

**Full Application Review for
Low Impact Hydropower Certification of
Webster-Pembroke Hydroelectric Facility**



Prepared by Peter Drown, Cleantech Analytics LLC

May 5, 2015

Cleantech
analytics LLC

I. Executive Summary

This report reviews the Full Original Application for the Webster-Pembroke Hydroelectric Project (“Webster-Pembroke”) located on River Mile 34 of the Suncook River near Pembroke, New Hampshire. Eagle Creek Renewable Energy LLC (“Eagle Creek”) submitted a timely and complete application for Low Impact Certification to the Low Impact Hydropower Institute (“LIHI”) on February 23, 2015. The Pembroke project consists of utilizing the total hydrostatic head available between the headwater of the Webster Dam, with 4 feet of flashboards (elevation 278 NGVD), and the tailwater of the Pembroke Dam (elevation 226 NGVD) which utilizes a gross head of about 52 feet. Flows are diverted through the existing Webster Canal, through a 460-foot, 8-foot diameter 3/8” welded steel penstock to a full Kaplan Turbine rated at 2.6 MW, located in the old Pembroke Powerhouse which is immediately downstream of the Pembroke Dam. The project received a FERC License Exemption (#3185) on February 24, 1983.

The Suncook River travels from Crystal Lake in Gilmanton, New Hampshire, to the Merrimack River in Pembroke, for a stretch of roughly 35.7 miles. Flows for the river have high seasonal variations with high flows recorded in excess of 13,000 CFS to average lows of about 3 CFS, and a mean annual flow of 390 CFS. The River passes through a series of active and inactive dam sites prior to its confluence with the Merrimack River. Many of these sites were developed in support of local industrial uses, and the river is currently used primarily for recreational purposes such as fishing, hiking and boating. No compliance issues for the Webster-Pembroke Facility were noted on the FERC e-library.

The current operator of the facility, Eagle Creek Renewable Energy Management (“ECREM”), has entered into a binding Memorandum of Agreement (“MOA”) with U.S. Fish and Wildlife Service (“USFWS”) to establish a plan and schedule for addressing fish passage and minimum flow requirements at ECREM’s various hydroelectric projects in New Hampshire, including Webster-Pembroke. This MOA is intended as a critical step to achieving Low Impact Certification, and requires the applicant to take specific steps to support measures by the USFWS to protect aquatic life. Specifically for this facility, ECREM plans to 1) make operational changes to allow downstream passage of river herring and make permanent modifications to facility after consultation with USFWS by September 1, 2015, 2) provide measures for downstream eel passage within 48 months as requested by NHDFG and/or USFWS, and 3) perform study for habitat and bypass reach by December 1, 2014. This last deadline has been shifted to summer of 2015 to allow for the study during low flow conditions.

Consultations with USFWS and New Hampshire Department of Fish and Game (“NHFG”) were held as part of this certification process. Summarized comments from John Warner from USFWS are included in “Detailed Criteria Review” (VI), and confirm that ECREM and USFWS are working actively to pursue the objectives of the MOA. Although some of the deadlines have passed, Warner and the applicant both acknowledged the continued responsibility of ECREM for achieving the objectives, and the applicant has budgeted to fulfill the requirements. A New Hampshire Natural Heritage Bureau DataCheck revealed the potential (not confirmed) existence of several state listed species (see detailed criteria review) in the project area, and consultations with New Hampshire Fish and Game concluded that their agency’s involvement with the MOA minimum bypass flow study requirements in 2015 would be important to satisfy any concerns about possible impacts of project on these species.

II. Recommendation

The proactive approach taken by ECREM to work with resource agencies to ensure the facility operates in harmony with the surrounding environment appears to fit in strongly with LIHI's intended purpose, and makes this facility a strong candidate for certification. After review and consideration of the information provided by applicant, review of the FERC record, and conversations with agencies as noted in the Communications Log (Appendix A,) **in my opinion, the Webster-Pembroke Hydroelectric Project meets LIHI criteria for Low Impact Certification, and recommend this project is certified, subject to the following conditions:**

1. Facility owner shall complete the agreed upon water quality sampling in 2015, receive satisfactory determination from New Hampshire Department of Environmental Services (NHDES) that facility does not negatively impact water quality, and provide results to LIHI by December 31, 2015
2. Facility owner will comply with updated fish passage installation plants in 2015 as specified in the MOA with USFWS, obtain written approval of any required modifications, and report results to LIHI by December 31, 2015
3. Facility owner will perform bypass flow study in consultation with USFWS and NHFG in 2015 and provide results to LIHI by December 31, 2015
4. Facility owner will complete the Operations and Flow Monitoring Plan as required by MOA, obtain written approval by USFWS, and provide results to LIHI by December 31, 2015

In all these conditions, I recommend that LIHI is copied on communications between the facility and USFWS to ensure continued compliance with low impact criteria.

III. Facility Description

Webster-Pembroke Project is located on River Mile 34 (of 36) on the Suncook River near Pembroke, New Hampshire. The project is located approximately one half mile upstream of the China Mill Dam and confluence of Suncook and Merrimack Rivers and approximately 16 miles downstream of the Pittsfield Mill Dam. The river runs for 35.7 miles, from the outlet of Crystal Lake in Gilmantown, New Hampshire through several small towns and rural areas to its confluence with the Merrimack in the town of Suncook. The river experienced heavy flooding in 2006, establishing a new route in several areas and resulting in the largest channel change in a New Hampshire river in systematic topographic mapping history. The flood also resulted in several safety changes, including the removal of several unoccupied dams on the river. The river is characterized by very high flow variations, from average lows of 3 CFS to record high of 13,000 CFS, with an average mean flow of 390 CFS. Fishing and kayaking (recreational, not whitewater,) are the two primary recreation uses of the Suncook River.

A series of active dam sites occur along the length of the Suncook River prior to its confluence with the Merrimack River. Although it is unclear exactly how many are active, their appears to be as many as 14

dam sites¹ along the entire 36 miles of the river's watershed, with the Webster-Pembroke facility being the second to last downstream prior to the confluence. Immediately downstream is the China Mill facility, a privately-owned 1.7 MW facility also located at a former mill site.

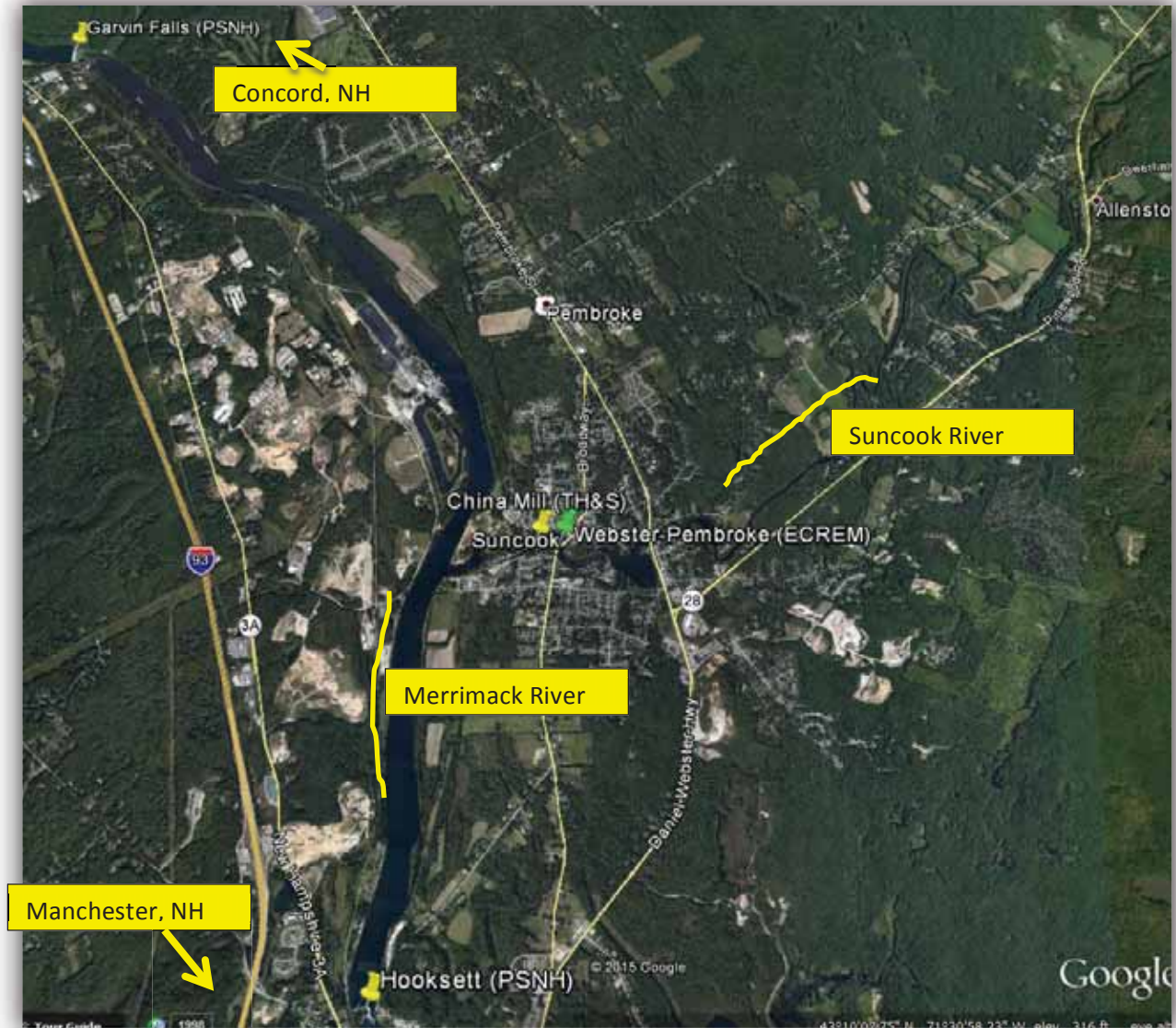


Figure 1 - Geographic Location of Webster-Pembroke Project (and surrounding hydroelectric facilities)

The Webster-Pembroke project technically consists of two dams, the Webster Dam as the primary impoundment and the Pembroke, a stone masonry dam located on the bypass section of the Suncook River receiving the minimum flow release and any spillage from the Webster Dam. The Pembroke Dam is located 1800 feet downstream of the Webster Dam, and the powerhouse is currently adjacent to the Pembroke Dam. The reservoir at Webster-Pembroke has a volume of 147 acre-feet, and a total surface

¹ Unclear from file how many are decommissioned or located on tributaries of Suncook. See http://www.suncookriver.org/files/Maps/Managed_Resources%2011x17.pdf

area of 26 acres. Approximately 4.5 acres are occupied by non-reservoir facilities, including a 460 foot long, 8 foot diameter penstock and a powerhouse containing one horizontal Voith Kaplan turbine/generator that **produces approximately 10 million kilowatt-hours of clean energy in a typical year.**

Partial removal of the Pembroke Dam is currently being proposed, as detailed in a letter provided by Kleinschmidt Associates:

“The reason for the partial removal is to sufficiently eliminate any hazard from dam failure or damage to adjacent property resulting from impounded levels during high flow events. The proposed partial removal addresses the upstream impact caused by the dam during the project design flood flow (100-year storm). Further, analyses has indicated that failure of the remaining portion of the dam under flood flow conditions would not have any significant downstream impact.” Any impact of flow from this removal process will be studied under the flow requirements study in the MOA to be conducted in 2015.



Figure 2 - Project Works at Webster-Pembroke



Figure 3 - Webster Reservoir (looking upstream from Webster dam)



Figure 4 - Power Canal (looking upstream from bypass reach)



Figure 5 - Pembroke Dam releasing minimum flow (powerhouse on left)



Figure 6 - Powerhouse facing downstream at Pembroke

IV. Ownership & Regulatory Status

The Pembroke and Webster dams were originally constructed in 1860 and 1865, respectively, for the purposes of harnessing hydromechanical (and later hydroelectric) power to produce cloth. In 1868 the China Mill Dam was constructed 600 feet downstream for the same purpose. The three mills and associated dams were built and managed by Micajah Pope. In the early 1900s, the Pembroke and Webster facilities were closed and the hydroelectric equipment removed. The mill buildings were eventually converted into apartments. In 1982, competing applications to redevelop the hydroelectric potential were filed with the FERC by the Pembroke Hydro Corporation and Suncook Hydro Corporation.

On February 24, 1983, FERC issued an Order Granting Exemption from Licensing for a Small Hydroelectric Project of 5 MW or Less (to the Pembroke Hydro Corporation) and Denying Major License Application (to the Suncook Hydro Corporation.) No Water Quality Certificate was issued according to the applicant and FERC record. The Webster-Pembroke project commenced commercial operation in 1985. Pembroke Hydro Corporation was later reorganized as Pembroke Hydro Associates Limited Partnership and remained the exemptee for the Pembroke project. Pembroke Hydro Associates LP was acquired by Algonquin Power Co. in 1999 along with all rights and privileges in the exemption. On June 29, 2013, Eagle Creek Renewable Energy LLC, the applicant in this LIHI submittal and current owner of Webster-Pembroke Project, purchased 100% of the interests in Pembroke Hydro Associates LP and now holds the FERC Exemption.

A FERC e-library search was conducted from 1987 – 2015 for the project to determine any areas of noncompliance, and none were discovered. The FERC issued an Order Amending Exemption on January 9, 1991, changing the total authorized capacity of the facility to 2750 KW, from 2600 KW. They noted the increase would not result in any adverse environmental effects. Therefore, the applicant should note the new authorized capacity. On April 29, 2001, the controls for generating unit malfunctioned and the headpond was lowered below the crest of the pneumatic controlled dam. There was a drawdown of 1-4 feet for approximately twelve hours, and discovered the next morning by the project staff. The operator corrected the situation and replaced the failed system, and reported the incident to FERC. FERC concluded the event was not a violation of the exemption. In 2002, FERC conducted an environmental inspection of the facility and found the facility to be in compliance and no issues to report.

The most recent regulatory status of the facility is included in the *Fish Passage and Project Operations Memorandum of Agreement* signed between ECREM and the USFWS, signed on August 14, 2014. This binding agreement is in effect for a term of five years, after which both parties, by mutual agreement, can elect to extend the term for one or more subsequent five-year periods. The purpose of the agreement is to improve fish passage and prevent fish kills at several hydroelectric facilities ECREM recently acquired in New Hampshire, through environmental enhancement measures including providing continuous minimum flows to bypass reaches of the projects, preparing and filing for approval by the Service an Operations and Flow Monitoring Plan, and implementing physical construction of fish passage facilities as required. All activities are coordinated and approved by the Service.

ECREM has confirmed they are following the requirements of the MOA, and are currently preparing the required plans and studies. In addition, they have confirmed that they have budgeted for the 2015 fish passage enhancement work. They have provided commitment to copying LIHI on all communications sent between USFWS and NHFG regarding updated standards that emerge from the process. John Warner from USFWS was contacted to confirm MOA status, and he mentioned he had not yet schedule time to visit site for full assessment. Warner confirmed that although the dates had been passed (due to delays on signing the MOA,) the applicant is still responsible for working with USFWS to achieve the stated objectives. Full status on individual objectives of the MOA can be found under the respective section in Detailed Criteria Review (VI.)

State resources agencies indicated their approval and concurrence with the plans set forth in the MOA. Glenn Normandeau, Executive Director of the New Hampshire Fish and Game Department noted:

“The Department appreciates the work that has been completed by the USFWS, ECREM and others to reach the actions outlined in the MOA, in order to advance the enhancement and protection of fish and habitat. In addition, the Department agrees that the Low Impact Hydropower Institutes (LIHI) should include a provision acknowledging the applicant’s concurrence with implementing minimum flows and fish passage measures for herring and/or American eel as prescribed in the MOA, and to undertake such consultations, design development and construction in a timely manner.”

A Natural Heritage Data Check was conducted and revealed the potential existence of state-listed Brook Floater and Blanding’s Turtle in or near the project area. Consultations with Carol Henderson from NHFG were held to determine possible impact on these species, and Henderson indicated that flow requirement study in the MOA should be appropriately protective of these species and include NHFG in the study process. Full comments are included under “Threatened and Endangered Species” in Detailed Criteria VI and Communications Log VII.

V. Public Comments

There were no public comments received during the comment period. Consultations with agencies are noted under the respective section in Detailed Criteria Review (Section VI,) and in the Communications Log (Appendix A.)

VI. Detailed Criteria Review

A.) Flows

1. *Is the Facility in Compliance with Resource Agency Recommendations 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 both the reach below the tailrace and all bypassed reaches?*

YES – PASS go to B. The flow recommendation for the site was issued in the exemption on February 24, 1983, and required the facility to maintain an instantaneous minimum flow release of 10 cfs in the bypassed section of the river between the Webster Dam and Pembroke Dam and below the tailrace. Since this was issued prior to December 31, 1986, it does not constitute the latest recommendation. The ECREM MOA, referenced above from August 14, 2014, has a requirement for the facility to complete minimum flow review in 2014. John Warner from USFWS confirmed that the study would likely occur in June, as he has had not had a chance to visit project and perform full assessment. He mentioned that as part of this assessment the applicant needs to determine how to open a gate that hasn’t been opened in some time, to spill flow into the bypass reach as determined by the study. In regards to the possible existence of Blandings Turtle and Brook Floater in the project area, Carol Henderson from New Hampshire Department of Fish and Game has requested to be kept involved in this study. As part of the

LIHI application, the owner has committed to working with USFWS in completing this process after the spring 2015 freshet, and will copy LIHI on all communications.

Therefore, in my opinion this criterion is passed conditional on the applicant completing the minimum flow study and reach satisfactory minimum bypass flow in consultation with USFWS and NHFG, and keeping LIHI copied on communications throughout the process.

B.) Water Quality

1. *Is the Facility either:*

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*

N/A – no evidence of WQC ever issued

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?*

YES – Go to B.2. Essex Power Services Inc., on behalf of Eagle Creek Renewable Energy, conducted water quality testing in 2013-2014 as required by a sampling plan prescribed by the New Hampshire Department of Environmental Services (NHDES). The sampling was required to determine whether the project caused or contributed to violations of the New Hampshire state water quality standards, as part of the applicant's LIHI application. Data loggers were deployed during flows at or below 3x7Q10, (the prescribed low flows to determine impact as required by the plan,) but based on the NHDES review of data, the data loggers appeared to have suffered mechanical errors which impacted results. As a result, the applicant notified Ted Walsh, NHDES Surface Water Monitoring Coordinator that they plan to re-sample under the appropriate conditions in 2015, and provide the results for review. Mr. Walsh confirmed on February 28, 2015 that the NHDES will work with the applicant to collect the data and determine if the project is impacting water quality (see Appendix A). Therefore, in my opinion this criterion is met conditional upon the applicant keeping LIHI copied on all communications and receiving notification from NHDES that the facility is not causing or contributing to violations in New Hampshire water quality standards in project area.

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?*

NO – Criteria Passed. Portions of the river well upstream of the project area have some water quality concerns but the project area is not impacted, and this section of the river is not listed on the latest (2012) Section 303(d) Rivers list for New Hampshire.

C.) Fish Passage and Protection

1. *Are anadromous and/or catadromous fish present in the Facility area or are they known to have been present historically?*

YES – go to C.2. River Herring (anadromous) and American Eel (catadromous) are both present and ECREM is undertaking new efforts per the MOA to ensure successful passage, as described below.

2. *Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?*

YES – go to C.7. The most recent Fish Passage requirements are contained in the MOA signed with USFWS and ECREM on August 14, 2014. These include both operational changes and physical modifications, including:

1. River Herring Provisions²: Operate sluice gate at trashracks during outmigration in consultation with USFWS and NHFG & review bypass gate, intake velocities & trashracks for permanent passage measure. Modifications to facilities as needed by September 1, 2015.
2. American Eel Provisions: Eel downstream passage measures within 48 months of notification by NHFG &/or USFWS³
3. Complete minimum flow review in 2014 (since moved to 2015)
4. Completed study of habitat and river needs for bypass reach by December 1, 2014 (since moved to 2015)
5. Review upstream fish passage in 2020

The applicant has informed LIHI they have budgeted to fulfill these requirements in 2015. In all of these measures, the applicant will review plans with USFWS and obtain approval upon completion. Conversations with John Warner from USFWS (see Communications Log, Appendix A,) indicate that Warner has not yet had the chance to perform full site assessment. Some dates have been passed, but Warner and the applicant have both acknowledged the continued responsibility of ECREM to meet the requirements. They have agreed to keep LIHI apprised of the efforts and copy on correspondence with agencies. In the MOA and correspondence with the agencies, ECREM is noted to have a strong track record of cooperating with agencies regarding fish passage and agencies have indicated they have a high trust level with this applicant. Therefore, in my opinion the applicant passes this criterion conditional upon reaching acceptable terms and complying with requirements with USFWS and NHFG under MOA, and keeping LIHI copied on all communications with these agencies throughout the process.

² The applicant has been informed by John Warner from USFWS that passage for river herring is not an immediate priority. USFWS would first like to establish a bypass flow appropriate for the project.

³ Identified structural passage measures for eels may be replaced by operational shutdowns after analysis of information.

7. *Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of Riverine fish?*

YES – go to C.8. The Mandatory Fish Passage requirements given in the MOA cover all fish passage concerns at the facility.

8. *Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?*

YES – Criteria Passed. The MOA specifies: “The downstream passage facilities shall consist of measures to protect downstream river herring from impingement and/or entrainment, as well as bypass facilities to assist fish in moving safely past the Projects.” Therefore, the provisions of the MOA fulfill this requirement, and the applicant has committed and budgeted to meet this criterion in 2015.

D.) Watershed Protection

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 average annual high water line for at least 50% of the shoreline, including all of the undeveloped shoreline?*

NO – Go to D2

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?*

NO – Go to D3

3. *Has the Facility owner/operator established through a settlement agreement with appropriate stakeholders, with 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)?*

NO – Go to D4

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?*

Not Applicable – PASS. No shoreland management plan is required.

E.) Threatened and Endangered Species Protection

1. *Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?*

The MOA concluded, “No Federally listed or proposed endangered or threatened species under the Service jurisdiction are known to exist in the Project’s impact areas,” and “no habitat in the Project’s impact areas is currently designated or proposed “critical habitat.” A Datacheck was conducted from the New Hampshire Natural Heritage Bureau and revealed the potential existence of state-listed Bald Eagle (threatened), Brook Floater (endangered), and Blandings Turtle (endangered). (Bald Eagle and Blanding’s Turtle were located nearby but not in the immediate project vicinity.) Consultations were held between the LIHI reviewer and NHFG Environmental Review Coordinator Carol Henderson as part of the review process, and she indicated the Department could not confirm the existence of these species based on available information. However, Henderson mentioned that NHFG would like to be involved in the minimum bypass flow study conducted in 2015 with ECREM and USFWS, to determine the possible existence and mitigation efforts for these species, and indicated that they would have minimal concerns if minimum flow levels were developed and maintained at appropriate levels. Therefore, this criterion is passed contingent on the applicant involving NHFG in the minimum bypass flow review study in 2015 and reaching satisfactory flow levels with NHFG and USFWS.

F.) Cultural Resource Protection

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 – Criteria Passed. The FERC Exemption provided does not include any specific requirements for Cultural Resource Protection. The applicant submitted a Request for Project Review to the New Hampshire Division of Historical Resources on August 16, 2013, to determine any known sites of historic or archaeological significance that occur within the Stevens Mill project boundary. DHR responded on October 10, 2013 indicating that the Pembroke project possesses “no potential to cause effects” to any structure of historical or archaeological significance. In the future if alterations are made to the facility, surveys will be required. ECREM is currently in the process of removing a partial portion of the Pembroke Dam, but is in regular contact with both the State of New Hampshire and FERC regarding this process and this is not in conflict with any requirements in the FERC exemption. In my opinion the applicant passes this criterion.

G.) Recreation

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 – Criteria passed. There are no specific recreational access requirements in the FERC Exemption. However, the applicant has confirmed they permit access within a safe distance from project works at no charge to the public, and considerable amounts of angling, swimming and boating occur near the project. According to the applicant, “recreational access is provided across project lands for angling and

boating in Irish Pond behind Webster Dam and in the pond behind China Mill Dam, the hydroelectric project owned by New Hampshire Hydro Associates immediately below the Pembroke project tailrace.”

In 2002 FERC conducted an Environmental Inspection of the facility and noted, “This is a minor exempted project that has no accessible areas for formal recreational public use. The intake and forebay areas are mostly fenced and the steep tailrace also precludes any access. There is some private boating on the lake where homeowners have access to the shoreline. Public safety measures are adequate and the Exemptee has installed an automated PLC system for project operation.”

3. *Does the Facility allow access to the reservoir and downstream reaches without fees or charges?*

Yes – Criteria Passed.

H.) Facilities Recommended for Removal

1. *Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?*

No – PASS, Facility is Low Impact

Appendix A
Supporting Communications Log (Reverse Chronological Order)

Date: 04/10/15

Contact Person: John Warner

Agency: U.S. Fish and Wildlife Service

Title: Assistant Supervisor, Conservation Planning Assistance and Endangered Species

I had a phone call with John Warner from USFWS to discuss Pembroke Project, in addition to general comments about MOA process with ECREM. Warner indicated that although many of the dates initially agreed to in the MOA had been passed, he wanted to make sure the LIHI report reflected the ongoing responsibility of applicant to meet the objectives. In general the applicant is responsive and has been accommodating with working with USFWS to achieve the objectives, several of which have changed in scope and schedule since the MOA was signed. For the Pembroke Project, Warner indicated he had not yet scheduled a time to do full site assessment. Flow requirements would be developed over the summer, likely in June, when low flow conditions would allow an accurate assessment. The applicant will need to figure out how to spill water from a gate that hasn't been opened in considerable time, in order to put flow into the bypass reach. They are in agreement that the requirement is still outstanding, and Warner indicated he has a high trust level with the applicant that the objectives will be met. He did indicate that it would be important for LIHI to have clear requirements to follow terms of MOA, in the unlikely event the project is transferred to a new owner who did not have the history that ECREM does with USFWS. I indicated that the report would have conditions to follow the MOA that must be met for certification, and the project owner would be held responsible for meeting through the annual compliance process with LIHI.

Date: 04/10/15

Contact Person: Carol Henderson

Agency: New Hampshire Department of Fish and Game

Title: Environmental Review Coordinator

I spoke with Carol in regards to a DataCheck from the New Hampshire Natural Heritage Bureau which revealed the possible existence of state-listed Bald Eagle, Brook Floater and Blandings Turtle. Henderson indicated that the NHFG could not definitively confirm the existence of either Brook Floater or Blandings Turtle in the project area. She indicated that if minimum flows were kept at an appropriate level as determined by the flow requirements study in the MOA, then she would not have concerns about the project's impact on the Brook Floater. However, she mentioned the NHFG could provide a mussel biologist to perform a survey in the project area as part of the minimum bypass flow study. In general, Henderson indicated that NHFG would like to be involved in the bypass flow study process to determine any T&E species impacts and have input into appropriate flow requirements, and I mentioned this would be included as a recommended condition of certification.

Date: February 18, 2015
Contact Person: Ted Walsh
Agency: New Hampshire Department of Environmental Services
Title: Surface Water Monitoring Coordinator

Mike Sale

From: Steve Hickey <sjh@essexhydro.com>
Sent: Wednesday, February 18, 2015 2:21 PM
To: Nicholas Niiro; Mike Sale; Dave Youlen
Subject: FW: Webster Pembroke 2015 Waqter Quality Testing

See attached commitment from NH DES to work with ECRE re water quality testing in 2015.

From: Walsh, Ted [mailto:Ted.Walsh@des.nh.gov]
Sent: Wednesday, February 18, 2015 2:02 PM
To: Steve Hickey
Subject: RE: Webster Pembroke 2015 Waqter Quality Testing

Steve,
Yes DES will work with the applicant to collect water quality data that can be used to determine if the project is impacting water quality.

Ted

Ted Walsh, Surface Water Monitoring Coordinator
NHDES, Watershed Management Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03301-0095
(p) 603-271-2083
(F) 603-271-7894
email: twalsh@des.state.nh.us

VRAP and NH Rivers Twitter Feed: https://twitter.com/#!/NHDES_Rivers

From: Steve Hickey [mailto:sjh@essexhydro.com]
Sent: Monday, February 16, 2015 11:02 AM
To: Walsh, Ted
Subject: Webster Pembroke 2015 Waqter Quality Testing

Ted,

As you are aware, in 2013 Essex Power Services Inc., agent for Eagle Creek Renewable Energy LLC ("the applicant"), owner and operator of the Webster Pembroke hydroelectric project ("the project") located on the Suncook river in Pembroke, NH conducted water quality testing as required by your sampling plan ("the plan") for the project dated August 9, 2013. The water quality sampling was done to confirm the project does not cause or contribute to violations of New Hampshire State water quality standards. This is required in the applicant's application to the Low Impact Hydropower Institute for certification of the project as a low impact facility. Data loggers were deployed during flows at or below 3X7Q10 as required by the plan but based on your review of the data, it is clear that the data loggers suffered a mechanical error which spoiled the results.

Please confirm by responding to this email that you will work with the applicant in 2015 to re assess the water quality conditions above and below the Webster Pembroke hydroelectric project. The applicant will re conduct the sampling as required by your August 9, 2013 sampling plan, or an updated plan if so required and provide the results to you for your review.

Thank you and please feel free to contact me with any questions.

Steve

Date: August 14, 2014
Contact Person: Glenn Normandeau
Agency: New Hampshire Department of Fish and Game
Title: Executive Director



Glenn Normandeau
Executive Director

New Hampshire Fish and Game Department

11 Hazen Drive, Concord, NH 03301-6500
Headquarters: (603) 271-3421
Web site: www.WildNH.com

TDD Access: Relay NH 1-800-735-2964
FAX (603) 271-1438
E-mail: info@wildlife.nh.gov

August 27, 2014

Mr. Stephen Hickey
Essex Power Services, Inc.
Agent for Eagle Creek Renewable Energy
55 Union Street, 4th Floor
Boston, MA 02108

RE: Eagle Creek Renewable Energy Projects – LIHI Certification

Dear Mr. Hickey:

NH Fish and Game concurs with the recommendations and proposed actions, as outlined in the Memorandum of Agreement (MOA) signed by the US Fish and Wildlife Service (USFWS) and Eagle Creek Renewable Management, LLC (ECREM) on August 14th, 2014, regarding several hydroelectric facilities located in New Hampshire. These facilities include Mine Falls (FERC#3442) on the Nashua River, Gregg Falls (FERC# 3180) on the Piscataquog River, Webster-Pembroke (FERC# 3185) on the Suncook River and the Lakeport (FERC#6440), Lochmere (FERC# 3128), Clement (FERC# 2966) and Steven Mills (FERC# 3760) facilities on the Winnepesaukee River.

The Department appreciates the work that has been completed by the USFWS, ECREM and others to reach the actions outlined in the MOA, in order to advance the enhancement and protection of fish and habitat. In addition, the Department agrees that the Low Impact Hydropower Institutes (LIHI) should include a provision acknowledging the applicants concurrence with implementing minimum flows and fish passage measures for herring and/or American eel as prescribed in the MOA, and to undertake such consultations, design development and construction in a timely manner.

If you have any further concerns or questions, please do not hesitate to contact Carol Henderson, Environmental Review Coordinator at carol.b.henderson@wildlife.nh.gov or by phone at 603-271-3511. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Glenn Normandeau".

Glenn Normandeau
Executive Director

cc. John Warner, USFWS
Ted Walsh, DES

Date: July 30, 2013
Contact Person: Melissa Coppola
Agency: NH Natural Heritage Bureau
Title:

Memo



NH NATURAL HERITAGE BUREAU
 NHB DATACHECK RESULTS LETTER

To: Stephen Hickey, Essex Power Services Inc.
 55 Union Street, 4th Floor
 Boston, MA 02108

From: Melissa Coppola, NH Natural Heritage Bureau

Date: 7/30/2013 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau

NHB File ID: NHB13-2219 Town: Pembroke, Allenstown Location: 100-2 Main Street

Description: Eagle Creek Renewables LLC, owner and operator of the existing Webster Pembroke hydroelectric facility, exempted from licensing by the Federal Energy Regulatory Commission, FERC Exemption No. 3185, is submitting an application to the Low Impact Hydropower Institute for the low impact certification of the Webster Pembroke project. A NHB report is a required component of the application. No new construction or ground breaking activities are planned.

cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments: This site is within an area flagged for possible impacts on the state-listed *Alasmodonta varicosa* (brook floater) in the Suncook River.

Invertebrate Species	State ¹	Federal	Notes
Brook Floater (<i>Alasmodonta varicosa</i>)	E	--	Contact the NH Fish & Game Dept (see below).

Vertebrate species	State ¹	Federal	Notes
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	T	--	Contact the NH Fish & Game Dept (see below).
Blanding's Turtle (<i>Emydoidea blandingii</i>)	E	--	Contact the NH Fish & Game Dept (see below).
Zone of concern	E	--	Contact the NH Fish & Game Dept (see below).

¹Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Department of Resources and Economic Development
 Division of Forests and Lands
 (603) 271-2214 fax: 271-6488

DRED/NHB
 PO Box 1856
 Concord NH 03302-1856

Appendix B
Memorandum of Agreement between ECREM and USFWS

FISH PASSAGE and PROJECT OPERATIONS

MEMORANDUM OF AGREEMENT

Eagle Creek RE Management and the U.S. Fish and Wildlife Service

1.0 INTRODUCTION

This Memorandum of Agreement (Agreement) is entered between the United States Fish and Wildlife Service (Service) and Eagle Creek RE Management, LLC (ECREM). ECREM is a Delaware limited liability company and is wholly owned by Eagle Creek Renewable Energy, LLC (ECRE). Individually, the above may be referred to as a "Party," collectively "Parties."

1.1 Term of the Agreement

This Agreement will remain in full force and effect for a period of five years from the date of the Agreement. After that time the parties can, by mutual agreement, extend the term of the contract for one or more subsequent five-year periods. Either party may also terminate this Agreement at the end of each five-year term without liability to any other party or any further obligations hereunder.

1.2 Purpose

This Agreement establishes a plan and schedule for addressing fish passage and minimum flow issues at ECREM's hydroelectric projects in New Hampshire that will facilitate receiving certification as a low-impact hydroelectric project by the Low Impact Hydroelectric Institute (LIHI). Upon the execution of the Agreement, the Service will provide a supporting letter for the ECRE application to LIHI within three weeks of signing.

1.3 Agency Appropriations

Nothing in this Agreement shall be construed as obligating the Service to expend in any fiscal year any sum in excess of appropriations made by Congress to state or local legislatures or administratively allocated for the purpose of this Agreement for the fiscal year or to involve the Service in any contract or obligation for the future expenditure of money in excess of such appropriations or allocations.

1.4 Establishes No Precedents

The Parties have entered into the negotiations and discussions leading to this Agreement with the explicit understanding that all discussions relating thereto are privileged, shall not prejudice the position of any Party or entity that took part in such discussions, and are not to be otherwise used in any manner in connection with these or any other proceedings. The Parties understand and agree that this Agreement establishes no principles or precedents with regard to any issue which is not addressed herein or with regard to any Party's participation in future

relicensing proceedings unrelated to the agreements set forth herein and that none of the Parties to this Agreement will cite this as establishing any principles or precedents except with respect to the matters to which the Parties have herein agreed.

1.5 Binding Effect

This Agreement shall be binding on the Parties and on their successors and assigns.

1.6 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

2.0 BACKGROUND

Various wholly owned subsidiary companies of ECRE have acquired the ownership interests in several of the hydroelectric generation projects located in the State of New Hampshire which were previously owned or leased by Algonquin Power Systems. These projects are Mine Falls Project (FERC No. 3442) on the Nashua River; Gregg Falls Project (FERC No. 3180) on the Piscataquog River; Webster-Pembroke Project (FERC No. 3185) on the Suncook River; and the Lakeport Project (FERC No. 6440), Lochmere Project (FERC No. 3128) and Stevens Mills Project (FERC No. 3760) (which includes both Stevens Mills and Riverbend facilities projects on the Winnepesaukee River [each a "Project" or "Facility" and collectively "Projects" or "Facilities"]). These purchases were consummated on June 29, 2013. ECRE is also in the process of evaluating the acquisition of the Clement Project (FERC No. 2966), also located on the Winnepesaukee River.

The Projects acquired by ECRE have either a License or an Exemption from Licensing issued by the Federal Energy Regulatory Commission (FERC). Those licenses and exemptions include various requirements for Project operations, including bypass flow releases, and for providing fish passage when needed. The Service has identified fish passage needs at many of the subject projects. In addition, in order to address low impact hydropower certification criteria established by LIHI, ECRE needs to consult with the Service on project operations and flow releases in addition to fish passage.

ECREM is the entity within the Eagle Creek group of companies that manages the operations on behalf of and as agent for various project companies owned by ECRE. Since the acquisition of these assets, ECREM has worked in cooperation with the Service and other agencies to improve fish passage and prevent fish kills at several of its hydro projects in New Hampshire and elsewhere.

ECREM leadership has had a long history of cooperation with the Service and other agencies regarding fish passage and is keenly aware of the benefits provided to the public from such enhancements. ECREM seeks to maintain a cooperative relationship with the Service, and therefore is entering into this Agreement in support of the program goals established by the Service and other resource agencies.

3.0 GENERAL AGREEMENTS OF THE PARTIES

3.1 Reopeners

The Parties agree that, except as provided herein, this Agreement is not intended to limit or restrict the ability of any Party to petition FERC pursuant to any reopener condition contained in any license, including any exercise by the Secretary of the Department of the Interior relating to her/his fishway prescription authority under §18 of the Federal Power Act. No such petition, including the exercise of §18 authority, may be filed without the filer's providing at least 60 days written notice of its intention to do so to all the other Parties and, promptly following the giving of notice, consulting with the other Parties regarding the need for and the purpose of the petition. In the event such a petition is filed, the filing Party shall include with its filing documentation of its consultation with the other Parties, a summary of their recommendations and of its response to those recommendations. The filing Party shall also serve a copy of its petition to all other Parties.

The Parties agree that nothing in this Agreement is intended to limit or restrict the ability of any Party to seek an amendment to this Agreement during the effective period of the license or as long as an exempted project is operated. Any Party proposing such an amendment to this Agreement shall provide all Parties with at least 60 days written notice of the proposed amendment using updated addresses as needed. If the amendment would require modification of the license or any other permit, the Licensee shall file all applications to amend any license or permits necessary to effectuate the agreed-upon changes, and the other Parties will support such efforts. An amendment to this Agreement shall be effective only upon the written consent of all Parties to this Agreement.

3.2 Compliance with the Endangered Species Act

As of July 1, 2014, the Service has determined that, based on the information available as of that date, except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under the Service jurisdiction are known to exist in the Projects' impact areas. In addition, no habitat in the Projects' impact areas is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Therefore, no further

Endangered Species Act coordination or consultation with the Service is required at this time. Should Project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered.

4.0 ENVIRONMENTAL ENHANCEMENT MEASURES

4.1 Bypass Flows

ECREM shall, for the protection and enhancement of fish and aquatic habitat, provide continuous minimum flows to the bypass reaches of each Project as established in consultation with and approved by the Service, in accordance with the schedule in Appendix A. Once the Service has approved these flow regimes and the LIHI has formally approved Eagle Creek's LIHI application for the subject Facilities, ECREM will implement the agreed upon continuous minimum bypass flows. The flow requirements may be modified in the future as appropriate to address the effective operation of upstream fish passage facilities.

4.2 Flow Monitoring

ECREM shall, within six (6) months from the effective date of the Agreement, prepare and file for approval by the Service, an Operations and Flow Monitoring Plan for monitoring run-of-river operation and bypassed reach flow releases from the Projects. The Plan also should incorporate a description of the refill protocol that will be followed and how run-of-river operation and bypass flow releases will be provided during periods when the head pond is drawn down for dam maintenance. The Plan shall include a description and design of the mechanisms and structures that will be used, including any periodic maintenance and/or calibration necessary to ensure the devices work properly. In addition, a plan for recording data on Project operations to verify proper operations and minimum flow releases, and for maintaining such data for inspection by the Service and other resource agencies, also shall be filed. The operations and flow monitoring plan shall be developed in consultation with, and require approval by the Service.

4.3 Fish Passage

ECREM agrees to implement the activities related to fish passage at the Projects as described in Appendix A of this Agreement. The implementation of these activities will be performed in accordance with the schedule set forth in Appendix A or as mutually agreed upon between ECREM and the Service.

The proposed enhancements will consist of structural changes to provide for upstream passage at the Mines Falls Project, and exclusion and safe and effective downstream passage of river herring and/or American eel or seasonal Project shutdowns of the Project turbines, combined

with a safe egress route, or potentially a combination of both measures at all Projects. For some of the Projects, the fish passage measures have been agreed to, whereas in others, the passage measures have yet to be proposed by ECREM or reviewed by the Service. For these, Appendix A establishes a process timeline to determine the appropriate passage measures.

For all proposed structural fish passage measures, ECREM shall provide the Service with functional design drawings of proposed facilities for its review and approval.

A. Upstream Passage at Mines Falls

ECREM will develop design plans and a construction schedule for the rehabilitation of and improvements to the Mines Falls fish lift system for Service approval and filing with FERC. Appendix A identifies the schedule for submittal of the plans and a proposed construction completion date. The target construction date is April 1, 2015. However, based on the timing of design plan development, time for review and Service approval, and the complexity and extent of necessary construction, that date may need to be adjusted based on mutual agreement between ECREM and the Service.

B. American Eel Silver Eel Passage

In general, the measures to protect adult silver eels during outmigration are either:

- (1) cessation of Project operation from dusk to dawn from August 15 through November 15, annually. Future refinement of the timing and other conditions (such as flow, weather conditions, etc.) that drive the downstream movement may be made by the Service, with concurrence by ECREM, as information on the behavior of migrants at the Projects is obtained. The nightly protocol at some Projects shall include closing or screening the headgates, as agreed upon with ECREM, to prevent eels from becoming trapped in the forebay. A downstream bypass sluice shall be opened to provide a minimum fish bypass flow (needed flows to be determined for each site); or
- (2) operation of a passage and protection system that meets the following criteria:
 - i. a full depth trashrack/screen system with ¾-inch-clear spacing and a desired approach velocity equal to or less than 1.5 feet per

- second,¹ in conjunction with a bypass sluice or lower level gate of sufficient size and passing a sufficient flow (to be determined during the designing of the facilities); and
- ii. the downstream passage and protection system shall be designed in consultation with, and require approval by the Service and filed with FERC. The system shall operate annually from August 15 through November 15. Future refinement of the timing and other conditions (such as flow, weather conditions, etc.) that drive the downstream movement may be made by the Service, with concurrence by ECREM, as information on the behavior of migrants at the Projects is obtained.

C. River Herring Downstream Passage

ECREM shall construct, operate and maintain downstream fish bypass passage facilities for adult and juvenile river herring in all years when river herring have been stocked upstream of the Projects. The downstream fish passage measures for downstream river herring passage may be the same as measures implemented for American eels.

The downstream passage facilities shall consist of measures to protect downstream river herring from impingement and/or entrainment, as well as bypass facilities to assist fish in moving safely past the Projects. Final design and construction of the protection system shall occur in consultation with, and require approval by the Service and shall be filed with FERC.

If the downstream bypass facility is deemed ineffective based on evaluations by the Service and ECREM, ECREM shall be required to submit a proposal for amended designs or other measures for approval by the Service within six (6) months of the effectiveness determination.

D. Interim Passage Measures

In the interim periods between execution of the Agreement and the implementation of measures specified in the Agreement and Appendix A, interim passage measures for river herring and American eel will be implemented at the Projects as specified in Appendix A. Interim measures will consist of nighttime shutdowns on the day of and for three consecutive days after a rain event or river flow increase resultant from Lake Management activities by New Hampshire Department of Environmental Services. Initial operational shutdown periods will be from dusk to dawn during the passage season, but the Service and ECREM will cooperatively

¹ Site configuration and Project works of Individual Projects may preclude the attainment of this criteria. In that event, the Service will consider a variance to this criteria based on review of the overall Project passage plan.

work together to determine the extent of nighttime shutdowns, taking into account downstream migrant needs and Project operations.

4.4 Fish Passage Facilities Operations and Maintenance Plans

ECREM shall develop and implement a Fish Passage Facilities Operations and Maintenance Plan for each Project with fish passage provisions identified in Appendix A. The plans shall detail how and when the upstream and downstream fishways will be operated and describe routine maintenance activities that will occur both during and outside of the fish passage seasons. The Plan shall be developed in consultation with, and require approval by the Service. The approved Plan shall be in effect prior to the first passage facilities coming on-line, and shall be updated as needed as new passage facilities are placed into service and based on information obtained from operation of the facilities.

4.5 Fish Passage Monitoring and Modifications

ECREM agrees to cooperate with the Service on the evaluation of the effectiveness of the adopted fish passage measures, and agrees to implement reasonable modifications to the passage facilities and their operation in order to provide for safe, timely and effective passage of diadromous fish.

5.0 SUPPORT OF LIHI CERTIFICATION

The Service agrees to support ECREM in its efforts to secure certification from LIHI for the Facilities. In the event that LIHI approval is not achieved for a specific site or sites, ECREM will be relieved of the non-fish passage Agreement obligations as they pertain to the specific site or sites. If ECREM fails to implement the provision of continuous bypass flows and/or fish passage enhancements for a specific site or sites to the satisfaction of the Service, the Service will notify ECREM of such failure, and ECREM will have 60 days to resolve the matter to the satisfaction of the Agencies. If the Service then determines that ECREM has not resolved the matter in question, the Service may terminate this Agreement, upon 10 days' notice to ECREM for the site that has failed to meet the approval of the Agencies. Upon such termination, no Party shall have any further obligation to any other Party with respect to the site in question.

Signed MOA available – this version used for text clarity

The parties hereby indicate their agreement to the terms above:

Eagle Creek RE Management, LLC

United States Fish and Wildlife Service

By: _____


By:  _____

Title: _____

Title: Assistant Field Supervisor

Date: _____

Date: 8/14/14

EAGLE CREEK RE, LLC		APPENDIX A	FINAL MOA	USFWS Signature: 	Date: 8/14/14	ECREM Signature: _____	Date: _____
FACILITY	IMPLEMENT DOWNSTREAM PASSAGE*	IMPLEMENT UPSTREAM PASSAGE	COMPLETE MINIMUM FLOW REVIEW	TARGET SPECIES	PROPOSED ENHANCEMENTS**		
LAKEPORT	2014	REVIEW IN 2020	Adequate Flows Exist	AMERICAN EEL RIVER HERRING	3/4-inch rack overlays w/feel collection box & discharge pipe to plunge pool. Consult w/FWS on permanent racks. None Needed.		
LOCHMERE	2015	REVIEW IN 2020	2014	AMERICAN EEL RIVER HERRING	3/4-inch exclusionary trashracks at the canal headworks with open sluice gate at dam and plunge pool. Additional angled floating diversion boom ~ 3 foot skirt. Secondary intake trashrack and diversion box and pipe to tailrace. Existing facility to be modified.		
CLEMENT	2015	REVIEW IN 2020	2015	BYPASS FLOWS AMERICAN EEL RIVER HERRING	Perform study of habitat and river needs for bypass reach by December 1, 2014. Exclusionary trashracks at headworks (ECREM will evaluate 3/4-inch rack spacing), bypass sluice and plunge pool. Exclusionary trashracks at dam headworks (ECREM will evaluate 3/4-inch rack spacing), an angled floating diversion boom ~ 3 foot skirt, bypass sluice and plunge pool.		
RIVERBEND	2015	REVIEW IN 2020	2015	AMERICAN EEL	Evaluate required trashrack length for hydro operations. 3/4-inch exclusionary trashrack overlays or angled racks. Modify trashgate at dam, set flow requirement and provide plunge pool as needed.		
STEVENS MILLS	2015	REVIEW IN 2020	2014	RIVER HERRING AMERICAN EEL RIVER HERRING	3/4-inch exclusionary or angled racks. Modify trashgate at dam & set flow requirement. Plunge Pool as needed. 3/4-inch exclusionary trashracks. Angled surface diversion boom.		
PEMBROKE	See Detail	REVIEW IN 2020	2014	RIVER HERRING AMERICAN EEL	2014 - operate sluice gate at trashracks during outmigration in consult with FWS and NHFGD & review bypass gate, intake velocities & trashracks for permanent passage measure. Modifications to facilities as needed by September 1, 2015.		
GREGG'S FALLS	See Detail	REVIEW IN 2020	2014	BYPASS FLOWS RIVER HERRING AMERICAN EEL	Perform study of habitat and river needs for bypass reach by December 1, 2014. Perform stream passage measures within 48 months of notification by NHFGD and/or USFWS. Discontinue use of salmon smolt downstream fishway.		
MINES FALLS	2015	2015	2014	BYPASS FLOWS RIVER HERRING	Eel Downstream Passage measures within 48 months of notification by NHFGD and/or USFWS. Continue Instantaneous Run of River Operations. Set allowable water level fluctuations. Minimum flows from dam not likely needed. Verify adequacy of flows below dam in 2014. Provide downstream diversion boom either at the canal headworks or at the intake. Provide a plunge pool for downrunning fish if released out of trash sluice. Move or eliminate downstream pipe.		
	2016			AMERICAN EEL	Fish lift drawings to USFWS by 11-1-14. Construction target April 1, 2015, but no later than September 1, 2015. Downstream eel passage measures will be needed. Review eel downstream passage alternatives with Agencies in 2014.		

* Intake and passage measures for Lakeport, Lochmere, River Bend and Stevens Mills will consist of all activities shown from data to date for no approval upon with the USFWS for these measures after the point of their increased flows during the eel migration period (August 28 through November 20).

** Identified structural passage measures for eels may be replaced by operational shutdowns after analysis of information. All fish passage facilities and other measures to be designed in consultation with and approved by the USFWS. Operational shutdowns will be evaluated based on the following criteria: Species, Time of Year, Economics, Weather Conditions.