Passage and Protection	NO = Facility is not eligible.

**GOAL:** To recognize that storage reservoir operations can conflict with the goal of maximizing lentic (pond/lake) ecosystem values created by the reservoir, but achieve a balance between resource protection and operation needs.

**STANDARD:** Compliance with Resource Agency Recommendations that recognize that reservoir fluctuations are outside ‘natural’ water level fluctuations and lentic ecosystem values created by the reservoir are not maximized, but that 1) adequately protect key water level dependent resources identified by Resource Agencies and stakeholders, and 2) apply drawdown exceptions for emergencies, flashboards and maintenance consider resource protection, where appropriate.

**CRITERION F: FISH PASSAGE AND FISH PROTECTION**

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**OVERVIEW:** The Fish Passage and Fish Protection Criterion is designed to ensure that, where necessary, the Facility provides safe, timely, and effective passage for *Migratory Fish* and the Facility protects fish from project operations in cases where fish passage is not appropriate.

<b>F.1. Presence of Migratory Fish at the Facility</b>		
F.1.a Are there historic records of Migratory Fish movement through the Facility Area or any affected reaches that are now extirpated from the Facility area or any affected reaches?	YES = Go to F.1.b	NO = Go to F.1.c
F.1.b. Can the Applicant demonstrate that the extirpation was not due in whole or part to the Facility?	YES = Go to F.1.c	NO = Facility is not eligible.
F.1.c Are Migratory Fish present in the Facility Area?	YES = Go to F.2	NO = Go to F.3

**GOAL:** To determine if there are Migratory Fish present in the Facility Area. If there are no Migratory Fish present but a historic record of such fish exists, the Applicant must demonstrate that the Facility is not the cause of the extirpation.

**STANDARD:** Determine if there are Migratory Fish present at the Facility and demonstrate that the Facility is not responsible in whole or part for the extirpation of the fish from the Facility area or affected reaches by obtaining a Resource Agency Letter.

Note: If the record about the historical presence of Migratory Fish is conflicting, ask: does the weight of the record show that such species moved through the Facility area on a more than incidental basis? If so, and if the fish are not now present, the answer to F.1.a is “Yes” and the Applicant should proceed to Question F.1.b. However, if the weight of the conflicting record shows that such movement did not occur, or if there is no record of such movement, the correct answer to Question F.1.a is “No” and the Applicant should proceed to Question F.1.c.

<b>F.2. Fish Passage</b>			
F.2.a.	Is the Facility in Compliance with a Resource Agency Recommendation for Fish Passage?	YES = Go to F.4 N/A = Go to F.2.b	NO = Facility is not eligible.
F.2.b.	Has the Resource Agency had an opportunity to issue a Recommendation for Fish Passage After January 1, 1990?	YES = Go to F.3	NO = Go to F.2.c
F.2.c.	Are 100% upstream and downstream Fish Passage survival rates for Migratory Fish at the dam documented using a generally accepted monitoring methodology?	YES = Go to F.4	NO = Go to F.2.d
F.2.d.	Has the Applicant obtained a Resource Agency Letter confirming that the Applicant has demonstrated that the upstream and downstream Fish Passage measures (if any) at the Facility are appropriately protective of the fishery resource?	YES = Go to F.4	NO = Facility is not eligible.

**GOAL:** To ensure that the Applicant provides safe, timely, and effective Fish Passage for Migratory Fish throughout the Facility, as deemed necessary by Federal and/or state Resource Agencies.

**STANDARD:** Compliance with Resource Agency Recommendation for Fish Passage issued after January 1, 1990. The Applicant must provide safe, timely, and effective Fish Passage for all targeted Migratory Fish resources. If a Resource Agency Recommendation calls for Fish Passage 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), the Applicant must provide documentation of that Recommendation and the Applicant’s legally enforceable commitment to comply with that Recommendation.

If a Resource Agency has not had an opportunity to Recommend Fish Passage After January 1, 1990, the Applicant must provide documentation of passage survival rates to meet criterion F.2.c. Otherwise, to satisfy criterion F.2.d., the Applicant must obtain a Resource Agency Letter stating that Fish Passage (whether present or absent) is acceptable to the Resource Agency and adequately protective of the fishery resource. The Letter should also, if possible, refer to the Resource Agency’s substantive standards for protection of the resource. A Letter that simply states that Fish Passage provisions have not been required is not sufficient. Because this alternative is being used as a substitute for a Resource Agency’s having the opportunity to make a more formal prescription, the Letter must be prepared for the purpose of this application; a general Letter will not be sufficient, nor will an explanation of why the Applicant was unable to obtain a Letter. Documentation should include the Letter, and evidence of Compliance with the passage conditions specified in the Letter.

<b>F.3. Resource Agencies Declined to Issue Recommendations for Fish Passage</b>		
F.3.a. Did the Resource Agencies decline to issue a Recommendation for Fish Passage?	NO = Go to F.4	YES = Go to F.3.b
F.3.b. Did the Resource Agencies decline to issue a Recommendation for Fish Passage because of the technological infeasibility of passage?	NO = Go to F.3.c	YES = Facility is not eligible
F.3.c. Did the Resource Agencies decline to issue a Recommendation for Fish Passage because of the absence of habitat upstream of the Facility due at least in part to the Facility?	NO = Go to F.4	YES = Facility is not eligible

**GOAL:** To ensure that the Facility’s physical nature or environmental impacts are not the reason that Resource Agencies declined to issue a Recommendation for Fish Passage when afforded the opportunity to do so after January 1, 1990.

**STANDARD:** Applicants must provide a Resource Agency Letter describing the reasons for declining to issue Recommendation for Fish Passage at the Facility. Documentation should include evidence of the rationale for the Resource Agency’s decision not to recommend Fish Passage.

Where no recent Recommendation for Fish Passage exists and Migratory Fish are still present in the area, the Applicant must demonstrate that the Resource Agency did not recommend Fish Passage for a valid environmental reason (e.g. passage would facilitate proliferation of invasive species or the spread of contaminated fish, etc.)

This criterion lists two possible reasons that Resource Agencies declined to issue a Recommendation for Fish Passage when given the option to do so after January 1, 1990. Neither of these are acceptable reasons. The first reason, technological infeasibility of Fish Passage, is expected to apply primarily to dams which are too high for effective Fish Passage, but may also apply in other situations, such as when a Migratory Fish species (e.g., sturgeon) is not capable of successfully using Fish Passage. The second reason is that the Facility has destroyed upstream habitat for the Migratory Fish, and thus there is no reason to pass fish. In each of these cases, the Facility cannot be considered for certification because the Facility has had a direct adverse impact on the Migratory Fish.

<b>F.4 Fish Protection</b>		
Is the Facility in Compliance with Resource Agency Recommendations to protect fish from entrainment and other project impacts?	YES or N/A = Pass, go to G. Watershed Protection	NO = Facility is not eligible.

**GOAL:** To demonstrate that fish are adequately protected from entrainment and other project impacts in cases where Fish Passage is not appropriate.

**STANDARD:** Evidence of Compliance with Resource Agency Recommendations for fish protection. Examples of fish protection include but are not limited to measures such as screens, trash racks, and tailrace barriers that protect fish from being entrained into the turbine intake and

falsely attracted to the turbine. If no Resource Agency Recommendation was issued, the proper response to Question F.4. is N/A.

**CRITERION G: WATERSHED PROTECTION**

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**OVERVIEW:** The Watershed Protection Criterion is designed to reward Facility/ies with an extra three years of certification if they are providing “enhanced” protection for the conservation of cultural resources, fish, wetland and wildlife habitat, water quality, aesthetics and/or low-impact recreation through riparian buffers. Facility/ies pass this criterion, but do not receive additional years of certification, if they demonstrate Compliance with an approved shoreland management plan regarding protection, mitigation or enhancement of shorelands surrounding the Facility arising from FERC license requirements and/or a Settlement Agreement.

<b>G.1. Protected Riparian Buffer Zone</b>		
Is there a protected riparian buffer zone dedicated to the protection of fish, wetland and wildlife habitat, water quality, aesthetics, cultural resources 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 = Go to H. Threatened and Endangered Species and receive 3 extra years of certification.	NO = go to G.2.

**GOAL:** Enhanced riparian land protection for the conservation of fish, wetland and wildlife habitat, water quality, cultural resources, aesthetics and/or low-impact recreation.

**STANDARD:** The Facility has a majority of the riparian buffer zone dedicated for conservation purposes to protect fish, wetland and wildlife habitat, water quality, cultural resources, aesthetics and/or low-impact recreation in an area 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

<b>G.2. Watershed Enhancement Fund</b>		
Has the Facility owner/operator established an approved watershed enhancement fund that: a) could achieve within the Facility’s watershed the ecological and recreational equivalent of land protection in G.1.,and b) has the agreement of appropriate stakeholders and state and federal Resource Agencies?	YES = Go to H. Threatened and Endangered Species and receive 3 extra years of certification.	NO = go to G.3.

**GOAL:** Compensatory riparian land protection for the conservation and protection of fish, wetland and wildlife habitat, water quality, cultural resources, aesthetics and/or low-impact recreation in the vicinity of the Facility.

**STANDARD:** The Facility has an approved watershed enhancement fund that has the agreement of appropriate stakeholders and state and federal Resource Agencies that can achieve within the Facility’s watershed the cultural, ecological and/or recreational equivalent of land protection in G.1.

<b>G.3. Buffer or Watershed Plan</b>		
Has the Facility owner/operator established an appropriate shoreland buffer or equivalent watershed land protection plan for conservation purposes (to protect cultural resources, fish and wildlife habitat, water quality, aesthetics and/or low impact recreation) through a Settlement Agreement with appropriate stakeholders and that has state and federal Resource Agencies' agreement?	YES = Go to H. Threatened and Endangered Species	NO = go to G.4

**GOAL:** Appropriate riparian land protection for the conservation and protection of cultural resources, fish, wetland and wildlife habitat, water quality, aesthetics and/or low-impact recreation in the vicinity of the Facility,.

**STANDARD:** The Facility has established, through the licensing process or Settlement Agreement with appropriate stakeholders and with state and federal Resource Agencies' agreement, an appropriate shoreland buffer or equivalent watershed land protection plan to protect cultural resources, fish, wetland and wildlife habitat, water quality, aesthetics and/or low impact recreation).

<b>G.4. Shoreland Management</b>		
Is the Facility in Compliance with both state and federal Resource Agency Recommendations in a license approved shoreland management plan regarding protection, mitigation or enhancement of shorelands surrounding the Facility.	YES = Go to H. Threatened and Endangered Species	No = Facility is not eligible.

**GOAL:** Adequate conservation and protection of cultural resources, fish, wetland and wildlife habitat, water quality, aesthetics and/or low-impact recreation in the vicinity of the Facility.

**STANDARD:** The Facility in Compliance with both state and federal Resource Agencies' shoreland protection requirements to protect specifically identified high value ecological, recreational, aesthetic or cultural resource lands in the riparian zone of the Facility.

**CRITERION H: THREATENED AND ENDANGERED SPECIES PROTECTION**

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**Overview:** The Threatened and Endangered Species Protection Criterion is designed to ensure that the Facility does not negatively impact state or federal threatened or endangered species.

<b>H.1. Listed Species</b>		
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 H.2	NO = Pass, go to I. Energy Efficiency.

**GOAL:** To determine whether the Facility has the potential to negatively impact state or federal threatened or endangered species.

**STANDARD:** Confirm the absence or presence of threatened or endangered species on state or federal Endangered Species Acts lists.

<b>H.2. Recovery Plan</b>		
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 H.3 N/A = Go to H.3	NO = Facility is not eligible.

**GOAL:** To demonstrate that the Facility is in Compliance with all relevant conditions in the species recovery plan for the threatened or endangered species.

**STANDARD:** If there is a recovery plan, documentation should include the recovery plan and evidence of Compliance. The Applicant should obtain a Resource Agency Letter from the Resource Agency that issued the recovery plan confirming that: (1) the recovery plan is still valid; and (2) the Facility is in Compliance with the all relevant conditions contained in that recovery plan. Please see the general instructions and definitions above for more guidance regarding this letter. If no recovery plan has been issued, the correct answer to Question H.2. is N/A and the Applicant should proceed to Question H.3.

<b>H.3. Incidental Take</b>		
<p>If the Facility has received authority to incidentally <i>Take</i> a listed species, is the Facility in Compliance with conditions pursuant to that authority? Acceptable authorities include:</p> <p>H.3.a. Consultation by a relevant agency pursuant to ESA Section 7 resulting in a biological opinion, a habitat recovery plan, and/or (if needed) an incidental Take statement;</p> <p>H.3.b. An incidental Take permit obtained pursuant to ESA Section 10;</p> <p>H.3.c. In cases where a species is listed by a state and not by the federal government, authority obtained pursuant to relevant state procedures.</p>	YES = Go to H.4 N/A = Go to H.5	NO = Facility is not eligible.

**GOAL:** To show the Facility/ies' Compliance with relevant conditions in an incidental Take permit or statement, biological opinion, habitat conservation plan, or, in cases where a species is listed by a state and not by the federal government, a relevant state document.

**STANDARD:** If no such authority has been issued, the correct answer to Question H.3. is N/A and the Applicant must pass this criterion through Question H.5. Documentation should include

the relevant endangered species document and evidence of Compliance with conditions in that requirement. The Applicant must document Compliance with a Resource Agency Letter. The letter should confirm that: (1) the authority is still valid; and (2) the Facility is in Compliance with all relevant conditions contained in the authority. Please see the General Instructions above for more guidance regarding this letter.

<b>H.4. Biological Opinion</b>		
<p>If a biological opinion applicable to the Facility for the threatened or endangered species has been issued, can the Applicant demonstrate one of the following?</p> <p>H.4.a. The biological opinion was accompanied by a FERC license or exemption or a habitat conservation plan, or;</p> <p>H.4.b. The biological opinion was issued pursuant to or consistent with a recovery plan for the endangered or threatened species, or;</p> <p>H.4.c. There is no recovery plan for the threatened or endangered species under active development by the relevant Resource Agency.</p>	<p>YES = Go to I. Energy Efficiency.</p> <p>N/A = go to H.5</p>	<p>NO = Facility is not eligible.</p>

**GOAL:** To demonstrate that a Facility that has received authority to incidentally Take a listed species, and that this authority was designed to be a relatively permanent solution to the endangered species issue.

**STANDARD:** Compliance with this criterion can be demonstrated in one of three ways.

Question H.4.a. – If the authority was issued along with long term operational requirements such as a FERC license or habitat conversation plan, this is good evidence that the endangered species resolution was designed to last several decades and the Facility will pass the criterion.

Question H.4.b. – If the biological opinion was issued pursuant to or consistent with a recovery plan, there is also strong evidence that this was designed to be a permanent solution and the Facility will pass the criterion.

Question H.4.c. – A lack of active planning on behalf of the Resource Agencies for a more comprehensive resolution of the endangered species issues is good evidence that the Facility-specific resolution was designed to be relatively permanent, and thus the Facility will pass the criterion. However, if a Resource Agency has set a deadline for completion of a recovery plan within two years, this is a sign that the recovery plan is under active development, and thus the Endangered Species Act operational authority issued to the Facility was not expected to last a long time.

<b>H.5. Finding of No Negative Effect</b>		
<p>If H.2. and H.3. are not applicable, has the Applicant demonstrated that the Facility and Facility operations do</p>	<p>YES = Pass, go to I. Energy</p>	<p>NO = Facility is not eligible.</p>

not negatively affect listed species?	Efficiency	
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**GOAL:** To demonstrate that the Facility does not affect the species in circumstances where H.2 and H.3 are not applicable.

**STANDARD:** The Applicant should obtain a letter from a relevant Resource Agency confirming that the Facility does not negatively affect the listed species. Documentation should include a basis for the conclusion and supporting studies. Please see the general instructions and definitions above for more guidance regarding this letter.

**CRITERION I: ENERGY EFFICIENCY**

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**OVERVIEW:** If a Facility is operated efficiently there may be gains in energy produced. Since Facility owners use the public waters to generate electricity, making the most efficient use of that public resource is to everyone’s advantage. It is also important that Facility owners set the standard for efficient use of the water-generated electricity by insuring that all machines and devices that operate on electrical energy meet industry standards for optimum efficiency. Efficient operations may also reduce downstream migrant fish mortality for some hydropower Facilities.

<b>I.1 Turbine Efficiency</b>		
Have the turbines had more efficient runners installed in the last five years?	YES = Add 1 year of certification and go to I.2	NO = Go to I.2

**GOAL:** To encourage the Facility to make the most effective use of flow resources.

**STANDARD:** Provide documentation showing that the turbines have been upgraded with new runners within the last five years.

<b>I.2. Efficiency and Fish Passage</b>		
Has the Applicant upgraded the Facility by adding turbines designed to increase survival rates of downstream migrating fish?	YES = Add 1 year to certification and go to J. Cultural Resource Protection	NO = Go to J. Cultural Resource Protection

**GOAL:** To encourage the Facility to reduce downstream fish mortalities.

**STANDARD:** The Applicant must submit proof of having installed turbines that are designed to reduce downstream fish mortalities.

**CRITERION J: CULTURAL RESOURCE PROTECTION**

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**OVERVIEW:** The Cultural Resource Protection Criterion is designed to ensure that the Facility does not inappropriately impact Cultural Resources. Cultural Resources must be protected either

through Compliance with FERC license or exemption provisions, or through development of a plan approved by the relevant state or federal agency or Native American Tribe.

<b>J. Cultural Resource Protection</b>			
J.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 K. Recreation.  N/A = Go to J.2.	NO = Facility is not eligible.
J.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 Native American Tribe, 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 K. Recreation.	NO = Facility is not eligible.

**GOAL:** To ensure that a Facility/ies construction and operations are appropriately protective of cultural resources.

**STANDARD:** Documentation from the relevant Resource Agencies that the Facility has complied with cultural resource protection obligations.

**CRITERION K: RECREATION**

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**Overview:** The Recreation Criterion is designed to ensure that the Facility provides reasonable access to the water and accommodates recreational activities.

<b>K.1. Levels and Flows Information</b>			
	If recreational activities are affected by Facility operations on river flows or reservoir levels, does the Facility provide the public with relevant, readily accessible, and up-to-date information on reservoir levels and river flows?	YES or N/A = Go to K.2.	NO = Facility is not eligible.

**GOAL:** To ensure that the Facility provides the public with relevant and up-to-date information on reservoir levels and river flows.

**STANDARD:** The Facility provides the public with relevant and up-to-date information on reservoir levels and river flows. Examples include but are not limited to: USGS real-time stream gauges, regularly-updated hotlines or websites with information about flows, reservoir levels, and scheduled or forecasted releases or drawdowns. In cases where flows rise or fall rapidly, either through Facility operations or emergency spills, the Facility should provide warning that is adequate to protect recreational users downstream. If this question is not applicable, please explain why.

<b>K.2. Access</b>		
Where the Applicant has control over recreational facilities or access, does the Facility provide reasonable access to the reservoir, affected river reaches, lands within the Facility boundary, and other recreational resources without fees or charges? If a fee is charged for specific amenities, please explain.	YES or N/A = Go to K.3	NO = Facility is not eligible.

**GOAL:** To ensure that the Facility provides free and adequate access to the publicly owned water.

**STANDARD:** A Facility must provide access to recreation at the reservoir, at all affected river reaches, and on lands within the project boundary. However, if a state or federal agency has prohibited or recommended prohibiting access to any part of the reservoir or downstream reach, this provision does not apply to that area. The Applicant must provide access to the publicly owned waters without fee or charge. While access must be free, reasonable charges may be imposed for use of enhanced project amenities so long as the use of those facilities is not required as a precondition to access and it is possible to gain reasonable access to the publicly owned waters at the Facility without charge. If this question is not applicable, please explain why.

<b>K.3. Mitigation</b>		
Does the Facility adequately mitigate for or enhance relevant reservoir and/or downstream Facility-affected recreational resources (e.g. by maintaining reservoir levels for summer recreational use, scheduled whitewater releases, providing tailrace fishing access, etc.)?	YES or N/A = <b>PASS, FACILITY MEETS LIHI CRITERIA.</b>	NO = Facility is not eligible.

**GOAL:** To ensure that the Facility mitigates recreational impacts related to the operation of the Facility.

**STANDARD:** A certified Facility should mitigate impacts to recreational resources caused by the operation of the Facility, and/or enhance relevant recreational resources. Operational impacts include flow-related impacts on Facility-affected river reaches, and impacts related to reservoir levels. Recognizing that operational changes intended to benefit one form of recreation may be detrimental to another, a Facility should balance competing demands by providing reasonable mitigation for all forms of recreation where the public has expressed an interest in such mitigation. If this question is not applicable, please explain why.