



April 18, 2016

NHPUC 20APR'16AM11:20

Debra A. Howland, Executive Director  
New Hampshire Public Utilities Commission  
21 South Fruit Street, Suite 10  
Concord, NH 03301-2429

Dear Ms. Howland,

Please find attached a completed application form for Renewable Energy Source Eligibility for Class I pursuant to New Hampshire Administrative Code PUC 2500 for Unit #6 (nameplate rating of 3.0 MW) of the Abenaki Hydroelectric Station located in Madison, Maine. Enclosed you will find one original and two paper copies. A separate electronic version of the completed application and this cover letter are being sent to [executive.director@puc.nh.gov](mailto:executive.director@puc.nh.gov) per the instructions.

Unit #6 of the Abenaki Hydroelectric station was completed in 2008 and represented added hydroelectric generation capacity at the site – increasing the nameplate rating of the Station from 16.977 to 19.977 MW. The Station is owned and operated by Madison Paper Industries. For purposes of this application, please use the following contact information:

Richard Silkman, Chief Executive Officer  
Competitive Energy Services, LLC  
148 Middle Street, Suite 500  
Portland, ME 04101

Phone: (207) 772-6190 ext. 226  
Email: [rsilkman@competitive-energy.com](mailto:rsilkman@competitive-energy.com)

If you have any questions or require further information, please contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Silkman", is written over the word "Sincerely,".

Richard Silkman  
Chief Executive Officer

Encl. Application for Class I Certification



State of New Hampshire  
 Public Utilities Commission  
 21 S. Fruit Street, Suite 10, Concord, NH 03301-2429



**DRAFT**

APPLICATION FORM FOR

**RENEWABLE ENERGY SOURCE ELIGIBILITY FOR  
 CLASS I, CLASS II AND CLASS IV SOURCES (NON-BIOMASS)**

*Pursuant to New Hampshire Administrative Code [Puc 2500](#) Rules including Puc 2505.08, Certification of Certain Customer-Sited Sources*

- Please submit one (1) original and two (2) paper copies of the completed application and cover letter\* to:

Debra A. Howland  
 Executive Director  
 New Hampshire Public Utilities Commission  
 21 South Fruit Street, Suite 10  
 Concord, NH 03301-2429

- Send an electronic version of the completed application and the cover letter electronically to [executive.director@puc.nh.gov](mailto:executive.director@puc.nh.gov).

\* The cover letter must include complete contact information and identify the renewable energy class for which the applicant seeks eligibility. Pursuant to Puc 2505.01, the Commission is required to render a decision on an application within 45 days of receiving a completed application.

If you have any questions please contact Barbara Bernstein at (603) 271-6011 or [Barbara.Bernstein@puc.nh.gov](mailto:Barbara.Bernstein@puc.nh.gov).

**1) Check the applicable class:**

Eligibility Requested for    Class I        Class II        Class IV   

**2) General Information**

Applicant Name:    Competitive Energy Services, LLC

Mailing Address:    148 Middle Street, Suite 500

Town/City:    Portland    State:    Maine    Zip:    04101

Primary Contact:    Richard Silkman

Telephone:    (207) 772-6190, ext. 226    Telephone:    \_\_\_\_\_

Email address:    rsilkman@competitive-energy.com

**3) Facility Information**

Facility Name: Abenaki Hydro – Unit #6  
Mailing Address: Main Street, P.O. Box 129  
Physical Address: See coordinates  
Town/City: Madison State: ME Zip Code: 04950-0129

If the facility does not have a physical address, provide the  
Latitude 44°47'21.81" & Longitude 69°53'18.25"

Facility Owner: Madison Paper Industries  
Telephone: (207) 696-1225 Cell: \_\_\_\_\_  
Email address: David.lovley@upm.com

*If different from the owner:*

Facility Operator: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Cell: \_\_\_\_\_  
Email address: \_\_\_\_\_

**4) Provide a general description of the renewable energy facility including size, a general summary of equipment and operation. (The box provided will expand to accommodate the description.)**

The Abenaki Project is a 19.977 MW hydroelectric generating plant located on the Kennebec River in the towns of Anson, Madison and Starks Maine ("Abenaki" or "Abenaki Project"). Abenaki operates pursuant to a FERC license (FERC Project No. 2364) issued on May 1, 2004 for a period of 50 years.

The project works consist of a 784-foot-long, 25-foot-high, concrete gravity overflow dam with a permanent crest elevation of 219.65 feet msl and equipped with 3-foot-high inflatable crest control providing a normal headpond elevation of 222.65 feet; (b) a 32-acre reservoir with a gross storage capacity of about 520-acre-feet; (c) a 200-foot-long, concrete gravity headgate structure equipped with 16 steel slide gates; (d) an 830-foot-long by 160-foot-wide forebay with a trashrack-equipped intake; (e) a powerhouse located in a 190-foot by 125-foot portion of a non-project pulp mill building, and containing six double American, one GSA and one Norcan turbine-generators having a total nameplate rating of 19.977 MW and a total maximum hydraulic capacity of approximately 5,964 cfs; (f) a 1,950-foot-long bypassed reach of the Kennebec River; (g) a 3,400-foot-long, 13.8-kilovolt (kV) transmission line; (h) appurtenant facilities; and the following modifications and additions: (i) recapping the existing dam with concrete; (j) replacing the existing wooden flashboards with an inflatable crest control system; and (l) appurtenant facilities.

The Abenaki Project was upgraded in 2007-2008 to include the addition of Unit #6, with a capacity of 3 MW. This application relates only to Unit #6.

[Empty box]

19.977. Unit #6, for which REC credits are sought, has a nameplate rating of 3 MW.

Fuel Type: Water - Hydroelectric Gross Nameplate Capacity\*: \_\_\_\_\_

Initial Date of Commercial Operation: Unit #6 was synchronized for the first time on April 19, 2008

If different, the Original Date of Operation: The Abenaki facility dates from the early 1900s

*\*The gross nameplate capacity should match the interconnection agreement and the GIS database. If it does not, please provide an explanation in the box below. (The box provided will expand to accommodate the explanation.)*

As noted in Attachment 4, the Abenaki facility does not have an Interconnection Agreement.

*Provide the pertinent pages of the interconnection agreement as Attachment 4 of the Application. If the interconnection agreement is a confidential document, there is no need to send more than the first few pages, the page that verifies the nameplate capacity of the facility and the signature pages. This will ensure that the applicant is not required to submit both original and redacted versions of the application.*

*If the facility is not required to have an interconnection agreement, provide explanation as to why an interconnection agreement is not required as Attachment 4.*

**5) NEPOOL/GIS Asset ID and Facility Code**

*In order to qualify your facility's electrical production for RECs, you must register with the NEPOOL – GIS. Contact information for the GIS administrator follows:*

**James Webb**  
**Registry Administrator, APX Environmental Markets**  
224 Airport Parkway, Suite 600, San Jose, CA 95110  
Office: 408.517.2174  
[jwebb@apx.com](mailto:jwebb@apx.com)

Mr. Webb will assist you in obtaining a GIS facility code and an ISO-New England asset ID number.

GIS Facility Code # 16153 Asset ID # NON75202

***If your facility is seeking Class I certification for the incremental new production of hydroelectric technologies to produce energy, proceed to question 6. Otherwise proceed to question 7.***

**6) Complete the following as Attachment 6:**

- 6.i) Demonstrate that the facility has had capital investments after January 1, 2006 resulting in an improvement of the facility's efficiency or an increase in the output of renewable energy pursuant to [RSA 362-F:4\(i\)](#).

See Attachment 6.i

- 6.ii) Include the Historical Generation Baseline as defined by [RSA 362-F:2, X \(a\)](#).

See Attachment 6.ii

***If your facility is seeking Class I certification for repowered Class III or Class IV sources, proceed to question 7. Otherwise proceed to question 8.***

**7) Complete the following as Attachment 7:**

- 7.i) Demonstrate that the facility has had new capital investments for the purpose of restoring unusable generation or adding to the existing capacity, including NHDES environmental permitting requirements for new plants pursuant to [RSA 362-F:4, I \(i\)](#).
- 7.ii) Provide documentation that 80 percent of the facility's tax basis in the resulting plant and equipment of the eligible generation capacity, including the NHDES permitting requirements for new plants, but exclusive of any tax basis in real property and intangible assets, is derived from the new capital investments pursuant to [RSA 362-F:4, I \(j\)](#).

***If your facility is seeking Class I certification for formerly nonrenewable energy electric generation facilities, proceed to question 8. Otherwise, proceed to question 9.***

**8) Complete the following as Attachment 8:**

- 8.i) Provide documentation that 80 percent of its tax basis in the resulting generation unit, including NHDES permitting requirements for new plants, but exclusive of any tax basis in real property and intangible assets, is derived from the new capital investments pursuant to [Puc 2505.07](#).

***If your facility is seeking Class IV certification for a hydroelectric facility with a gross nameplate capacity of one megawatt or greater, proceed to question 9. Otherwise, proceed to question 10.***

**9) Complete the following as Attachment 9:**

- 9.i) Provide proof that the facility has installed upstream and downstream diadromous fish passages that have been approved under the terms of the facility's license or exemption from the Federal Energy Regulatory Commission pursuant to [RSA 362-F:4, IV \(a\)](#).

Provide documentation that, when required, the facility has documented applicable state water quality certification pursuant to section 401 of the Clean Water Act for hydroelectric projects pursuant to [RSA 362-](#)

- 9.ii) [F:4, IV \(a\)](#).

If your facility is located in a control area adjacent to the New England control area, complete question 10.

10) Provide the following as **Attachment 10**.

10.i) Submit proof that the energy is delivered within the New England control area and such delivery is verified as required in [Puc 2504.01\(a\)\(2\) a. to e.](#)

If your facility is a customer-sited source, proceed to question 11. Pursuant to RSA 362-F:2, V, a customer-sited source means a source that is interconnected on the end-use customer's side of the retail electricity meter in such a manner that it displaces all or part of the metered consumption of the end-use customer.

11) If the facility is a customer-sited source you must retain the services of an independent monitor directly, or if participating in an aggregation pursuant to Puc 2506, complete the following. Note that the aggregator must work with an independent monitor responsible for the verification of the production of energy from the customer-sited source.

Independent Monitor's Name: Thomas Kelly  
Town/City: Merrimack State: NH Zip Code: 03054  
Telephone: (603) 546-5816 Cell: \_\_\_\_\_  
Email address: [tom@naturalcapital-llc.com](mailto:tom@naturalcapital-llc.com)

(A [list](#) of independent monitors is available at:  
[http://www.puc.nh.gov/Sustainable%20Energy/Renewable\\_Energy\\_Source\\_Eligibility.htm](http://www.puc.nh.gov/Sustainable%20Energy/Renewable_Energy_Source_Eligibility.htm).)

12) Provide all necessary regulatory approvals, including any reviews, approvals or permits required by NHDES or the environmental protection agency in the facility's state as **Attachment 12**.

Please find attached in Attachment 12 the FERC license for the facility and the Maine Pollutant Discharge Elimination System (MEPDES) Permit # ME0036595 and Maine Waste Discharge License (WDL) Application #W008063-5R-E-R Final Permit.

13) Provide a general description of how the generation facility is connected to the regional power pool via the local electric distribution utility. Please note that this information will be posted as public record. (The box provided will expand to accommodate the description.)

The Abenaki facility generates electricity at 4160 kV. This is stepped up to 13.8 kV through two transformers that are located within the 115/13.8 kV substation that is owned and operated by Madison Paper Industries. The substation is interconnected to the Madison Electric Works (MEW) electric grid through a 115 kV transmission line that extends across the river just downstream of the Abenaki facility. MEW, in turn, interconnects to the CMP transmission system. Prior to the pending shutdown of the Madison Paper Mill, under normal operating conditions, all of the energy generated at Abenaki is used within the Groundwood Mill. When the Groundwood Mill is shut-down or operating at less than full capacity, excess energy from Abenaki is fed back through MPI's 115/13.8 kV transformer and delivered to the electric grid or it can be delivered to the Madison Mill through a 13.8 kV power line owned by MPI that

interconnects the Paper Mill and Greenwood Mill. Once the Madison Mill ceases operation later this spring, all of the energy will be delivered to the MEW grid.

14) If applicable, provide verification of any certifications that have been received for this facility as **Attachment 14.**

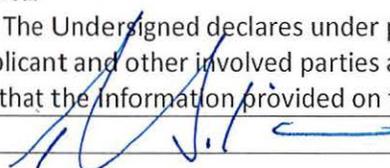
15) Check "Yes" if the facility has been certified under another non-federal jurisdiction's RPS. If "yes", provide attachments from each of the states where certification has been received. Label as Attachment 15.								yes	no
								<input type="checkbox"/>	X
Massachusetts	<input type="checkbox"/>	Connecticut	<input type="checkbox"/>	Rhode Island	<input type="checkbox"/>	Maine	<input type="checkbox"/>	All certifications have been attached.	<input type="checkbox"/>

16) The project described in this application will meet the metering requirements of Puc 2506 including:

I agree	Electricity generation in megawatt hours shall be reported to the GIS quarterly with a statement that the submission is accurate by the owner of the source, the IM, or a designated representative.
X	
I agree	A revenue quality meter is used to measure the electricity generated.
X	
I agree	The facility owner has certified to the IM that the meter operates according to manufacturing standards.
X	
I agree	The meter shall be maintained according to the manufacturer's recommendations.
X	

17 a&b

(a) The Undersigned declares under penalty of perjury that there are no prohibited relationships between the Applicant and other involved parties and, in addition,  
 (b) that the information provided on this application is accurate.

	/ Richard Silkman	14/18/16
		Typed signature required

Contact Barbara Bernstein at [Barbara.bernstein@puc.nh.gov](mailto:Barbara.bernstein@puc.nh.gov) or 603-271-6011 with questions and comments.

18) If necessary, provide additional information that will assist in classification of the facility as **Attachment 18.**

<b>Application Checklist:</b>		<b>check</b>
1-3	All general and facility information has been provided in numbers 1), 2) and 3).	Yes
4	The gross nameplate capacity matches the interconnection agreement and the GIS database.	Yes
4	Pertinent pages of the interconnection agreement have been provided as <b>Attachment 4</b> .	N/A
5	A GIS Asset ID and facility code have been obtained and provided on the application.	Yes
6	If your facility is seeking Class I certification for the incremental new production of hydroelectric technologies to produce energy, <b>Attachment 6</b>	Yes
7	If your facility is seeking Class I certification for repowered Class III or IV sources, <b>Attachment 7</b> .	N/A
8	If your facility is seeking Class I certification for formerly nonrenewable energy electric generation facilities, <b>Attachment 8</b> .	N/A
9	If your facility is seeking Class IV certification for the electric production of hydroelectric technologies with a nameplate capacity of one megawatt or greater, <b>Attachment 9</b> .	N/A
10	If your facility is located in a control area <u>adjacent</u> to the New England control area, <b>Attachment 10</b> .	N/A
11	If the facility is a customer-sited source you have retained the services of an independent monitor and noted the independent monitor on the application.	Yes
12	All necessary regulatory approvals, including any reviews, approvals or permits required by NHDES or the environmental protection agency in the facility's state have been provided as <b>Attachment 12</b> .	Yes
13	A <u>general</u> description of how the generation facility is connected to the regional power pool via the local electric distribution utility has been provided.	Yes
14	If applicable, provide verification of any certifications that have been received for this facility as <b>Attachment 14</b> .	N/A
15	If applicable, verification of all renewable portfolio standard program certifications that have been received for this facility in other states, provided as <b>Attachment 15</b> .	N/A
16	The project meets the metering requirements of Puc 2506.	Yes
17a	A statement that there are no prohibited relationships between the Applicant and other involved parties.	Yes
17b	A statement by the owner attesting to the accuracy of the contents of the application.	Yes
18	If necessary, other pertinent information that will assist in classification of the facility provided as <b>Attachment 18</b> .	N/A

**Note:** Attachment numbers are matched with the number on the application. There are no attachments numbered 1, 2, 3, 5, 11, 13, 16, or 17. A separate attachment for the affidavit will be accepted.

#### **Attachment 4**

Madison Paper entered into a long-term Power Purchase Agreement with Central Maine Power Company (CMP) in 1984 under which the net generation from its two hydroelectric plants – Anson and Abenaki were sold to CMP. At the time, PPAs included a form of Interconnection Agreement. Since the Madison hydro units (along with the Madison Paper Mill are located within the Madison Electric Works (MEW) service territory, when the PPA Agreement expired, the facilities never entered into a new replacement Interconnection Agreement.

**Attachment 6.i**

Madison Paper Industries, Inc.  
Abenaki Hydro #6 Unit  
Project Proposal and Capital Cost Estimate  
March 28, 2006

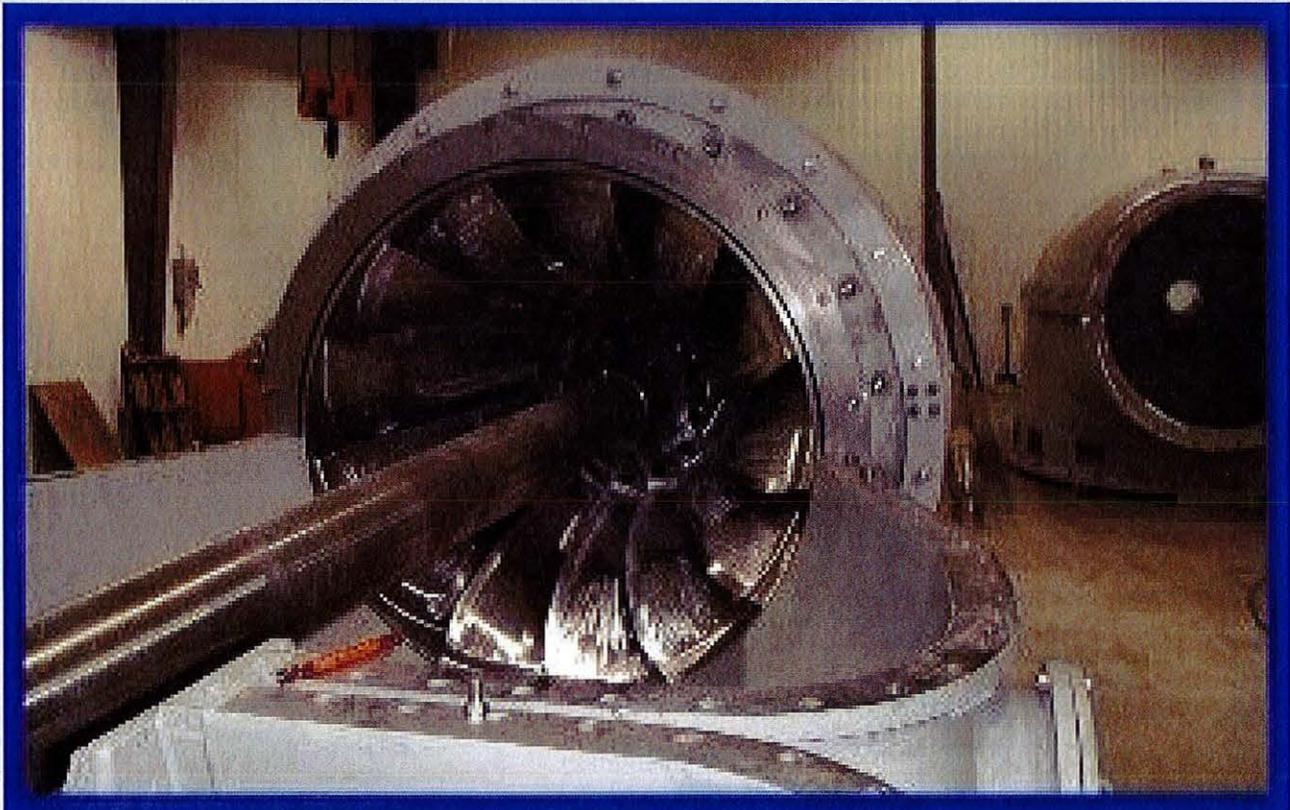
Final Invoice from Norcan Hydraulic Turbine, Inc.  
December 17, 2008



# MADISON

## ABENAKI HYDRO #6 UNIT

### Project Proposal and Capital Cost Estimate



Power / 070

Chris Bean

3/28/2006

Department

Drawn up by

Date

Abenaki Unit #6 Installation

Abe. Hydro #6 Unit

Investment object

Investment number

Project title and number

**DESCRIPTION OF INVESTMENT:**

Install a new Electric Hydro Generation Unit in the vacant #6 Turbine space at Abenaki Hydro Station. Electrical generation from this unit will reduce purchased electricity under the current purchase contract in 2007 and 2008. From 2009 forward it will reduce electricity purchases based on market price.

IMPLEMENTATION TERM: 18 months Lead-time from order to commissioning of object

PROJECT BEGINS: 4/2006 Project kick-off (month/year)

COMPLETION TIME: 9/2007 Ready (month/year)

START-UP TIME: 9/2007 Utilization of object begins (month/year)

TOTAL INVESTMENT CAPITAL: \$4,075K USD '06 -2,175K, '07 - 1,900K (\$5,500K Budgeted '06)

**FEASIBILITY AND GROUNDS FOR THE INVESTMENT:**

- 1) Increase in hydroelectric generation of 7,899 MWH's/year
- 2) Better utilization of water flow by matching capacities of both Anson and Abenaki Stations.
- 3) Generation efficiency gain by 6.3% over existing plant
- 4) Compliance with FERC License Conditions
- 5) Future consideration for replacing other existing units for the efficiency gain and reduced maintenance costs of 100 year old equipment.
- 6) Provided the Federal Government appropriates funding, we will pursue Title II, Section 243 for incentive payment of 10% of capital cost for increasing efficiency over 3% which amounts to a \$407.5K one time payment to Madison. This is not included in the investment capital. It will be part of the ROI in the first year of operation. We can apply each year for 15 years until successful. Without this incentive, the internal rate of return goes to 13.24%.

**ENVIRONMENTAL EFFECTS OF THE INVESTMENT**

None.

Person in charge Dave Lovley

Presenter C. Bean

**DATE PROCESSED OR PREPARED:**

Date	Initials		Date	Initials	
		EMPLOYEES	3-29-06	MLC	MAINTENANCE
3-29-06	MLC	TECHNICAL STAFF	3-29-06	DJM	PRODUCTION
3-29-06	MLC	CLERICAL STAFF	3-29-06	mf	MATERIALS
3-29-06	nll	PERSONNEL ADMINISTRATION			QUALITY ADMIN.
		LABOUR PROTECTION ADMIN.			

Power / 070

Chris Bean

3/28/2006

Department

Drawn up by

Date

Abenaki Unit #6 Installation

Abe. Hydro #6 Unit

Investment object

Investment number

Project title and number

CATEGORY OF INVESTMENT

- Productivity / Cost Saving
- Capacity Increase
- Maintenance / Facility
- Quality & Prod. Development
- Strategic

- Safety & Loss Prevention
- Regulatory / Environmental
- Replacement

COMMUNICATION PLAN

- 

AGREEMENT AND DECISION

Investment proposal is valid until	5/06
Coverage of binding offers (%)	60
Quotations are valid until	variable
Estimated duration of project	18 months
Estimated start-up time	9/2007
Change in personnel (+/-)	0
From decision to start-up (months)	18
Environment protection, share %	0
From start-up to full production (months)	19

COST ESTIMATE

Total Investment capital	4,075,000
Net working capital	
Interest from construction time	
Loss of margins	
Capital Requirement	4,075,000

PROFITABILITY

Discount rate (%)	14.1 %
Average operating margin per annum	655,567
Internal Rate of Return (%)	14.3 %
Present value	4,138,324
Net Present Value	63,324
Payback time (years)	22.8
Economic life	

SENSITIVITY ANALYSIS

	Default value	-10% (worse)	IRR	+10% (better)	IRR
Total Investment capital			13.0		16.0 %
Operating Margin	655,567	590,010	12.8	721,123	15.8 %

BREAK-EVEN POINT

	Break even	Certainty margin	Certainty margin %
Total Investment capital	4,138,324	63,324	1.6 %
Operating Margin	645,535	10,031	1.5 %

PERSON IN CHARGE

Dave Lovley

LEVEL OF APPROVAL DECISION

Date

SUPPORTERS

Date	Signature
3/29/2006	Nancy L. Lancaster
3/29/2006	Michael...
3/29/2006	Chris...
3/29/2006	Eric Orzechowski
3/29/2006	Dave W...

Signature

- Accepted
- Rejected
- Postponed
- Other

PROFITABILITY ANALYSIS			
Investment object	<b>Abenaki Unit #6 Installation</b>		USD
Required rate of return	14.10 %		
Calculation term	25.0	years	→ 1/2007 - 12/2031
Calculation point	1/2007		(In the beginning of period)
<u>Present value of business cash flows</u>		<u>Notes</u>	
± PV of operative cash flow	4,138,324		
+ PV of residual value	0		
<b>Present value of business cash flows</b>	<b>4,138,324</b>		
- Present value of reinvestments (maintenance etc.)	0		
<b>Total Present Value (PV)</b>	<b>4,138,324</b>		
<u>Investment proposal</u>	<u>Nominal</u>	<u>PV</u>	
- Proposed investments in assets	-4,075,000	-4,075,000	
+ Investment subventions	0	0	
<b>Investment proposal</b>	<b>-4,075,000</b>	<b>-4,075,000</b>	
<b>Net Present Value (NPV)</b>	<b>63,324</b>	<b>&gt;= 0</b>	→ Invest!
↳ NPV as a monthly annuity	727		
Discounted Value Added (DCVA)	432,162		
Internal Rate of Return (IRR)	14.33%	<b>&gt;= 14.1 %</b>	→ Invest!
Modified Internal Rate of Return	14.17%	<b>&gt;= 14.1 %</b>	→ Invest!
Profitability Index (PI)	1.02	<b>&gt;= 1</b>	→ Invest!
Return on net assets (RONA), %	6.6 %	Average 3 years	
Economic Value Added (EVA)	-149,053	Average 3 years	
Payback time, years	22.8	From discounted cash flow	
Calculation is made by	Dan Whittemore		3/28/2006
Calculation file	\\mnamadser02\users\$\christopher\My Documents\InvestOy\Abenaki Hydro Unit #6.xls		

## ABENAKI UNIT #6 INSTALLATION

YEAR	MONTHS/SERVICE	YEAR IN SERVICE	GENERATED		ANNUAL \$\$	
			KWH**	RATE/KWH		
2007	4	0.3	2,726,880	0.05170	\$140,980	
2008	12	1.3	7,563,900	0.05800	\$846,206	includes \$407,500 tax credit
2009	12	2.3	7,899,060	0.08162	\$644,721	
2010	12	3.3	7,899,060	0.07823	\$617,943	
2011	12	4.3	7,899,060	0.08000	\$631,925	
2012	12	5.3	7,899,060	0.08000	\$631,925	
2013	12	6.3	7,899,060	0.08000	\$631,925	<b>\$4,145,625</b>
2014	12	7.3	7,899,060	0.08000	\$631,925	
2015	12	8.3	7,899,060	0.08000	\$631,925	
2016	12	9.3	7,899,060	0.08500	\$671,420	
2017	12	10.3	7,899,060	0.08500	\$671,420	
2018	12	11.3	7,899,060	0.08500	\$671,420	
2019	12	12.3	7,899,060	0.08500	\$671,420	
2020	12	13.3	7,899,060	0.08500	\$671,420	
2021	12	14.3	7,899,060	0.08500	\$671,420	
2022	12	15.3	7,899,060	0.08500	\$671,420	
2023	12	16.3	7,899,060	0.08500	\$671,420	
2024	12	17.3	7,899,060	0.08500	\$671,420	
2025	12	18.3	7,899,060	0.08500	\$671,420	
2026	12	19.3	7,899,060	0.09000	\$710,915	
2027	12	20.3	7,899,060	0.09000	\$710,915	
2028	12	21.3	7,899,060	0.09000	\$710,915	
2029	12	22.3	7,899,060	0.09000	\$710,915	
2030	12	23.3	7,899,060	0.09000	\$710,915	
2031	12	24.3	7,899,060	0.09000	\$710,915	
2032	12	25.3	<u>7,899,060</u>	0.09000	\$710,915	
			199,868,220	0.08268		\$17,100,083

\* 12-14 months delivery from time of order-if order was placed in 2006 then could have generation in late 2007

\*\* Generation based on 95% availability with unit max rating of 2650KW



**MADISON**

**PROJECT COST ESTIMATE  
SUMMARY SHEET**

**PROJECT:** *Abenaki Unit #6 Installation*

**DATE:** *28-Mar-06*

**AREA:** *Hydro*

**PROJECT NO.:**

<b>DIRECT COST</b>	<b>EQUIPMENT</b>	<b>MATERIAL</b>	<b>LABOR</b>	<b>TOTAL</b>
EQUIPMENT	\$1,285,138	\$84,658	\$900,000	\$2,269,796
EQUIP. INSTALLATION		\$44,522		\$44,522
PIPE INSTALLATION		\$5,000	\$10,000	\$15,000
ELECTRICAL	\$1,120,000		\$280,000	\$1,400,000
CIVIL		\$28,000	\$110,000	\$138,000
<b>TOTAL DIRECT COST</b>	<b>\$2,405,138</b>	<b>\$162,180</b>	<b>\$1,300,000</b>	<b>\$3,867,318</b>

SPARE PARTS	\$20,682
ENGINEERING	\$187,000
TRAINING (MPI)	\$0
VENDOR START-UP SERVICES	\$0
CONSTRUCTION MANAGEMENT	\$0
ENVIRONMENTAL / PERMITTING	\$0

**TOTAL PROJECT COST**

**\$4,075,000**



# NORCAN

HYDRAULIC TURBINE INC.

50 BRUCE CRESCENT, CARLETON PLACE, ON CANADA K7C 3V6 T (613) 257-4755 F (613) 257-4215 E nht@norcanhydro.com www.norcanhydro.com

February 10, 2006

**Madison Paper Industries**  
Madison, Maine 04950

**Att: David Lovley**

**From: Henk de Ridder**

No. of pages. 8

**Ref: Abenaki Unit #6 development. Horiz. Camelback Francis Turbine. 2650 kW (estimate),  
NORCAN Ref. #Q-06-916**

Dear David,

As per your request here is a budgetary turbine & generator price for the sixth unit at Abenaki. The site will have a Net Head of 42 ft and the nominal rated power output will be 2650 kW (estimate) at the turbine shaft at best efficiency. The unit will be a horizontal camel back design in a pressure case. Pressure case will tie into existing penstock.

If this price is of interest to you, we will be available to meet with you to develop a firm price and scope of supply.

Hope this meets your requirements for now. Please let us know if we can be of further assistance to you.

Sincerely,  
Norcan Hydraulic Turbine Inc.

Henk de Ridder

**1.0 QUOTATION COST SUMMARY FORM**

<u>Item</u>	<u>General Description</u>	<u>Amount</u> (U.S. Dollars) (itemized costs shall equal below sum):
<b>1.1 <u>Equipment Supply</u></b>	Design, manufacture, one turbine package and accessory equipment.	
	• Turbine.....	\$ 890,450.00
	• Switchgear & Controls.....	N/A
	• Generator and excitation system.....	\$ 920,000.00
	• Other auxiliary equipments.....	N/A
	• Freight/Shipping .....	N/A
	• Installation.....	N/A
	• Taxes .....	N/A
	Equipment Total.....	\$ 1,810,450.00
<b>1.2 <u>Spare Parts &amp; Equipment</u></b>	Design, manufacture, all spare parts recommended by the Vendor for the first two years of service of the equipment supplied.	
	Spare Parts Total.....	\$ Included
<b>1.3 <u>Field Engineering Services</u></b>	Provide the costs, rate, of providing supervisory field engineers for assembly and commissioning (including travel and all other expenses).	
	• \$ 85.00 / hour - 40 hour per week	
	• 8 hour day Monday – Friday	
	• \$125 / hour - over 8 hours	
	• double time for weekends & holidays	
	• Expenses – Cost + 10% admin. fee	

All prices in US dollars.



**COMMUNICATION PLAN**

<i>To Whom</i>	<i>Why?</i>	<i>What and what to?</i>	<i>How?</i>	<i>Who?</i>	<i>When? how often?</i>
<b>Stakeholders or groups</b>	<b>Goal / focus</b>	<b>Message (&amp; if change, then what to)</b>	<b>Channel</b>	<b>Responsible</b>	<b>Frequency</b>
MPI Management	Project Updates Schedules & Budgets		At Senior Management Level	DL / CB	Monthly
Myllykoski North America Leadership Team	Awareness of Project		RD	RD	Quarterly
FERC	Construction Report	Required by license agreement	FedEx	SS / DL	Monthly
Governmental Agencies (DEP, DIFW, Municipality)	Awareness of Project		Varies	SS / DL	Start of Project
Non-Governmental Agencies	Awareness of Project	Stakeholders in FERC license negotiations	US Postal	SS / DL	As required by FERC license
MPI Owners	Project Approval and Progress Reports		RD	RV	MPI Board Meetings

**Norcan Hydraulic Turbine Inc.**

50 Bruce Crescent  
 Carleton Place, Ontario K7C 3V6  
 Canada

**INVOICE**

Invoice No.: 1549  
 Date: Dec 17, 2008  
 Page: 1

**Sold To:**

Madison Paper Industries  
 David Lovley  
 P.O. Box 129 3 Main Street  
 Madison, Maine 04950-0129  
 U.S.A.

**Ship To:**

Madison Paper Industries  
 David Lovley  
 P.O. Box 129 3 Main Street  
 Madison, Maine 04950-0129  
 U.S.A.

Business No.: 134164102RP0001

Item No.	Quantity	Unit	Description	Tax	Unit Price	Amount	
	1	each	Final Invoice to close contract Ref: P.O. # 4549722 Abenaki Unit # 6 - Camelback Francis Turbine REF: NORCAN Job # 916		172,930.55	172,930.55	
			Subtotal:			172,930.55	
			- No Tax				
			Terms: Net 30 Due Jan 16, 2009				
<p><i>PLEASE                      FAX OR CHECK</i></p> <p><i>OK TO PAY                      David Lovley                      12/16/2008</i></p>						Freight	0.00
						<b>Total Amount in USD</b>	

**Attachment 6.ii**

Historical generation for the Anson and Abenaki facilities are provided in the table below from 1986 through 2005. Also shown are the averages for the two facilities separately and combined. The Madison hydro units are shown under the ISO-NE CELT Report as Asset No. 1114 Madison Composite. They are not currently participating in the capacity market and therefore have no capacity ratings. The Anson facility has a nameplate rating of 9.0 MWs; as noted elsewhere, Abenaki is rated at 19.977 MWs, inclusive of the 3 MW Unit 6 upgrade.

MPI Historical Hydro Generation

	<b>Anson</b>	<b>Abenaki</b>	<b>Total Hydro</b>
	KWH	KWH	KWH
<b>1986</b>	47,753,918	74,941,600	122,695,518
<b>1987</b>	42,728,157	70,248,700	112,976,857
<b>1888</b>	43,203,340	66,615,500	109,818,840
<b>1989</b>	43,308,714	69,312,800	112,621,514
<b>1990</b>	45,191,581	88,023,500	133,215,081
<b>1991</b>	43,458,456	85,307,960	128,766,416
<b>1992</b>	43,381,567	82,312,500	125,694,067
<b>1993</b>	41,148,547	79,929,260	121,077,807
<b>1994</b>	41,109,725	82,992,700	124,102,425
<b>1995</b>	42,870,580	82,829,660	125,700,240
<b>1996</b>	51,455,788	91,407,640	142,863,428
<b>1997</b>	45,710,132	87,020,240	132,730,372
<b>1998</b>	51,450,242	89,472,760	140,923,002
<b>1999</b>	52,298,113	92,625,220	144,923,333
<b>2000</b>	49,359,400	84,642,320	134,001,720
<b>2001</b>	40,322,193	69,129,500	109,451,693
<b>2002</b>	37,202,568	65,998,540	103,201,108
<b>2003</b>	44,692,441	75,284,640	119,977,081
<b>2004</b>	51,580,573	80,927,000	132,507,573
<b>2005</b>	56,333,495	90,741,280	147,074,775
<b>Average</b>	45,727,977	80,488,166	126,216,143

## Attachment 12

1. FERC Order Issuing New License (Major Project) – July 25, 2003  
Madison Paper Industries, Inc.  
Project No. 2364-013  
104 FERC – 62,061
  
2. Maine Department of Environmental Protection  
Maine Pollutant Discharge Elimination System (MEPDES) Permit # ME0036595  
Maine Waste Discharge License (WDL) Application #W008063-5R-E-R  
June 9, 2014

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION  
104 FERC ¶ 62,061

Madison Paper Industries, Inc.

Project No. 2364-013  
Maine

ORDER ISSUING NEW LICENSE (MAJOR PROJECT)  
( July 25, 2003)

INTRODUCTION

1. On April 26, 2002, Madison Paper Industries, Inc. (Madison) filed with the Commission an application for a new license and an Applicant-Prepared Environmental Assessment (APEA), under Part I of the Federal Power Act (FPA)<sup>1</sup>, to operate and maintain the existing 16.977-megawatt (MW) Abenaki Hydroelectric Project No. 2364. Madison filed an Offer of Settlement (Settlement Agreement) on January 31, 2002. The Abenaki Project is located on the Kennebec River<sup>2</sup> Somerset County, Maine. There are no federal lands associated with the project.

2. Based on my review of the agency and public comments, and evaluation of the developmental and environmental effects of the proposed project and its alternatives, I conclude that relicensing the project as proposed would be in the public interest. Therefore, this order issues a new license for the Abenaki Project.

BACKGROUND

3. The original license for the project was issued on August 3, 1964.<sup>3</sup> On May 10, 1966, the Commission issued an order establishing a 50-year license period from May 1, 1954 to April 30, 2004, for the Abenaki Project.<sup>4</sup> Therefore, the current license expires on April 30, 2004.

4. Notice of the application and APEA, which solicited motions to intervene, protests, comments, and final recommendations, terms and conditions, and prescriptions, and notification of staff's intent to prepare one multi-project Environmental Assessment (EA), was issued on May 3, 2002.<sup>5</sup> The Maine State Planning Office (MSPO) and U.S. Department of the Interior (Interior) filed timely motions to intervene, neither in

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<sup>1</sup>16 U.S.C. §§791(a)-825(r).

<sup>2</sup>On May 21, 1954, the Commission made a determination that the Kennebec River is navigable. Central Maine Public Company, Docket No. E-6456 (13 FPC 1076).

<sup>3</sup>32 FPC 502 (1964).

<sup>4</sup>35 FPC 707 (1966).

<sup>5</sup>67 Fed. Reg. 31296-31298 (2002).

Project No. 2364-013

-2-

opposition. A separate notice of the Settlement Agreement was also issued on May 3, 2002.<sup>6</sup> No comments were received in response to this notice.

5. On July 16, 2002, Madison filed an addendum to the Settlement Agreement, signed by all parties to the original Settlement Agreement. The addendum specifies that for the Abenaki Project the timing for any actions required under the Settlement Agreement shall be measured from the effective date of a new license, May 1, 2004.<sup>7</sup> The addendum further specifies that a small area of land below the Abenaki dam on the east shore of the Kennebec River, laying between the river and the railroad and included in the buffer zone of the Final Shoreland Buffer Zone Management Plan (Appendix A of the Settlement Agreement), would stay within the buffer zone, but that a separate set of conservation easement restrictions would be developed for this portion of land. Notice of the addendum was issued on July 24, 2002. No comments were received in response to this notice.

6. On September 19, 2002, the Commission staff issued, for public comment, an EA.<sup>8</sup> Staff recommended in the EA that the project be licensed as proposed, consistent with the Settlement Agreement. Staff concluded that licensing the proposed project would not constitute a major federal action significantly affecting the quality of the human environment. In response to the EA, Madison filed comments (discussed in paragraphs 28-32).

7. The motions to intervene and comments received from interested agencies, non-governmental organizations, municipalities, and individuals throughout the proceeding (including the comments filed on the EA) have been fully considered and addressed in this order in determining whether, and under what conditions, to issue this license.

## PROJECT DESCRIPTION

8. The project's principal existing features consist of: (1) a 784-foot-long, 25-foot-high, concrete gravity overflow dam with a permanent crest elevation of 219.65 feet msl and equipped with 3-foot-high timber flashboards providing a normal headpond elevation of 222.65 feet msl; (2) a 32-acre reservoir with a gross storage capacity of 520 acre-feet; (3) an 830-foot-long by 160-foot-wide forebay; (4) a powerhouse containing

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<sup>6</sup>67 Fed. Reg. 31296 (2002). The Settlement Agreement also includes the Anson Hydroelectric Project, Project No. 2365, located 0.5 miles upstream of the Abenaki Project, and owned and operated by Madison.

<sup>7</sup>The water quality certification also references the timing for certain actions to be measured from the "issuance of new FERC licenses". However, because such certification is not active until the effective date of the license, the actions would be measured from May 1, 2004.

<sup>8</sup>The EA was jointly issued for the Abenaki Project and the upstream Anson Project.

Project No. 2364-013

-3-

seven turbine-generating units with a total installed capacity of 16.977 megawatts (MW); (5) a 1,950-foot-long bypass reach; (6) a 3,400-foot-long transmission line; and (7) appurtenant facilities. A more detailed project description is contained in ordering paragraph (B)(2).

#### APPLICANT'S PLANS AND CAPABILITIES

9. In accordance with Sections 10(a)(2)(C) and 15(a) of the FPA,<sup>9</sup> the staff has evaluated Madison's record as a licensee with respect to the following: (1) conservation efforts; (2) compliance history and ability to comply with the new license; (3) safe management, operation, and maintenance of the project; (4) ability to provide efficient and reliable electric service; (5) need for power; (6) transmission service; (7) cost effectiveness of plans; and (8) actions affecting the public. Staff also considered the ancillary benefits of hydroelectric projects. I accept the staff's findings in each of these areas.

##### Conservation Efforts

10. FPA Section 10(a)(2)(C) requires the Commission to consider the extent of electric consumption efficiency programs in the case of license applicants primarily engaged in the generation or sale of electric power. Madison uses the entire project output for its own industrial purposes. Madison incorporates energy conservation and load management into its business decisions and, since 1993, has implemented several measures resulting in energy savings exceeding 22 million kilowatt-hours. Through these programs, Madison is making satisfactory efforts to conserve electricity.

##### Compliance History and Ability to Comply with the New License

11. Staff has reviewed Madison's compliance with the terms and conditions of the existing license. Staff finds that Madison's overall record of making timely filings and compliance with its license is satisfactory.

##### Safe Management, Operation, and Maintenance of the Project

12. Staff has reviewed Madison's management, operation, and maintenance of the Abenaki Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines. Staff concludes that the dam and other project works are safe, and that there is no reason to believe that Madison cannot continue to safely manage, operate, and maintain these facilities under a new license.

##### Ability to Provide Efficient and Reliable Service

13. Staff reviewed Madison's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Based on our

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<sup>9</sup>16 U.S.C. §§ 803(a)(2)(C) and 808(a).

Project No. 2364-013

-4-

review, Madison has been operating the project in an efficient manner within the constraints of the existing license and is likely to continue to do so under a new license.

#### Need for Power

14. All of the power produced by the Abenaki Hydroelectric Project is used by Madison's pulp and paper mill in Madison, Maine, with the exception of energy produced during mill shutdowns. On an average annual basis the 16.977-MW Abenaki project provides 27 percent of the mill's total annual energy requirement of about 322,146 megawatt-hours (MWh). Over the past 5 years less than 1 percent of the generation was sold to utilities.

15. The Abenaki Project is located in the New England Power Pool (NEPOOL) subregion of the Northeast Power Coordinating Council (NPCC) region of the North American Electric Reliability Council (NERC). NERC annually forecasts electrical supply and demand in the nation and the region for a 10-year period. NERC's most recent report on annual supply and demand projections indicates that, for the period 2001 through 2010, the average annual peak summer demand growth rate is 1.3 percent, while the demand for electric energy in the NPCC will grow at an average rate of 1.2 percent annually (NERC, 2001). With planned capacity additions NEPOOL is expected to meet its reliability criteria through 2005 under a high demand growth scenario, but could fall below the criteria in 2006.

16. The Abenaki Project contributes to the existing generating resources available to the NPCC region and would help the region meet its reliability criteria in the short term (through 2005) and beyond. The annual plant factor of the project operating under a gross head of 43 feet is approximately 57 percent. Average annual generation of the Abenaki Project is 85,632 MWh. This license approves a 2.94-MW capacity expansion that would increase generation by about 6 percent (5,500 MWh).

17. I conclude that present and future use of the project's power, its low cost, its displacement of non-renewable fossil-fuel-fired generation, its contribution to a diversified generation mix and the increased capacity support a finding that the power from the Abenaki Project will continue to help meet Madison's need for power and the need for power in the region in both the short and long term.

#### Transmission Services

18. The project includes a 3,400-foot-long primary transmission line from the powerhouse to Madison's mill. Madison proposes no changes that would affect either project or non-project transmission facilities.

#### Cost Effectiveness of Plans

19. This license authorizes Madison to add 2.94 MW of new capacity by installing a turbine-generator set in an unused bay of the existing powerhouse. This addition will increase the project capacity from 16.977 MW to 19.917 MW and increase average

Project No. 2364-013

-5-

annual generation by 5,500 MWh. The project will continue to operate run-of-river and will have a plant factor of about 50 percent. Madison estimates the new unit will cost about \$4.2 million. Based on Madison's current cost of purchasing electricity, I find this capacity addition to be a cost-effective development of the site's electricity generation potential. Madison also proposes, and this order requires, numerous plans and facilities for the protection, mitigation and enhancement of environmental resources in the Kennebec River basin. Our review of Madison's record as an existing licensee indicates that these plans are likely to be carried out in a cost-effective manner.

#### Actions Affecting the Public

20. The Abenaki Project generates electricity for Madison's industrial needs. The existing and proposed new capacity contribute to the regional power supply by avoiding the need for obtaining this energy from other regional generators. Environmental enhancement measures and recreational improvements included in the license will generally improve environmental quality, particularly for aquatic resources, and will have a beneficial effect on public use of project facilities for recreational purposes.

#### Other Factors: Ancillary Service Benefits

21. In analyzing public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary benefits). These benefits include their value as almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction through condensing operations, and a source of power available to help in quickly putting fossil-fuel-based generating stations back on line following a major utility system or regional blackout.

22. Ancillary benefits are now mostly priced at rates that recover only the cost of providing the electric service at issue, which don't resemble the prices that would occur in competitive markets. In the competitive northeast market, the ability of hydropower projects to provide ancillary services to the system can increase the benefits derived from the project.

#### SETTLEMENT AGREEMENT

23. In 2002, Madison entered into the Settlement Agreement with the U.S. Fish and Wildlife Service, the National Park Service, the Bureau of Indian Affairs, the Maine State Planning Office (MSPO), the Maine Department of Inland Fish and Wildlife, the Maine Department of Marine Resources, the Maine Department of Conservation, the Maine Atlantic Salmon Commission, the Towns of Anson and Madison, Maine, the Maine Historic Preservation Commission (MHPC) and several non-governmental organizations.<sup>10</sup>

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<sup>10</sup>The non-governmental organizations consist of the Appalachian Mountain Club,  
(continued...)

Project No. 2364-013

-6-

24. The proposed action in the EA would implement the terms of the Settlement Agreement. Implementation of the Settlement Agreement would protect and enhance water quality, fish and wildlife resources, recreational opportunities in the Kennebec River, and protect important historic properties. The Settlement Agreement includes provisions to establish a run-of-river operation with a minimum flow below the project for occasions when the run-of-river operation is temporarily modified, establish a minimum flow regime for the Abenaki bypassed reach, establish the Atlantic Salmon and Riverine Aquatic Habitat Restoration Fund, establish an escrow account to fund Atlantic salmon stocking activities, enhance opportunities for recreation, grant permanent conservation easements for about 54.2 acres of land in the Abenaki Project area to protect the land from development, execute an Historic Properties Management Plan (HPMP),<sup>11</sup> provide for a 50-year term of license, resurface the Abenaki dam, install an inflatable flashboard system, and install additional capacity of 2.94 MW in the Abenaki powerhouse. The Settlement Agreement also provides for upstream and downstream fish passage for American eel and Atlantic salmon.

25. All measures in the Settlement Agreement are all or in part incorporated into the water quality certification (WQC) for the project. They include:

- (1) a run-of-river project operation so that at any given time, flows downstream of the project would approximate the sum of inflows to the project reservoir (WQC Cond. No. 2 and Article 401);
- (2) a continuous minimum flow of 1,540 cubic feet per second (cfs), or inflow if less, below the project when the run-of-river operation is modified (WQC Cond. No. 2 and Article 401);
- (3) continuous minimum flows in the Abenaki bypassed reach, beginning on January 1, 2007, of 100 cfs from January through April, November, and December; 200 cfs for May and October; and 300 cfs from June through September (WQC Cond. No. 2 and Article 402);
- (4) preparation and implementation of a flow and water level monitoring plan (WQC Cond. No. 2 and Article 403);

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<sup>10</sup>(...continued)

Trout Unlimited, including the Kennebec Valley Chapter of Trout Unlimited, Kennebec Valley Trails, Friends of the Kennebec Salmon, Maine Council of the Atlantic Salmon Federation, and American Rivers.

<sup>11</sup>This plan was formerly called the Cultural Resources Management Plan or CRMP, and is referred to in the Settlement Agreement as such.

Project No. 2364-013

-7-

- (5) a reservation of authority for Interior to prescribe fish passage facilities in the future (Article 404);<sup>12</sup>
- (6) installation of interim downstream passage facilities for American eel within 2 years of the effective date of the license (WQC Cond. No. 3 and Article 405);
- (7) installation of permanent downstream passage facilities for American eel by July 1, 2020 (WQC Cond. No. 3 and Article 405);
- (8) installation of interim downstream passage facilities for Atlantic salmon with installation tied to an agency schedule for sustained annual stocking of Atlantic salmon upstream of the project (WQC Cond. No. 4 and Article 405);
- (9) installation of permanent downstream passage facilities for Atlantic salmon with installation tied to a target number of returning Atlantic salmon, but not required before the year 2020 (WQC Cond. No. 4 and Article 405);
- (10) installation of upstream passage facilities for American eel within 2 years of the effective date of the license (WQC Cond. No. 3 and Article 405);
- (11) installation of permanent upstream passage facilities for Atlantic salmon with installation tied to a target number of returning Atlantic salmon, but not required before May 1, 2020 (WQC Cond. No. 3 and Article 405);
- (12) post-construction effectiveness testing of interim and permanent downstream fish passage facilities and upstream fish passage facilities, in consultation with state and federal agencies. Efficiency targets are 80 percent passage for interim facilities and 90 percent passage for permanent facilities. Interim facilities that achieve a 90 percent efficiency will serve as permanent facilities (WQC Cond. Nos. 3 and 4 and Article 406);
- (13) annual consultation meetings convened by the licensee with the state and federal agencies to review the status of the Settlement Agreement activities that relate to fish passage at the project (Article 407);
- (14) establishment of an escrow account entitled the Atlantic Salmon and Riverine Aquatic Habitat Restoration Fund by the licensee with automatic deposits of \$135,000 by July 31, 2006, and \$150,000 by July 31, 2010, to support interim passage of Atlantic salmon, habitat restoration, and smolt rearing for stocking of Atlantic salmon (WQC Cond. No. 5 and Article 408);

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<sup>12</sup>Although Interior's request for a reservation of authority is not part of what the stakeholders have asked the Commission to approve, it is in a relevant part of the Settlement Agreement.

Project No. 2364-013

-8-

(15) establishment of an interest-bearing escrow account with a deposit by the licensee of \$50,000 within 3 months of the effective date of the license, and within 2 years of the effective date of the license deposit \$5,000 per year and continuing for 12 years, to fund Atlantic salmon stocking activities. If Atlantic salmon hatching facilities are not substantially under construction by 2010, the deposits and any accrued interest will be transferred from this account to the Atlantic Salmon and Riverine Aquatic Habitat Restoration Fund (WQC Cond. No. 6 and Article 409);

(16) evaluation of resident riverine fish species' capability to pass into and out of the Abenaki bypassed reach (Article 410);

(15) implementation of the Final Shoreland Buffer Zone Management Plan within 18 months of the effective date of the license (discussed in paragraph 43) (WQC Cond. No. 8 and Article 411);

(16) implementation of the Final Recreation Plan within 42 months of the effective date of the license (WQC Cond. No. 9 and Article 412)<sup>13</sup>

(17) development and implementation of an HPMP (Article 413);

(18) donation of about 25 acres of land supporting a regionally significant archeological site to the Archeological Conservancy, subject to a conservation easement with the MHPC. Madison proposes to provide a one-time endowment payment to support enforcement of the easement (Article 414).

(19) issuance of a 50-year license [ordering paragraph (A)].

#### COMMENTS ON THE ENVIRONMENTAL ASSESSMENT

26. Comments on the EA were received from Madison. Madison commented that the EA contained abbreviated treatment of the cumulative effects analysis and the dam removal alternative compared to the treatment in the APEA. For the cumulative effects analysis, Commission staff limited its analysis to those resources that would be affected by the project and at least one other developmental resource, thereby ensuring the project was represented as an element in the cumulative nature of any effects. Staff did not present a dam removal alternative in the EA because no one has proposed or recommended that the Abenaki dam be removed.

27. In its comments on the EA, Madison clarified that when the MSPO intervenes, it does so for all state agencies, although the EA listed only the MSPO as an intervenor.

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<sup>13</sup>The Settlement Agreement allows 3 years to implement the Final Recreation Plan, but also allows up to 42 months to complete specific projects.

Project No. 2364-013

-9-

The MSPO's intervention states that it represents the state agency interests and the public interests of the citizens of Maine.<sup>14</sup>

28. Madison's comments noted several editorial errors in staff's EA and requested that the language of the Settlement Agreement be incorporated into the license. In the ordering paragraphs of this license, we incorporate the requested settlement conditions by inclusion of the water quality certification and license articles that cover remaining portions of the requested settlement conditions. The relevant water quality certification conditions and license articles are identified in the description of the Settlement Agreement above.

29. In its comments, Madison also requested 18 months from the date a license is issued to execute an HPMP so that the results of ongoing archeological studies can be considered in the HPMP. The Settlement Agreement and Article 413 of the license provide the licensee with 12 months from the effective date of the license to prepare and file an HPMP based on the Programmatic Agreement (PA), executed September 24, 2002, and signed by Madison, the SHPO, the Archeological Conservancy, and the Commission. If necessary, however, the licensee can request an extension of time to file the HPMP. The request should show evidence that all parties to the PA are in agreement with requesting the extension of time.

30. In its comments, Madison also recognized that staff uses levelized annual costs in assessing project economics in the EA, but believes that levelized costs should not be used for individual enhancement measures. The Commission's practice of converting the capital and annual costs of individual environmental measures to levelized annual values over the Commission's standard, 30-year period of analysis, provides an easy-to-compare economic metric to help decide whether to include a measure in a hydropower license.

#### WATER QUALITY CERTIFICATION

31. Under Section 401(a)(1) of the Clean Water Act (CWA),<sup>15</sup> the Commission may not issue a license for a hydroelectric project unless the state water quality certifying agency either has issued a water quality certification for the project or has waived certification.<sup>16</sup>

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<sup>14</sup>Specific Maine state agencies referenced in the MSPO's Motion to Intervene are the Department of Environmental Protection, the Land Use Regulation Commission, the Department of Marine Resources, the Department of Inland Fish and Wildlife, the Atlantic Sea-Run Salmon Authority, and the Department of Conservation.

<sup>15</sup>33 U.S.C. § 1341(a)(1).

<sup>16</sup>Section 401(a)(1) requires an applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters to obtain from the state in which the discharge originates certification that any such discharge would comply

(continued...)

Project No. 2364-013

-10-

32. The Maine Department of Environmental Protection issued a water quality certification for the project on February 21, 2003. The certification provides for run-of-river operation, fish passage facilities, licensee funding for habitat restoration for Atlantic salmon and Atlantic salmon stocking, a shoreline buffer zone plan, and recreational access and use facilities. The water quality certification includes conditions which are set forth in Appendix A of this order, and incorporated in the license [see ordering paragraph (D)].<sup>17</sup>

### SECTION 18 FISHWAY PRESCRIPTIONS

33. Section 18 of the FPA, provides that the Commission shall require a licensee to construct, operate, and maintain such fishways as may be prescribed by the Secretary of the Interior (Interior) or the Secretary of Commerce, as appropriate.<sup>18</sup> By letter dated February 8, 2002, Interior requested that a reservation of authority to prescribe fish passage facilities be included in the license. Article 404 reserves the Commission's authority to require fishways that Interior may in the future prescribe.

### ENDANGERED SPECIES ACT

34. Section 7(a)(2) of the Endangered Species Act of 1973<sup>19</sup> requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of their critical habitat.

35. In the project area, the bald eagle is federally listed as threatened. An active bald eagle nest site occurs downstream of the Abenaki Project, and bald eagles use the Anson Project impoundment for foraging. By letter dated May 23, 2002, the U.S. Fish and Wildlife Service found that no further consultation is needed for federally listed species at the Abenaki Project because the nest is downstream of the project and the impoundment and surrounding waterways provide ample area for foraging.

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<sup>16</sup>(...continued)  
with applicable water quality standards.

<sup>17</sup>The water quality certification was issued jointly for the Abenaki Project and the upstream Anson Hydroelectric Project, Project No. 2365, also owned and operated by Madison.

<sup>18</sup>16 U.S.C. § 811.

<sup>19</sup>16 U.S.C. § 1536(a).

Project No. 2364-013

-11-

## RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES AND 10 (j) PROCESS

36. Section 10(j) of the FPA<sup>20</sup> requires the Commission, when issuing a license, to include license conditions based upon recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,<sup>21</sup> to adequately and equitably protect, mitigate damages to, and enhance, fish and wildlife affected by the project. If the Commission believes that any such recommendation may be inconsistent with the purpose and requirements of Part I of the FPA, or other applicable law, Section 10(j)(2) of the FPA<sup>22</sup> requires the Commission and the agencies to attempt to resolve such inconsistencies, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies. If the Commission still does not adopt a recommendation, it must explain how the recommendation is inconsistent with Part I of the FPA or other applicable law and how the conditions imposed by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources.

37. By letter filed with the Commission on June 26, 2002, Interior identified that their Section 10(j) conditions to protect fish, wildlife, and botanical resources are incorporated into the Settlement Agreement. The license includes conditions consistent with the Settlement Agreement.

### OTHER ISSUES

#### A. Administrative Conditions

38. The Commission collects annual charges from licensees for the administration of the FPA, and to reimburse the United States for the occupancy and use of any federal lands. Article 201 provides for the collection of such funds.

39. Section 10(d) of the Federal Power Act requires licensees to establish and maintain project amortization reserves. Article 202 provides for amortization reserves.

40. The Commission requires licensees to file sets of approved project drawings on microfilm. Article 203 provides for the filing of these drawings.

41. Some projects directly benefitted from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 204 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

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<sup>20</sup>16 U.S.C. § 803(j)(1).

<sup>21</sup>16 U.S.C. § § 661 et seq.

<sup>22</sup>16 U.S.C. § 803(j)(2).

Project No. 2364-013

-12-

42. In the license application, the licensee proposed resurfacing the Abenaki dam, installing an inflatable flashboard system, and installing a 2.94 MW turbine/generator unit in an existing unused bay of the powerhouse. Also, in accordance with the Settlement Agreement, the licensee will construct downstream and upstream passage facilities for American eel and Atlantic salmon. The licensee plans to begin installation of the inflatable flashboard system within two years of the effective date of the new license. The licensee plans to install the new 2.94 MW turbine/generator unit between 2008 and 2016 or at an earlier date to be determined by the licensee based on financial conditions. Articles 301 through 305, and ordering paragraphs(B)(2)(i) through (B)(2)(k) establish the procedures and requirements for Commission approval of construction plans for these improvements.

#### B. Shoreland Buffer Management Zone

43. The licensee's proposed Shoreland Buffer Zone Management Plan (Article 411) incorporates resource enhancements and changes to the project boundary. The 54.2 acres of land to be added to the project boundary include the new or enhanced recreation facilities identified in paragraph 45. The 54.2 acres of land, in addition to lands currently in the project boundary, will create a 330-foot buffer zone at the project, except where other land interests interfere. The 54.2 acres of land are necessary for project purposes. The licensee proposes to grant permanent conservation easements on Madison-owned shorelands to an appropriate conservation organization. These easements will be concentrated in functionally valuable and/or sensitive habitats such as floodplains and wetlands that include areas of unique habitats with scenic value.

44. Madison also proposes to remove from the project boundary a 25-acre parcel of land representing the Madison-owned portion of the Pines area.<sup>23</sup> Madison will donate the 25 acres of land to the Archeological Conservancy (Conservancy), subject to a conservation easement from the MHPC to the Conservancy. This parcel does not affect project operations and is not necessary for project purposes.

#### C. Recreational Resources

45. Madison's proposed Recreation Plan (Article 412) contains three new facilities and two related site improvements, including (1) a canoe/kayak car-top put-in located at the upstream end of the whitewater stretch below the Abenaki dam; (2) a small trailered boat put-in, with a parking area, located slightly downstream of the canoe/kayak car-top put-in; (3) a small trailered boat take-out approximately one-half mile further downstream near the end of the whitewater stretch; (4) an access road sufficient for automobiles with small trailers to connect the three boat access sites listed above; and (5)

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<sup>23</sup>The Pines site (also known as the Old Point Mission Site and the Father Rasle/Pines site) is listed on the National Register of Historic Places, and is considered to be one of the most regionally significant European contact period sites.

Project No. 2364-013

-13-

installation of fencing along the road necessary to limit access from the road to the land leased by the Rod and Gun Club.

#### D Historic Properties

46. The Maine State Historic Preservation Officer (SHPO) states the Pines site and a site on the west shore below the Abenaki dam in the vicinity of the Rod and Gun Club are eligible for inclusion in the National Register of Historic Places. Article 411 requires Madison to implement a Programmatic Agreement (PA) that contains guidelines for managing and protecting eligible sites, including sites that are discovered during the future operation and maintenance of the project. The PA provides for the donation of the Father Rasle/Pines site to the Archeological Conservancy.

#### E. Use and Occupancy of Project Lands and Waters

47. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 415 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purpose of protecting and enhancing the scenic, recreational, and environmental values of the project.

#### STATE AND FEDERAL COMPREHENSIVE PLANS

48. Section 10(a)(2) of the FPA<sup>24</sup> requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.<sup>25</sup> Of the 34 comprehensive plans filed with the Commission, staff identified and reviewed 16 plans relevant to the project.<sup>26</sup> No inconsistencies were found.

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<sup>24</sup>16 U.S.C. § 1536(a).

<sup>25</sup>16 U.S.C. § 803(a)(2)(A).

<sup>26</sup> Maine Department of Conservation, Maine State Comprehensive Outdoor Recreation Plan: Assessment and Policy Plan, V.1., December 1993; Maine Atlantic Sea-Run Salmon Commission, 1984, Strategic Plan for Management of Atlantic Salmon in the State of Maine, Augusta, Maine, July 1984, with appendices; Maine Department of Conservation, 1982. Maine Rivers Study-Final Report, Augusta, Maine, May 1982; Maine State Planning Office, 1987, State of Maine Comprehensive Rivers Management Plan, V. 1-3, Augusta, Maine, May 1987; Maine State Planning Office, 1992, Maine Comprehensive Rivers Management Plan, V.4, Augusta, Maine, December 1992; Maine State Planning Office, 1993, Kennebec River Resource Management Plan, Augusta, Maine, February 1993; New England Division of Army Corps of Engineers, 1985, Hydrology of Floods - Kennebec River Basin, Maine, Department of the Army,

(continued...)

Project No. 2364-013

-14-

## COMPREHENSIVE DEVELOPMENT

49. Sections 4(e) and 10(a)(1) of the FPA, 16 U.S.C. 797(e) and 803(a)(1), respectively, require the Commission, in acting on license applications, to give equal consideration to the power and development purposes and environmental uses of the waterway on which the project is located, and to license projects that in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses.

50. To determine whether a proposed project will be best adapted to a comprehensive plan for developing a waterway for beneficial public purposes, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in Mead Corporation,<sup>27</sup> the Commission employs an analysis that uses current costs to compare the costs of the project and likely alternative power, with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license. In

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<sup>26</sup>(...continued)

Waltham, Massachusetts, October 1985, with appendices New England Division of Army Corps of Engineers, 1988, Hydrology of Floods - Kennebec River Basin, Maine, Part II, Department of the Army, Waltham, Massachusetts, May 1988, with appendices; New England Division of Army Corps of Engineers, 1989, Water resources study - Kennebec River Basin, Maine reconnaissance report), Department of the Army, Waltham, Massachusetts, March 1989, Two volumes; U.S. Fish and Wildlife Service, Canadian Wildlife Service, 1986, North American Waterfowl Management Plan, Department of the Interior, May 1986; U.S. Fish and Wildlife Service, 1989, Final Environmental Impact Statement - Atlantic Salmon Restoration in New England, 1989 - 2021, Department of the Interior, Newton Corner, Massachusetts, May 1989, with appendices; U.S. Fish and Wildlife Service, Undated, Fisheries USA: The Recreational Fisheries Policy of the U.S. Fish and Wildlife Service, Washington, DC; National Marine Fisheries Service, Atlantic salmon (*Salmo salar*) - Amendment 1 to the New England Fishery Management Council's (NEFMC) Fish Management Plan (FMP) on Atlantic salmon (March 1988), October 1998; National Marine Fisheries Service, 1998; Final Amendment #11 to the Northeast Multi-species Fishery Management Plan and Amendment #1 to the Atlantic Salmon FMP, October 7, 1998; National Marine Fisheries Service, 2000, Fishery Management Report No. 36 of the Atlantic States Marine Fisheries Commission: Interstate FMP for American Eel (*Anguilla rostrata*), Prepared by the American Eel Plan Development Team, April 2000; National Park Service, 1982, The Nationwide Rivers Inventory. Department of Interior, Washington, DC, January 1982.

<sup>27</sup>72 FERC ¶ 61,207 (1995).

Project No. 2364-013

-15-

making its decision, the Commission considers the project power benefits both with the applicant's proposed protection and enhancement measures and with the Commission's modifications and additions to the applicant's proposal. In this case there are no Commission modifications or additions to the applicant's proposal.

51. To determine whether the proposed project is currently economically beneficial, the project's cost is subtracted from the value of the project's power. Madison's proposal would produce about 91,132 MWh of energy annually at a cost of about \$53 per MWh, or about \$4,837,000 per year. The staff determined the annual value of project power would be \$7,290,000 or \$80 per MWh.<sup>28</sup> Thus, Madison's power would cost about \$2,453,000 or \$27 per MWh less than the likely alternative cost of power.

52. Based on an independent review and evaluation of the Abenaki Project as proposed by Madison (including all items listed in paragraph 25) and the no-action alternative, as documented in the EA, I have selected the Abenaki Project as proposed by Madison as preferred alternative. Paragraph 25 identifies the water quality conditions and license articles that incorporate conditions for the project as proposed, consistent with the Settlement Agreement.

53. I select this alternative because: (1) issuance of a new license would provide a beneficial, dependable, and inexpensive source of electric energy; (2) the 19,917 MW of electric power from a renewable resource would offset the use of fossil-fueled, steam-electric generating plants, thereby conserving non-renewable resources and reducing atmospheric pollution; and (3) the proposed environmental measures would protect or enhance water quality, fishery resources, terrestrial resources, and land uses; improve public use of recreation facilities and access; and protect historic properties within the area affected by project operations.

54. For the reasons discussed in the EA and in this order, the Abenaki Project, as licensed herein, will be best adapted to the comprehensive development of the Kennebec River for beneficial public uses.

#### LICENSE TERM

55. Pursuant to Section 15(e) of the FPA,<sup>29</sup> relicense terms shall not be less than 30 years nor more than 50 years from the date on which the license is issued. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental protection, mitigation,

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<sup>28</sup>Staff used Madison's current cost of \$80 per MWh to purchase electric power as the value for the energy generated by the project (Madison Paper Industries, Application for New License for Major Waterpower Project Existing Dam, Abenaki Project, April 2002.)

<sup>29</sup>16 U.S.C. § 808(e).

Project No. 2364-013

-16-

and enhancement measures; 40-year terms for projects with a moderate amount thereof; and 50-year terms for projects with an extensive amount thereof.<sup>30</sup>

56. Section 2.6 of the Settlement Agreement recommends a 50-year license term. This represents the stakeholders' recognition of extensive measures incorporated in the Settlement Agreement. Because the new license for this project requires an extensive amount of environmental measures, we will issue the new license for a 50-year term. A 50-year term would also facilitate the Commission's coordinated treatment, in any subsequent relicensing proceedings, of the Abenaki and the upstream Anson Projects on the Kennebec River. Therefore, this license will expire on April 30, 2054.

#### SUMMARY OF FINDINGS

57. The EA for the Abenaki Project contains background information, analysis of effects, support for related license articles, and the basis for a finding that licensing the project would not constitute a major federal action significantly affecting the human environment. The design of this project is consistent with the engineering standards governing dam safety. The project will be safe if operated and maintained in accordance with the requirements of this license.

58. Based on the review and evaluation of the project, as proposed by the applicant, I conclude that the continued operation and maintenance of the project in the manner required by the license, would protect and enhance fish and wildlife, water quality, recreational, and aesthetic resources and protect historic properties. The electricity generated from this renewable water power resource would be beneficial because it would continue to offset the use of fossil-fueled generating stations, thereby conserving non-renewable resources and reducing atmospheric pollution.

#### The Director Orders:

(A) This license is issued to Madison Paper Industries, Inc. (licensee) to operate and maintain the Abenaki Hydroelectric Project, for a period of 50 years, effective May 1, 2004. The license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, enclosed by the project boundary shown by Exhibit G included in the application for new license, filed on April 26, 2002.

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<sup>30</sup>See Consumers Power Company, 68 FERC ¶ 61,077 at pp. 61,383-84 (1994).

Project No. 2364-013

-17-

Exhibit G-	FERC Drawing No. 2364-	Showing
2	1010	Proposed Project Boundary Map

## (2) Project works consisting of:

(a) a 784-foot-long, 25-foot-high, concrete gravity overflow dam with a permanent crest elevation of 219.65 feet msl and equipped with 3-foot-high timber flashboards providing a normal headpond elevation of 222.65 feet; (b) a 32-acre reservoir with a gross storage capacity of about 520-acre-feet; (c) a 200-foot-long, concrete gravity headgate structure equipped with 16 timber slide gates; (d) an 830-foot-long by 160-foot-wide forebay with a trashrack-equipped intake; (e) a powerhouse located in a 190-foot by 125-foot portion of a non-project pulp mill building, and containing six double American and one GSA turbine-generators having a total nameplate rating of 16.977 MW and a total maximum hydraulic capacity of 4,980 cfs; (f) a 1,950-foot-long bypassed reach of the Kennebec River; (g) a 3,400-foot-long, 13.8-kilovolt (kV) transmission line; (h) appurtenant facilities; and the following modifications and additions:

(i) recapping the existing dam with concrete; (j) replacing the existing wooden flashboards with an inflatable crest control system; (k) adding a new 2.94-MW turbine-generator to be located in a currently unused turbine bay of the existing powerhouse; and (l) appurtenant facilities.

The following parts of Exhibit A and the following Exhibit F drawings conform to the Commission's rules and regulations and are to be approved and made a part of the license:

Exhibit A:

Sections 1.0, 2.0, 3.0, 4.0, 5.0 and table A.1.

Exhibit F:

Exhibit F-	FERC Drawing No. 2364-	Showing
1	1001	Site Plan
2	1002	Proposed Site Plan with Inflatable Flashboard
3	1003	Proposed Dam Sections
4	1004	Proposed Dam Sections

Project No. 2364-013

-18-

Exhibit F-	FERC Drawing No. 2364-	Showing
5	1005	Existing and Proposed Spillway Downstream Elevation
6	1006	Existing and Proposed Spillway Downstream Elevation
7	1007	Existing and Proposed Spillway Downstream Elevation
8	1008	Powerhouse Elevation and Section
9	1009	Powerhouse Plan

(3) All of the structures, fixtures, equipment or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project and located within or outside the project boundary, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The Exhibits A, F, and G as designated in ordering paragraph (B) above, are approved and made part of this license.

(1) Exhibit G-2 (FERC Drawing No. 2364-1010) shows proposed changes to the project boundary approved by this order. Within 90 days of the effective date of this license, the licensee shall file for Commission approval revised Exhibit G drawings showing the approved boundary. In addition, the licensee shall make any boundary modifications and revisions to Exhibit G required to include the 3,400-foot-long, 13.8 kV project transmission line within the project boundary.

(D) This license is subject to the conditions submitted by the State of Maine Department of Environmental Protection under Section 401 of the Clean Water Act, as those conditions are set forth in Appendix A to this order.

(E) This license is subject to the articles set forth in Form L-3 (revised October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters and Lands of the United States," and the following additional articles.

#### LICENSE ARTICLES AND CONDITIONS

Article 201. The license shall pay the United States an annual charge, effective May 1, 2004, for the purposes of reimbursing the United States for the Commission's administrative costs, pursuant to Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect

Project No. 2364-013

-19-

from time to time. The authorized existing installed capacity for that purpose is 16,977 kilowatts.

In addition to the above charge, the license shall pay a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized proposed additional capacity for that purpose is 2,940 kilowatts.

Article 202. Pursuant to Section 10(d) of the Federal Power Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The license shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the license shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The license shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The license shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly included in the license's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 203. Within 45 days of the effective date of the license, the license shall file three complete original sets of aperture cards of all the approved drawings. The sets must be reproduced on silver or gelatin 35 mm microfilm. All microfilm shall be mounted on type D (3-1/4' X 7-3/8") aperture cards.

Prior to microfilming, the FERC Drawing Number (2364-1001 through 2364-1010) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number must be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (e.g., F-1, G-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

Two complete original sets of aperture cards must be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third complete set of aperture cards shall be filed with the Commission's New York Regional Office.

Project No. 2364-013

-20-

Article 204. If the licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license. The benefits will be assessed in accordance with Part 11, Subpart B of the Commission's regulations.

Article 301. At least 60 days before starting construction of the inflatable flashboard system, minimum flow release gate, passage facilities for American eel and Atlantic salmon, or the new 2.94-MW turbine generator unit, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections New York Regional Engineer (Regional Engineer) and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the final contract plans and specifications. The Commission may require changes to the plans and specifications to assure construction is performed in a safe and environmentally sound manner. Construction may not commence until authorized by the Regional Engineer.

Article 302. At least 60 days before starting construction of the inflatable flashboard system, minimum flow release gate, passage facilities for American eel and Atlantic salmon, or the new 2.94-MW turbine generator unit, the licensee shall submit one copy to the Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the Quality Control and Inspection Program (QCIP) for the Commission's review and approval. The QCIP shall include a sediment and erosion control plan.

Article 303. Before starting construction of the inflatable flashboard system, minimum flow release gate, passage facilities for American eel and Atlantic salmon, or the new 2.94-megawatt turbine generator unit, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations. At least 30 days before starting construction of the cofferdams, the licensee shall submit one copy to the Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 304. At least 60 days before starting construction of the inflatable flashboard system, minimum flow release gate, passage facilities for American eel and Atlantic salmon, or the new 2.94-megawatt turbine generator unit, the licensee shall submit one copy to the Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the Temporary Emergency Action Plan (TEAP) for the Commission's review and approval. The TEAP shall describe emergency procedures in case failure of a cofferdam, any large sediment control structure, or any other water retaining structure that could endanger construction workers or the public. The TEAP shall include a notification list

Project No. 2364-013

-21-

of emergency response agencies, a plan drawing of the proposed cofferdam arrangement, the location of safety devices and escape routes, and a brief description of testing procedures.

Article 305. Within 90 days after finishing construction, the licensee shall submit, for Commission approval, eight copies of the revised exhibits A, F, and G describing the project as built. The licensee shall submit six copies to the Commission, one copy to the Regional Engineer, and one to the Director, Office of Energy Projects.

Article 401. The run-of-river operation required by Condition No. 2.A of Appendix A and the minimum flow below the project as required by Condition No. 2.B of Appendix A may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods of time upon mutual agreement between the licensee and the Maine Department of Inland Fish and Wildlife, the U.S. Fish and Wildlife Service, the Maine Atlantic Salmon Commission, Maine Department of Environmental Protection and the Maine Department of Marine Resources. If the run-of-river operation or minimum flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 402. The licensee shall release minimum flows into the Abenaki bypassed reach, beginning on January 1, 2007, according to the schedule given below, to provide protection for water quality and aesthetic resources, aquatic habitat, production of invertebrate forage for fish, and a seasonal fishery in the bypass. Dam leakage and any fish passage transport or attraction flows may constitute part of the required minimum flows.

#### Minimum Flow Schedule

<u>Month</u>	<u>Flow (cfs)</u>
January	100
February	100
March	100
April	100
May	200
June	300
July	300
August	300
September	300
October	200
November	100
December	100

The above flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for brief periods of time upon agreement among the licensee and the Maine Department of Inland Fish and Wildlife, the Maine Atlantic Salmon Commission, the U.S. Fish and Wildlife Service, the Maine Department of Environmental Protection and the Maine Department of Marine

Project No. 2364-013

-22-

Resources. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 403. The licensee shall file, for Commission approval, the flow and water level monitoring plan required by Condition No. 2.E of Appendix A. The plan and schedule for installing, operating and maintaining streamflow monitoring equipment shall be as necessary to monitor and record streamflows and water levels required by Condition Nos. 2.A and 2.B of Appendix A. The flow and water level monitoring plan shall include, at a minimum, methods for collecting and recording data, a schedule for installing monitoring equipment and a provision for providing recorded data to the U.S. Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife, the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, and Maine Department of Environmental Protection.

The licensee shall include in the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the entities, and specific descriptions of how the entities' comments were accommodated in the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations prior to filing the plan for Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The licensee shall not implement the plan until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes to the plan required by the Commission.

Article 404. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of, such fishways as may be prescribed by the Secretary of the Interior pursuant to Section 18 of the Federal Power Act.

Article 405. The licensee shall design, install, operate and maintain passage facilities to provide efficient upstream and downstream passage for American eel and Atlantic salmon past the project. The designs for the interim downstream fishway for American eel and upstream fishways for American eel and Atlantic salmon shall conform to the preliminary layout presented in "Fish Passage and Protection Alternatives Assessment and Plan", prepared for Madison Paper Industries, Madison, Maine by Kleinschmidt, Pittsfield, October, 2001 unless the licensee and consulting agencies concur that alternative design layouts are appropriate.

(A) Within six months of the effective date of this license, the licensee shall file, for Commission approval, final plans and implementation schedules to install, operate, and maintain upstream and interim downstream passage facilities for American eel as provided for in Condition Nos. 3.A and 3.B of Appendix A. Within two years of the effective date of this license, upstream and interim downstream passage facilities for American eel shall be installed and operational at the project.

Project No. 2364-013

-23-

(B) Not less than 90 days before the start of construction of permanent downstream passage facilities for American eel at the project, as provided for in Condition Nos. 3.A and 3.B of Appendix A, the licensee shall file, for Commission approval, a preliminary fishway design and a final plan and implementation schedule to install, operate, and maintain such facilities.

(C) Within six months of being given written notice by the Maine Atlantic Salmon Commission and the U.S. Fish and Wildlife Service, that sustained annual stocking of Atlantic salmon above the project has begun or shall begin within two years, the licensee shall file, for Commission approval, a preliminary fishway design and a final plan and implementation schedule to install, operate, and maintain interim downstream passage facilities for Atlantic salmon. The licensee shall consult with the two agencies annually to determine the schedule for such sustained annual stocking. The design of the facility may be integrated with the interim downstream passage facilities for American eel.

(D) Not less than 90 days before the start of construction of upstream and permanent downstream passage facilities for Atlantic salmon at the project, as provided for in Condition Nos. 4.A and 4.B of Appendix A, the licensee shall file, for Commission approval, final plans and implementation schedules to install, operate, and maintain such facilities. The licensee shall also file a preliminary fishway design for the permanent downstream passage facility.

(E) The licensee shall install and operate the upstream passage facility for Atlantic salmon, as provided in Condition Nos. 4.B of Appendix A, within two years following written certification by the U.S. Fish and Wildlife Service and the Maine Atlantic Salmon Commission that 226 returning Kennebec River Atlantic salmon [from the Lockwood Project (FERC No. 2574) fishlift or other lower Kennebec River trap and truck facility or fishway] have been released into the Kennebec River watershed above the Weston dam (FERC No. 2325) in any single season.

(F) The licensee shall consult annually with the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, the Maine Department of Inland Fisheries and Wildlife, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service whenever interim downstream passage facilities for American eel and Atlantic salmon are operational at the project and shall make reasonable changes to interim downstream operations or design as mutually agreed to with the consulting agencies and approved by the Commission.

(G) The licensee shall prepare the plans and schedules for installing, operating, and maintaining passage facilities for American eel and Atlantic salmon and post-installation changes in operations or designs in such facilities in consultation with the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, the Maine Department of Inland Fisheries and Wildlife, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service for review prior to filing with the Commission for approval. The licensee shall include with each plan documentation of consultation on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments were addressed in the plan. The licensee

Project No. 2364-013

-24-

shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission for approval. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plans. The licensee shall not implement a plan until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes to the plan required by the Commission.

Article 406. The licensee shall conduct testing of the effectiveness of interim and permanent upstream and downstream fish passage facilities following their construction, in consultation with the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, the Maine Department of Inland Fisheries and Wildlife, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service as described below. The purpose of the effectiveness testing is to determine the efficiency of both interim and permanent fish passage facilities to allow movement of Atlantic salmon and American eel past the project. Efficiency targets are 80 percent for interim facilities and 90 percent for permanent facilities, subject to confirmation through testing that the targets are reasonably achievable and scientifically valid for the species being tested. The efficiency targets may be revised following consultation and agreement among the licensee and the consulting agencies. Any such change shall be included in the licensee's annual report to the Commission under Article 407 below.

(A) Interim downstream passage facilities. The licensee shall conduct radio telemetry studies, or other comparable studies agreeable to the licensee and the consulted agencies, and approved by the Commission [see 406 C below], of the efficiency of interim downstream passage facilities for both American eel and Atlantic salmon for up to three years following the commencement of operation of those facilities for the respective species. For American eel, these studies are expected to take place in 2007, 2008, and 2009. For Atlantic salmon, the studies shall take place when the U.S. Fish and Wildlife Service and the Maine Atlantic Salmon Commission determine, after consultation with the licensee, that a sufficient number of appropriate salmon smolt are available for testing. The results of such studies shall be reviewed annually by the licensee and the consulted agencies, and study protocols and methodologies in any subsequent years adjusted as appropriate.

If the results of the efficiency studies indicate that a passage efficiency of 80 percent has been achieved for each species, the licensee shall maintain and operate the interim facility as built and have no further obligations for downstream American eel or Atlantic salmon passage until permanent facilities are installed after 2020. If efficiency is determined to be less than 80 percent for either species, the licensee shall work with the consulted agencies to develop a plan to modify the facilities or project operations. The plan shall be implemented after approval by the agencies, and the licensee shall then conduct additional studies, to be approved by the agencies, for up to three more years, using radio telemetry or other comparable studies, to assess downstream passage efficiency for both species. For American eel, the additional studies are expected to take

Project No. 2364-013

-25-

place in 2010, 2011, and 2012. For Atlantic salmon, the studies would occur in the three years following the first three-year study period.

If efficiency is again determined to be less than 80 percent for either species, the licensee shall again work with agencies to determine a plan to modify downstream passage facilities or project operations. The plan shall be implemented after approval by the consulted agencies and the Commission [see 406 (C) below]. The licensee may elect to conduct further studies of the efficiency of the facilities, in consultation with agencies. If further studies of efficiency for eel passage are not pursued, the licensee shall contribute funding in the amount of \$12,500 annually for the Abenaki Project to an Eel Research and Enhancement Fund, continuing at the same annual rate (i.e., without application of any escalation rate) in subsequent years until permanent downstream passage facilities for American eel are installed. The fund shall be administered by a Committee composed of the Maine Department of Marine Resources, the U.S. Fish and Wildlife Service and the licensee.

Prior to making any deposits to the fund, the licensee shall convene a meeting of the other members of the Committee to establish by-laws and other operational procedures to govern the activities of the Committee. The operating procedures shall include a provision that decisions by the Committee regarding releases of monies from the fund shall be by consensus, and in the event that the Committee cannot reach consensus within a reasonable period of time, then a decision regarding release of monies from the fund shall be deemed to have been made by the Committee when a two-thirds vote has been achieved. The operating procedures shall also establish the frequency of meetings and the responsibility for chairing the meetings. Meeting notices and minutes shall be provided by the licensee and annual reports shall be filed with the Commission and the Maine Department of Environmental Protection by the licensee.

(B) Permanent passage facilities. The licensee shall conduct post-construction studies of any permanent upstream and downstream fish passage facilities to monitor the facilities' effectiveness in achieving a target of 90 percent efficiency in the movement of American eel and Atlantic salmon through the facilities. At least six months prior to the completion of construction of any permanent upstream and downstream fish passage facilities after the project, and after consultation with and approval of the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, the Maine Department of Inland Fisheries and Wildlife, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service and approval by the Commission [see 406 (C) below].

(C) Study plans. The licensee shall prepare the plans in 406 (A) and (B) in consultation with the Maine Atlantic Salmon Commission, the Maine Department of Marine Resources, the Maine Department of Inland Fisheries and Wildlife, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service. The licensee shall include with each plan documentation of consultation on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments were addressed in the plan and schedule. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission for approval. If the licensee does not adopt a

Project No. 2364-013

-26-

recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plans. The licensee shall not implement a plan until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes to the plan required by the Commission. If the results of monitoring indicate that changes in project structures or operations, including alternative flow releases, are necessary to protect fish resources, the Commission may direct the licensee to modify project structures or operations.

Article 407. The licensee shall convene annual consultation meetings of the Maine Atlantic Salmon Commission, the U. S. Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, Trout Unlimited, and the Maine Council of the Atlantic Salmon Federation during the term of license to review the status of fish passage activities at the project, unless all potential meeting participants agree that a meeting is not needed. The licensee shall file a brief report with the Commission and the Maine Department of Environmental Protection after each annual meeting, with copies to all parties of the Settlement agreement filed on January 30, 2002, and corrected by an Addendum of Settlement filed on July 16, 2002.

The purpose of the meetings shall be to provide an opportunity for the introduction and discussion of agenda items such as the status of construction and testing of interim and permanent fish passage facilities, the review of effectiveness testing results and testing methodologies, the status of Atlantic salmon restoration activities, the status of various funding programs sponsored by the licensee, and any research or fish passage design developments that may affect future plans. The meetings shall also provide for regular communication among all parties so that they are aware of any future activities requiring their time and input.

Article 408. Within 15 days from making a deposit into the account entitled the "Atlantic Salmon and Riverine Aquatic Habitat Restoration Fund," as required by Condition No. 5.A of Appendix A, the licensee shall notify the Commission, in writing, that it has deposited money into the fund.

Article 409. If construction of Atlantic salmon hatching facilities is not substantially underway by 2010 (or by a date that is six years after the effective date of this license, whichever is later) the \$50,000 in escrow, plus any annual funding placed in the escrow account and any accrued interest to the Atlantic salmon stocking account, required by Condition Nos. 6.A and 6.B of Appendix A, shall be deposited to the Atlantic Salmon and Aquatic Riverine Habitat Account (see Condition No. 5 of Appendix A and article 408). The remaining annual funding (for the years 2010 through 2018, or later in accordance with this paragraph) shall also be deposited in the Atlantic Salmon and Aquatic Riverine Habitat Account. If any of the funding provided by the licensee under this provision, and any accrued interest, is unexpended at the end of the

Project No. 2364-013

-27-

term of the license, or at such time that the Atlantic salmon restoration effort is no longer active, such funds and accrued interest shall be returned to the licensee.

Funding for Atlantic salmon stocking provides a project-specific measure consistent with the restoration goals for Atlantic salmon, because about 75 percent of the Atlantic salmon habitat in the Kennebec River Basin lies upstream of the Abenaki Project and is currently unavailable due to the lack of adequate permanent fish passage at the project.

Article 410. Within one year of the implementation of minimum bypass flows, the licensee shall consult with the U.S. Fish and Wildlife Service and the Maine Department of Inland Fisheries and Wildlife and shall evaluate the resident riverine fish species passage capability at the lower log sluice area in the Abenaki bypass for movement into and out of the bypass reach at the proposed minimum bypass flows. The licensee shall make modifications to the concrete plug in the ledge channel beside the old log sluice in order to accommodate such passage if deemed necessary by the U.S. Fish and Wildlife Service and the Maine Department of Inland Fisheries and Wildlife. If such modifications are agreed to between the licensee and the agencies, the licensee shall file a plan to modify or remove the concrete plug for Commission approval.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service and the Maine Department of Inland Fisheries and Wildlife. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan including any changes to the plan required by the Commission.

Article 411. The Final Shoreline Buffer Zone Management Plan (Offer of Settlement, Appendix A, filed by the licensee with the Commission on January 31, 2002, and corrected by an Addendum of Settlement filed July 16, 2002) is approved. The licensee shall complete the implementation of the plan within 18 months from the effective date of this license. Within 6 months of the effective date of this license, the licensee shall file with the Commission for approval a final plan for implementing the Final Shoreland Buffer Zone Management Plan as required by Condition No. 8 of Appendix A. The licensee shall prepare the implementation plan in consultation with the Maine State Historic Preservation Office in addition to the entities listed in Condition No. 8. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations prior to filing the report with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

Project No. 2364-013

-28-

The Commission reserves the right to require changes to the plan. No land-disturbing activities shall begin at the project until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 412. The Final Recreation Plan (Offer of Settlement, Appendix B, filed by the licensee with the Commission on January 31, 2002, and corrected by an Addendum of Settlement filed July 16, 2002) is approved. The licensee shall complete the implementation of the plan within 42 months from the effective date of this license as required by Condition No. 9 of Appendix A.

Article 413. The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the State Historic Preservation Officer, for Managing Historic Properties That May Be Affected by Licenses Issuing to Madison Paper Industries for Continued Operation and Maintenance of the Anson and Abenaki Hydroelectric Power Projects on the Kennebec River in Maine" (PA) executed on September 24, 2002, including but not limited preparing and implementing a Historic Properties Management Plan (HPMP) for the project.

Within 12 months of the effective date of the license, the licensee shall file with the Commission for approval the HPMP. The HPMP shall be prepared in consultation with the Maine State Historic Preservation Officer, the Passamaquoddy Tribe, the Penobscot Indian Nation, the Aroostook Band of Micmacs, and the Houlton Band of Maliseet Indians consistent with the PA to: (1) protect known National Register eligible archeological sites and structures at the Anson Project; and (2) prevent disturbance to undiscovered sites that may be eligible for listing in the National Register during any ground-disturbing activities that may be undertaken during the term of license.

In the event that the PA is terminated, the licensee shall implement the provisions of its approved HPMP. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license. If the PA is terminated prior to Commission approval of the HPMP, the licensee shall obtain Commission approval before engaging in any ground disturbing activities or taking any other action that may affect any historic properties within the project's area of potential effect.

Article 414. Within one year of the effective date of the license, the licensee shall file for Commission approval documentation of the conveyance of the Madison owned portion of the Old Point Mission Site (Maine Archeological Site 69-2) to the Archaeological Conservancy as provided for in the Offer of Settlement filed on January 30, 2002, and corrected by an Addendum of Settlement filed on July 16, 2002. At a minimum, documentation shall include: (1) a copy of the conservation easement with the Maine Historic Preservation Commission showing all of its terms; (2) a copy of the licensee's endowment terms to the Archaeological Conservancy for monitoring and enforcement of the terms of the conservation easement; (3) an explanation by the licensee of how the amount of the endowment was determined; and (4) proof that the endowment has been paid.

Project No. 2364-013

-29-

Article 415. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the impoundment shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm

Project No. 2364-013

-30-

drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project impoundment. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed. If no conveyance was made during the prior calendar year, the licensee shall so inform the Commission and the Regional Director in writing no later than January 31 of each year.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (I) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

Project No. 2364-013

-31-

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands shall occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article shall be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(E) The licensee shall serve copies of any Commission filing required by this order on any entity specified in the Order to be consulted on matters relating to that filing. Proof of service on these entities must accompany the filing with the Commission.

(F) This Order is final unless a request for rehearing is filed within 30 days from its effective date, as provided in Section 313 of the FPA. The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this Order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this Order.

Project No. 2364-013

-32-

J. Mark Robinson  
Director  
Office of Energy Projects

Project No. 2364-013

## APPENDIX A

Water Quality Certification Conditions for the Abenaki Hydroelectric Project  
(Filed collectively with the certification conditions for the  
Anson Hydroelectric Project, Project No. 2365)  
Issued February 21, 2003, by the Maine Department of Environmental Protection

### 1. STANDARD CONDITIONS OF APPROVAL

The approved expansion of generating capacity at the Abenaki Project is subject to the Standard Conditions of Approval for projects under the Maine Waterway Development and Conservation Act, 06-096 CMR Chapter 450.9(C), a copy attached.

### 2. WATER LEVELS AND FLOWS

A. Except as temporarily modified by (1) approved maintenance activities, (2) extreme hydrologic conditions, as defined below, or (3) emergency electrical system conditions, as defined below, or (4) agreement between the applicant and appropriate state and/or federal agencies, beginning within 60 days of FERC approval of the flow and water level monitoring plan described in Condition 2.E. below, or upon such other schedule as established by FERC, both projects shall be operated in a run-of-river mode, with outflow approximately equal to inflow on an instantaneous basis except for flashboard failure or replacement, and impoundment level fluctuations minimized. The Anson impoundment may fluctuate by as much as approximately six inches below the normal pond elevation of 248.15 feet (USGS) for periods not to exceed six hours per occasion in response to emergency power system demand conditions, as declared by the New England Independent System Operator or the successor entity responsible for regional power dispatch.

B. Except as temporarily modified by (1) approved maintenance activities, (2) extreme hydrologic conditions, as defined below, or (3) emergency electrical system conditions, as defined below, or (4) agreement between the applicant and appropriate state and/or federal agencies, minimum flows shall be released from the Anson and Abenaki Projects in accordance with the provisions of the January 30, 2002 "Offer of Settlement." Specifically, Licensee shall release the following minimum flows:

- From the Anson Project, a minimum flow of 1,540 cubic feet per second, as measured below the powerhouse and dam, or inflow to the project reservoir, whichever is less, beginning within 60 days of FERC approval of the flow and water level monitoring plan described in Condition 2.E. below, or upon such other schedule as established by FERC.
- From the Abenaki Project, a minimum flow of 1,540 cubic feet per second, as measured below the powerhouse and the bypass reach, or inflow to the project reservoir, whichever is less, beginning within 60 days of FERC approval of the flow and water level monitoring plan described in Condition 2.E. below, or upon such other schedule as established by FERC.

Project No. 2364-013

-2-

- Into the Abenaki bypass reach, beginning on January 1, 2007, the following flows:

<u>Month</u>	<u>Flow (cfs)</u>
January	100
February	100
March	100
April	100
May	200
June	300
July	300
August	300
September	300
October	200
November	100
December	100

C. "Extreme Hydrologic Conditions" means the occurrence of events beyond the Licensee's control, such as, but not limited to, abnormal precipitation, extreme runoff, flood conditions, ice conditions or other hydrologic conditions such that the operational restrictions and requirements contained herein are impossible to achieve or are inconsistent with the safe operation of the Project.

D. "Emergency Electrical System Conditions" means operating emergencies beyond Licensee's control which require changes in flow regimes to eliminate such emergencies which may in some circumstances include but are not limited to equipment failure or other abnormal temporary operating condition, generating unit operation or third-party mandated interruptions under power supply emergencies; and orders from local, state or federal law enforcement or public safety authorities.

E. The applicant shall, within 6 months of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, submit plans for providing and monitoring the water levels and flows required by this condition. These plans shall be developed in consultation with U. S. Fish and Wildlife Service (USFWS), Maine Department of Inland Fisheries and Wildlife (MDIFW), Maine Atlantic Salmon Commission (MASC), Maine Department of Marine Resources (MDMR) and DEP. These plans shall be reviewed by and must receive the approval of the DEP Bureau of Land and Water Quality.

### 3. UPSTREAM AND DOWNSTREAM EEL PASSAGE

A. Upstream eel passage facilities shall be installed and operational at both projects within 2 years following the issuance of new FERC licenses for the projects. Interim downstream eel passage shall be installed and operational within 2 years following the issuance of new FERC licenses for the projects. Permanent downstream eel passage shall be installed and operational by July 1, 2020, if effectiveness testing of the interim downstream passage facilities do not meet an efficiency goal of 90%.

Project No. 2364-013

-3-

B. The applicant shall, within 6 months of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, submit final design and operational plans for the upstream and downstream eel passage facilities required by Part A of this condition, prepared in consultation with MDMR, MDIFW, MASC and USFWS. These plans shall be reviewed by and must receive the approval of MDMR, DEP, USFWS and FERC prior to construction.

C. The applicant shall, in consultation with MDMR, USFWS, MDIFW and MASC, conduct a study or studies to determine the effectiveness of the upstream and downstream eel passage facilities required by this Part A of this condition.

D. The applicant shall, concurrent with the commencement of facilities operation or upon such other schedule as established by FERC, submit plans for a study or studies to determine the effectiveness of the upstream and downstream eel passage facilities required by Part A of this condition, prepared in consultation MDMR, USFWS, MDIFW and MASC. These plans shall be reviewed by and must receive the approval of MDMR, DEP, and FERC prior to implementation.

E. The applicant shall, in accordance with a schedule set forth in the study plan or upon such other schedule as established by FERC, submit the results of the upstream and downstream eel passage study, along with any recommendations for changes in the design and/or operation of any passage facilities installed pursuant to this condition. The Department reserves the right, after notice to the applicant and opportunity for hearing, to require reasonable changes in the design and/or operation of these passage facilities as may be deemed necessary to adequately pass eels upstream and downstream through the project site. Any such changes must be approved by FERC prior to implementation.

#### 4. UPSTREAM AND DOWNSTREAM ANADROMOUS FISH PASSAGE

A. The applicant shall install and operate the following downstream anadromous fish passage facilities at the projects:

- Provide interim downstream passage facilities at the Projects for Atlantic salmon when sustained annual stocking above the Projects has begun. MPI shall conduct effectiveness testing of interim passage facilities in consultation with agencies. An efficiency of 90% or better would mean that the interim passage facilities would serve as permanent downstream passage for Atlantic salmon during the term of license.
- Provide permanent downstream passage facilities at the Projects for Atlantic salmon when permanent upstream passage for Atlantic salmon is constructed, if interim downstream passage facilities for Atlantic salmon do not meet an efficiency goal of 90%. Permanent downstream passage for Atlantic salmon would not be required prior to May 1, 2020. MPI may elect, upon consultation with agencies, to install permanent downstream passage facilities for Atlantic

Project No. 2364-013

-4-

salmon concurrent with installation of permanent downstream facilities for American eel or with installation of permanent upstream passage for Atlantic salmon.

B. The applicant shall install and operate upstream passage facilities at the Projects for Atlantic salmon when 226 returning Kennebec River Atlantic salmon have been released in the Kennebec watershed above the Weston dam in a single season. Permanent upstream passage for Atlantic salmon would not be required to be operational prior to May 1, 2020. If the trigger number of 226 returning Atlantic salmon is not reached by 2020, MPI may elect to construct permanent upstream passage for Atlantic salmon or to contribute funding, in the amount of \$25,000 per Project annually, starting in 2020 and continuing in subsequent years of the new license term, to the Atlantic Salmon and Aquatic Riverine Habitat Restoration Fund. (See Condition 5 of this approval.) MPI would provide such funding until either: 1) permanent upstream passage facilities are built; or 2) until the restoration program for Atlantic salmon on the Kennebec River is no longer active.

C. The applicant shall, at least 60 days prior to construction or upon such other schedule as established by FERC, submit final design and operational plans for the upstream and downstream anadromous fish passage facilities required by this condition, prepared in consultation with MDMR, MASC, MDIFW and USFWS. These plans shall be reviewed by and must receive the approval of MDMR, MASC, USFWS, DEP and FERC prior to construction.

D. The applicant shall, in consultation with MDMR, MASC, MDIFW and USFWS, conduct a study or studies to determine the effectiveness of the upstream and downstream anadromous fish passage facilities required by this condition.

E. The applicant shall, concurrent with the commencement of facilities operation or upon such other schedule as established by FERC, submit plans for a study or studies to determine the effectiveness of the upstream and downstream anadromous fish passage facilities required by this condition, prepared in consultation with MDMR, MASC, MDIFW and USFWS. These plans shall be reviewed by and must receive the approval of MDMR, MASC, DEP, and FERC prior to implementation.

F. The applicant shall, in accordance with a schedule set forth in the study plan or upon such other schedule as established by FERC, submit the results of any upstream and downstream anadromous fish passage effectiveness studies, along with any recommendations for changes in the design and/or operation of any passage facilities installed pursuant to this condition. The Department reserves the right, after notice to the applicant and opportunity for hearing, to require reasonable changes in the design and/or operation of these passage facilities as may be deemed necessary to adequately pass anadromous fish through the project site. Any such changes must be approved by FERC prior to implementation.

## 5. RIVERINE AQUATIC HABITAT RESTORATION FUND

Project No. 2364-013

-5-

A. The applicant shall establish an Atlantic Salmon and Riverine Aquatic Habitat Restoration Fund ("Fund") of \$570,000 through four unequal deposits in accordance with the provisions of the January 30, 2002 "Offer of Settlement."

B. Under the terms of the Offer of Settlement and this certification, the Fund will be used for projects intended to 1) support Atlantic salmon habitat restoration and/or enhancement activities in the watershed above Weston Dam; 2) cover costs, associated with rearing and/or acquiring Atlantic salmon smolts (or other juvenile salmon life stages) for stocking in the watershed above Weston Dam; and 3) provide funding for interim fish passage for adult Atlantic salmon from the Lockwood Dam (or other lower Kennebec River dam facility) to spawning areas in the watershed above the Weston Dam, as identified through the Atlantic Salmon and Riverine Aquatic Habitat Restoration Committee process described in the Offer of Settlement.

C. The Fund shall be administered by the "Atlantic Salmon and Riverine Aquatic Habitat Restoration Committee" in accordance with the provisions of the Offer of Settlement, and the projects shall be implemented in accordance with a schedule to be established by that committee.

D. The applicant, with assistance from the "Atlantic Salmon and Riverine Aquatic Habitat Restoration Committee", shall prepare annual reports documenting the work of this Committee. These annual reports shall be filed with FERC and the DEP Bureau of Land and Water Quality.

#### 6. FUNDING FOR ATLANTIC SALMON STOCKING

A. The applicant shall, within three months of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, provide \$50,000 per project for support of Atlantic salmon hatching facilities, in accordance with the terms of the January 30, 2002, Offer of Settlement.

B. The applicant shall, beginning within two years of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, provide \$5,000 per project per year for twelve years for support of hatching or purchasing of Atlantic salmon eggs or procurement of fry for stocking, in accordance with the terms of the January 30, 2002, Offer of Settlement.

#### 7. WETLANDS MONITORING

A. The applicant shall, within five years of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, conduct monitoring of the wetlands surrounding the Anson impoundment as described in the January 30, 2002, Offer of Settlement.

B. A plan for this monitoring shall be developed in consultation with MDIFW, USFWS, DEP and the U. S. Army Corps of Engineers. The applicant shall submit the results of the wetlands monitoring required by Part A of this condition and

Project No. 2364-013

-6-

these results shall be reviewed by and must receive the approval of the DEP Bureau of Land and Water Quality.

#### 8. SHORELAND BUFFER ZONE MANAGEMENT PLAN

A. The applicant shall, within 18 months of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, implement the Shoreland Buffer Zone Management Plan in accordance with the provisions of the January 30, 2002 Offer of Settlement.

B. The applicant shall, within 6 months of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, submit a plan for implementing the Shoreline Management Plan as required by Part A of this condition. This plan shall be developed in consultation with USFWS, MDIFW, Maine Department of Conservation (MDOC), Maine State Planning Office, Town of Anson, Town of Madison, Kennebec Valley Trails and the Appalachian Mountain Club, and shall include a schedule for implementation. This plan shall be reviewed by and must receive the approval of the DEP Bureau of Land and Water Quality.

#### 9. RECREATIONAL ACCESS AND USE FACILITIES

The applicant shall, within 42 months of issuance of New Licenses for the projects by FERC or upon such other schedule as established by FERC, construct, improve and maintain new and existing public recreational access and use facilities as proposed in the January 30, 2002, Offer of Settlement.

The applicant shall, in accordance with the schedule established in the new FERC licenses for the projects, submit final plans for constructing, improving and maintaining the recreational access and use facilities required by Part A of this condition. These plans shall be developed in consultation with USFWS, MDIFW, MDOC, Appalachian Mountain Club, Kennebec Valley Trails, Kennebec Valley Chapter of Trout Unlimited, Town of Anson and Town of Madison. These plans shall be reviewed by and must receive the approval of the DEP Bureau of Land and Water Quality.

#### 10. EROSION AND SEDIMENTATION CONTROL

A. In addition to any specific erosion and sedimentation control measures proposed by the applicants, Madison Paper Industries and its agents shall take all necessary measures to ensure that their activities do not result in measurable erosion or sedimentation during or after the approved expansion of the Abenaki Project.

B. Cofferdam fill placed in the waterway shall consist of clean granular material free from vegetative matter, lumps or balls of clay and other deleterious substances. That portion passing a 3-inch (No. 200) sieve shall not exceed 10 percent fines, by weight.

Project No. 2364-013

-7-

C. Madison Paper Industries shall, no less than one month prior to construction mobilization, prepare and submit a detailed erosion and sedimentation control plan for the approved expansion of the Abenaki Project. This plan must be reviewed and approved by the DEP Bureau of Land and Water Quality prior to the start of construction.

#### 11. CONCRETE CURING

With the exception of limited amounts of concrete used where necessary to seal the interface between steel cofferdams and the underlying bedrock, uncured concrete shall not be placed in direct contact with surface waters. Concrete shall be precast and cured at least three weeks before placing in the water, or where necessary, shall be placed in forms and shall cure at least one week prior to contact with surface water. No washing of tools, forms, etc. shall occur in or adjacent to the waterway.

#### 12. DEMOLITION/EXCAVATION SPOILS DISPOSAL

All solid waste generated by the approved expansion of the Abenaki Project, including used cofferdam fill, excavated forebay sediments, excavated rock and demolition debris, shall be disposed of at suitable upland sites in accordance with the Maine Solid Waste Management Rules.

#### 13. PERMITS FOR RECREATIONAL FACILITIES

The applicant shall obtain permits as may be required under the Natural Resources Protection Act to authorize the construction of new recreational access facilities or the improvement of existing recreational access facilities.

#### 14. LIMITS OF APPROVAL

This approval is limited to and includes the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. All variances from the plans and proposals contained in said documents are subject to review and approval of the DEP prior to implementation.

#### 15. COMPLIANCE WITH ALL APPLICABLE LAWS

The applicant shall secure and appropriately comply with all applicable federal, state and local licenses, permits, authorizations, conditions, agreements and orders required for the operation of the projects in accordance with the terms of this certification.

#### 16. EFFECTIVE DATE

This water quality certification shall be effective concurrent with the effective date of the new licenses issued for the projects by the Federal Energy Regulatory Commission.



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

PATRICIA W. AHO  
COMMISSIONER

June 9, 2014

Mr. Daniel J. Mallett  
Madison Paper Industries  
P.O. Box 129  
Madison, ME. 04950-0129  
[Daniel.mallett@upm.com](mailto:Daniel.mallett@upm.com)

*Transmitted via electronic mail  
Delivery confirmation requested*

RE: RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0036595  
Maine Waste Discharge License (WDL) Application #W008063-5R-E-R  
**Final Permit**

Dear Mr. Mallett:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL **renewal** which was approved by the Department of Environmental Protection. Please read this permit/license renewal and its attached conditions carefully. You must follow the conditions in the order to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision.*"

If you have any questions regarding the matter, please feel free to call me at 592-7161.

Sincerely,

Cindy L. Dionne  
Division of Water Quality Management  
Bureau of Land and Water Quality

Enc.

cc: Jim R. Crowley, DEP/CMRO  
Lori Mitchell, DEP/CMRO  
Sandy Mojica, USEPA

AUGUSTA  
17 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0017  
(207) 287-7688 FAX: (207) 287-7826

BANGOR  
106 HOGAN ROAD, SUITE 6  
BANGOR, MAINE 04401  
(207) 941-4570 FAX: (207) 941-4584

PORTLAND  
312 CANCO ROAD  
PORTLAND, MAINE 04103  
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE  
1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04679  
(207) 764-0477 FAX: (207) 760-3143



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
17 STATE HOUSE STATION      AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

MADISON PAPER INDUSTRIES	)	MAINE POLLUTANT DISCHARGE
MADISON, SOMERSET COUNTY, MAINE	)	ELIMINATION SYSTEM PERMIT
COOLING WATER DISCHARGE	)	AND
ABENAKI HYDRO PROJECT	)	
#ME0036595	)	WASTE DISCHARGE LICENSE
#W008063-5R-E-R      APPROVAL	)	RENEWAL

In compliance with the applicable provisions of *Pollution Control*, 38 M.R.S.A. §§ 411 – 424-B, *Water Classification Program*, 38 M.R.S.A. §§ 464 – 470 and *Federal Water Pollution Control Act*, Title 33 U.S.C. § 1251, and applicable rules of the Department of Environmental Protection (Department), the Department has considered the application of MADISON PAPER INDUSTRIES (permittee), with its supportive data, agency review comments, and other related materials on file, and FINDS THE FOLLOWING FACTS:

**APPLICATION SUMMARY**

On January 28, 2014, the Department accepted as complete for processing, a renewal application for Waste Discharge License (WDL) #W008063-5R-C-R/Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0036595, which was issued on April 15, 2009 for a five year term. The 4/15/09 permit authorized the daily discharge of 155,000 gallons per day of non-contact cooling water from the Abenaki Hydro Project to the Kennebec River, Class B, in Madison, Maine.

**PERMIT SUMMARY**

This permitting action carries forward all the terms and conditions established in the previous permitting action except it is increasing the flow to 172,800 gallons per day in response to additional information provided by the permittee regarding the maximum facility flow.

## CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated June 9, 2014, and subject to the Conditions listed below, the Department makes the following conclusions:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.
2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.
3. The provisions of the State's antidegradation policy, 38 M.R.S.A. § 464(4)(F), will be met, in that:
  - (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;
  - (b) Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;
  - (c) Where the standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;
  - (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and
  - (e) Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.
4. The discharge will be subject to effluent limitations that require application of best practicable treatment as defined in 38 M.R.S.A. § 414-A(1)(D).

**ACTION**

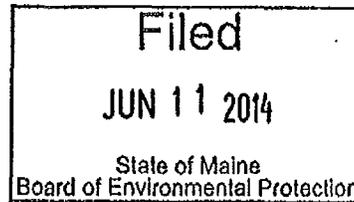
THEREFORE, the Department APPROVES the application of MADISON PAPER INDUSTRIES, to discharge 172,800 gallons per day of non-contact cooling water at a temperature not to exceed 95 degrees Fahrenheit from the Abenaki Hydro Project to the Kennebec River, Class B, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations including:

1. "Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits," revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. This permit becomes effective upon the date of signature below and expires at midnight five (5) years after that date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the terms and conditions of this permit and all subsequent modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. [Maine Administrative Procedure Act, 5 M.R.S.A. § 10002 and Rules Concerning the Processing of Applications and Other Administrative Matters, 06-096 CMR 2(21)(A) (last amended August 25, 2013)]

DONE AND DATED AT AUGUSTA, MAINE, THIS 10<sup>th</sup> DAY OF June, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Michael Kubus  
for PATRICIA W. AHO, Commissioner



Date filed with Board of Environmental Protection: \_\_\_\_\_

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application January 27, 2014

Date of application acceptance January 28, 2014

This Order prepared by Cindy L. Dionne, Bureau of Land and Water Quality

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The discharge is limited to a flow of 172,800 gallons per day and a daily maximum temperature of 95°F.
2. The permittee shall not discharge wastewater that contains a visible oil sheen, foam, or floating solids at any time that would impair the designated uses or habitat characteristics of the receiving waters or would otherwise lower the quality of the receiving water below its assigned classification.
3. The permittee shall not discharge wastewater that imparts color, taste, turbidity, toxicity, or other properties that would impair the designated uses or habitat characteristics of the receiving waters or would otherwise lower the quality of the receiving water below its assigned classification.
4. The permittee shall notify the Department immediately of the discharge of any pollutants other than heat from the facility. The permittee shall also notify the Department of any changes in facility design, operation or generating capacity that may affect the flow or temperature of the cooling water discharge.
5. All miscellaneous facility leakage and lubrication waters that may become contaminated with oil or grease are subject to Best Management Practices (BMPs) designed to prevent the release of contaminants to the waters of the State. **Within 90 days of permit issuance**, the permittee shall develop BMPs and shall make the BMPs available in writing for the Department to review and comment upon request. BMPs must consist of, but not be limited to, the following, as appropriate: development and implementation of a spill prevention plan; use of oil absorbent pads or booms and/or physical berms to contain spills or leaks of hydraulic and lubrication oils; and the treatment of water collected in floor drains and sumps through an oil/grease trap or oil-water separator. Where bearing cooling water is used, BMPs must include the maintenance of a written log or record of bearing oil levels and maintenance activities. Where floor drains and sumps are used, BMPs must include (1) written procedures for the cleaning and maintenance of any oil-grease trap, oil skimmer or oil-water separator and (2) maintenance of a written log or record of visual inspections of sumps for oil and grease and of actions taken to prevent the discharge of oil or grease from the facility.

### B. AUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on January 28, 2014; 2) the terms and conditions of this permit; and 3) only from the Abenaki Hydro Project. Discharges of wastewater from any other point source(s) are not authorized under this permit, and must be reported in accordance with Standard Condition B(5), *Bypasses*, of this permit.

**SPECIAL CONDITIONS**

**C. NOTIFICATION REQUIREMENT**

In accordance with Standard Condition D, the permittee shall notify the Department of any substantial change in the volume or character of pollutants being discharged.

**D. REOPENING OF PERMIT FOR MODIFICATIONS**

In accordance with 38 M.R.S.A. § 414-A(5) and based upon site inspections, additional site-specific or any other pertinent information or test results obtained during the term of this permit, the Department may, at any time and with notice to the permittee, modify this permit to establish limitations or require additional monitoring, inspections and/or reporting based on the new information.

**E. SEVERABILITY**

In the event that any provision(s), or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit will remain in full force and effect, and will be construed and enforced in all respects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

**MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT  
AND  
MAINE WASTE DISCHARGE LICENSE**

**FACT SHEET**

DATE: JUNE 9, 2014

PERMIT NUMBER: #ME0036595

LICENSE NUMBER: #W008063-5R-E-R

NAME AND ADDRESS OF APPLICANT:

MADISON PAPER INDUSTRIES  
P.O. BOX 129  
MADISON, ME. 04950-0129

NAME, ADDRESS, AND COUNTY WHERE DISCHARGE(S) OCCUR(S):

ABENAKI HYDRO PROJECT  
1 MAIN STREET  
MADISON, MAINE 04911  
SOMERSET COUNTY

COGNIZANT OFFICIAL CONTACT INFORMATION:

DANIEL J. MALLET  
(207) 696-3307  
EMAIL: [danel.mallett@upm.com](mailto:danel.mallett@upm.com)

**1. APPLICATION SUMMARY**

Application: On January 28, 2014, the Department accepted as complete for processing, a renewal application for Waste Discharge License (WDL) #W008063-5R-C-R/Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0036595, which was issued on April 15, 2009 for a five year term. The 4/15/09 permit authorized the daily discharge of 155,000 gallons per day of non-contact cooling water from the Abenaki Hydro Project to the Kennebec River, Class B, in Madison, Maine.

This permitting action carries forward all the terms and conditions established in the previous permitting action except it is increasing the flow to 172,800 gallons per day in response to additional information provided by the permittee regarding the maximum facility flow.

## 2. PERMIT SUMMARY

- a. History: The most current relevant regulatory actions include:

*February 23, 1999* - The Department issued WDL #W008063-5R-A-N to Madison Paper Industries for a five-year term.

*January 12, 2001* - The Department received authorization from the USEPA to administer the NPDES permitting program in Maine, excluding areas of special interest to Maine Indian Tribes. From this point forward, the program has been referred to as the Maine Pollutant Discharge Elimination System (MEPDES) program, and MEPDES permit #ME0036595 has been utilized for this facility. On March 26, 2011, the USEPA authorized the Department to administer the MEPDES program in Indian territories of the Penobscot Nation and Passamaquoddy Tribe.

*April 1, 2004* - The Department issued combination MEPDES permit #ME0036609/WDL #W008062-5R-B-R for a five-year term.

*June 22, 2007* - The Department issued a modification to increase the daily maximum flow limit to 155,000 gpd due to the increase in generating capacity from the installation of turbine generator #6.

*February 26, 2009* - Madison Paper Industries submitted a timely and complete application to the Department to renew the April 1, 2004 permit.

*April 15, 2009* - The Department issued combination MEPDES permit #ME0036595/WDL #W008063-5R-D-R for a five-year term.

*January 27, 2014* - Madison Paper Industries submitted a timely and complete application to the Department to renew the April 15, 2009 permit.

- b. Source Description: The source of the discharge is a hydroelectric generating facility. The discharge consists of non-contact cooling water. The discharge flow rate is variable, depending on cooling needs, up to a maximum flow of 172,800 gallons per day (maximum cooling system capacity, based on information from applicant). The discharge occurs directly from the tailrace. A map showing the location of the treatment facility is included as Fact Sheet **Attachment A**.

Other miscellaneous discharges from the facility consist of shaft lubrication waters, foundation leakage waters, and/or leakage from wicket gates and other equipment. In the event of unplanned leaks, spills or equipment failure, these discharges may become contaminated with hydraulic or lubrication oil and grease.

All miscellaneous facility leakage and lubrication waters that may become contaminated with oil or grease are subject to Best Management Practices (BMPs) designed to prevent

## 2. PERMIT SUMMARY (cont'd)

the release of contaminants to the waters of the State. Within 90 days of permit issuance, the permittee shall develop written BMPs and shall make the BMPs available to the Department for review and comment upon request. BMPs must consist of, but not be limited to, the following, as appropriate: development and implementation of a spill prevention plan; use of oil absorbent pads or booms and/or physical berms to contain spills or leaks of hydraulic and lubrication oils; and the treatment of water collected in floor drains and sumps through an oil/grease trap or oil-water separator. Where bearing cooling water is used, BMPs must include the maintenance of a written log or record of bearing oil levels and maintenance activities. Where floor drains and sumps are used, BMPs must include (1) written procedures for the cleaning and maintenance of any oil-grease trap, oil skimmer or oil-water separator and (2) maintenance of a written log or record of visual inspections of sumps for oil and grease and of actions taken to prevent the discharge of oil or grease from the facility.

## 3. CONDITIONS OF PERMITS

*Conditions of licenses*, 38 M.R.S.A. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A. § 420 and 06-096 CMR 530 require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (last amended July 29, 2012), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

## 4. RECEIVING WATER QUALITY STANDARDS

*Classification of major river basins*, 38 M.R.S.A., § 467(4)(A)(9) classifies the Kennebec River from the Route 201A bridge in Anson-Madison to the Fairfield-Skowhegan boundary, including all impoundments, which includes the reach of river subject to Abenaki's discharge, as Class B waters. *Standards for classification of fresh surface waters*, 38 M.R.S.A., § 465(3) describes the standards for Class B waters.

## 5. RECEIVING WATER CONDITIONS

*The State of Maine 2010 Integrated Water Quality Monitoring and Assessment Report*, prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists the 22.76 miles of the Kennebec River (main stem, from Carrabassett River to Fairfield-Skowhegan boundary ABD Assessment Unit ID ME0103000306\_338R\_04) under the following categories: Category 4-B "Rivers and Streams Impaired by Pollutants-Pollution Control Requirements Reasonably Expected to Result in Attainment" for dioxin as well as Category 5-D: "Rivers and Streams Impaired by Legacy Pollutants" for polychlorinated biphenyls.

## 5. RECEIVING WATER CONDITIONS (cont'd)

Category 4-A: Rivers and Streams with Impaired Use, TMDL Complete. Impairment in this context refers to a statewide fish consumption advisory due to elevated levels of mercury in some fish tissues. The Report states, "All freshwaters are listed in Category 4A (TMDL Completed) due to USEPA approval of a Regional Mercury TMDL. Maine has a fish consumption advisory for fish taken from all freshwaters due to mercury. Many waters, and many fish from any given water, do not exceed the action level for mercury. However, because it is impossible for someone consuming a fish to know whether the mercury level exceeds the action level, the Maine Department of Health and Human Services decided to establish a statewide advisory for all freshwater fish that recommends limits on consumption. Maine has already instituted statewide programs for removal and reduction of mercury sources."

## 6. REGULATIONS RELATING TO TEMPERATURE

*Regulations Relating to Temperature* 06-096 CMR 582 (last amended February 18, 1989), states that no discharge shall cause the ambient temperature of any freshwater body to be raised more than 5 degrees Fahrenheit, nor shall any discharge cause the temperature of any waters to exceed the USEPA national ambient water quality criteria established to protect all species of fish that are indigenous to the receiving waters. When the ambient temperature of any body of water naturally exceeds the applicable USEPA criteria, no thermal discharge may be allowed which alone or in combination with other discharges would raise the ambient temperature of the receiving water more than 0.5 degrees Fahrenheit.

The Department has established that cold water fish species are indigenous to all Maine rivers and streams. USEPA has established maximum temperatures for the protection of growth and survival of cold water fish as follows: a weekly average temperature of 66 degrees Fahrenheit; and a daily maximum temperature of 73 degrees Fahrenheit.

## 7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The USEPA has not promulgated National Effluent Guidelines for non-contact cooling water. The Department has made a Best Professional Judgment (BPJ) determination that BPT for hydro project cooling water is no treatment, unless treatment to control thermal loading is determined to be required.

The Department has calculated that, under worst case conditions of maximum cooling water flow (172,800 GPD), maximum cooling water temperature (assumed 95 degrees Fahrenheit, based on staff analysis of industry data), and 7Q10 receiving water flow (2,287 cfs), and without any treatment to reduce thermal loading, the discharge will raise the ambient temperature of the receiving water by only 3/100th of a degree Fahrenheit. Therefore, the Department has determined that neither effluent limitations nor monitoring requirements are necessary to ensure that applicable water quality standards are met.

## 7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

However, the discharge will be subject to effluent limitations that require application of best practicable treatment as defined in 38 M.R.S.A. § 414-A(1)(D). Within 90 days of permit issuance, the permittee shall develop BMPs and shall make the BMPs available in writing for the Department to review and comment upon request.

## 8. PUBLIC COMMENTS

Public notice of this application was made in the Morning Sentinel on or about January 18, 2014. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to *Application Processing Procedures for Waste Discharge Licenses*, 06-096 CMR 522 (effective January 12, 2001).

## 9. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from and written comments should be sent to:

Cindy L. Dionne  
Department of Environmental Protection  
Bureau of Land and Water Quality  
Division of Water Quality Management  
17 State House Station  
Augusta, Maine 04333-0017  
Telephone: (207) 592-7161 Fax: (207) 287-3435  
[cindy.l.dionne@maine.gov](mailto:cindy.l.dionne@maine.gov)

## 10. RESPONSE TO COMMENTS

During the period February 26, 2014, through the issuance of this permit, the Department solicited comments from state and federal agencies as well as parties that expressed interest in the proposed draft permit for the permittee's facility. The Department received written comments from the Conservation Law Foundation (CLF) in a letter dated April 15, 2014. Therefore the Department has prepared a Response to Comments as follows:

**Comment #1:** Madison Paper Industries MEPDES permit should not be renewed before the DEP ensures that the facility has obtained the required 316(b) permit from the USEPA evaluating that the location, design, construction and capacity of the cooling water intake structure reflect best treatment available.

**Response #1:** Although an NPDES permit for a facility with regulated discharges would typically also need to include requirements under CWA § 316(b) for any associated cooling water intake structures (CWISs), Maine DEP's permits are not be required to do so under the

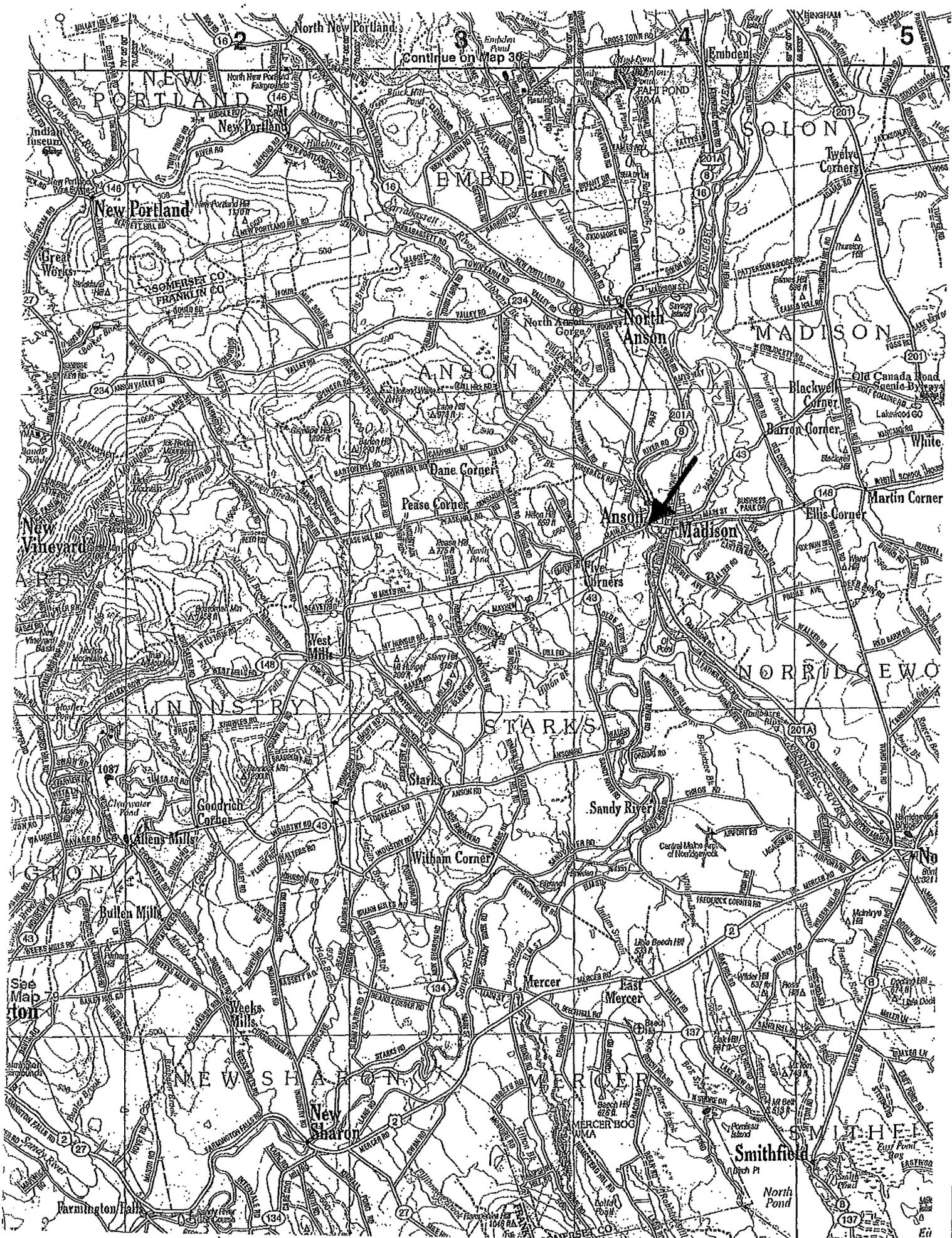
**10. RESPONSE TO COMMENTS (cont'd)**

CWA because Maine DEP has not yet been authorized to administer CWA § 316(b). In 2001, EPA Region 1 authorized the Maine DEP to administer the NPDES permit program, except for the permitting of CWISs under CWA § 316(b). Because the state had not yet adopted legislation or regulations to implement CWA § 316(b) at the time of the Region's approval, Region 1 approved Maine's NPDES program on a partial, phased basis pursuant to CWA § 402(n)(4). Until this remaining portion of NPDES authorization is complete, Region 1 is responsible for making NPDES permitting determinations under CWA § 316(b), including where CWA § 316(b) applies and, in the situations where it applies, the resultant permit conditions. Until the state is authorized to implement CWA § 316(b), Maine DEP issues NPDES permits addressing all issues other than § 316(b) and Region 1 is responsible for issuing supplemental permits to address CWISs under § 316(b), if § 316(b) is applicable. Although, it might be ideal to have the state and Region 1 issue such permits jointly or simultaneously, accomplishing this would be very difficult administratively and would slow down permit updating effort overall. Furthermore, there is no expressed or implied legal requirement that the permits be issued jointly or simultaneously, and neither Region 1 nor Maine ever indicated that the permits would be handled in this manner.

**Comment #2:** Maine should study and evaluate whether the discharge limits in this permit should be modified in response to impacts of rising water temperatures due to climate change.

**Response #2:** The Department has evaluated the discharge in accordance with Regulations Relating to Temperature 06-096 CMR 582 and has established effluent limitations to comply with this rule to ensure water quality standards are achieved. No changes were made based on this comment.

# ATTACHMENT A



MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT  
STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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CONTENTS

SECTION	TOPIC	PAGE
A	GENERAL PROVISIONS	
1	General compliance	2
2	Other materials	2
3	Duty to Comply	2
4	Duty to provide information	2
5	Permit actions	2
6	Reopener clause	2
7	Oil and hazardous substances	2
8	Property rights	3
9	Confidentiality	3
10	Duty to reapply	3
11	Other laws	3
12	Inspection and entry	3
B	OPERATION AND MAINTENANCE OF FACILITIES	
1	General facility requirements	3
2	Proper operation and maintenance	4
3	Need to halt reduce not a defense	4
4	Duty to mitigate	4
5	Bypasses	4
6	Upsets	5
C	MONITORING AND RECORDS	
1	General requirements	6
2	Representative sampling	6
3	Monitoring and records	6
D	REPORTING REQUIREMENTS	
1	Reporting requirements	7
2	Signatory requirement	8
3	Availability of reports	8
4	Existing manufacturing, commercial, mining, and silvicultural dischargers	8
5	Publicly owned treatment works	9
E	OTHER PROVISIONS	
1	Emergency action - power failure	9
2	Spill prevention	10
3	Removed substances	10
4	Connection to municipal sewer	10
F	DEFINITIONS	10

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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**A. GENERAL PROVISIONS**

**1. General compliance.** All discharges shall be consistent with the terms and conditions of this permit; any changes in production capacity or process modifications which result in changes in the quantity or the characteristics of the discharge must be authorized by an additional license or by modifications of this permit; it shall be a violation of the terms and conditions of this permit to discharge any pollutant not identified and authorized herein or to discharge in excess of the rates or quantities authorized herein or to violate any other conditions of this permit.

**2. Other materials.** Other materials ordinarily produced or used in the operation of this facility, which have been specifically identified in the application, may be discharged at the maximum frequency and maximum level identified in the application, provided:

(a) They are not

- (i) Designated as toxic or hazardous under the provisions of Sections 307 and 311, respectively, of the Federal Water Pollution Control Act; Title 38, Section 420, Maine Revised Statutes; or other applicable State Law; or
- (ii) Known to be hazardous or toxic by the licensee.

(b) The discharge of such materials will not violate applicable water quality standards.

**3. Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of State law and the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

- (a) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act, and 38 MRSA, §420 or Chapter 530.5 for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- (b) Any person who violates any provision of the laws administered by the Department, including without limitation, a violation of the terms of any order, rule license, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

**4. Duty to provide information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

**5. Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

**6. Reopener clause.** The Department reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedule of compliance or other provisions which may be authorized under 38 MRSA, §414-A(5).

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

7. **Oil and hazardous substances.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the Federal Clean Water Act; section 106 of the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980; or 38 MRSA §§ 1301, et. seq.

8. **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

9. **Confidentiality of records.** 38 MRSA §414(6) reads as follows. "Any records, reports or information obtained under this subchapter is available to the public, except that upon a showing satisfactory to the department by any person that any records, reports or information, or particular part or any record, report or information, other than the names and addresses of applicants, license applications, licenses, and effluent data, to which the department has access under this subchapter would, if made public, divulge methods or processes that are entitled to protection as trade secrets, these records, reports or information must be confidential and not available for public inspection or examination. Any records, reports or information may be disclosed to employees or authorized representatives of the State or the United States concerned with carrying out this subchapter or any applicable federal law, and to any party to a hearing held under this section on terms the commissioner may prescribe in order to protect these confidential records, reports and information, as long as this disclosure is material and relevant to any issue under consideration by the department."

10. **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

11. **Other laws.** The issuance of this permit does not authorize any injury to persons or property or invasion of other property rights, nor does it relieve the permittee of its obligation to comply with other applicable Federal, State or local laws and regulations.

12. **Inspection and entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the EPA Administrator), upon presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

**B. OPERATION AND MAINTENANCE OF FACILITIES**

**1. General facility requirements.**

- (a) The permittee shall collect all waste flows designated by the Department as requiring treatment and discharge them into an approved waste treatment facility in such a manner as to

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT  
STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

maximize removal of pollutants unless authorization to the contrary is obtained from the Department.

- (b) The permittee shall at all times maintain in good working order and operate at maximum efficiency all waste water collection, treatment and/or control facilities.
- (c) All necessary waste treatment facilities will be installed and operational prior to the discharge of any wastewaters.
- (d) Final plans and specifications must be submitted to the Department for review prior to the construction or modification of any treatment facilities.
- (e) The permittee shall install flow measuring facilities of a design approved by the Department.
- (f) The permittee must provide an outfall of a design approved by the Department which is placed in the receiving waters in such a manner that the maximum mixing and dispersion of the wastewaters will be achieved as rapidly as possible.

**2. Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

**3. Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

**4. Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

**5. Bypasses.**

(a) Definitions.

- (i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
- (ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this section.

(c) Notice.

- (i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D(1)(f), below. (24-hour notice).

(d) Prohibition of bypass.

(i) Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The permittee submitted notices as required under paragraph (c) of this section.

(ii) The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in paragraph (d)(i) of this section.

6. Upsets.

(a) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (c) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the cause(s) of the upset;

(ii) The permitted facility was at the time being properly operated; and

(iii) The permittee submitted notice of the upset as required in paragraph D(1)(f), below. (24 hour notice).

(iv) The permittee complied with any remedial measures required under paragraph B(4).

(d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT  
STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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**C. MONITORING AND RECORDS**

1. **General Requirements.** This permit shall be subject to such monitoring requirements as may be reasonably required by the Department including the installation, use and maintenance of monitoring equipment or methods (including, where appropriate, biological monitoring methods). The permittee shall provide the Department with periodic reports on the proper Department reporting form of monitoring results obtained pursuant to the monitoring requirements contained herein.
  
2. **Representative sampling.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. If effluent limitations are based wholly or partially on quantities of a product processed, the permittee shall ensure samples are representative of times when production is taking place. Where discharge monitoring is required when production is less than 50%, the resulting data shall be reported as a daily measurement but not included in computation of averages, unless specifically authorized by the Department.
  
3. **Monitoring and records.**
  - (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
  
  - (b) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.
  
  - (c) Records of monitoring information shall include:
    - (i) The date, exact place, and time of sampling or measurements;
    - (ii) The individual(s) who performed the sampling or measurements;
    - (iii) The date(s) analyses were performed;
    - (iv) The individual(s) who performed the analyses;
    - (v) The analytical techniques or methods used; and
    - (vi) The results of such analyses.
  
  - (d) Monitoring results must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in the permit.
  
  - (e) State law provides that any person who tampers with or renders inaccurate any monitoring devices or method required by any provision of law, or any order, rule license, permit approval or decision is subject to the penalties set forth in 38 MRSA, §349.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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**D. REPORTING REQUIREMENTS**

**1. Reporting requirements.**

- (a) Planned changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
  - (i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
  - (ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Section D(4).
  - (iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
- (b) Anticipated noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (c) Transfers. This permit is not transferable to any person except upon application to and approval of the Department pursuant to 38 MRSA, § 344 and Chapters 2 and 522.
- (d) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
  - (i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Department for reporting results of monitoring of sludge use or disposal practices.
  - (ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Department.
  - (iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.
- (e) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- (f) Twenty-four hour reporting.
  - (i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance

## MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

### STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

- (A) Any unanticipated bypass which exceeds any effluent limitation in the permit.
- (B) Any upset which exceeds any effluent limitation in the permit.
- (C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 hours.

(iii) The Department may waive the written report on a case-by-case basis for reports under paragraph (f)(ii) of this section if the oral report has been received within 24 hours.

- (g) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this section.
- (h) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

**2. Signatory requirement.** All applications, reports, or information submitted to the Department shall be signed and certified as required by Chapter 521, Section 5 of the Department's rules. State law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained by any order, rule, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

**3. Availability of reports.** Except for data determined to be confidential under A(9), above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by State law, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal sanctions as provided by law.

**4. Existing manufacturing, commercial, mining, and silvicultural dischargers.** In addition to the reporting requirements under this Section, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Department as soon as they know or have reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
  - (i) One hundred micrograms per liter (100 ug/l);
  - (ii) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
  - (iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
  - (iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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- (b) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- (i) Five hundred micrograms per liter (500 ug/l);
  - (ii) One milligram per liter (1 mg/l) for antimony;
  - (iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
  - (iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

**5. Publicly owned treatment works.**

- (a) All POTWs must provide adequate notice to the Department of the following:
- (i) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA or Chapter 528 if it were directly discharging those pollutants.
  - (ii) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
  - (iii) For purposes of this paragraph, adequate notice shall include information on (A) the quality and quantity of effluent introduced into the POTW, and (B) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (b) When the effluent discharged by a POTW for a period of three consecutive months exceeds 80 percent of the permitted flow, the permittee shall submit to the Department a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

**E. OTHER REQUIREMENTS**

**1. Emergency action - power failure.** Within thirty days after the effective date of this permit, the permittee shall notify the Department of facilities and plans to be used in the event the primary source of power to its wastewater pumping and treatment facilities fails as follows.

- (a) For municipal sources. During power failure, all wastewaters which are normally treated shall receive a minimum of primary treatment and disinfection. Unless otherwise approved, alternate power supplies shall be provided for pumping stations and treatment facilities. Alternate power supplies shall be on-site generating units or an outside power source which is separate and independent from sources used for normal operation of the wastewater facilities.
- (b) For industrial and commercial sources. The permittee shall either maintain an alternative power source sufficient to operate the wastewater pumping and treatment facilities or halt, reduce or otherwise control production and or all discharges upon reduction or loss of power to the wastewater pumping or treatment facilities.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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2. **Spill prevention.** (applicable only to industrial sources) Within six months of the effective date of this permit, the permittee shall submit to the Department for review and approval, with or without conditions, a spill prevention plan. The plan shall delineate methods and measures to be taken to prevent and or contain any spills of pulp, chemicals, oils or other contaminants and shall specify means of disposal and or treatment to be used.

3. **Removed substances.** Solids, sludges trash rack cleanings, filter backwash, or other pollutants removed from or resulting from the treatment or control of waste waters shall be disposed of in a manner approved by the Department.

4. **Connection to municipal sewer.** (applicable only to industrial and commercial sources) All wastewaters designated by the Department as treatable in a municipal treatment system will be cosigned to that system when it is available. This permit will expire 90 days after the municipal treatment facility becomes available, unless this time is extended by the Department in writing.

F. **DEFINITIONS.** For the purposes of this permit, the following definitions shall apply. Other definitions applicable to this permit may be found in Chapters 520 through 529 of the Department's rules

**Average** means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For bacteria, the average shall be the geometric mean.

**Average monthly discharge limitation** means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. Except, however, bacteriological tests may be calculated as a geometric mean.

**Average weekly discharge limitation** means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

**Best management practices ("BMPs")** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

**Composite sample** means a sample consisting of a minimum of eight grab samples collected at equal intervals during a 24 hour period (or a lesser period as specified in the section on monitoring and reporting) and combined proportional to the flow over that same time period.

**Continuous discharge** means a discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

**Daily discharge** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.

## MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

### STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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**Discharge Monitoring Report ("DMR")** means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by approved States as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

**Flow weighted composite sample** means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

**Grab sample** means an individual sample collected in a period of less than 15 minutes.

**Interference** means a Discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- (1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
- (2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

**Maximum daily discharge limitation** means the highest allowable daily discharge.

**New source** means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

- (a) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or
- (b) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

**Pass through** means a discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

**Permit** means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of 40 CFR parts 122, 123 and 124. Permit includes an NPDES general permit (Chapter 529). Permit does not include any permit which has not yet been the subject of final agency action, such as a draft permit or a proposed permit.

**Person** means an individual, firm, corporation, municipality, quasi-municipal corporation, state agency, federal agency or other legal entity.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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**Point source** means any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged.

**Pollutant** means dredged spoil, solid waste, junk, incinerator residue, sewage, refuse, effluent, garbage, sewage sludge, munitions, chemicals, biological or radiological materials, oil, petroleum products or byproducts, heat, wrecked or discarded equipment, rock, sand, dirt and industrial, municipal, domestic, commercial or agricultural wastes of any kind.

**Process wastewater** means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

**Publicly owned treatment works ("POTW")** means any facility for the treatment of pollutants owned by the State or any political subdivision thereof, any municipality, district, quasi-municipal corporation or other public entity.

**Septage** means, for the purposes of this permit, any waste, refuse, effluent sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added. Septage does not include wastes from a holding tank.

**Time weighted composite** means a composite sample consisting of a mixture of equal volume aliquots collected over a constant time interval.

**Toxic pollutant** includes any pollutant listed as toxic under section 307(a)(1) or, in the case of sludge use or disposal practices, any pollutant identified in regulations implementing section 405(d) of the CWA. Toxic pollutant also includes those substances or combination of substances, including disease causing agents, which after discharge or upon exposure, ingestion, inhalation or assimilation into any organism, including humans either directly through the environment or indirectly through ingestion through food chains, will, on the basis of information available to the board either alone or in combination with other substances already in the receiving waters or the discharge, cause death, disease, abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in such organism or their offspring.

**Wetlands** means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

**Whole effluent toxicity** means the aggregate toxic effect of an effluent measured directly by a toxicity test.