Brookfield

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March 12, 2019

Rumford Falls Project
FERC No. 2333

Ms. Shannon Ames, Executive Director
Low Impact Hydropower Institute
329 Massachusetts Avenue, Suite 2
Lexington, MA 02420

Subject: Low Impact Hydropower Institute Stage II Application for Recertification for the Rumford Falls Project (FERC No. 2333); LIHI Certificate No. 38

Dear Ms. Ames:

On behalf of the Licensee, Rumford Falls Hydro LLC (RFH), please find attached the Stage II Application for Recertification for the Rumford Falls Project on the Androscoggin River in Maine. RFH's existing LIHI certification for the Project expires December 10, 2018 and thus, RFH requests continuation of the existing certification until a new certification is issued. RFH's annual compliance statements for the certification period attests that there have been no violations of the low impact criteria, no violations of the Certification Use Requirements, no changes in conditions relevant to the certification, and no notices of violation or non-compliance relevant to the facility's certification from any government agency, including its FERC license and Section 401 water quality certification for the duration of the previous certification.

The current application includes the following required submittals:

- Table B-1 Project Description
- List of hyperlinks to pertinent FERC and regulatory documents for the Project
- Zones of Effect delineated into the upstream regulated Androscoggin River mainstem; impounded reaches upstream of both Rumford Falls Upper and Rumford Falls Middle Dams; bypass reach of Rumford Falls Upper Dam; bypass reach of Rumford Falls Middle Dam; downstream regulated Androscoggin River mainstem below Rumford Falls Lower Powerhouse
- Matrix of Alternative Standards for each Zone of Effect identified evaluating the LIHI certification standards for each requisite criteria including water quality, fish passage and recreation
- Sworn Statement and Waiver Form
- Facility Contacts Form including pertinent NGOs, as appropriate
- RFH Response to LIHI Stage I Recertification Review

Please call me at (207) 755-5606 or email me at Kelly.Maloney@brookfieldrenewable.com if you have any questions or need additional information regarding this submittal.

Sincerely,

Kelly Maloney
Manager, Compliance - Northeast
Attachments: See above
Cc: S. Michaud, N. Stevens, S. Mascarenhas, K. Murphy, P. McDonough, S. Faulds

Table B-1.1. Facility Information.

Item	*Information Requested*	*Response (include references to further details)*
Name of the Facility	Facility name (use FERC project name or other legal name)	Rumford Falls Hydro LLC (FERC No.2333)
Location	River name (USGS proper name)	Androscoggin River
	Watershed name (select region, click on the area of interest until the 8-digit HUC number appears. Then identify watershed name and HUC-8 number from the map at: https://water.usgs.gov/wsc/map_index.html)	Androscoggin Watershed - HUC 01040002
	Nearest town(s), county(ies), and state(s) to dam	Rumford, Oxford, Maine
	River mile of dam	Middle Dam 0.9 miles above the Swift River, Androscoggin River mile 90.7 Upper Dam 1.1 miles above the Swift River, Androscoggin River mile 90.9
	Geographic latitude of dam	Upper Dam Lat 44°32'19.77" N Middle Dam Long 44 32’33.78” N
	Geographic longitude of dam	Upper Dam Long 70°32'41.96" W Middle Dam Long. 70 32’46.25” W
Facility Owner	Application contact names (Complete the Contact Form in Section B-4 also):	Kelly Maloney Manager, Compliance Northeast
	Facility owner company and authorized owner representative name. **For recertifications: If ownership has changed since last certification, provide the date of the change.**	Brookfield Renewable
	FERC licensee company name (if different from owner)	Rumford Falls Hydro LLC
Regulatory Status	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates, or date of exemption	FERC P-2333 Issue Oct. 18, 1994, Expire Oct. 1, 2024
	FERC license type (major, minor, exemption) or special classification (e.g., "qualified conduit", “non-jurisdictional”)	Major Hydroelectric Operating License, Federal Power Act
	Water Quality Certificate identifier, issuance date, and issuing agency name. Include information on amendments.	State of Maine Department of Environmental Protection 1992 DEP #L-17643-33-A-N; Dated Dec. 17. 1992 2009 WQC Amendment for turbine-generator upgrade DEP #L_24576-35-A-N; Dated July 13, 2009

Item	*Information Requested*	*Response (include references to further details)*
	Hyperlinks to key electronic records on FERC e-library website or other publicly accessible data repositories[1]	See hyperlink list below for relevant records including FERC License Orders; Section 401 Water Quality Certification; FERC and regulatory filings; and other key documents.
Powerhouse	Date of initial operation (past or future for pre-operational applications)	Upper Station 1918 Lower Station 1955
	Total installed capacity (MW) **For recertifications: Indicate if installed capacity has changed since last certification**	Upper 29.3 MW Lower 15.2 MW No change since last certification
	Average annual generation (MWh) and period of record used **For recertifications: Indicate if average annual generation has changed since last certification**	Upper 182,562 MWh Lower 108,975 MWh
	Mode of operation (run-of-river, peaking, pulsing, seasonal storage, diversion, etc.) **For recertifications: Indicate if mode of operation has changed since last certification**	Run-of-river
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	Upper Station - Four turbines: 1 horizontal Unit @ 4,300 kW, 3 vertical units: 2 @ 8,100kW and 1 @ 8,800kW. Max Hydraulic Capacity: 4550 cfs. Lower Station - 2 vertical units: each @ 7,600 kW, Max Hydraulic Capacity: 2996 cfs.
	Trashrack clear spacing (inches), for each trashrack	Upper Dam 3" by 3" Lower Dam 3" by 3"
	Dates and types of major equipment upgrades	January 2010 – runner replacement on Unit 3 at the Upper Station and maintenance upgrades to Units 1 and 2 at the Lower Station resulting in 4,000 kW increase in Project capacity (see FERC and Regulatory Information)
	Dates, purpose, and type of any recent operational changes	None

[1] For example, the FERC license or exemption, recent FERC Orders, Water Quality Certificates, Endangered Species Act documents, Special Use Permits from the U.S. Forest Service, 3rd-party agreements about water or land management, grants of right-of-way, U.S. Army Corps of Engineers permits, and other regulatory documents. If extensive, the list of hyperlinks can be provided separately in the application.

Item	*Information Requested*	*Response (include references to further details)*
	Plans, authorization, and regulatory activities for any facility upgrades or license or exemption amendments	Turbine upgrade detailed in FERC Order Amending License (see FERC and Regulatory Information)
Dam or Diversion	Date of original construction and description and dates of subsequent dam or diversion structure modifications	Upper Station 1918 Lower Station 1955
	Dam or diversion structure height including separately, the height of any flashboards, inflatable dams, etc.	Upper Dam – approximately 37 feet tall from bedrock Middle Dam – approximately 20 feet tall from bedrock
	Spillway elevation and hydraulic capacity	Upper Dam - 598.4 feet (permanent crest); 601.24 feet (normal full pond with rubber dam) Middle Dam – 501.74 feet (permanent crest); 502.74 feet (normal full pond elevation, corresponds to Upper Dam tailwater elevation)
	Tailwater elevation (provide normal range if available)	Upper Station - 502.74 feet Lower Station - 423.24 feet
	Length and type of all penstocks and water conveyance structures between the impoundment and powerhouse	Upper Station - Four Penstocks: three - 12-foot diameter & one - 13-foot diameter, 110 feet in length Middle Dam Canal - 2,400 feet long w/ typical width of 175 feet to the mid-canal then 75 feet to Lower Station Gatehouse Lower Station - Two Penstocks: 12-foot diameter, 815 feet long to surge tanks and then an additional 77- feet to powerhouse. Surge tanks 36-feet diameter and 50.5 feet tall
	Dates and types of major infrastructure changes	Upper Dam - Obermeyer Rubber Dam replaces wooden flash boards in 2011; Unit 3 generator rewind and runner replacement in 2009 Lower Station - Unit 1 and 2 runner replacements in2008
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	Hydroelectric generation
	Source water	Androscoggin River
	Receiving water and location of discharge	Androscoggin River
Conduit	Date of conduit construction and primary purpose of conduit	N/A

Item	*Information Requested*	*Response (include references to further details)*
Impoundment and Watershed	Authorized maximum and minimum water surface elevations **For recertifications: Indicate if these values have changed since last certification**	Maximum: Upper 601.24 ft. Middle 502.74 ft. Minimum: Upper 600.24 ft. Middle 501.74 ft. No change since last certification
	Normal operating elevations and normal fluctuation range **For recertifications: Indicate if these values have changed since last certification**	Article 403 of the Project license requires run of river operation within 1 foot of the full pond elevation of 601.24 ft. at Upper Dam. Middle Dam shall be kept within 1 foot of 502.74 ft. These values have not changed since last certification.
	Gross storage volume and surface area at full pool **For recertifications: Indicate if these values have changed since last certification**	Surface area: Upper 419 acres Middle 21 acres Gross Storage Volume: Upper 2,900 acre-feet Lower 141 acre-feet No change since last certification.
	Usable storage volume and surface area **For recertifications: Indicate if these values have changed since last certification**	Usable storage volume is zero acre-feet as this is a run-of-river facility. Values have not changed since last certification.
	Describe requirements related to impoundment inflow, outflow, up/down ramping and refill rate restrictions.	Run of river operations such that all water into the project impoundment is passed downstream through the powerhouses (and/or via spill) and is not reserved for storage or peaking. There are no ramping or refill rate restrictions as these are not applicable to run of river facilities.

Item	*Information Requested*	*Response (include references to further details)*
	Upstream dams by name, ownership and river mile. If FERC licensed or exempt, please provide FERC Project number of these dams. Indicate which upstream dams have downstream fish passage.	<u>Androscoggin River</u> Errol Project (FERC #3133), Brookfield White Pine Hydro, River Mile 170.1; Pontook Project (FERC #2861), Great Lakes Hydro, River Mile 152.4; Sawmill Project (FERC #2422), Great Lakes Hydro, River Mile 139.2; Riverside Project (FERC #2423), Great Lakes Hydro, River Mile 138.8; J. Brodie Smith Project (FERC #2287), Central Rivers Power, River Mile 138.2; Cross Project (FERC #2326), Great Lakes Hydro, River Mile 136.9; Cascade Project (FERC #2327), Great Lakes Hydro, River Mile 136.3; Gorham Project (FERC #2311), Great Lakes Hydro, River Mile 133.2; Gorham Project (FERC # 2311), Central Rivers Power, River Mile130.4; Shelburne Project (FERC #2300), Great Lakes Hydro, River Mile 127.6
	Downstream dams by name, ownership, river mile and FERC number if FERC licensed or exempt. Indicate which downstream dams have upstream fish passage	Riley Project (FERC # 8277), Eagle Creek Renewable, River Mile 69.3; Jay (River Mile 66.6), Otis (River Mile 63.8), Livermore Falls (River Mile 61.2) (FERC # 2375) Eagle Creek Renewable Gulf Island (River Mile 35.4), Deer Rips & Androscoggin 3 (River Mile 33.6) (FERC # 2283), Brookfield White Pine Hydro; Lewiston Falls Project (FERC # 2302), Brookfield White Pine Hydro, River Mile 30.8 Worumbo Project (FERC # 3428), Eagle Creek Renewable, River Mile 15.7; Pejepscot Project (FERC # 4784), Topsham Hydro Partners, River Mile 12.5; Brunswick Project (FERC # 2284), Brookfield White Pine Hydro, River Mile 8.0
	Operating agreements with upstream or downstream facilities that affect water availability and facility operation	1983 Androscoggin River Headwater Benefits Agreement (See FERC and Regulatory Information)

Item	*Information Requested*	*Response (include references to further details)*
	Area of land (acres) and area of water (acres) inside FERC project boundary or under facility control.	Land: Not Measured. See map attachment Exhibit G for, location of Dam, Penstocks, Power Houses, etc. Water: 419 acres Upper Dam Water: 21 acres Middle Dam
Hydrologic Setting	Average annual flow at the dam, and period of record used	4,584 cfs
	Average monthly flows and period of record used	Per USGS 1899 to 2019 (see hyperlink) Jan 2,920 cfs Feb 2,820 cfs Mar 4,090 cfs Apr 8,300 cfs May 7,240 cfs Jun 4,090 cfs Jul 2,730 cfs Aug 2,410 cfs Sept 4,420 cfs Oct 3,010 cfs Nov 3,570 cfs Dec 3,250 cfs
	Location and name of closest stream gauging stations above and below the facility	Above – USGS 01054000 Androscoggin River near Gorham, NH Below – USGS 01054500 Androscoggin River at Rumford, Maine
	Watershed area at the dam (in square miles). Identify if this value is prorated and provide the basis for proration.	2,068 Square miles
Designated Zones of Effect	Number of zones of effect	5
	Upstream and downstream locations by river miles	Zone 1 – Upper Dam Impoundment – RM 93.7 to RM 87.4 Upper Dam - RM 87.4 Zone 2 – Upper Dam Bypass Reach – RM 87.4 to RM 87.1, Zone 3 – Middle Dam Impoundment – RM 87.4 to RM 87.2 Middle Dam - RM 87.2 Zone 4 – Middle Dam Bypass Reach – RM 87.2 – RM 86.6 Zone 5 – Regulated Downstream River Reach – RM 86.6 to RM 86.3 Confluence of Swift River, below Lower Station, River mile 86.3

Item	*Information Requested*	*Response (include references to further details)*
	Type of waterbody (river, impoundment, bypassed reach, etc.)	Zone 1 – Upper Dam Impoundment, Zone 2 – Upper Dam Bypass Reach, Zone 3 – Middle Dam Impoundment, Zone 4 – Middle Dam Bypass Reach Zone 5 – Regulated Downstream River Reach
	Delimiting structures or features	Upper Dam, Middle Dam, Lower Station Power Canal and Penstocks
	Designated uses by state water quality agency	Drinking water supply after treatment; fishing; agriculture; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation; navigation; and as a habitat for fish and other aquatic life.

FERC AND REGULATORY INFORMATION

FERC License and Amendment Orders:

FERC Order Issuing License - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12416477

FERC Amendment Order for turbine upgrades - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12401274

Environmental Assessment - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12783122

Section 401 Water Quality Certification:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10623969 – 1992 Maine Department of Environmental Protection Section 401 Water Quality Certification

2009 Maine Department of Environmental Protection Section 401 Water Quality Certification – included below in July 21, 2009 Non-Capacity Amendment of License

Maine DEP Water Quality Monitoring Report

https://www.maine.gov/dep/water/monitoring/305b/2016/28-Feb-2018_2016-ME-IntegratedREPORT.pdf (2016 Maine Department of Environmental Protection Integrated Water Quality Monitoring and Assessment Report)

Other Regulatory Filings

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10676453 – April 13, 1995 Operations Monitoring Plan

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=3014535 – June 8, 1995 FERC Order Approving Operations Monitoring Plan

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10780648 – May 2, 1997 FERC Order Approving Cultural Resources Plan

https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12090143 – July 21, 2009 Non-Capacity Amendment of License

https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13187927 – Feb. 21, 2013 FERC Filing BA-ISPP

https://www.greateratlantic.fisheries.noaa.gov/prot_res/altsalmon/BIOLOGICAL%20VALUATION%20Final.pdf - NMFS (National Marine Fisheries Service). 2009. Biological valuation of Atlantic salmon habitat within the Gulf of Maine Distinct Population Segment. National Marine Fisheries Service, Northeast Region. Gloucester, MA.

https://ecos.fws.gov/ipac/location/E7LGH2QM4NFRTP6KBNGA27YUDM/resources - IPAC Report for Rumford Falls

https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12783122 - 1993 Environmental Assessment Rumford Falls Project

https://waterdata.usgs.gov/me/nwis/monthly/?referred_module=sw&site_no=01054500&por_01054500_63849=1266542,00060,63849,1892-05,2018-10&format=html_table&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=parameter_selection_list – USGS Monthly Flow average 1899 through 2018

https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13824149 FERC 2014 Form 80 Recreation Report

1983 Androscoggin River Headwater Benefits Agreement **(Double-click on the page below to open entire document)**

ANDROSCOGGIN RIVER
HEADWATER BENEFITS AGREEMENT

This Agreement made as of the 1st day of June, 1983 by and among Androscoggin Reservoir Company ("ARCO") with a business address at 150 Main Street, Lewiston, Maine 04240, Union Water Power Company ("Union") with a business address at 150 Main Street, Lewiston, Maine 04240, International Paper Company ("IP") with a business address at International Paper Plaza, 77 West 45th Street, New York, New York 10036, Rumford Falls Power Company ("Rumford") with a business address at c/o Boise Cascade Corporation, Paper Group, Rumford Mill, Rumford, Maine 04276, James River Corporation. ("James River") with a business address at 650 Main Street, Berlin, New Hampshire 03570, and Public Service Company of New Hampshire ("Public Service") with a business address at 1000 Elm Street, Manchester, New Hampshire 03105:

W I T N E S S E T H T H A T

WHEREAS, Union owns dams, reservoirs, works and other structures to wit: On Rapid River at the outlet of Lower Richardson Lake in Township "C", Oxford County, Maine and known as Middle Dam; at the outlet of Mooselookmeguntic Lake in Richardsontown, T-4, R-1, Oxford County, Maine and known as Upper Dam; on Rangeley River at the outlet of Rangeley Lake, Rangeley, Franklin County, Maine and known as Rangeley Dam; and on the Androscoggin River, three (3) miles south of the outlet of Umbagog Lake, Errol, Coos County, New Hampshire and known as

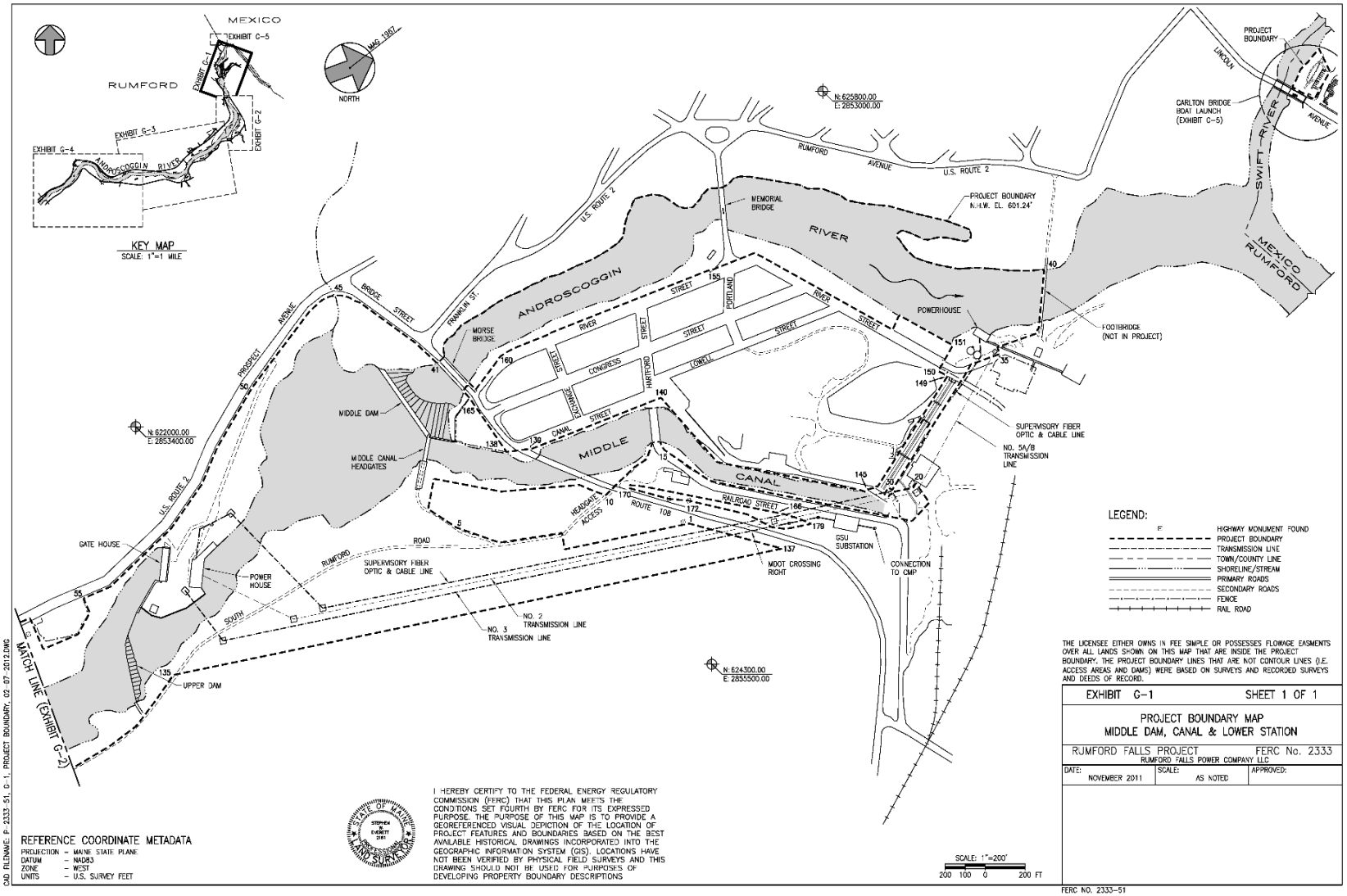
Excursions:

https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14800117 – January 18, 2018 deviation report to FERC

https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14842019 – March 15, 2018 FERC notice of non-violation for headpond deviation

https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=15066208 - October 03, 2018 deviation report to FERC

EXHIBIT G DRAWINGS AND BASIN MAP



THE LICENSEE EITHER OWNS IN FEE SIMPLE OR POSSESSES FLOWAGE EASMENTS OVER ALL LANDS SHOWN ON THIS MAP THAT ARE INSIDE THE PROJECT BOUNDARY. THE PROJECT BOUNDARY LINES THAT ARE NOT CONTOUR LINES (I.E. ACCESS AREAS AND DAMS) WERE BASED ON SURVEYS AND RECORDED SURVEYS AND DEEDS OF RECORD.

EXHIBIT G-1	SHEET 1 OF 1

PROJECT BOUNDARY MAP
MIDDLE DAM, CANAL & LOWER STATION

RUMFORD FALLS PROJECT FERC No. 2333
RUMFORD FALLS POWER COMPANY LLC

DATE:	SCALE:	APPROVED:
NOVEMBER 2011	AS NOTED	

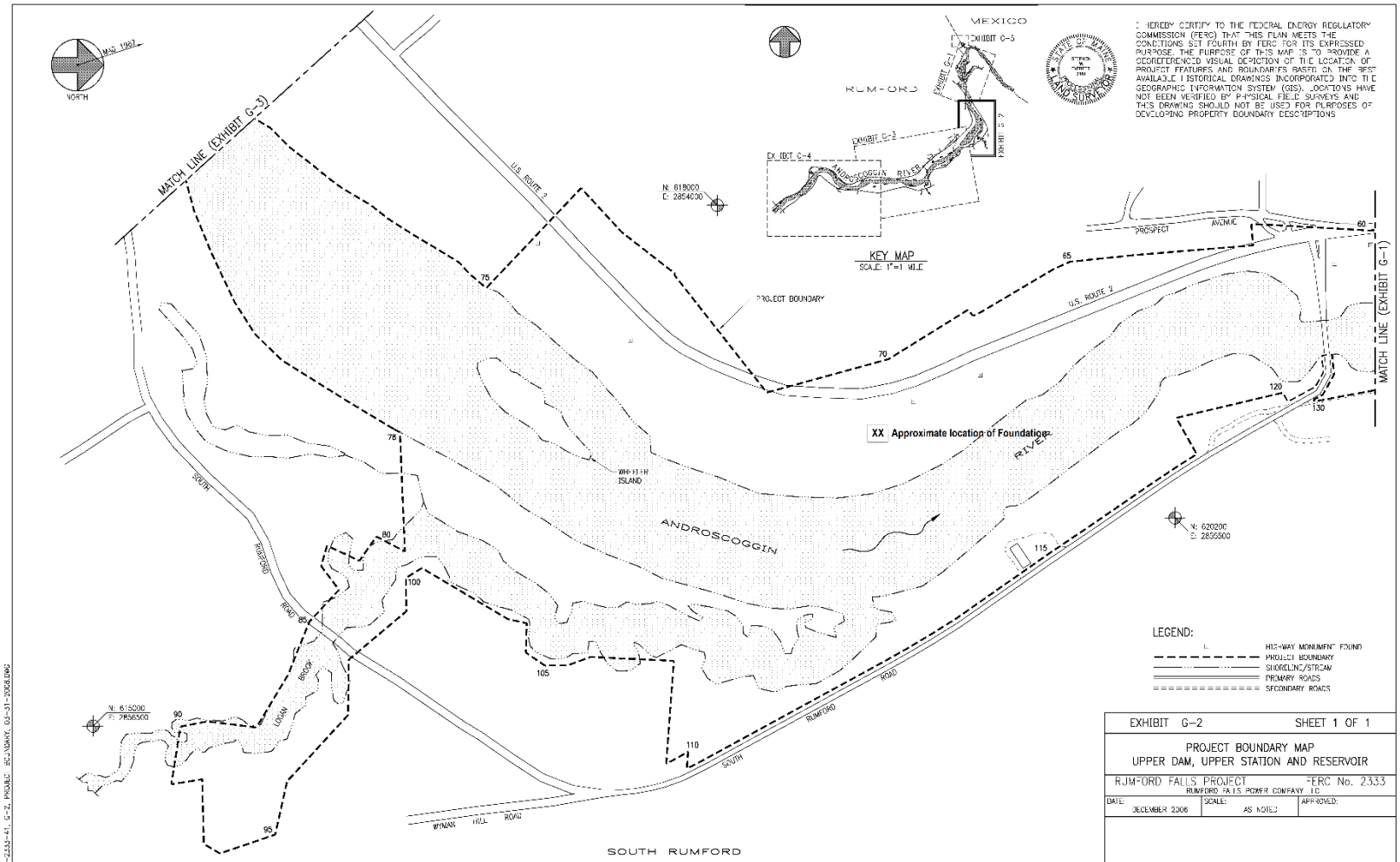
REFERENCE COORDINATE METADATA
PROJECTION – MAINE STATE PLANE
DATUM – NAD83
ZONE – WEST
UNITS – U.S. SURVEY FEET

STATE OF MAINE
STEPHEN EMERY
2161
LAND SURVEYOR

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FOURTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS

CAD FILENAME: P-2333-51, G-1, PROJECT BOUNDARY, 02-07-2012.DWG

FERC NO. 2333-51



I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FOURTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS

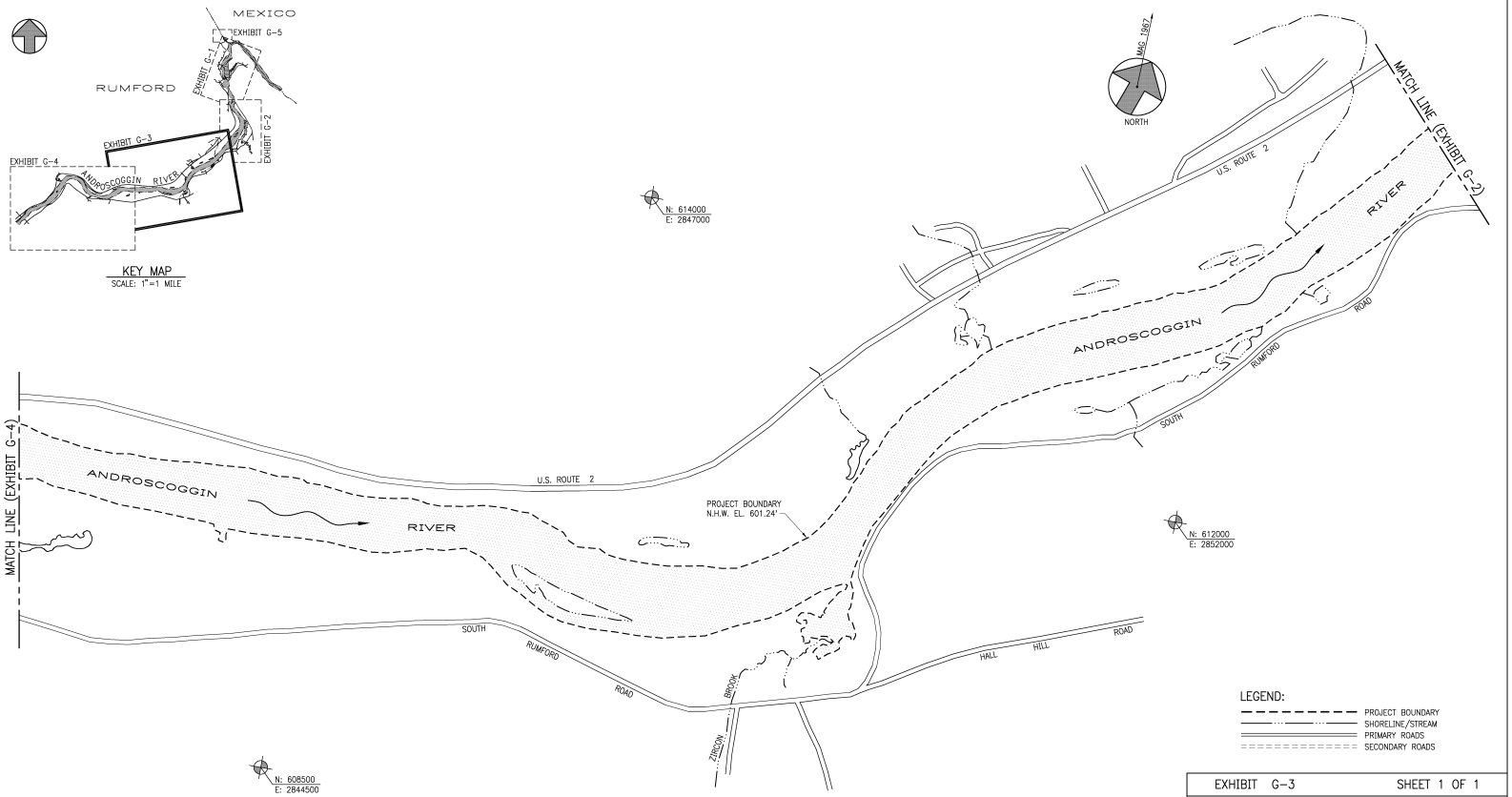
REFERENCE COORDINATE METADATA
PROJECTION – MAINE STATE PLANE
DATUM – NAD83
ZONE – WEST
UNITS – U.S. SURVEY FEET

Non – Internet Public

EXHIBIT G-2	SHEET 1 OF 1
PROJECT BOUNDARY MAP UPPER DAM, UPPER STATION AND RESERVOIR	
RUMFORD FALLS PROJECT RUMFORD FALLS POWER COMPANY, LLC	FERC No. 2333
DATE: DECEMBER 2006	SCALE: AS NOTED
APPROVED:	

FERC NO. 2333-47

CAD FILENAME: P-2333-41, G-2, PROJECT BOUNDARY, 03-31-2006.DWG



CAD FILENAME: P-2333-42, G-3, PROJECT BOUNDARY, 03-31-2008.DWG

REFERENCE COORDINATE METADATA

PROJECTION – MAINE STATE PLANE
DATUM – NAD83
ZONE – WEST
UNITS – U.S. SURVEY FEET

STATE OF MAINE
STEPHEN W. EVERETT 2161
LAND SURVEYOR

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FOURTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS

SCALE: 1"=400'
400 200 0 400 FT

Non – Internet Public

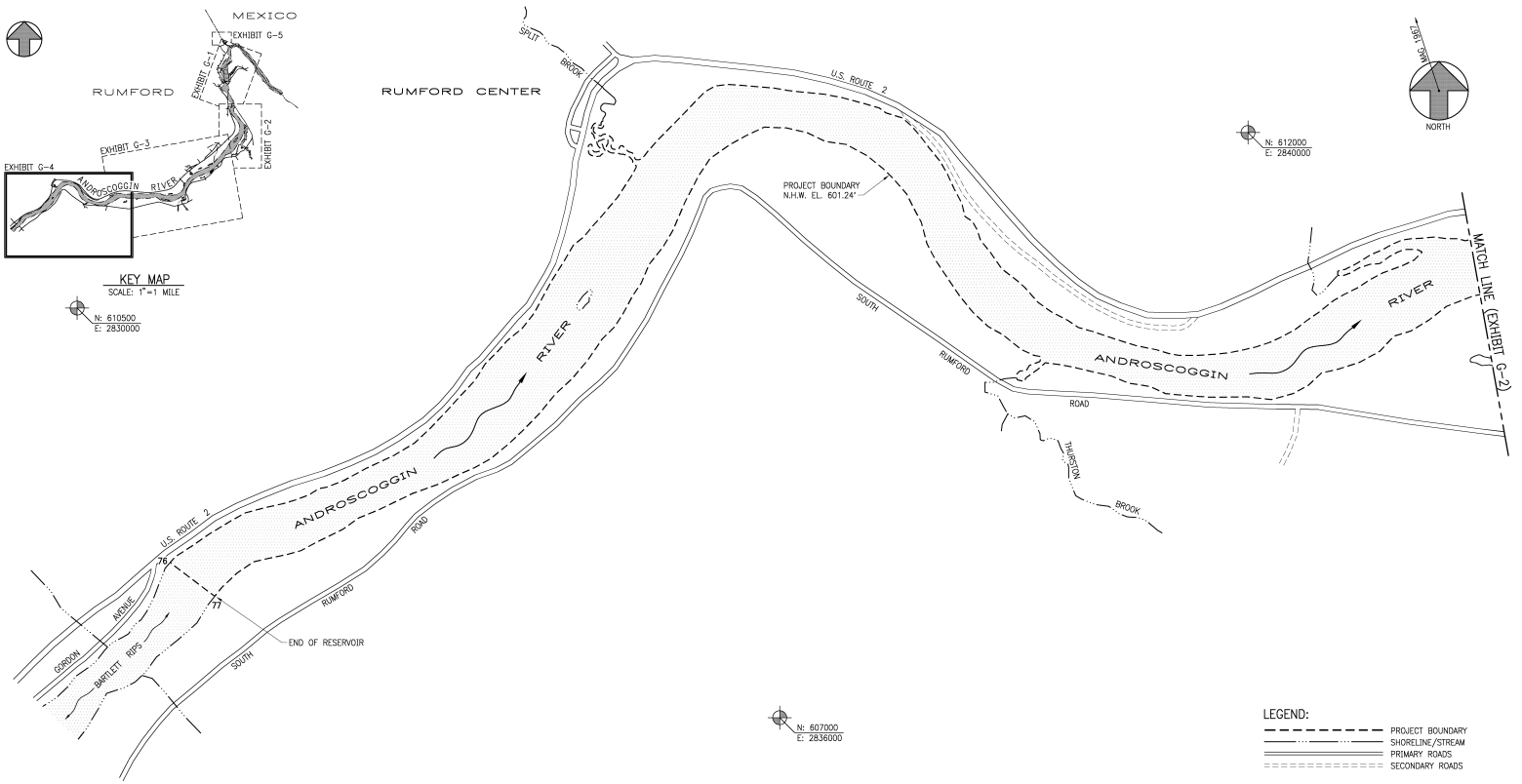
EXHIBIT G-3 SHEET 1 OF 1

PROJECT BOUNDARY MAP
RESERVOIR

RUMFORD FALLS PROJECT FERC No. 2333
RUMFORD FALLS POWER COMPANY LLC

DATE:	SCALE:	APPROVED:
DECEMBER 2006	AS NOTED	

FERC NO. 2333-42



CAD FILENAME: P-2333-43, G-4, PROJECT BOUNDARY, 03-31-2008.DWG

REFERENCE COORDINATE METADATA

PROJECTION – MAINE STATE PLANE
DATUM – NAD83
ZONE – WEST
UNITS – U.S. SURVEY FEET

STATE OF MAINE
STEPHEN M. EVERETT 2161
REGISTERED PROFESSIONAL LAND SURVEYOR

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FOURTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS

SCALE: 1"=400'
400 200 0 400 FT

Non – Internet Public

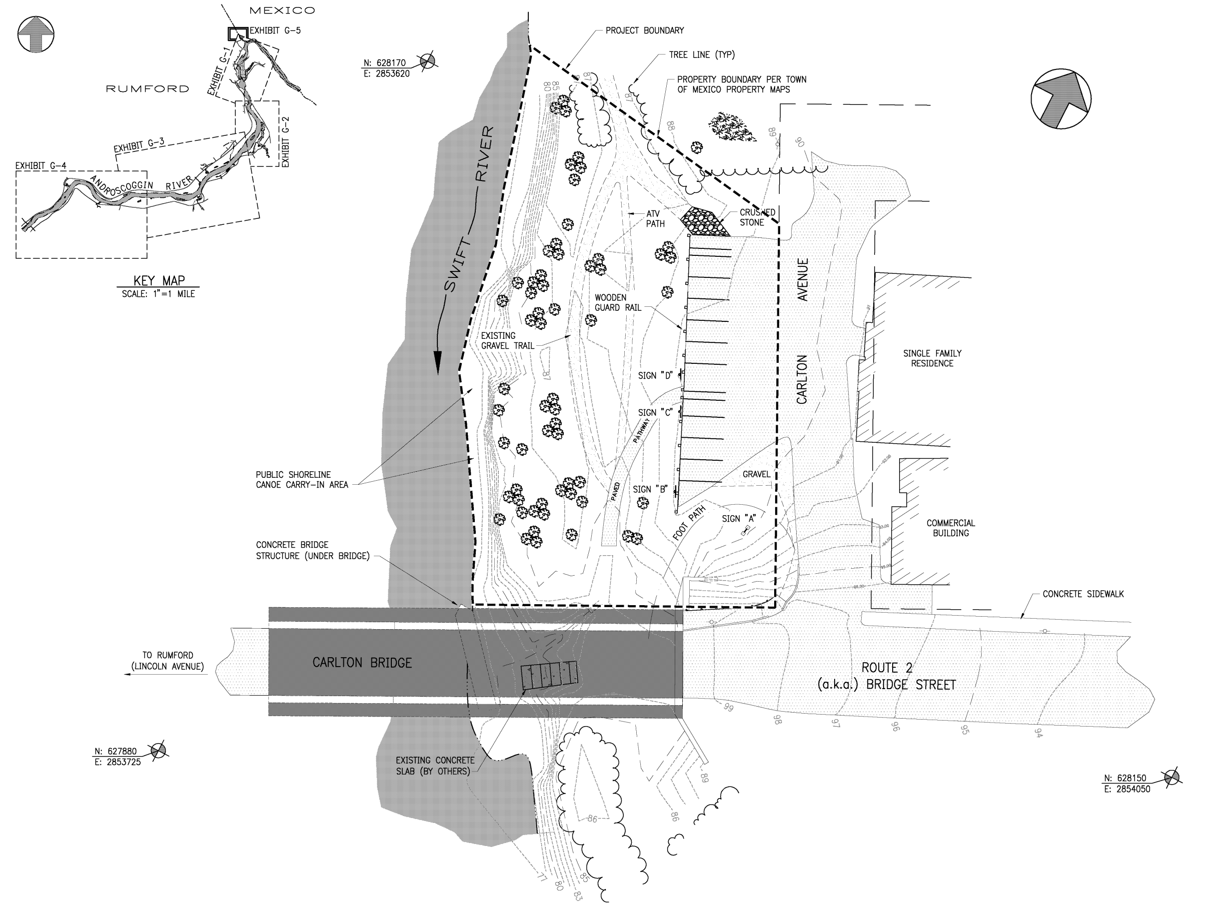
EXHIBIT G-4 SHEET 1 OF 1

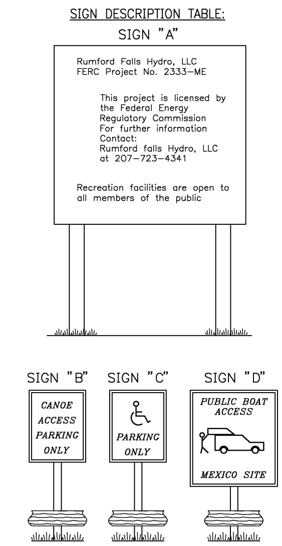
PROJECT BOUNDARY MAP
RESERVOIR

RUMFORD FALLS PROJECT FERC No. 2333
RUMFORD FALLS POWER COMPANY LLC

DATE:	SCALE:	APPROVED:
DECEMBER 2006	AS NOTED	

FERC NO. 2333-43





LEGEND:

- HIGHWAY MONUMENT FOUND
- PROJECT BOUNDARY
- TRANSMISSION LINE
- TOWN/COUNTY LINE
- SHORELINE/STREAM
- PRIMARY ROADS
- SECONDARY ROADS
- FENCE
- RAIL ROAD

EXHIBIT G-5	SHEET 1 OF 1	
PROJECT BOUNDARY MAP CARLTON BRIDGE BOAT LAUNCH		
RUMFORD FALLS PROJECT RUMFORD FALLS POWER COMPANY LLC	FERC No. 2333	
DATE: JANUARY 2008	SCALE: AS NOTED	APPROVED:

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FOURTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS

STATE OF MAINE — STEPHEN M. EVERETT 2181 — PROFESSIONAL LAND SURVEYOR

REFERENCE COORDINATE METADATA

PROJECTION – MAINE STATE PLANE
DATUM – NAD83
ZONE – WEST
UNITS – U.S. SURVEY FEET

SCALE: 1"=20'
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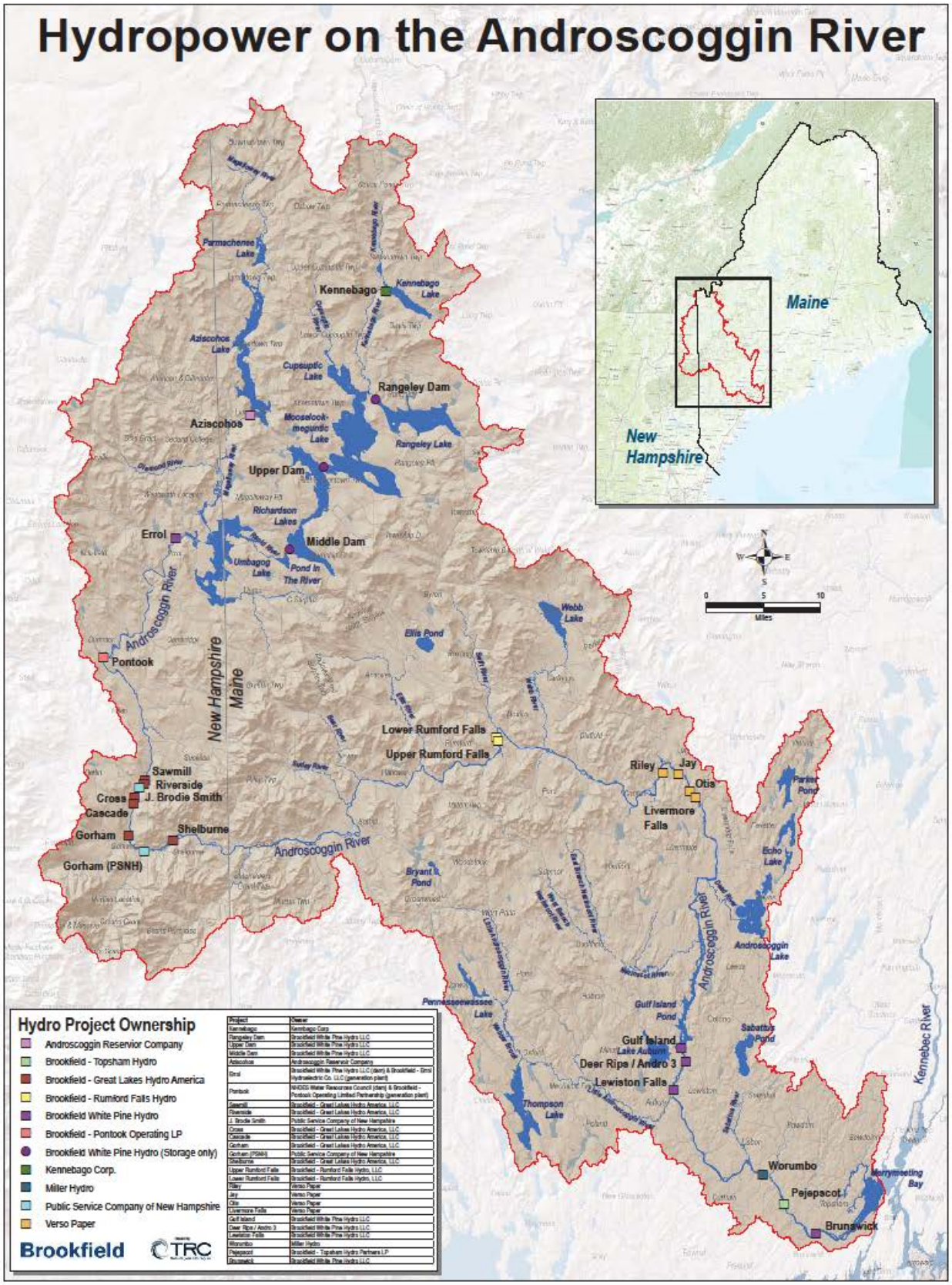
Non – Internet Public

CAD FILENAME: P-2333-44, G-5, PROJECT BOUNDARY, 03-31-2008.DWG

FERC NO. 2333-44


Hydropower on the Androscoggin River
Maine
New Hampshire
Kennebago
Kennebago Lake
Parmachenee Lake
Aziscohos Lake
Cupsuptic Lake
Rangeley Dam
Aziscohos
Mooselookmeguntic Lake
Rangeley Lake
Upper Dam
Richardson Lakes
Errol
Middle Dam
Umbagog Lake
Pond In The River
Androscoggin River
Pontook
Webb Lake
Ellis Pond
Lower Rumford Falls
Upper Rumford Falls
Sawmill
Riverside
Cross
J. Brodie Smith
Cascade
Gorham
Shelburne
Gorham (PSNH)
Androscoggin River
Bryant Pond
Riley
Jay
Otis
Livermore Falls
Androscoggin Lake
Pennesseewassee Lake
Gulf Island Pond
Gulf Island
Lake Auburn
Deer Rips / Andro 3
Lewiston Falls
Thompson Lake
Worumbo
Pejepscot
Brunswick
Merrymeeting Bay
Kennebec River
0 5 10
Miles
Hydro Project Ownership
Androscoggin Reservoir Company
Brookfield - Topsham Hydro
Brookfield - Great Lakes Hydro America
Brookfield - Rumford Falls Hydro
Brookfield White Pine Hydro
Brookfield - Pontook Operating LP
Brookfield White Pine Hydro (Storage only)
Kennebago Corp.
Miller Hydro
Public Service Company of New Hampshire
Verso Paper
Brookfield
TRC

ZONES OF EFFECT

PHOTOGRAPHS OF DESIGNATED ZONES OF EFFECT

Upper Dam and Powerhouse, Impoundment and Bypass Reach (Zone 1 and 2)

Rumford Falls Upper Dam and Powerhouse Bypass Reach (Zone 2)

Rumford Falls Middle Dam and Impoundment (Zone 3)

Rumford Falls Middle Dam Canal

Rumford Falls Middle Dam Impoundment (Zone 3)

Rumford Falls Middle Dam Bypass Reach (Zone 4)

Regulated River Reach below Rumford Lower Powerhouse (Zone 5)

MATRIX OF ALTERNATIVE STANDARDS

Rumford Falls Project

The Project is operated as a run of the river facility with agency required minimum bypass reach flows. There are no diadromous fish species in the upper Androscoggin River, therefore, fish passage facilities are not necessary nor have been requested or prescribed. Lands within the project boundary are limited to those required for project operations, project, and project recreation facilities. No listed species are present in the project area. Cultural sites are present within and adjacent to the project boundary, but project operations have no effect on these resources. The project has a FERC approved recreation plan in place.

Facility Name: _Upper Dam_____ **Zone of Effect:** _1 – Impoundment_

	Criterion	*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	**Ecological Flow Regimes**	X				
B	**Water Quality**		X			
C	**Upstream Fish Passage**	X				
D	**Downstream Fish Passage**	X				
E	**Watershed and Shoreline Protection**	X				
F	**Threatened and Endangered Species Protection**	X				
G	**Cultural and Historic Resources Protection**		X			
H	**Recreational Resources**			X		

Criterion	Standard	Supporting Information
A	**1**	The Project is operated in run-of-river mode with minimal impoundment fluctuations.
B	**2**	The Project is operated as a run of river facility with minimal fluctuation under a FERC and agency approved Operations Monitoring Plan (see FERC and Regulatory Information) and meets all water quality standards for Class C waters pursuant to the Project's Water Quality Certification. While the reach of the Penobscot River in the vicinity of the dam is identified as impaired for PCBs, the cause of impairment is identified as a legacy pollutant unrelated to the Project (see FERC and Regulatory Information).
C	**1**	There is no upstream fish passage in this reach as migratory species such as Alewife, blueback herring, striped bass, sea lamprey, and American shad are diadromous fish species were known not to be present in this river reach given the downstream Lewiston Falls.
D	**1**	There is no downstream fish passage in this reach; diadromous fish species are not known to be present.
E	**1**	Lands within the project boundary are limited to those required for project operations and recreation facilities. None have significant environmental or recreational value. Nevertheless, a shoreline buffer zone of between 10 and 800 feet in width runs along both shorelines of the Upper Dam impoundment approximately 1 mile upstream.
F	**1**	There are no documented endangered or threatened aquatic species in this reach of the Androscoggin River. While Northern Long Eared Bat range is identified in the vicinity of the Project, the Project has no effect on the species as there are no tree-clearing activities or corridor maintenance activities.

Criterion	Standard	Supporting Information
G	**2**	Pursuant to Article 406 of the Project FERC license, a Programmatic Agreement and Cultural Resources Plan for the Project was developed and submitted to FERC on March 10, 1997 (see FERC and Regulatory Information for FERC Order Approving Cultural Resources Plan). All fieldwork and excavations covered by the CRP (approved by FERC on May 2, 1997) have been reported in an annual report to FERC filed as Privileged. This includes eight prehistoric sites in the Upper Dam impoundment identified as eligible for the National Register.
H	**3**	Most of the recreational use at the Project occurs at the Upper Dam impoundment which is served by the Logan Brook access, an unimproved boat launch located along the south shore of South Rumford Road; a trailered boat launch located along the north shore of U.S. Route 2; and a canoe portage.

Facility Name: _Upper Dam_____ **Zone of Effect:** _2 – Bypass Reach_

	Criterion	*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	**Ecological Flow Regimes**		X			
B	**Water Quality**		X			
C	**Upstream Fish Passage**	X				
D	**Downstream Fish Passage**	X				
E	**Watershed and Shoreline Protection**	X				
F	**Threatened and Endangered Species Protection**	X				
G	**Cultural and Historic Resources Protection**	X				
H	**Recreational Resources**	X				

Criterion	Standard	Supporting Information
A	**2**	There is a very short reach (approximately 650 ft) downstream of the Upper Dam that is bypassed by the forebay and powerhouse. The FERC required minimum flow is 1 cfs, provided by leakage, in this reach which is ledge bedrock and devoid of significant aquatic habitat.
B	**2**	The Upper Dam bypass reach is subject to minimum flow requirements; legacy pollutants in this reach are unrelated to project operations; and the Project meets all applicable water quality standards.
C	**1**	There is no upstream fish passage in this reach as migratory species such as Alewife, blueback herring, striped bass, sea lamprey, and American shad are diadromous fish species were known not to be present in this river reach given the downstream Lewiston Falls.
D	**1**	There is no downstream fish passage in this reach; diadromous fish species are not known to be present.
E	**1**	Lands within the project boundary are limited to those required for project operations and recreation facilities. None have significant environmental or recreational value.
F	**1**	There are no documented endangered or threatened aquatic species in this reach of the Androscoggin River. While Northern Long Eared Bat range is identified in the vicinity of the Project, the Project has no effect on the species as there are no tree-clearing activities or corridor maintenance activities.
G	**1**	Pursuant to Article 406 of the Project FERC license, a Programmatic Agreement and Cultural Resources Plan for the Project was developed and submitted to FERC on March 10, 1997 (see FERC and Regulatory Information for FERC Order Approving Cultural Resources Plan). All fieldwork and excavations covered by the CRP (approved by FERC on May 2, 1997) have been reported in an annual report to FERC filed as Privileged. There are no cultural or historic resources present in this reach.
H	**1**	There is no access to this reach for recreational purposes.

Facility Name: _Middle Dam__ **Zone of Effect:** _3 –Impoundment_

Criterion		*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	**Ecological Flow Regimes**	X				
B	**Water Quality**		X			
C	**Upstream Fish Passage**	X				
D	**Downstream Fish Passage**	X				
E	**Watershed and Shoreline Protection**	X				
F	**Threatened and Endangered Species Protection**	X				
G	**Cultural and Historic Resources Protection**	X				
H	**Recreational Resources**			X		

Criterion	Standard	Supporting Information
A	**1**	The Project is operated in run-of-river mode with minimal impoundment fluctuations.
B	**2**	The Project is operated as a run of river facility with minimal fluctuation under a FERC and agency approved Operations Monitoring Plan (see FERC and Regulatory Information) and meets all water quality standards for Class C waters pursuant to the Project's Water Quality Certification. While the reach of the Androscoggin River in the vicinity of the dam is identified as impaired for PCBs, the cause of impairment is identified as a legacy pollutant unrelated to the Project (see FERC and Regulatory Information).
C	**1**	There is no upstream fish passage in this reach as migratory species such as Alewife, blueback herring, striped bass, sea lamprey, and American shad are diadromous fish species were known not to be present in this river reach given the downstream Lewiston Falls.
D	**1**	There is no downstream fish passage in this reach; diadromous fish species are not known to be present.
E	**1**	Lands within the project boundary are limited to those required for project operations and recreation facilities. None have significant environmental or recreational value.
F	**1**	There are no documented endangered or threatened aquatic species in this reach of the Androscoggin River. While Northern Long Eared Bat range is identified in the vicinity of the Project, the Project has no effect on the species as there are no tree-clearing activities or corridor maintenance activities.
G	**1**	Pursuant to Article 406 of the Project FERC license, a Programmatic Agreement and Cultural Resources Plan for the Project was developed and submitted to FERC on March 10, 1997 (see FERC and Regulatory Information for FERC Order Approving Cultural Resources Plan). All fieldwork and excavations covered by the CRP (approved by FERC on May 2, 1997) have been reported in an annual report to FERC filed as Privileged. There are no cultural or historic resources present in this reach.
H	**3**	Recreational use of the Middle Dam impoundment is limited to informal shoreline fishing near the Rumford Information Booth.

Facility Name: _Middle Dam_ Zone of Effect: _4 – Bypass Reach_

Criterion		*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	**Ecological Flow Regimes**		X			
B	**Water Quality**		X			
C	**Upstream Fish Passage**	X				
D	**Downstream Fish Passage**	X				
E	**Watershed and Shoreline Protection**	X				
F	**Threatened and Endangered Species Protection**	X				
G	**Cultural and Historic Resources Protection**	X				
H	**Recreational Resources**			X		

Criterion	Standard	Supporting Information
A	**2**	There is a short reach (approximately 3,500 ft) downstream of the Middle Dam that is bypassed by the forebay and powerhouse. The FERC required minimum flow is 21 cfs in this reach.
B	**2**	The Middle Dam bypass reach is subject to minimum flow requirements; legacy pollutants in this reach are unrelated to project operations; and the Project meets all applicable water quality standards.
C	**1**	There is no upstream fish passage in this reach as migratory species such as Alewife, blueback herring, striped bass, sea lamprey, and American shad are diadromous fish species were known not to be present in this river reach given the downstream Lewiston Falls.
D	**1**	There is no downstream fish passage in this reach; diadromous fish species are not known to be present.
E	**1**	Lands within the project boundary are limited to those required for project operations and recreation facilities. None have significant environmental or recreational value.
F	**1**	There are no documented endangered or threatened aquatic species in this reach of the Androscoggin River. While Northern Long Eared Bat range is identified in the vicinity of the Project, the Project has no effect on the species as there are no tree-clearing activities or corridor maintenance activities.
G	**1**	Pursuant to Article 406 of the Project FERC license, a Programmatic Agreement and Cultural Resources Plan for the Project was developed and submitted to FERC on March 10, 1997 (see FERC and Regulatory Information for FERC Order Approving Cultural Resources Plan). All fieldwork and excavations covered by the CRP (approved by FERC on May 2, 1997) have been reported in an annual report to FERC filed as Privileged. There are no cultural or historic resources present in this reach.
H	**2**	Recreational use of the bypass reach is limited to shoreline fishing along the western shoreline.

Facility Name: Rumford Falls Project **Zone of Effect:** 5 – Regulated Downstream River Reach

Criterion		Alternative Standards				
		1	*2*	*3*	*4*	*Plus*
A	**Ecological Flow Regimes**	X				
B	**Water Quality**		X			
C	**Upstream Fish Passage**	X				
D	**Downstream Fish Passage**	X				
E	**Watershed and Shoreline Protection**	X				
F	**Threatened and Endangered Species Protection**	X				
G	**Cultural and Historic Resources Protection**	X				
H	**Recreational Resources**			X		

Criterion	Standard	Supporting Information
A	**1**	This reach receives run-of-river flows from the Project.
B	**2**	This reach receives run-of-river flows from the Project; legacy pollutants in this reach are unrelated to project operations; and the Project meets all applicable water quality standards.
C	**1**	There is no upstream fish passage in this reach as migratory species such as Alewife, blueback herring, striped bass, sea lamprey, and American shad are diadromous fish species were known not to be present in this river reach given the downstream Lewiston Falls.
D	**1**	There is no downstream fish passage in this reach; diadromous fish species are not known to be present.
E	**1**	Lands within the project boundary are limited to those required for project operations and recreation facilities. None have significant environmental or recreational value.
F	**1**	There are no documented endangered or threatened aquatic species in this reach of the Androscoggin River. While Northern Long Eared Bat range is identified in the vicinity of the Project, the Project has no effect on the species as there are no tree-clearing activities or corridor maintenance activities.
G	**1**	Pursuant to Article 406 of the Project FERC license, a Programmatic Agreement and Cultural Resources Plan for the Project was developed and submitted to FERC on March 10, 1997 (see FERC and Regulatory Information for FERC Order Approving Cultural Resources Plan). All fieldwork and excavations covered by the CRP (approved by FERC on May 2, 1997) have been reported in an annual report to FERC filed as Privileged. There are no cultural or historic resources present in this reach.
H	**3**	Recreational use of the reach downstream is limited to shoreline fishing along the western shoreline.

B.3 Sworn Statement and Waiver Form

All applications for LIHI Certification must include the following sworn statement before they can be reviewed by LIHI:

SWORN STATEMENT

As an Authorized Representative of Rumford Falls Hydro LLC *, the Undersigned attests that the material presented in the application is true and complete.*

The Undersigned acknowledges that the primary goal of the Low Impact Hydropower Institute's certification program is public benefit, and that the LIHI Governing Board and its agents are not responsible for financial or other private consequences of its certification decisions.

The Undersigned further acknowledges that if LIHI Certification of the applying facility is granted, the LIHI Certification Mark License Agreement must be executed prior to marketing the electricity product as LIHI Certified®.

The Undersigned further agrees to hold the Low Impact Hydropower Institute, the Governing Board and its agents harmless for any decision rendered on this or other applications, from any consequences of disclosing or publishing any submitted certification application materials to the public, or on any other action pursuant to the Low Impact Hydropower Institute's certification program.

PLEASE INSERT FOR PRE-OPERATIONAL CERTIFICATIONS (see Section 4.5.3)**:**

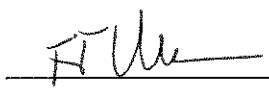
The Undersigned acknowledges that LIHI may suspend or revoke the LIHI Certification should the impacts of the facility, once operational, fail to comply with the LIHI program requirements.

Company Name: Rumford Falls Hydro LLC

Authorized Representative:

Name: Tom Uncher

Title: Vice President

Authorized Signature: 

Date: 3/13/19

B.4 Contacts Forms

All applications for LIHI Certification must include complete contact information.

A. Applicant-related contacts

Facility Owner:	
Name and Title	Tom Uncher, Vice President
Company	Rumford Falls Hydro LLC
Phone	207-755-5606
Email Address	Tom.Uncher@brookfieldrenewable.com
Mailing Address	150 Main St. Lewiston Maine 04240
Facility Operator (if different from Owner):	
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
Consulting Firm / Agent for LIHI Program (if different from above):	
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
Compliance Contact (responsible for LIHI Program requirements):	
Name and Title	Kelly Maloney
Company	Brookfield Renewable
Phone	(207) 755-5606
Email Address	Kelly.Maloney@Brookfieldrenewable.com
Mailing Address	150 Main Street Lewiston, Maine 04240
Party responsible for accounts payable:	
Name and Title	Judith Charette Manger, Accounts Payable, Finance & Accounting
Company	Brookfield Renewable
Phone	819-561-8099
Email Address	Judith.charette@brookfieldrenewable.com
Mailing Address	41 Victoria, Gatineau, QC, Canada J8X2A1

B. Current and relevant state, federal, and tribal resource agency contacts with knowledge of the facility (copy and repeat the following table as needed).

Agency Contact (Check areas of responsibility: Flows__, Water Quality _x_, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	Advisory Council on Historic Preservation
Name and Title	John M Fowler, Executive Director
Phone	202-517-0200
Email address	jfowler@achp.gov
Mailing Address	
Agency Contact (Check areas of responsibility: Flows__, Water Quality _x_, Fish/Wildlife Resources __, Watersheds _x_, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	Maine Department of Environmental Protection
Name and Title	Mark Bergeron, Director
Phone	207-215-4397
Email address	Mark.Bergeron@maine.gov
Mailing Address	Central Maine Regional Office, 17 State House Station, Augusta, Maine 04333
Agency Contact (Check areas of responsibility: Flows__, Water Quality _x_, Fish/Wildlife Resources __, Watersheds _x_, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	Maine Department of Environmental Protection
Name and Title	Kathy Davis Howatt Hydropower Coordinator
Phone	207-446-2642
Email address	kathy.howatt@maine.gov
Mailing Address	Central Maine Regional Office, 17 State House Station, Augusta, Maine 04333
Agency Contact (Check areas of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources _x_, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	Maine Department of Inland Fisheries and Wildlife
Name and Title	Jason Seiders Fisheries Biologist
Phone	207-547-5314
Email address	dwayne.j.seiders@maine.gov
Mailing Address	270 Lyons Road, Region B, Sidney, Maine 04330-9711
Agency Contact (Check areas of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation _x_):	
Agency Name	Maine Dept. of Agriculture, Conservation & Forestry
Name and Title	Kathleen Leyden, Director
Phone	207-287-5254
Email address	Kathleen.Leyden@maine.gov
Mailing Address	93 State House Station, Augusta, Maine 04333-0038

Agency Contact (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources _X_, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	Maine Department of Marine Resources
Name and Title	Gail Wippelhauser Marine Resources Scientist
Phone	207-624-6349
Email address	gail.wippelhauser@maine.gov
Mailing Address	21 State House Station, Augusta, Maine 04333

Agency Contact (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources _X_, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	NOAA
Name and Title	Sean P McDermott, Fisheries Biologist
Phone	(978) 281-9113
Email address	**sean.mcdermott@noaa.gov**
Mailing Address	55 Great Republic Drive Gloucester, MASSACHUSETTS 01930-2237

Agency Contact (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources _X_, Recreation __):	
Agency Name	Passamaquoddy Native American Nation
Name and Title	Pleasant Point Reservation Tribal Building Office
Phone	207-853-2481
Email address	marvin@wabanaki.com (207) 853-2600 ext 234
Mailing Address	Route No. 190 Perry, Maine 04667

Agency Contact (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	U.S. National Park Service
Name and Title	Kevin Mendik, ESQ. NPS Hydro Program Coordinator
Phone	617-223-5299
Email address	kevin_mendik@NPS.gov
Mailing Address	15 State Street 10th floor Boston, Massachusett 02109

C. Current stakeholder contacts that are actively engaged with the facility (copy and repeat the following table as needed).

Stakeholder Contact (Check areas of interest: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Stakeholder Organization	Trout Unlimited
Name and Title	STEPHEN W BROOKE
Phone	
Email address	
Mailing Address	PO Box 53 Hallowell, Maine 04347-0053
Stakeholder Contact (Check areas of interest: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Stakeholder Organization	
Name and Title	
Phone	
Email address	
Mailing Address	

LIHI STAGE 1 RECERTIFICATION REVIEW AND

RFC RESPONSES AND INFORMATION

I: BACKGROUND INFORMATION REVIEW

Information Type	***Complete? (Y, N, NA)***	***Missing Information***
Name of the Facility:	Y	LIHI name: "Rumford Falls Project"
Location:	Y	
Facility Owner:	Y	
Regulatory Status:	Y	
Characteristics of the Power Plant:	Y	
Characteristics of the Dam or Diversion:	Y	
Characteristics of Conduit:	Y	
Characteristics of Reservoir and Watershed:	N	For "Area inside FERC project boundary, where appropriate", the answer should be number of acres within the project boundary. *This information has been updated and provided in Table B-1 above.*
Hydrologic Setting:	Y	

Information Type	*Complete? (Y, N, NA)*	*Missing Information*
Designated Zones of Effect:	N	"Upstream and downstream locations by river miles" means list the river miles for each zone (e.g. "Zone 1: RM 22.7 – 20.7", etc.) I'm not sure there needs to be a separate Zone 1 and Zone 2. Zone 1 is described as a regulated upstream river reach and is outside the FERC project boundary. Could this be combined with Zone 2 – impoundment zone? Unless there is a clear delineation of where Zone 1 ends and Zone 2 begins, or specific regulatory requirements that impact Zone 1 without impacting Zone 2, I would recommend combining these into one zone. *The upstream backwater effect of the project impoundment is delineated at the upstream extent of the Project boundary. The previously designated Zone 1, over which the Project has no effect, has been deleted and the subsequent Zones of Effect renumbered.*
Additional Contact Information:	Y	
Photographs of the Facility	Y	
Map/aerial of facility and location of nearby dams	Y	

Questions for Facilities with Conditions:

General Comments: There were no conditions for this Facility.

II. CRITERIA INFORMATION REVIEW

General Criteria Comments: None, specific comments are included under each relevant criterion

A. ECOLOGICAL FLOW REGIME

In general, additional information is needed to confirm that the project is meeting headpond limitations, and to explain how fish and wildlife habitat within impoundment zones is evaluated and managed.

Zone of Effect	*Standard selected*	*Complete? (Y or N)*	Information needed to complete the review	Response
1. Upstream Reach	A-1	N	Please clarify how this is a "regulated" river reach. If it is not truly regulated in any way different than the impoundment zone (#2), then this can be consolidated with zone 2	*This reach is hydrologically independent of the impoundment and has been deleted from this application.*

Zone of Effect	*Standard selected*	*Complete? (Y or N)*	Information needed to complete the review	Response
2. Impoundment	A-1	N	Please confirm if the headpond limits have been satisfied during the past five years. Explain how fish and wildlife habitat within the zone is evaluated and managed.	*Article 403 of the Project license requires run of river operation within 1 foot of the full pond elevation of 601.24 ft. at Upper Dam. Middle Dam shall be kept within 1 foot of 502.74 ft. All water into the project impoundment is passed downstream through the powerhouse and via spill and is not reserved for storage or peaking. Headpond elevations are monitored in real-time and any deviations are reported to the FERC and agencies. As reported in the Annual Compliance Reports for the Project, there have been no notices of violation of the FERC License for the Project. Two deviation of normal operation were reported to FERC at the Project in the last 5 years. Letters filed with FERC summarizing these deviations is provided in FERC and Regulatory Information. Fish and wildlife habitat is maintained through run-of-river operations, which more closely model the natural hydrograph.*
3. Bypassed Reach	A-2	Y	None	None

Zone of Effect	*Standard selected*	*Complete? (Y or N)*	Information needed to complete the review	Response
4. Impoundment	A-1	N	Please confirm if the headpond limits have been satisfied during the past five years. Explain how fish and wildlife habitat within the zone is evaluated and managed.	*Article 403 requirements are summarized above. As reported in the Annual Compliance Reports for the Project, there have been no notices of violation of the FERC License for the Project. Two deviation of normal operation have occurred at the Project in the last 5 years as a result of icing and of dive work being completed at the Project. Letters filed with FERC summarizing these deviations is provided in FERC and Regulatory Information. Fish and wildlife habitat are maintained through run-of-river operations, which more closely model the natural hydrograph.*
5. Bypassed Reach	A-2	N	Explain the scientific or technical basis for the agency recommendation, and how the recommendation provides fish and wildlife protection.	*As part of FERC's Environmental Assessment, the Maine Department of Inland Fisheries and Wildlife and US Fish and Wildlife Service concluded present leakage in the Upper reach and Middle reach and occasional spillage at the two dams are adequate, no additional flows are needed at the Upper Dam and Middle Dam for the purpose of providing additional habitat in the bypass reaches (see attached environmental assessment Page 15)*
6. Downstream Reach	A-1	Y	None	None

B. WATER QUALITY PROTECTION

Per LIHI's requirements for Standard B-2: *"Describe all compliance activities related to the water quality agency recommendations, including on-going monitoring and how those are integrated into facility operations."*

Zone of Effect	*Standard selected*	*Complete? (Y or N)*	Information needed to complete the review	Response
1. Upstream Reach	B-1	N	Please clarify how this is a "regulated" river reach. If it is not truly regulated in any way different than the impoundment zone (#2), then this can be consolidated with zone 2	*This reach is hydrologically independent of the impoundment and has been deleted from this application.*
2. Impoundment	B-2	N	Describe all compliance activities related to the water quality agency recommendations, including on-going monitoring and how those are integrated into facility operations.	*The Project water quality certification (WQC) requires run of river operation (outflow equals inflow) and a minimum flow of 1,034 cfs or inflow whichever is less. Impoundment levels kept within 1 foot from full (Upper elevation 601.24). Brookfield National System Control Center (NSCC) monitors the Project operations 24 hours/day. Deviations of headpond elevation, minimum flows, or run of river operations are reported to the agencies within 24 hours and to FERC within 10 days. As reported in the Annual Compliance Reports for the Project, there have been no notices of violation of the FERC License for the Project. Two deviation of normal operation have occurred at the Project in the last 5 years as a result of icing and of dive work being completed at the Project. Letters filed with FERC summarizing these deviations is provided in FERC and Regulatory Information.*
3. Bypassed Reach	B-2	N	See Zone 2, above	*The Project WQC requires a minimum bypass reach flow of 1 cfs or spill, which is monitored constantly by the NSCC.*

				Deviations of headpond elevation, minimum flows, or run of river operations are reported to the agencies within 24 hours and to FERC within 10 days. As reported in the Annual Compliance Reports for the Project, there have been no notices of violation of the FERC License for the Project and no deviations of minimum flows.
4. Impoundment	B-2	N	See Zone 2, above	*The Project WQC requires impoundment levels kept within 1 foot from full (Middle elevation 502.74), which is monitored constantly by the NSCC. Deviations of headpond elevation, minimum flows, or run of river operations are reported to the agencies within 24 hours and to FERC within 10 days. As reported in the Annual Compliance Reports for the Project, there have been no notices of violation of the FERC License for the Project. Two deviation of normal operation have occurred at the Project in the last 5 years as a result of icing and of dive work being completed at the Project. Letters filed with FERC summarizing these deviations is provided in FERC and Regulatory Information.*
5. Bypassed Reach	B-2	N	See Zone 2, above	*The Project WQC requires a minimum bypass reach flow of 21 cfs or spill, which is monitored constantly by the NSCC. Deviations of headpond elevation, minimum flows, or run of river operations are reported to the agencies within 24 hours and to FERC within 10 days. As reported in the Annual Compliance Reports for the Project, there have been no notices of violation of the FERC License for the Project and no deviations of minimum flows.*
6. Downstream Reach	B-2	N	See Zone 2, above	*The Project WQC requires a Project minimum flow of 1034 cfs or inflow*

				whichever is less, which is monitored constantly by the NSCC. Deviations of headpond elevation, minimum flows, or run of river operations are reported to the agencies within 24 hours and to FERC within 10 days. As reported in the Annual Compliance Reports for the Project, there have been no notices of violation of the FERC License for the Project and no deviations of minimum flows.

C. UPSTREAM FISH PASSAGE

Please check with agencies (or provide recent data) to determine whether American eels are present upstream of the Facility.

Zone of Effect	*Standard selected*	*Complete? (Y or N)*	Information needed to complete the review	Responses
1. Upstream Reach	C-1	Y	None	*This reach is hydrologically independent of the impoundment and has been deleted from this application.*
2. Impoundment	C-1	Y	None	
3. Bypassed Reach	C-1	N	Please ask agencies whether American eel are present (or were present) in this area. American eel can and do ascend waterfalls to migrate (i.e. downstream Lewiston falls)	*For several species, the natural upstream migration barrier on the main stem of the Androscoggin River was Lewiston Falls, 23 river miles above tidewater and 59.9 river miles downstream of the Rumford Falls Project. Although this site was an impassable barrier for most species, sea-run Atlantic salmon and American eel were able to ascend the falls and migrate upstream to Rumford, approximately 80 miles above Merrymeeting Bay. Rumford Falls was an impassable barrier to migrating salmon and excluded them from New Hampshire waters of the Androscoggin River (MDMR, 2010, NMFS, 2009). (see attached FERC Filing, BA-ISPP Page 22)*
4. Impoundment	C-1	N	See Zone 3, above	
5. Bypassed Reach	C-1	N	See Zone 3, above	

Zone of Effect	*Standard selected*	*Complete? (Y or N)*	Information needed to complete the review	Responses
6. Downstream Reach	C-1	N	See Zone 3, above	

D. DOWNSTREAM FISH PASSAGE AND PROTECTION

Substantiation is needed to demonstrate that no migratory fish species are present.

Zone of Effect	*Standard selected*	*Complete? (Y or N)*	Information needed to complete the review	Response
1. Upstream Reach	D-1	N	None	*This reach is hydrologically independent of the impoundment and has been deleted from this application.*
2. Impoundment	D-1	N	For *riverine* fish populations that are known to move downstream, explain why the Facility does not contribute adversely to the sustainability of these populations and to their access to habitat necessary for completion of their life cycles. Please substantiate claim that no migratory fish species are present in the vicinity (fish distribution data, reports, agency comments, etc.) Consider American eel (see upstream passage)	*No migratory fish species are historically present above the great falls at Rumford Falls. The MDEP, Atlantic Sea Run Salmon Commission, and Interior do not currently require facilities designed to pass fish upstream r downstream at Rumford Falls. Interior does not recommend upstream or downstream bypass facilities at this time. (1993 Environmental Assessment)*
3. Bypassed Reach	D-1	N	See Zone 2, above	See Zone 2, above
4. Impoundment	D-1	N	See Zone 2, above	See Zone 2, above
5. Bypassed Reach	D-1	N	See Zone 2, above	See Zone 2, above
6. Downstream Reach	D-1	Y	None	

E. WATERSHED AND SHORELINE PROTECTION

Substantiation is needed that no lands with significant ecological value exist in the project vicinity. This can be in the form of agency comments, maps, land cover databases or other information that demonstrates there is no *"significant ecological value for protecting water quality, aesthetics, or low-impact recreation."* Owner can also demonstrate that the land is not under their direct or indirect control.

Zone of Effect	*Standard selected*	*Complete? (Y or N)*	Information needed to complete the review	Initial issue identification, and standards recommendations
1. Upstream Reach	E-1	N	Please substantiate claim that there are no lands with significant ecological value in this ZOE (e.g. describe the land use and land cover within the project boundary) for ZOEs using Standard E-1.	*This reach is hydrologically independent of the impoundment and has been deleted from this application.*
2. Impoundment	E-1	N	See Zone 1, above	*The Project Boundary adheres to the highwater elevation along the impoundments; there is very little land and no lands of significant ecological value within the project boundary.*
3. Bypassed Reach	E-1	N	See Zone 1, above	See Zone 2, above
4. Impoundment	E-1	N	See Zone 1, above	See Zone 2, above
5. Bypassed Reach	E-1	N	See Zone 1, above	See Zone 2, above
6. Downstream Reach	E-1	N	See Zone 1, above	See Zone 2, above

F. THREATENED AND ENDANGERED SPECIES PROTECTION

The reviewer will need to confirm that no species are present through mapping databases, agency outreach and Department of Interior IPAC website. If only the bat species are present, than the Owner's information provided regarding tree-clearing is sufficient.

Zone of Effect	*Standard selected*	*Complete? (Y or N)*	Information needed to complete the review	Response
1. Upstream Reach	F-1	Y	None	*This reach is hydrologically independent of the impoundment and has been deleted from this application.*
2. Impoundment	F-1	Y	None	*The FWS states that, no Federally listed or proposed threatened and endangered species under the jurisdiction of FWS are known to occur in the project area, with the exception of occasional, transient, endangered bald eagles and peregrine falcons and further consultation with FWS under Section 7 of the Endangered Species Act is not required (letter from Cordon E. Beckett, Field Supervisor, New England Field Office, U.S. Fish and Wildlife Service, Concord, New Hampshire, June 16, 1992).---- IPAC report as of 02,12,2019 list Northern Long Eared Bat and Atlantic Salmon and states "No critical habitat in this area" (See attached link)*
3. Bypassed Reach	F-1	Y	None	See Zone 2.
4. Impoundment	F-1	Y	None	See Zone 2.
5. Bypassed Reach	F-1	Y	None	See Zone 2.
6. Downstream Reach	F-1	Y	None	See Zone 2.

G. CULTURAL AND HISTORIC RESOURCE PROTECTION

Please provide a copy of the most recent Cultural Resources Protection monitoring report, so LIHI can confirm that there are no ongoing issues of concern for the sites identified in Zone 2.

Zone of Effect	*Standard selected*	*Complete? (Y or N)*	Information needed to complete the review	Response
1. Upstream Reach	G-1	Y	None	*This reach is hydrologically independent of the impoundment and has been deleted from this application.*
2. Impoundment	G-2	N	Please provide the most recent annual report cited: *"All fieldwork and excavations covered by the CRP (approved by FERC on May 2, 1997) have been reported in an annual report to FERC filed as Privileged."*	*E-Filed as privileged with FERC Jan 24, 2017 sent under separate cover to LIHI as Private and Confidential.*
3. Bypassed Reach	G-1	Y	None	None
4. Impoundment	G-1	Y	None	None
5. Bypassed Reach	G-1	Y	None	None
6. Downstream Reach	G-1	Y	None	None

H. RECREATIONAL RESOURCES

Based on the Owner's selection of Standard H-3 for most zones, it appears that there are no agency recommendations in place. If this is incorrect, please "document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations, and document that the facility is in compliance with all such plans and recommendations." If recreational access is prohibited due to safety reasons for certain zones (i.e. bypassed reach zones,) please state that.

Zone of Effect	*Standard selected*	*Complete? (Y or N)*	Information needed to complete the review	Response
1. Upstream Reach	H-1	N	Document the Owner's current and future commitment to accommodate reasonable requests from public interest groups for adequate public access for recreational use of lands and waters of the facility without fees or charges	*This reach is hydrologically independent of the impoundment and has been deleted from this application.*
2. Impoundment	H-3	N	See Zone 1, above	*Access to project lands and waters is a requirement of the Project license. (See Article 409 Order Issuing New License dated October 18, 1994 in FERC and Regulatory Information).*
3. Bypassed Reach	H-1	N	See Zone 1, above	None
4. Impoundment	H-3	N	See Zone 1, above	None
5. Bypassed Reach	H-2	N	Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations, and document that the facility is in compliance with all such plans and recommendations.	*See Order issuing New License dated October 18, 1994 and 2014 FERC Form 80 Recreation Report in FERC and Regulatory Information*
6. Downstream Reach	H-3	N	See Zone 1, above	None