

Application for Low Impact Hydro Certification
for the Lower Robertson and Ashuelot Hydroelectric Projects

Submitted to: Low Impact Hydropower Institute
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Part E: Low Impact Hydropower Questionnaire

Background Information

- 1) Project Names: ROB) Lower Robertson Hydroelectric Project
 ASH) Ashuelot Hydroelectric Project
- 2) Owner and operator: Ashuelot River Hydro, Inc. (hereafter ARH)
 P.O. Box 194, Sullivan, NH 03445
 Phone) (603) 847-9798
 Email) bking@gaw.com
 Contact) Robert E. King, P.E., Pres.
- 3) Both projects are located on the Ashuelot River in Winchester, NH, off Route 119 between the village of Ashuelot and the Town of Hinsdale. Lower Robertson is easily visible from Route 119 and is approx. 1 mile upstream of Ashuelot, which is located at 80 Lost Road, an unmarked off of Route 119.
- 4) Exempted Capacity ROB) 840 KW ASH) 870 KW
- 5) Annual generation ROB) 3.2 GWH ASH) 3.3 GWH
- 6) FERC Exemptions, granted July 31, 1986: ROB) No. 8235; ASH) No. 7791
 (see Appendix A - file names ROBxA & ASHxA, FERC Exemption)
- 7) Reservoir volumes, approx: ROB) 100 acre feet; area 8.6 acres
 ASH) 20 acre feet; area 3 acres
- 8) Non-reservoir facilities at both projects cover approx. 4800 sq. ft.
- 9) Inundated area is approx. ROB) 3 acres; ASH) 1 acre
- 10) ROB) A 200 foot buffer area around the reservoir would be approx. 26 acres
 ASH) A 200 foot buffer area around the reservoir would be approx. 12 acres
- 11) For a list of agency contacts, see Appendix B - file name xB Contact List.
- 12) Both projects are small, low head, run-of-river hydro plants built in the mid 1980's at existing paper company dams. ARH purchased the projects in 2007 and has operated them ever since. For site maps, see Appendix C - file names ROBxC & ASHxC, Maps.

A. Flows

- 1) Yes. Article 2 of the Exemptions requires adherence to conditions originally issued by New Hampshire Fish & Game and U.S. Fish and Wildlife that instantaneous flows of 203 cfs (0.5 cfs/sm) be passed at all times. At the behest of the project owner of the time, FERC and those two agencies approved a stream flow gauging plan by orders dated November 1, 1994 (ASH) and May 16, 1995 (ROB). Under our ownership, the project is operated run-of-river and in conformance with those orders. See relevant documents at Appendix D - file names ROBxD & ASHxD, Flows.

B. Water Quality

1) The projects were awarded 401 Water Quality Certificate in 1985. However, these documents were vaguely worded, and therefore ARH asked for a letter of compliance from the Water Quality division of the New Hampshire Dept. of Environmental Services this spring. In response, DES has asked ARH to collect water quality data during the summer of 2009 to demonstrate compliance with state standards. Because of the prolonged stretches of white water upstream and downstream of the projects, the resultant high dissolved oxygen levels, and the small size of the impoundments, ARH does not anticipate any problem proving that the projects meet water quality standards. See Appendix E - file name xE Water Quality.

C. Fish Passage and Protection

1) Yes. Article 2 of the Exemption requires adherence to conditions originally issued by New Hampshire Fish & Game and U.S. Fish and Wildlife that upstream and downstream fish passage be installed when those agencies deem it necessary. See relevant documents at Appendix F - file name xF, Fish Passage.

Downstream: Using a design approved by FERC letter dated January 8, 1999, downstream fish passage was installed at Lower Robertson in the summer of 1999. It has been operating ever since. Using a design approved by FERC letter dated July 20, 2001, downstream fish passage was installed at Ashuelot in late 2001. It has been operating ever since.

Upstream: The Ashuelot River has been targeted for anadromous fish restoration. A dam downstream of the two dams operated by ARH, known as the Fiske Mill, is in the process of installing upstream passage. ARH agrees to construct fishways at both Ashuelot and Lower Robertson projects within 2 years after 750 American shad are passed at Fiske Mill or within 4 years after 150 shad pass Fiske Mill, whichever comes first. The fishways would be designed based on the plans developed by our predecessors, Algonquin Power, dated March 14, 2006, with modifications described in a letter from the Fish and Wildlife Service to Algonquin Power dated July 12, 2006. If in the future, we and the regulatory agencies agree on alternative fishway designs, ARH agrees to construct these alternatives according to the trigger and construction schedule above. In Appendix F, we have included a letter from ARH to FERC dated July 27, 2008 to demonstrate our willingness to install fish passage, but we note the trigger numbers and schedule in that letter are not properly stated. The proper triggers and schedule are contained in the July 12, 2006 U.S. F&W letter, also included in the Appendix.

D. Watershed Protection

1) ASH) No. There is no formal buffer zone because the project impoundment is surrounded by an old highway on one side and private land and a railroad grade on the other side.

ROB) No. There is no formal buffer zone because the project impoundment is surrounded by an old paper mill and several residences.

2) Yes. We have not established a fund per se, but in December of 2008, ARH made a \$15,000 donation to the Society for the Protection of New Hampshire Forests (SPNHF) to help them protect some 1700 acres in the basin. This important land conservation project, known as Ashuelot Headwaters, will be consummated in stages, probably beginning this year. A letter acknowledging our donation to SPNHF is included in Appendix G. Robert King, president and majority owner of ARH has participated directly in the protection of another 2300 acres in the Ashuelot basin in the last decade. Please see

a brief article from Forest Notes (SPNHF's magazine) included in Appendix G - file name xG Watershed Protection.

E. Threatened and Endangered Species Protection

1) The U.S. Fish & Wildlife Service has indicated by email that there are no target species in the vicinity of these projects. See Appendix H - file name xH Endangered Species.

F. Cultural Resource Protection

1) Yes. Article 10 of the Exemption required of the original project owner certain conditions for cultural and historic preservation. To the best of our knowledge, these conditions were met. There have been no issues of this kind during our ownership or, to our knowledge, in the decade before our ownership.

G. Recreation

1) Yes. Article 2 of the Exemption requires adherence to conditions issued by agencies including the requirement to allow basic riverine access.

3) Yes. The project lands around the reservoir and downstream are neither fenced nor posted, and no fees or charges are applied to visitors. The actual power plant is fenced.

H. Facilities Recommended for Removal

1) No

APPENDICES

File Names

Appendix A. - FERC Exemptions	ASHxA	ROBxA
Appendix B. - Contact List	xB	
Appendix C. - Site Maps	ASHxC	ROBxC
Appendix D. - Flows	ASHxD	ROBxD
Appendix E. - Water Quality	xE	
Appendix F. - Fish Passage	xF	
Appendix G. - Watershed Protection	xG	
Appendix H. - Endangered Species	xH	