Mystic Lake Hydroelectric Project
FERC No. 2301

Volume I - Public
Final License Application
Exhibits A-D, H

Prepared by:
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With assistance from:
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December 15, 2006

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ACRONYMS AND ABBREVIATIONS

Acronym	*Name*
A-B	Absaroka-Beartooth Wilderness
ADA	Americans with Disabilities Act
AEI	American Enterprises, Inc.
amsl	above mean seal level
APE	Area of Potential Effect
APEA	Applicant Prepared Environmental Assessment
ARM	Administrative Rule of Montana
BA	Biological Assessment
BLM	Bureau of Land Management
BO	Biological Opinion
BZ	Backshore Zone
°C	degrees Celsius
ca.	circa
$CaCO_3$	Calcium Carbonate
CEII	Critical Energy Infrastructure Information
cfs	cubic feet per second
CNF	Custer National Forest
CNFP	Custer National Forest Management Plan
CPUE	catch-per-unit-effort
CRM	Cultural Resource Management
CRSP	Cultural Resource Study Plan
DNA	deoxyribonucleic acid
EA	Environmental Assessment
EAP	Emergency Action Plan
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
EST	Eastern Shoshone Tribe
°F	degrees Fahrenheit
FERC	Federal Energy Regulatory Commission
FOIA	Freedom of Information Act
FPA	Federal Power Act
ft	feet

Acronym	*Name*
FWP	Fish, Wildlife, and Parks
FWS	Fish and Wildlife Service
FZ	Fluctuation Zone
g	grams
GIS	Geographic Information System
GPOR	Generation point of receipt
ha	hectares
H-A&E	Historic Architectural and Engineering Properties
HAP	Historic Archaeological Properties
hp	horsepower
HPMP	Historic Properties Management Plan
HUC	Hydrological Unit Code
ILP	Integrated Licensing Process
lbs	pounds
km	kilometer
kVA	kilovolt-amperes
kW	kilowatt
kWh	kilo-watt hour
m	meters
m^3	cubic meters
MDEQ	Montana Department of Environmental Quality
MDOL	Montana Department of Livestock
MEPA	Montana Environmental Policy Act
MFWP	Montana Department of Fish, Wildlife and Parks
mg/L	milligrams per liter (mgL = ppm, parts per million)
mm	millimeters
MDNRC	Montana Department of Natural Resources and Conservation
MOU	Memorandum of Understanding
MPC	Montana Power Company
MSHPO	Montana State Historic Preservation Officer
MW	megawatt
N	Nitrogen
NEPA	National Environmental Protection Act
NERC	North American Electric Reliability Council
NIP	Non-Internet Public
NO_2	Nitrite
NO_3	Nitrate
NOI	Notification of Intent

Acronym	*Name*
NRHP	National Register of Historic Places
NTU	Nephelometric Turbidity Units
OHV	Off Highway Vehicles
O&M	Operation and Maintenance
OSHA	Occupational Safety & Health Administration
P	Phosphorus
PAD	Pre-Application Document
PAP	Prehistoric Archaeological Properties
PCB	Polychlorinated Byphenyl
PCR	Polymerase chain reaction
pf	power factor
pH	pH = - log [H^+]
PINE	Paired interspersed nuclear deoxyribonucleic acid elements
PLP	Preliminary Licensing Proposal
PM&E	Protection, Mitigation, and Enhancement
PMF	Probably Maximum Flood
POF	Plant Operating Facilities
Project	Mystic Lake Hydroelectric Project
RG	Resource Group
RLUA	Recreation, Land Use, and Aesthetics
rpm	revolutions per minute
SCADA	Supervisory Control and Data Acquisition
SCD1	Scoping Document 1
SCMP	Stillwater County Master Plan
SCORP	Statewide Comprehensive Outdoor Recreation Plan
sfd	second foot day
SHPO	State Historic Preservation Officer
SPCC	Spill Prevention, Control & Control Measures
s.u.	standard units
TCP	Traditional Cultural Properties
TDG	Total Dissolved Gases
TDS	Total Dissolved Solids
TKN	Total Kjeldahl Nitrogen
TU	Trout Unlimited
µmhos/cm	micromhos per centimeter, (1 µS/cm = 1 µmho/cm)
µS/cm	microSiemens per centimeter (Specific Conductivity)
USDI	United States Department of Interior

Acronym	*Name*
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VPP	Voluntary Protection Program
VQO	Visual Quality Objective
WQC	Water Quality Certificate
WQS	Water Quality Standards
WRL	West Rosebud Lake
YNP	Yellowstone National Park

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR LICENSE FOR MAJOR PROJECT - EXISTING DAM

INITIAL STATEMENT

REQUIRED INFORMATION

SUBSCRIPTION AND VERIFICATION

INITIAL STATEMENT

(1) PPL Montana, LLC (PPL Montana or Applicant) applies to the Federal Energy Regulatory Commission (Commission or FERC) for a new license for the Mystic Lake Hydroelectric Project (FERC Project No. 2301, the Project) as described in the attached exhibits and Applicant Prepared Environmental Assessment (APEA).

(2) The location of the Project is:

State or territory:	Montana
County:	Stillwater and Carbon Counties
Township or nearby town:	Fishtail, Montana
Stream or other body of water:	Mystic Lake and West Rosebud Creek

(3) The exact name and business address of the Applicant is:

PPL Montana, LLC
45 Basin Creek Rd.
Butte, MT 59701-9704

The exact name and business address of each person authorized to act as agents for the Applicant in this application are:

Mr. Jon Jourdonnais
Director of Hydro Licensing & Compliance
PPL Montana, LLC
45 Basin Creek Rd.
Butte, MT 59701-9704
Phone: (406) 533-3443
Fax: (406) 533-3401
Email: jhjourdonnais@pplweb.com

Ms. Elizabeth Thomas
Preston Gates & Ellis LLP
925 4th Avenue
Suite 2900
Seattle, WA 98104-1158
Phone: (206) 370-7631
Fax: (206) 370-6190
Email: ethomas@prestongates.com

(4) The Applicant is a limited liability company under the laws of the State of Delaware and is not claiming preference under Section 7(a) of the Federal Power Act. See 16 U.S.C. § 796.

(5) (i) The statutory or regulatory requirements of the state in which the Project is located that may affect the Project as proposed, with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes, and with respect to the right to engage in the business of developing, transmitting and distributing power and in any other business necessary to accomplish the purposes of the license under the Federal Power Act are:

- Chapter 69-8 MCA, the "Electric Utility Industry Restructuring and Customer Choice Act", which provides for the ownership of generation facilities by companies that do not serve retail customers directly.

- MCA 85-2-101 (4) Pursuant to Article IX, Section 3(1), of the Montana constitution, it is further the policy of this state and a purpose of this chapter to recognize and confirm all existing rights to the use of any waters for any useful or beneficial purpose. [Statute enacted 1972]

- Title 17, Chapter 30 0f the Administrative Rules of Montana (ARM) (governing water quality).

(ii) The steps which the applicant has taken or plans to take to comply with each of the laws cited above are:

- The Project has complied with water rights requirements through filing three statements of claim, for storage, power generation and domestic use, with the Montana Department of Natural Resources and Conservation (MDNRC), each bearing a priority date of 1916.

- The Project will comply with water quality requirements through its application to the Montana Department of Environmental Quality (MDEQ) for certification pursuant to Section 401 of the Federal Water Pollution Control Act (referred to as the Clean Water Act, CWA).

- The Project has complied with state laws governing ownership and operation of electric generating facilities through the Montana Public Service Commission's Issuance of Notice in Docket No. D99.4.82 in May 1999, reflecting the Montana Commission's consent to deregulation of the generating assets, including the Mystic Lake Project, which the Montana Power Company (MPC) sold to PPL Montana in 1999.

(6) The applicant must provide the name and address of the owner of any existing Project facilities. If the dam is federally owned or operated, provide the name of the agency.

PPL Montana owns all existing Project facilities.

(7) The name and address of the owner of the existing Project facilities is:

PPL Montana, LLC
c/o Jon Jourdonnais
Director of Hydro Licensing and Compliance
45 Basin Creek Road
Butte, Montana 59701

REQUIRED INFORMATION

(1) Person, citizen, association of citizens, domestic corporation, municipality, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the Project:

PPL Montana, LLC
c/o Jon Jourdonnais
Director of Hydro Licensing and Compliance
45 Basin Creek Rd.
Butte, MT 59701

(2)(i) Every county in which any part of the Project, and any federal facilities that would be used by the Project, would be located:

Stillwater County
400 3rd Avenue North
County Courthouse
Columbus, MT 59019-7165

Carbon County
17 W 11th
County Courthouse
Red Lodge, MT 59068-0887

(ii) Every city, town, or similar local political subdivision:

(A) In which any part of the Project, and any federal facilities that would be used by the Project, would be located:

The Project is not located within any town or city limits.

(B) That has a population of 5,000 or more people and is located within 15 miles of the Project dam:

The Project is not located within 15 miles of a town of 5,000 or more people.

(iii) Every irrigation district, drainage district, or similar special purpose political subdivision:

(A) In which any part of the Project, and any federal facilities that would be used by the Project, would be located:

The Project is not located in and does not propose to use any federal facility that is located in any irrigation district, drainage district or similar political subdivision.

(B) That owns, operates, maintains, or uses any Project facilities or any federal facilities that would be used by the Project:

No irrigation, drainage district or similar political subdivision owns, operates, maintains or uses any Project facility or any federal facility that the Project uses or proposes to use.

(iv) Every other political subdivision in the general area of the Project that there is reason to believe would likely be interested in, or affected by, the application:

United State National Forest
Custer National Forest
1310 Main Street
Billings, MT 59102

(v) All Indian tribes that may be affected by the Project:

Crow Tribe
Carl Venne
Chairperson
Crow Tribal Council
P.O. Box 159
Crow Agency, MT 59022-0159

Eastern Shoshone Tribe
Ivan Posey
Chairperson
P.O. Box 538
Fort Washakie, WY 82514-0538

Shoshone-Bannock Tribes
Nancy Eschief
Chairperson
P.O. Box 306
Fort Hall, ID 83203-0306

Northern Arapaho Tribe
Anthony Addison
Chairperson
P.O. Box 396
Fort Washakie, WY 82514-0396

Northern Cheyenne Tribe
Conrad Fisher
Tribal Historic Preservation Officer
Northern Cheyenne Tribe
PO Box 128
Lame Deer, MT 59043-0128

(3) The notification requirements of 18 CFR sec. 4.32(a) do not apply to this application because it is for a license under Section 15 of the Federal Power Act.

SUBSCRIPTION AND VERIFICATION

This application for a new license for the Mystic Lake Hydroelectric Project is executed in the City of Billings, Montana in Yellowstone County.

By: PPL Montana, LLC
Name: Bradley E. Spencer
Vice President and COO
Address: 303 North Broadway
Suite 400
Billings, MT 59101-1255

Bradley E. Spencer, being duly sworn, deposes and says that the contents of this application are true to the best of his knowledge and belief. The undersigned Applicant has signed the application this 27th day of ~~December~~ November, 2006.

Bradley E Spencer

Applicant Signature

Subscribed and sworn to before me, a Notary Public of the State of Montana, this 27th day of November, 2006.

Mary K Pattison

MARY K PATTISON

Commission expires: Aug 15, 2007

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR LICENSE FOR MAJOR PROJECT - EXISTING DAM

EXHIBIT A – PROJECT DESCRIPTION

EXHIBIT A – PROJECT DESCRIPTION

The Mystic Lake Hydroelectric Project No. 2301 (the "Project") is situated in south-central Montana, primarily located in Stillwater County with a very small portion within Carbon County. Stillwater County is primarily rural or undeveloped with about 8,000 residents and low population density of 4.6 persons per square mile. The Project area is approximately 17 miles north of the Wyoming-Montana State line and about 40 miles southwest of Columbus, Montana. The nearest metropolitan area is Billings, Montana, approximately 70 miles to the northeast, with a population of about 90,000 people.

The Project is located in the Beartooth Mountain Range and surrounded on three sides by the Absaroka-Beartooth Wilderness Area. Mystic Lake is located at the head of a high mountain canyon at an elevation of 7,673.5 feet (ft) above mean sea level (amsl) in the upper reaches of West Rosebud Creek. Within West Rosebud Creek drainage (213.4 square miles), Mystic Lake is the fourth and largest lake in a chain of six hydraulically connected lakes (listed in order going downstream: Star, Silver, Island, Mystic, West Rosebud, and Emerald lakes). There are a total of 84 lakes within the West Rosebud Creek drainage, 14 of which are outside the designated Wilderness Area (Marcuson and Poore 1991). Six tributaries drain into Mystic Lake: West Rosebud, Fish, Huckleberry, and three unnamed creeks arbitrarily assigned identification numbers 7, 8, and 10 (Schollenberger 1984). The Beartooth Ranger District of the Custer National Forest (CNF) manages approximately 124.7 square miles of the West Rosebud Creek drainage while the remaining 88.7 square miles is privately-owned land.

The Project area encompasses those waters and surrounding land within the West Rosebud Creek drainage, extending from the confluence with Fiddler Creek upstream to Island Lake, which could potentially be directly or indirectly affected by the Project. The waterways include Mystic Lake, approximately 22 miles of West Rosebud Creek from the outlet of Mystic Lake downstream to the confluence with Fiddler Creek, as well as two lakes within the 22-mile reach, West Rosebud Lake and Emerald Lake. However, neither Emerald Lake nor West Rosebud Creek downstream of West Rosebud Lake are located within the FERC Project boundary.

The FERC Project boundary (the "Project boundary") is more limited than the Project area. The present Project boundary is narrowly defined to include Mystic Lake and dam, the flowline, the surge tank and penstock, the distribution line from the powerhouse to Mystic Lake Dam, the powerhouse and associated camp buildings for operations and

maintenance, West Rosebud Lake and Re-regulation Dam, and two transmission lines (A-line and B-line) starting at the powerhouse extending 5.38-miles downstream to NorthWestern Energy's Line Creek Substation. Emerald Lake is not within the FERC Project boundary. Currently, the total land acreage within the FERC Project boundary is 673.54 acres.

A.1 Mystic Lake Characteristics

Prior to 1926, Mystic Lake was a natural body of water occupying 342.5 surface acres (138.7 ha). Between 1921 and 1926, the MPC built a dam, adding approximately 104.2 surface acres (42.2 ha) (Schollenberger 1984). Today, at the full pool elevation of 7,673.5 ft amsl, Mystic Lake occupies 446.7 acres (181 ha) with a maximum depth of 205 ft (Marcuson and Poore 1991). At low pool, elevation 7,612 ft amsl, the lake occupies approximately one-third fewer acres (Marcuson and Poore 1991). The useable storage at Mystic Lake is 20,800 acre-ft (MPC 1968). This is the volume of water between full pool elevation and low pool elevation, a 61.5 ft elevation difference. The total estimated cumulative volume of the lake varies due to some discrepancies in the various data sets used to generate the estimate, but the current estimate is approximately 47,000 acre-ft at full pool. Residence times also vary due to fluctuations in pool elevation, inflows and outflows.

A.2 Project Structures

The Project consists of the following structures: an arch-type dam (Mystic Lake Dam), an earthfill dike, a concrete intake structure, a tunnel, a flowline, a surge tank, a penstock, a tram and railroad, a powerhouse and turbines, a housing compound, the Re-regulation Dam, and distribution and transmission lines. Two of these components, the arch dam and earthfill dike, raise the elevation of the natural Mystic Lake by about 24 ft. The Re-regulation Dam is located one and one-half miles downstream from the powerhouse on West Rosebud Lake and re-regulates (attenuates) varying flows from the powerhouse during peaking operations.

The following subsections describe existing Project structures.

A.2.1 Arch Dam

At the new outlet to Mystic Lake there is a concrete arch-type dam 368 ft long and 45 ft high, with a crest elevation of 7,670.0 ft and with a spillway 300.5 ft long. The bedrock at the site was excavated in a trench to a suitable foundation. The dam thickness varies from

5 ft just below the crest to 10.5 ft at the base, and the radius of curvature varies between 180 ft and 147 ft.

The arch terminates in concrete gravity sections. The right abutment (facing upstream), constructed against the rock wall of the valley, is 5 ft long and 3 ft wide at the top, with a top elevation of 7,674.0 ft amsl. The left abutment is 60 ft long, 3 ft wide at the top, and 12 ft 10 inches high, with a batter of ½:1 on the downstream side. The top has an elevation of 7,674.0 ft amsl. A considerable amount of excavation spoil has been dumped against the right, downstream face of the arch dam. In 1990, the left abutment was reinforced with ten anchor bars with a working load of 112.5 kips.

The overflow crest of the arch dam is at elevation 7,670.0 ft amsl, but the pond elevation is raised by flashboards that provide flow control to the normal maximum operating level of 7,673.5 ft amsl. The flashboard configuration consists of 3 timbers each 12 inches high and 1 timber 6 inches high. There are 50 flashboard bays supporting the flashboards in 4-inch by 4-inch steel I-beams at 6.0-foot centers along the crest. A walkway extends along the crest above the flashboards, and is used for access to install and remove the boards.

The dam is equipped with a low-level outlet works that consists of a 10-inch valve that can be opened to drain water from a depression between the original lakebed and the dam. The low-level outlet works provides a mechanism to drain the pool that collects behind the dam that cannot be drained via the main intake structure.

A.2.2 Earthfill Dike

A concrete core earth dike 145 ft long and 15 ft high blocks the natural outlet to Mystic Lake. The concrete core wall is un-reinforced. It is 2 ft wide at the top and increases uniformly to 5 ft wide at the base. The foundation for the wall was constructed into the bedrock by excavating a cutoff trench between 2 and 4 ft deep.

The upstream slope of the earthfill dike is 3 ft horizontal to 1 ft vertical, and the downstream slope is 2 ft horizontal to 1 ft vertical. A layer of clay was placed over part of the bedrock upstream of the core wall. Finer material was placed adjacent to the core wall, and coarser sand and gravel towards the surface of both the upstream and downstream shells. A one-foot thick layer of riprap protects the upstream slope, and a 6-inch thick layer of reinforced concrete protects the downstream slope. The top of the concrete core wall is at elevation 7,675.0 ft amsl, and a 12-inch high timber board is installed along the crest to prevent overtopping the dike. The timber raises the effective crest of the earthfill dam to elevation 7,676.0 ft amsl.

A.2.3 Concrete Intake Structure

Water is diverted from the lake through a 33-foot long by 7-foot high by 9-foot wide reinforced concrete culvert into an intake structure located behind a rock ridge at the left abutment of the earthfill dike. The centerline of the intake entrance is about 65 ft below the full pond surface of the lake and is equipped with trashracks and an 8-foot by 8-foot by 8-inch motor operated slide gate. The gate can be operated either manually or electrically from the gatehouse or remotely from the powerhouse downstream. Full closure requires approximately eight minutes.

As currently configured, there are only three ways to reduce or shutoff the flow of water through the Project: (1) this concrete intake structure (headgate); (2) a butterfly valve located just downstream of the surge tank; and (3) the two needle valves that control operations of the two Pelton turbine units in the powerhouse. Normal hydraulic operation of the Project is managed at the downstream most point in the powerhouse using the needle valves that control the turbine generator units from fully-open to fully-closed. The headgate (slide gate) is used to isolate the reservoir from the flowline and the butterfly valve is used to isolate the penstock from the flowline and reservoir and make it possible to dewater sections of the flowline and penstock for repair and inspection or emergency shutoff.

A.2.4 Flowline

Upon passing through the intake structure, water enters a 6 ft by 7 ft rock tunnel 1,005 ft long driven through quartzite rock. The tunnel terminates on the right side of the canyon (facing upstream) at a concrete thrust block that joins it to a 57-inch inside diameter steel flowline. A portal valve house exists at the downstream side of the thrust block. The valve house contains an 18-inch valve, which will drain a low section of the tunnel to enable full access to all sections of the tunnel for dewatered inspections or repairs, and a 10-inch diameter, remotely operated minimum release globe valve tap off the steel flowline. The minimum release valve (also referred to as the fish valve) is used to ensure minimum flows are maintained in the bypass reach upstream of the powerhouse.

The flowline is supported on steel saddles placed on concrete footings and connected with dresser type couplings. An inverted siphon near the middle of the flowline detours around an unstable area of the hillside, which resulted from rockfall and subsequent washout of the flowline bench in 1978. The inverted siphon system used to bypass flow around the slide area was installed in 1983. The original wood stave section of the flowline between the inverted siphon and the surge tank was replaced with a 57-inch diameter steel flowline in 1988. The remaining section of wood stave flowline between

the rock tunnel and the inverted siphon was also replaced with a 57-inch diameter steel flowline in 1990. The flowline carries the water 9,012 ft around the mountainside to a point above the powerhouse where it terminates at a surge tank.

Currently, the Project has no reliable mechanism in place to restore flow into the bypass reach if the flowline is accidentally breached under conditions where the lake elevation is less than 7,670 ft amsl. There is a fish release valve, but water is not available to it if the headgate is closed. There is also a small low-level outlet works valve at the base of Mystic Lake Dam that enables PPL Montana to drain a hydraulically isolated pocket upstream of the dam to prevent ice damage during winter drawdown. This valve can discharge about 8-10 cfs of water manually from Mystic Lake when lake level is above the natural barrier elevation of 7,649.5 ft amsl. However, this valve is normally only used to dewater the area upstream of the dam in winter. When the lake level is below the natural barrier, the low-level outlet valve is unavailable to augment flows to the bypass reach.

A.2.5 Surge Tank

The Johnson surge tank is 12 ft in diameter and 118.5 ft high. The flowline enters the surge tank at elevation 7,569.07 ft amsl near the base of the tank. The surge tank is equipped with a butterfly valve at the outlet that feeds a single, Kellogg butt-welded steel pressure pipe (penstock). The water in the flowline and surge tank can be maintained when de-watering the penstock by closing the butterfly valve. The valve can be operated locally or remotely from the powerhouse.

A.2.6 Penstock

From the surge tank, the flow drops to the powerhouse through a single penstock varying in diameter from 48 inches to 42 inches over 2,566 ft of its length. Then, approximately 123 ft upstream of the turbines, the penstock bifurcates into two 28-inch diameter branches that supply each individual turbine. The wall thickness of the penstock(s) varies from one-half inch at the top to one and one-quarter at the bottom where the pressure guarantee is 650 pounds.

A.2.7 Powerhouse

The powerhouse is situated at elevation 6,550 ft amsl on the west bank of West Rosebud Creek. It is a reinforced concrete structure 60 ft wide, 85 ft long, and 56 ft high. The building is constructed on three levels: a foundation level containing the turbine nozzles and turbine pit, a generator level (main floor), and an electrical equipment floor.

The powerhouse contains two Pelton waterwheel turbines, each nameplate rated at 7,500 hp at 300 rpm under a net effective head of 1,050 ft (gross head 1,128.5 ft). The elevation of the centerline of the water wheel jet is 6,545 ft amsl. The water wheels are mounted directly on a flange end of the generator shaft. There are two Westinghouse generators, each with an original nameplate rating of 6,250 kVA at 0.8 power factor, 3 phase, 60 cycle, 300 rpm, and 6,600 volts. In 1979-1980, the generators were rewound to 7,500 kVA.

Each generator has a direct connected exciter rated 50 kW, 125 volts. Each exciter will carry two generators. A spare motor-driven exciter rated at 50 kW and 125 volts is located on the main floor of the powerhouse.

The operating room is located in the center portion of the building on the main floor. The 6,600 volts station bus is situated to the back of the operating room. Near each end of the building on the main floor is a Pauwels 12.5 kVA transformer to step up the generation voltage to 55,000 volts. Additionally, a 40-ton capacity-traveling crane serves the powerhouse.

The second floor of the powerhouse is constructed over the portion occupied by the transformers, and other similar equipment on the main floor. The entire high-tension switch control bus and equipment are located on this second floor indoors. This floor is 22 ft wide and runs the length of the building. The two end spaces are occupied by high-tension oil circuit breakers on the two outgoing transmission lines.

The existing plant (powerhouse) nameplate rating is 11,250 kW (turbine limited)[1] at a gross head of 1,128.5 ft with a total discharge of 169 cubic feet per second (cfs). However, due to aging equipment and friction losses in the water conveyance system, the nominal maximum generation is approximately 10.5 MW at a discharge of 152 cfs.

A.2.8 Tailrace

Flow through the water wheels is discharged through two 6 ft by 7 ft concrete tunnels, which extend from the powerhouse to West Rosebud Creek. Tunnel No. 1 is 32 ft long and No. 2 is 68 ft long.

[1] 7,500 HP (1,050 ft net head) Pelton wheel X 0.75 HP/kW = 5,625 kW X 2 units = 11,250 kW. Generator rating = 7,500 kVA X 0.8 pf = 6,000 kW X 2 units = 12,000 kW. Thus the plant rating is 11,250 kW (turbine limited).

A.2.9 Re-regulation Dam

In 1978, a small Re-regulation Dam was constructed near the outlet of West Rosebud Lake, on West Rosebud Creek about 1.5 miles downstream of the powerhouse. The dam is an earthfill embankment approximately 19 ft high, 420 ft long, and 6,401.94 ft amsl at the top. The center portion of the dam has a concrete spillway structure that includes a 4 ft wide outlet valve chamber and a 36 ft wide flashboard section.

The dam impounds between 320 and 470 acre-ft of water between elevations 6,394 and 6,397.4 ft amsl. By raising and lowering the level of West Rosebud Lake, this structure re-regulates (attenuates) occasional peaking flow releases (169 cfs maximum) through the powerhouse (used for daily peaking) to around a 71.5 cfs average daily outflow from West Rosebud Lake.

PPL Montana established a new USGS certified flow gage below the Re-regulation Dam (October 2006) with real-time flow data (USGS gage # 06204070) available through the USGS website for use by PPL Montana, resource agencies and the general public.

A.3 Specifications of Appurtenant Facilities

A.3.1 Mystic Lake Dam Access

Tram: Due to the steep terrain occupied by this development, an electric hoist-powered tram was constructed along the penstock. This tram provides motorized access by PPL Montana personnel to the flowline from the powerhouse. The tram consists of a rail-mounted car hauled by a cable and hoist located in a motor house at the top of the penstock on a bench adjacent to the surge tank. The tram is not available for public use.

Railroad: Access for PPL Montana personnel between the dam and the penstock is provided by two locomotives running on a narrow gage railroad track constructed parallel to the flowline.

PPL Montana's Trail to Surge Tank: There is a trail on the same side of the canyon as the tram and flowline that is used by PPL Montana personnel to reach the flowline and Mystic Lake Dam if the tram is not operational. This trail is not regularly used by the public and is maintained by PPL Montana.

Mystic Lake Trail: Public access to Mystic Lake Dam is provided by a nonmotorized trail. This footpath is three miles long and rises 1,100 ft from the powerhouse to the dam as it runs up the side of the canyon opposite the flowline. This trail is regularly used by

the public and is the main access trail to Mystic Lake. However, the trail is not used as the primary access route to Mystic Lake Dam by PPL Montana personnel.

A.3.2 Camp

Due to the remote location of this generating facility, housing is provided for operations and maintenance employees. This housing area (hereinafter referred to as the "PPL Montana Camp") includes four houses of 1920s vintage that have been remodeled on an as-needed basis.

A.4 Plant Capacity

The existing plant (powerhouse) nameplate rating is 11,250 kW (turbine limited) with a total discharge of 169 cubic feet per second (cfs). The nominal maximum generation is 10.5 MW at a discharge of 152 cfs.

The powerhouse contains two Pelton waterwheel turbines, each nameplate rated at 7,500 hp at 300 rpm under a net effective head of 1,050 ft. There are two Westinghouse generators, each with an original nameplate rating of 6,250 kVA at 0.8 power factor, 3 phase, 60 cycle, 300 rpm, and 6,600 volts. In 1979-1980 the generators were rewound to 7,500 kVA.

A.5 Transmission and Distribution Lines

A.5.1 Distribution Lines

There are two distribution lines, one providing power to Mystic Lake Dam and the other providing power to the surge tank area. The distribution line from Mystic Lake Dam to the powerhouse is 9,363 ft long, single-phase, 4,160 volts of fiberglass pole side pin construction. The distribution line from the powerhouse to the surge tank is 2,068 ft long, three-phase, 4,160 volts of fiberglass pole side pin construction.

A.5.2 Primary Transmission Lines

The Project is connected to the NorthWestern Energy's Line Creek switchyard (transmission grid) by two 50 kV lines each of which are approximately 5.38-miles long. The north line is referenced as the "A" line or the Mystic-Columbus Line and consists of 107 poles. The south line is referenced as the "B" line or the Mystic-Red Lodge Line and consists of 112 poles. The right-of-way for the A-line and the B-line is 25 ft each side of the center line. The USFS lands associated with the power line right-of-ways totals 84.84 acres. The permit for the power line right-of-ways was issued to PPL Montana on August 9, 2001.

A.6 Lands of the United States

The Project boundary (673.54 acres) is located entirely within federal lands managed by the Beartooth Ranger District of the CNF.

When the Absaroka-Beartooth Wilderness Area was created in 1978, its boundaries were generally drawn to exclude the Project, which was completed around 1926. Additional information will be needed to determine whether a small area at the head of Mystic Lake and a small area on the southern shore of West Rosebud Lake extends into the Wilderness Area. PPL Montana is working with USFS and FERC to determine the Wilderness Area boundary.

The Project is not located within or adjacent to a river segment that is designated as part of, or under study for inclusion in, the National Wild and Scenic River System. There are no National Wild and Scenic Rivers on the CNF.

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR LICENSE

FOR MAJOR PROJECT - EXISTING DAM

EXHIBIT B – PROJECT OPERATIONS AND UTILIZATION

EXHIBIT B – PROJECT OPERATION AND UTILIZATION

B.1 Project Operations

The existing Project is currently manually operated, however many features of the Project have been automated and are accessible for remote or automated operation from the control room at the powerhouse. As equipment is upgraded with new technology, the powerhouse will become more automated. A communications tie with offsite powerhouse control computers is anticipated in the next five years.

The annual average plant (powerhouse) factor is 62 percent. The powerhouse is operated to meet required minimum stream flow levels and target lake elevations in any given year. Generation levels are increased to hold the reservoir lower in high snowpack years or decreased to fill the lake to within 10 ft (3 m) of maximum pool elevation (7,673.5 ft amsl) from July 10 to September 15 of each year.

B.2 Project Capacity and Generation

The dependable capacity of the powerhouse is derived from a calculated average annual energy production factored by a loading percent (more or less than 100% based on weather pattern of drought or wet year) of the modeled 60-year average flow shown in Table B.2-1 below. Average annual generation is 56,770,000 kWh (kilowatt-hours).

Table B.2-1. A modeled 60-year average generation (MWh = megawatt hours) and flow (cfs) at the Project. (Data based on PPL Montana records.)

Month	Average Generation (MWh)	Average Flow (cfs)
Jan	3,940	72
Feb	3,035	64
Mar	946	25
Apr	1,190	28
May	5,967	122
Jun	6,603	145
Jul	7,570	261
Aug	7,522	169
Sep	5,321	99
Oct	5,431	97
Nov	5,273	99
Dec	3,972	72

B.2.1 Dependable Capacity and Average Annual Generation

The maximum (summer) dependable capacity of the Project is about 10.5 MW at a flow of 152 cfs. The Project generates on average about 56,770,000 kWh of energy annually (based on 60-year modeled average, Table B.2-1).

B.2.1.2 Project Flows

The minimum, mean, and maximum calculated flows (PPL Montana powerhouse records) into Mystic Lake in cubic feet per second (cfs) for years 1931 to 2006 are a minimum of 1 cfs, a mean of 108 cfs, and a maximum of 1940 cfs.

Measurements between 1965 and 2006 were obtained from the USGS gage (#06204050) just downstream of the powerhouse and used to develop a flow duration curve for the Project (Figure B.2-1).

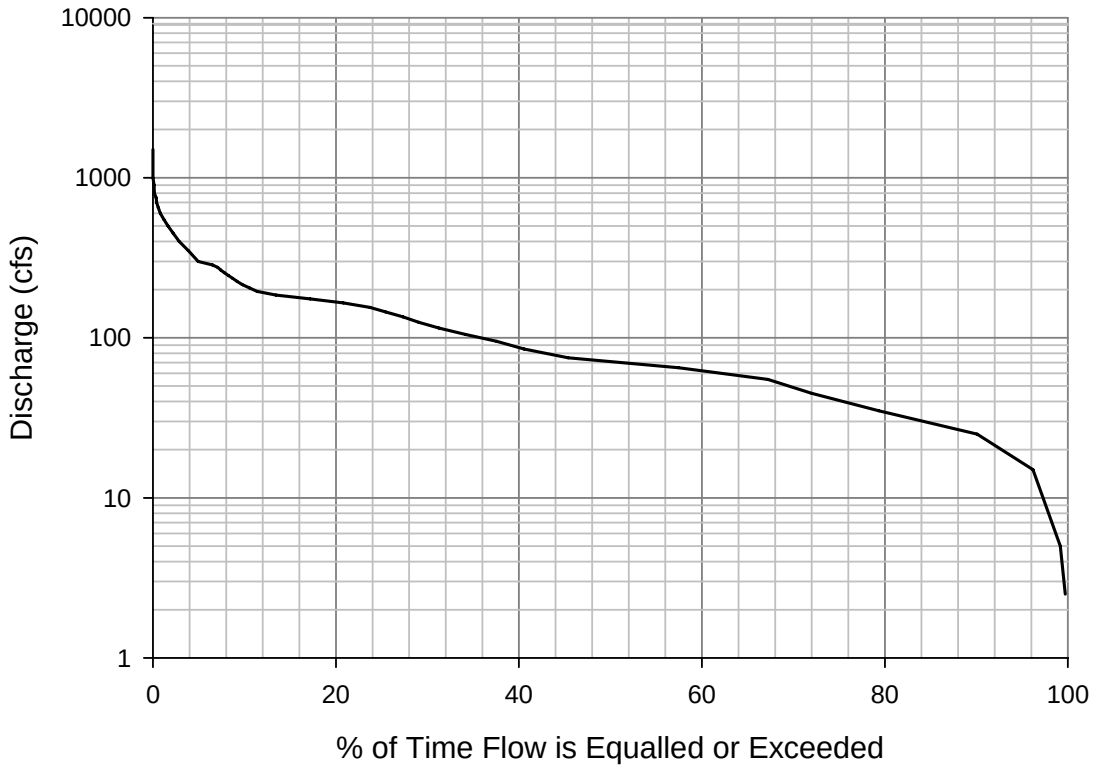

Figure B.2-1. Flow duration curve for West Rosebud Creek (USGS gage #06204050) from 9/1/1965-9/28/2006. Gage is located at the lower weir below the powerhouse.

B.2.1.2 Area Capacity Relationships Mystic Lake

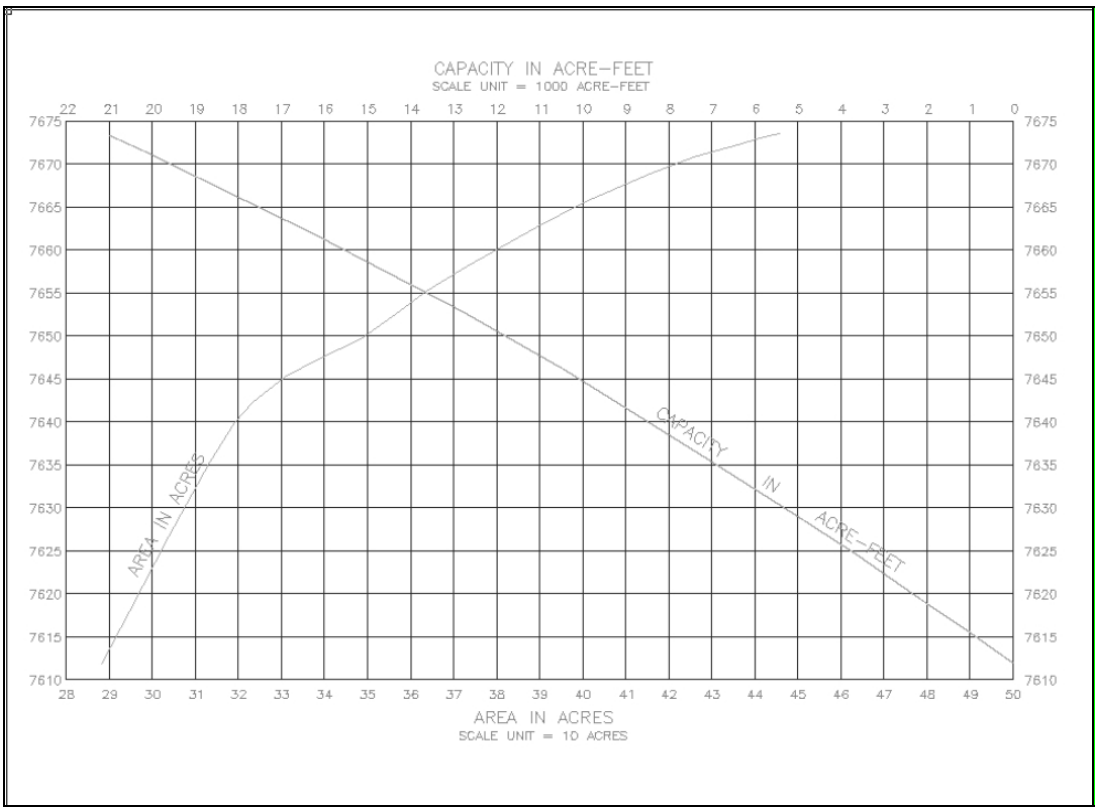

Figure B.2-2. Area-capacity curve for Mystic Lake.

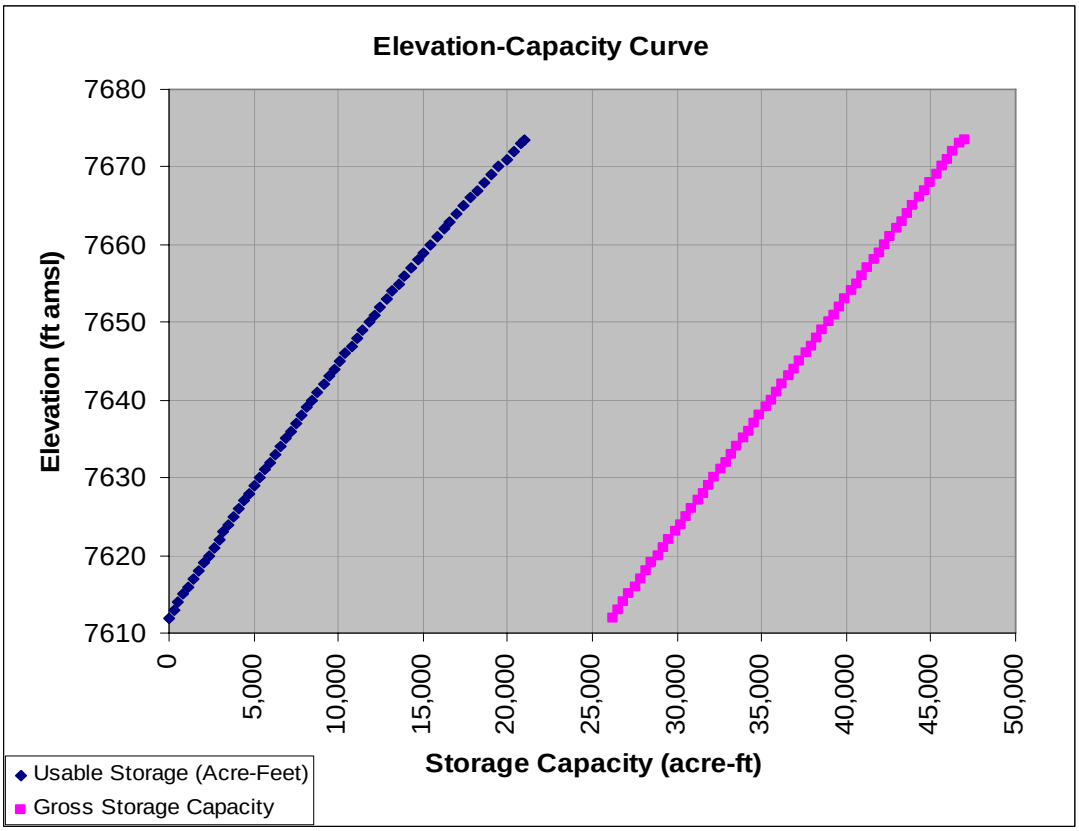

Figure B.2-3. Elevation-capacity curve for Mystic Lake**.**

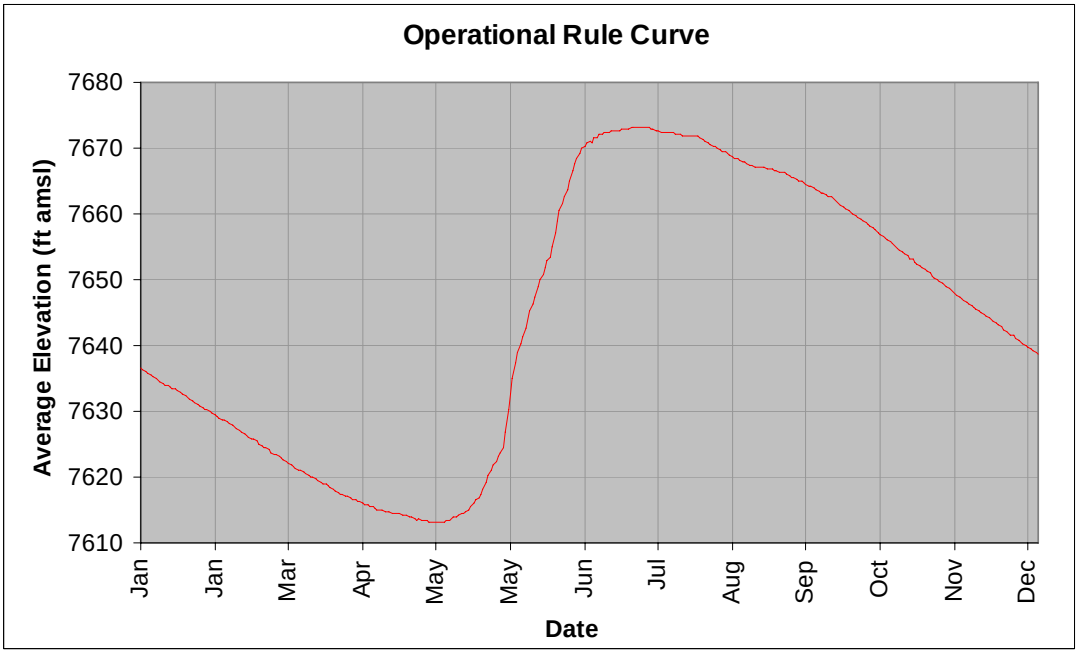

Figure B.2-4. Operational rule curve for Mystic Lake.

B.2.1.3 Area Capacity Relationships West Rosebud Lake

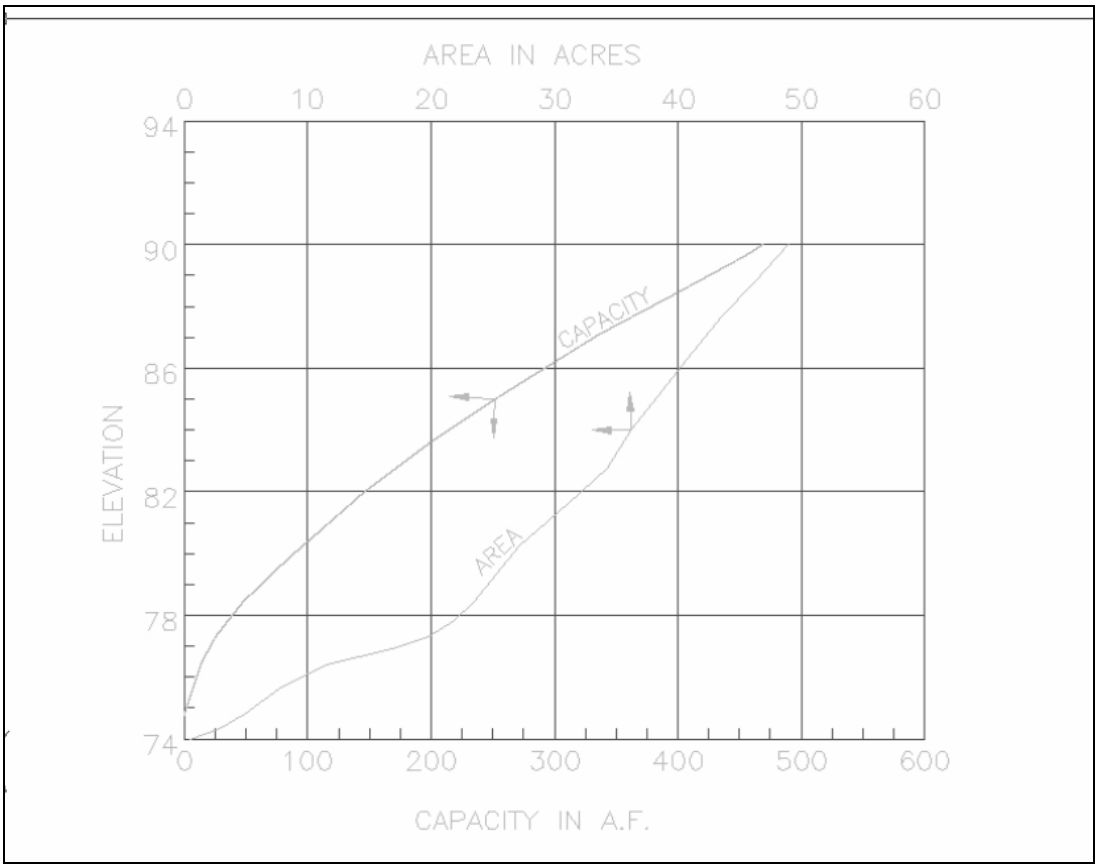

Figure B.2-5. Area-capacity for West Rosebud Lake.

B.2.1.4 Tailwater Curve

The powerhouse discharges out of nozzles at elevation 6,545.0 ft amsl directly into air, so a tailwater curve is not applicable to this Project.

B.2.1.5 Powerhouse (Plant) Capability

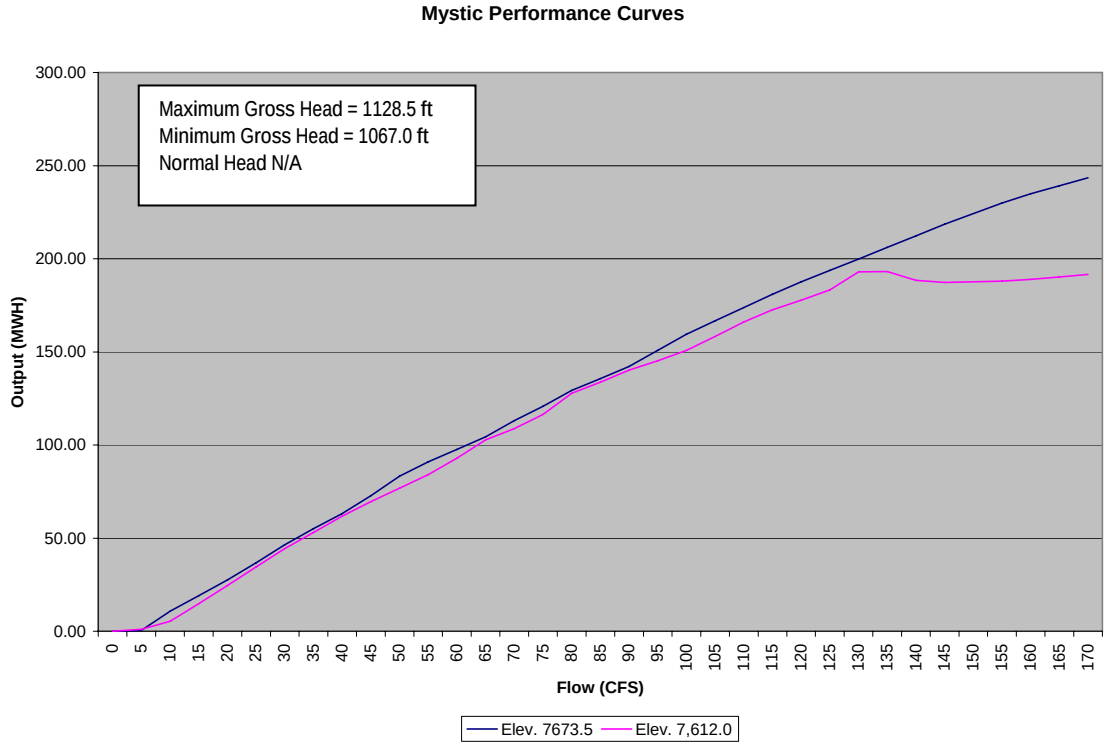

Figure B.2-6. Powerhouse capability curve. The blue line is power output at full pool. The pink line is power output at minimum pool.

B.2.2 Project Output Utilization

The powerhouse provides station electric service to the entire Project and the PPL Montana Camp. However, station loads are minimal and most power produced is transmitted to the electrical grid.

The power produced by the Project is sold to PPL Montana's power marketing agent, PPL Energy Plus. PPL Energy Plus sells the Project output into the wholesale electric power market.

B.2.3 Future Project Development

PPL Montana does not anticipate any operational changes at the Project. The Project will be run as both a base-loaded and a peaking facility depending on electrical demands and water availability.

Replacement of equipment will be on an as-needed basis determined by mechanical condition, safety issues, efficiency, or improvements to the operational control of the current facility.

Current needs for replacing or repairing existing equipment include the headgate and the Pelton wheels. Recently, PPL Montana tested the headgate under a series of loads from a static condition with the needle valves (turbine generators) shut down, to varying increases in loading with the units running. The tests revealed the gate will not fully function under all potential loads. PPL Montana plans to repair the headgate to its original full functionality in 2007.

In recent years, there has been an increase in Pelton wheel bucket cracking and a tremendous increase in the amount of maintenance and welding required on the existing wheels, which are original equipment in the powerhouse. Consequently, there is an increased chance of catastrophic failure of one of these buckets, which has the potential to cause a tremendous amount of damage to the generator and peripheral equipment or PPL Montana personnel working within the powerhouse. As a result, PPL Montana is investigating the feasibility of upgrading the existing generator Pelton wheels with newer ones made of stainless steel. This would be an in-kind replacement of internal turbine equipment housed within the same turbine covers with no visual changes to powerhouse components.

This upgrade, pending final corporate budget approval, may commence as early as 2007 and will not change the hydraulic capacity of, or flow through the powerhouse or otherwise modify present operation of the Project. The replacement Pelton wheels, manufactured in 1973, have four more buckets each with a horsepower (hp) rating of about 8,757 hp at the plant (powerhouse) rated head and flow. PPL Montana anticipates that the more efficient replacement wheels would produce a slightly higher MW output (up to 1 MW each) at the same flow.

PPL Montana is also currently in the process of designing a workable system to accommodate the need for a reliable means of isolating the flowline from the rock tunnel and restoring flow to West Rosebud Creek in the upper bypass channel and below the powerhouse.

PPL Montana filed a 30% design for a new emergency shutoff and flow restoration system (developed by GEI Consultants, Inc.) with FERC on April 1, 2006 that would correct all the limitations described in section A.2.4. The design incorporates a mechanism at the fish valve that will allow timely restoration of flows to the bypass reach in the event a flowline breach or any other event that requires flows through the flowline

to be halted for extended periods. This new valve will be able to release a minimum of 20 cfs under all reservoir operating conditions.

PPL Montana is not proposing to implement any significant modifications to the operational regime or Project structures (other than the new emergency shutoff and flow restoration system) under the new license. Thus, the footprint on the landscape and Project impacts will essentially remain, as they currently exist.

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR LICENSE
FOR MAJOR PROJECT - EXISTING DAM

EXHIBIT C – PROJECT CONSTRUCTION HISTORY

EXHIBIT C – PROJECT CONSTRUCTION HISTORY

C.1 Mystic Lake Hydroelectric Project Construction History

The original Project, constructed between 1920 and 1927, designed by Chas T. Main, consisted of the arch dam and concrete gravity abutments, earthfill dike, intake and conveyance system, and the powerhouse. The Re-regulation Dam was constructed in 1978 and designed by Bechtel Corporation.

A section of the woodstave flowline was ruptured on May 2, 1978 as the result of falling rock from the steep slopes above the flowline. In 1983, this section was replaced with an inverted steel siphon approximately 880 ft long. Between 1978 and 1983, the Project ran by diverting water through a smaller diameter steel flowline located adjacent to the foot bridge above the siphon.

Since 1988, the following remedial measures and modifications have been made:

1988	Replaced the woodstave flowline from the inverted siphon to the surge tank with a 57-inch diameter steel pipe.
1990	Replaced the woodstave flowline from the tunnel to the inverted siphon with a 57-inch diameter steel pipe.
1990-1991	Arch dam stabilization: Installed 10 solid bar post-tensioned anchors at the left abutment of the arch dam to improve stability for the probable maximum flood (PMF)
1991	Earth dike modifications: Armored the downstream face of the earthfill dike with a 6-inch reinforced concrete slab to prevent erosion and reduce the potential for failure from overtopping.
1995	Replaced generator and transformer oil circuit breakers.
1996	Upgraded the control system
2001	Generator step-up transformer replacement

C.2 Proposed Construction Projects

C.2.1 Pelton Wheels

As described in Exhibit B, there has been an increase in Pelton wheel bucket cracking and a tremendous increase in the amount of maintenance and welding required on the existing wheels in recent years. Consequently, there is an increased chance of catastrophic failure of one of these buckets, which has the potential to cause a tremendous amount of damage to the generator and peripheral equipment or PPL Montana personnel working within the powerhouse. As a result, PPL Montana is investigating the feasibility of upgrading the existing generator Pelton wheels with newer ones made of stainless steel. This would be an in-kind replacement of internal turbine equipment housed within the same turbine covers with no visual changes to powerhouse components.

C.2.1.1 Construction Schedule

This upgrade, pending final corporate budget approval, may commence as early as 2007 and will not change the hydraulic capacity of, or flow through the powerhouse or otherwise modify present operation of the Project. The replacement Pelton wheels, manufactured in 1973, have four more buckets, each with a horsepower (hp) rating of about 8,757 hp at the powerhouse rated head and flow. PPL Montana anticipates that the more efficient replacement wheels would produce a slightly higher MW output (up to 1 MW each) at the same flow.

C.2.2 Emergency Shutoff Valve

Currently, the Project is capable of isolating the flowline by only one method, closing the headgate at the extreme uppermost end of the flowline. The existing headgate is located on the northeast shore of Mystic Lake at the entrance to the 1,005 ft rock tunnel. When the flowline headgate is closed, there are two methods available to release water to the stream channel between the dam and the powerhouse: (1) by spills when the reservoir water surface is above the spillway crest, and (2) by an existing small outlet at the base of Mystic Lake Dam.

As currently operated, the flowline structure is the best available means to provide flow augmentation into the bypass channel. The flowline structure contains a single ten-inch diameter, remotely operated globe valve. This valve is capable of delivering the current minimum required flow of 3 cfs under low head conditions from September 1 through May 31 and the required minimum flow of 10 cfs from June 1 through August 31 when the lake is near full pool. In the event that the flowline is breached due to some

mechanical failure, the head gate would need to be closed and the current flow restoration valve would be ineffective at returning flows to the stream. Currently, the flow restoration at the dam is judged to be generally unreliable, a flowline breach would be expected to result in protracted interruptions of flow in and below the bypass channel if natural streamflows (Maxie Creek) downstream of the dam were not sufficient to provide the minimum flow requirements.

C.2.2.1 Construction Schedule

In 2006, a 30% design of a proposed emergency shutoff and restoration system was filed with the Commission, and budgets and plans were developed for 2007-2009. In 2007, the final system design will be completed and a *request for proposal* issued for the work. Due to the extremely short construction season and difficult access to the construction site, 2 years will be needed for installation of the system. The work proposed to be completed in 2008 would include construction of track changes and the new building to house the valve system. Track changes consist of widening the bench and moving the railroad track further out from the flowline to make room for the valve house. Installation of the proposed valves and accessories to ensure flow restoration in the water conveyance systems at Mystic Lake would be completed in 2009.

C.2.3 Enhanced Recreation Facilities

Several protection, mitigation, and enhancement (PM&E) measures are intended to accommodate recreation demand associated with the Project. There are a few construction activities required to complete some of the PM&E measures. For example, PPL Montana proposes to replace the upper footbridge along the Mystic Lake Trail. PPL Montana also proposes to construct a carry-in boat launch and universally accessible trail and fishing pier or platform to better accommodate the diverse needs of anglers at West Rosebud Lake.

C.2.3.1 Construction Schedule

PPL Montana will reconstruct the footbridge to accommodate pedestrians only (4-foot width) within three years of issuance of the Project license. PPL Montana will consult with the USFS in the design of the new footbridge.

Within seven years of issuance of the new license, PPL Montana will develop a universally accessible trail from one of the existing parking areas at West Rosebud Lake to an accessible fishing pier or platform at the lake. PPL Montana will consult with the USFS in the design of the trail and fishing pier. PPL Montana will be responsible for

operation and maintenance of these facilities. The parking area, trail, and pier or fishing platform are proposed for inclusion in the Project boundary.

Within five years of issuance of the new license, PPL Montana will develop a designated launch site at West Rosebud Lake for carry-in boats. PPL Montana will cooperate with the USFS in the design of the launch site. Use of trailerable boats for public access will be prohibited by facility design.

PPL Montana will be responsible for operation and maintenance of the facilities described above. PPL Montana will also file a complete design plan with FERC within one year of the license issuance.

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR LICENSE
FOR MAJOR PROJECT - EXISTING DAM

EXHIBIT D – STATEMENT OF COST AND FINANCING

EXHIBIT D – STATEMENT OF COST AND FINANCING

D.1 Estimate of the Amount Payable if the Project Were to be Taken Over Pursuant to Section 14 of the Federal Power Act

D.1.1 Fair Value

The Applicant estimates that the fair value of the Mystic Lake Hydroelectric Project is at least equal to the amount, which the Applicant paid the Montana Power Company for this Project. That amount, which the Applicant also terms the undepreciated allocated purchase price, was $3,000,000 as of 2000.

D.1.2 Net Investment

The Applicant's investment in the Project shown below is as of September 30, 2006 and does not include re-licensing costs:

Gross [Capitalized] investment (with land)	$5,022,260
Accumulated depreciation	$ 594,645
Construction work in progress	$ 401,687
Net investment (with land)	$4,829,302

D.1.3 Severance Damages

Without knowing the details of any potential federal takeover proposal, the Applicant cannot estimate with any certainty the likely severance damages. Such damages would include all damages that are caused by severance, as authorized by Section 14(a) of the Federal Power Act and determined by the Commission.

D.2 Estimated Costs of New Development

No new power development is being proposed by the Applicant at this time, however, the Applicant will incur capital and operating costs for a variety of proposed operational measures discussed in Exhibits B and C, and non-operational mitigation and enhancement measures discussed in Exhibit E (available in Volume IA).

D.3 Estimated Average Annual Cost of the Total Project

The estimated annual cost of the Project would include regular operation, maintenance, renewals, replacements and repairs to Project structures, annual cost of planned mitigation and enhancement measures, debt service, and administrative costs. Annual direct average costs to operate and maintain the Project including anticipated licensing expenses and proposed mitigation and enhancement measures are projected to be approximately $1,270,000 annually over the next five years. This estimate includes capital as well as other expenditures such as the construction of the new emergency shutoff valve and restoration system.

D.4 Estimated Annual Value of Project Power

Project power is sold in an open and competitive market in response to customer demands. Because of the flux in the energy industry caused by deregulation, it is difficult to project the future value of Project generation with any degree of certainty. Based on recent market data for generation offered in Montana, the Applicant estimates the long-term average value of Project power to be approximately $40 - $50 per megawatt hour. See PPL Montana, LLC et al., Order on Market-Based Rates, Terminating Section 206 Proceeding and Dismissing Rehearing, 115 FERC ¶61,204 (May 18, 2006), at ¶ 59 (rehearing pending). PPL Montana does not propose any changes to the Project that would affect the value of the power.

D.5 Sources and Extent of Financing and Annual Revenues

The Applicant's parent company (PPL Corporation) owns approximately 11,500 MW of generating capacity in the United States and extensive additional revenue producing assets. Any capital financing needed for new developments would come from a combination of sources (debt, common equity, or revenues) depending on the amount of financing, other company financing needs and total company revenues and expenses. PPL Montana estimates that its cost to develop the license application for the Mystic Lake Hydroelectric Project is approximately $1,200,000.

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR LICENSE
FOR MAJOR PROJECT - EXISTING DAM

EXHIBIT E

APPLICANT PREPARED ENVIRONMENTAL ASSESSMENT

EXHIBIT E – ENVIRONMENTAL ASSESSMENT (VOLUME IA - PUBLIC)

Exhibit E is presented in Volume IA (Public).

Exhibit E figures are presented in Volume IIA (NIP).

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR LICENSE
FOR MAJOR PROJECT - EXISTING DAM

EXHIBIT F

DESIGN DRAWINGS AND REPORT

EXHIBIT F – DESIGNS DRAWINGS (VOLUME III - CEII)

Exhibit F is present in Volume III (CEII).

Stakeholders may request CEII drawings directly from the Commission.

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR LICENSE
FOR MAJOR PROJECT - EXISTING DAM

EXHIBIT G – PROJECT MAPS

EXHIBIT G – PROJECT MAPS (VOLUME IIB - NIP)

Exhibit G is presented in Volume IIB (NIP).

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR LICENSE
FOR MAJOR PROJECT - EXISTING DAM

EXHIBIT H

DESCRIPTION OF PROJECT MANAGEMENT AND NEED FOR PROJECT POWER

EXHIBIT H – DESCRIPTION OF PROJECT MANAGEMENT AND NEED FOR PROJECT POWER

H.1 Plans and Ability of the Applicant to Operate and Maintain the Project

PPL Montana, LLC has operated the Project since it was acquired in December 1999. Prior to the acquisition, the MPC owned the Project. PPL Montana has extensive experience in operating hydroelectric dams, operating a total of 11 projects in Montana. Other PPL affiliates operate additional projects in Maine and Pennsylvania.

H.1.1 Plans to Increase Capacity or Generation

The Applicant will realize small increases in generation capacity at the Project as it replaces old aging equipment with new more efficient equipment. These incremental increases in generation capacity are not anticipated to affect the hydraulic capacity of the Project. PPL Montana has studied the potential to increase the energy value of the Project. At this time other than the incremental gains previously mentioned, it appears that there are no significant economic benefits associated with major upgrades that would outweigh the environmental and aesthetic impacts associated with an expansion of capacity.

H.1.2 Plans to Coordinate the Operation of the Project with Other Water Resource Projects

No other diversions or dams exist within the Project area besides Mystic Lake Dam and the Re-regulation Dam. Thus, the Project does not coordinate its operations with any other water resource projects.

H.1.3 Plans to Coordinate the Operation of the Project with Other Electrical Systems

There are no storage reservoirs or hydroelectric generation facilities either upstream or downstream of the Project. PPL Montana operates the Project in coordination with its other generating resources to meet its contractual obligations and otherwise to meet regional needs.

H.2 Discussion of the Need for Project Generation

All of the power produced by the Project is sold to PPL Montana's power marketing subsidiary, PPL Energy Plus, LLC. PPL Energy Plus sells the Project output into the wholesale and retail electric power market. PPL Montana believes that alternative sources of power are available to meet regional needs at a cost of approximately $40 - $50 per megawatt hour based on information regarding bids received to supply the regional market. See PPL Montana, LLC et al., Order on Market-Based Rates, Terminating Section 206 Proceeding and Dismissing Rehearing, 115 FERC ¶61,204 (May 18, 2006), at ¶ 59 (rehearing pending). PPL Montana LLC has no retail customers.

H.3 Alternative Sources of Power

This section does not generally apply to the Project because PPL Montana LLC does not have any retail customers. If a new license were not issued, wholesale customers in the region would need to procure the annual equivalent capacity and energy from a source other than the Project. The cost and availability of such alternative power will be determined by suppliers. Because of the competitive market condition, buyers would obtain their needed power from the most attractive available source. Therefore, it is difficult for the Applicant to speculate about the cost of such alternative sources of power. For the reasons discussed by the Commission, however, in its recent order on PPL Montana's market-based rate authority, PPL Montana believes alternative sources are available at a cost of approximately $40 - $50 per megawatt hour. *See PPL Montana, LLC et al.*, Order on Market-Based Rates, Terminating Section 206 Proceeding and Dismissing Rehearing, 115 FERC ¶61,204 (May 18, 2006), at ¶ 59 (*rehearing pending).*

H.4 Effect of Losing Electricity from the Project on Applicant's Own Industrial Needs

Not applicable. PPL Montana does not use Project power to meet its own industrial needs. All of the power generated at the Project is marketed by PPL Energy Plus, LLC.

H.5 If Applicant is an Indian Tribe, a Statement of the Need for Electricity

Not applicable.

H.6 Impact of Not Receiving a License on Applicant's Transmission System

The Project includes two 50 kV transmission lines, approximately 5.38-miles in length running between the powerhouse and the Line Creek Substation, which is an element of the NorthWestern Energy transmission system. Denial of a license for the transmission system associated with the hydropower generation would render these two transmission lines useless to PPL Montana and unable to connect the generation to the transmission grid.

H.7 Statement of Need and Conformance with Comprehensive Plans

Section 10(a)(2) of the Federal Power Act requires the Applicant to review applicable federal and state comprehensive plans, and to consider the extent to which a project is consistent with the federal or state plans for improving, developing, or conserving a waterway or waterways affected by a project.

For a complete list of comprehensive plans, refer to Exhibit E, section E.9. Based on a review of the comprehensive plans listed in Exhibit E, section E.9, historical Project operations and the proposed operation of the Project, including all proposed protection, mitigation and enhancement measures, would be consistent with the comprehensive plans.

H.8 Financial and Personnel Resources to Meet Obligations under a New License

H.8.1 Financial Resources

The Applicant's principal interests are to operate the Project in a safe and reliable manner, and to keep the Project economically viable and competitive in the regional power market. Funds for operation, maintenance and necessary capital improvements are budgeted consistent with the highest industry standards. The Applicant's ultimate parent, PPL Corporation, owns approximately 11,500 MW of generating capacity and other assets through various subsidiaries. Any capital financing needed for operations, maintenance and capital improvements at the Project would come from a combination of sources (debt, common equity, or revenues) depending on the amount of financing, other financing needs of PPL Montana and total revenues and expenses of PPL Montana.

H.8.2 Personnel Resources

PPL Montana employees are responsible for the operation and maintenance of the Project and for ensuring compliance with license obligations under a new license.

The Applicant relies on an intensive inspection program and uses a combination of "in-house" and contract construction and maintenance personnel to ensure that the Project is maintained and operated in accordance with the conditions of its license to provide a dependable source of generation, and to ensure that the Project lands and waters provide a safe and enjoyable recreation experience.

The Applicant has direct access to highly trained and experienced hydropower staff that is adequate in both number and training to ensure that the Applicant fully meets its licensing obligations.

Day to day operation and maintenance of the Project is the responsibility of PPL Montana's Operations & Maintenance Services group. Three field services personnel have day-to-day work responsibility for the inspection of Project works and Project operation and maintenance. Compliance with license terms and conditions is the responsibility of the Director of Hydro Licensing & Compliance. Support staff includes an engineering department, a license compliance department, and a safety department. PPL Generation LLC's Business Services group provides administrative and financial support. In addition, service groups such as Information Services, are provided by PPL Corporation. In general, construction manpower is provided by contractors employed by the Applicant.

H.9 Expansion of Project Lands and Notification of Affected Landowners and Agencies

PPL Montana proposes only minor expansions to the Project boundary most of which are to include the distribution line from Mystic Lake Dam to the powerhouse, the trailhead for the Mystic Lake Trail, an area of uplands around West Rosebud Lake in which to locate a day-use public recreation site, the underground service line to the Re-regulation Dam, and the two transmission lines. All of the expansion would occur on Federal lands managed by the CNF. PPL Montana has notified the CNF of the proposed expansion, and has also notified all other governmental agencies likely to be interested in or affected by the proposed expansion through the distribution to them of the PLP (June 1, 2006).

H.10 Electricity Consumption Efficiency Improvement Program

Power is sold in an open and competitive market in response to consumer demands. PPL Montana has no direct opportunity or obligation under state law, to influence electricity consumption in its market. PPL Montana strives routinely to minimize electrical usage at the Project powerhouse and recreation facilities to improve performance. PPL Montana's affiliate, PPL Energy Services, offers energy efficiency services such as audits, conservation, consulting, performance contracting and project financing for energy conservation measures. For more information, see their website at http://www.pplenergyplus.com/energy+services/energy+demand+reduction/.

H.11 Tribal Lands

The Project includes no tribal lands. PPL Montana and FERC have conducted consultations with the Eastern Shoshone, Crow, Shoshone-Bannock, Northern Arapaho, and Northern Cheyenne tribes throughout the pre-application period on potential cultural resource issues at the Project. This consultation is detailed in application prepared environmental analysis (Volume IIA – Exhibit E in section E.4.1.4).

H.12 Measures to Ensure Safe Management, Operation and Maintenance of the Project

As a FERC licensee, PPL Montana participates in and complies with rigorous dam safety, operations & maintenance, and emergency preparedness programs. These programs include, but are not limited to Part 12 Independent Consultant Inspections of the Project, annual FERC Operations Inspections, Public Safety Plans, Emergency Action Plan (EAP) activities, and instrumentation and monitoring programs. In addition, PPL Montana complies with or has in place Environmental Audit Programs, Spill Prevention, Control & Control Measures (SPCC) Plans, Waste Management Plans, Business Continuity Plans, OSHA regulation, NERC regulation, and an Asset Management Program.

In addition to PPL Montana staff with responsibility to support the above activities, PPL Montana employs various consultants to supplement its workforce in meeting the compliance requirements.

H.12.1 Operation During Flood Conditions

Through its subsidiary PPL Energy Plus, PPL Montana employs two full-time resource coordinators. One of the primary responsibilities of the resource coordinators is to analyze flow data, weather forecasts, and snow pack conditions to manage the hydro

resources. In the event of flood conditions, PPL Montana does all it can to manage reservoir operations to minimize flood impacts downstream of the Project.

In the event that downstream flooding is unavoidable, PPL Montana would activate the appropriate section of the EAP to notify appropriate plan holders of the situation at hand. Upkeep of the EAP is supported by a full time consultant. The EAP is reviewed, revised, practiced and submitted to the FERC and other plan holders annually.

H.12.2 Warning Devices

The Project is manned during working hours seven days a week. Powerhouse operators live at the PPL Montana Camp and the operator on duty is required to be within 10 minutes of the Project at all times. All camp houses (PPL Montana Camp) are equipped with powerhouse alarms and the operator on duty is required to have his house alarm activated.

A dam failure alarm is installed at Mystic Lake, which will alarm in the powerhouse and PPL Montana Camp houses if the pond elevation drops 0.4 feet in ten minutes. A high flow condition at the powerhouse weir will trigger an alarm if the flow exceeds 500 cfs. The Re-regulation Dam high water alarm activates at a lake elevation of 6,398.7 ft amsl.

H.12.3 Operational Changes That Might Affect Emergency Action Plan

No operational changes are proposed or anticipated that might affect the existing EAP on file with the Commission. Per 18 CFR 12.20(b)(2) the EAP is designed to provide early warning to downstream residents, and other persons in the vicinity of the Project who might be affected by a Project emergency. The EAP is, and will continue to be reviewed annually, with respect to conditions both upstream and downstream of the Project that may necessitate changes in the plan. The plan relies on the early notification of emergency response officials who have responsibility for public notification and evacuation. The Applicant will continue to work in coordination with these officials to ensure that the plan is responsive to any change in uses or conditions below or in the vicinity of the Project.

H.12.4 Monitoring Devices and Inspection Programs

H.12.4.1 Operators' Surveillance Program

Typical inspection activities include visual observations of the dam condition and evidence for settlement, movement, erosion, seepage, leakage, wet areas and seeps, rock falls, and deterioration. The observations may include items such as conditions of various sections of the dam, and the location and extent of seepage areas. Powerhouse operations

staff make these observations during their periodic inspections and report all abnormalities to the engineering department.

The intake, arch dam and spillway, earth dike, flowline and penstock are inspected formally on an annual basis. Informal inspections of these features occur during routine maintenance and operation of the Project. Powerhouse equipment is inspected on a daily basis.

H.12.4.2 Active Instrumentation & Monitoring

Active instrumentation and surveillance for the Project is outlined in Table H.12-1.

Table H.12-1. Active Instrumentation & Monitoring.

Type of Monitoring	Description	Frequency of Measurement
7 survey monuments on crest of arch dam & earth dike	3 survey monuments located along the arch crest 4 survey monuments located on the crest of the earth dike	Annually (Aug or Sep) since 1985 for arch dam and 1970 for earth dike
2 crack monitoring locations	Located on left abutment of arch dam	Annually 1982-1998, then reduced to 5 year
Seepage through earth dike	Drains at toe of earth dike, and around left and right abutments	Annually since 1989
Leakage through left abutment	Left non-overflow section of dam	Annually since 1989, reporting discontinued after 1994 (no activity)
Maxie Creek photographic monitoring	Maxie Creek slide area – Siphon Bailey Bridge Support	Annually since 1987
Flowline and Penstock Inspection	At locations along flowline and penstock	Annual visual inspections since 1995, thickness measurements every 5 yrs
Arch Dam photographic survey to monitor concrete deterioration	Upstream face of dam	Since 1975 at 5-year intervals
Arch Dam flashboard monitoring to evaluate the upstream and downstream stanchions	Flashboard/walkway structure of arch dam	Annually photographed since 1996

Type of Monitoring	Description	Frequency of Measurement
Visual monitoring of steel fence posts placed in scarp near the train track tunnel	Upstream of the train track tunnel located downstream of the Maxie Creek slide	Annually since 1995

H.12.5 Employee and Public Safety Record

The Project holds the longest record of all of PPL Montana's hydro plants regarding days since a lost time accident. The last lost time accident at the Project was August 12, 1988 and the last recordable accident was January 8, 2003. From an accident perspective, the Project's achievement is highly regarded given the remoteness of the Project and having to manually do many functions that would or could be done with mechanical type equipment at other locations.

PPL Montana believes in World Class Safety Performance and has demonstrated this commitment by achieving OSHA Voluntary Protection Program (VPP) Star at two locations. The complement of safety programs and procedures at the two VPP sites are the same programs and procedures followed at the Project. PPL as a whole has 15 OSHA VPP Star sites. Additional safety activities include participation by Project employees on the Hydro Safety Committee, a Behavior Safety Program, completing OSHA required annual training, safety hour participation award program, and conducting internal safety audits at regular intervals.

In as much as the entire Project is within USFS lands, PPL Montana has not kept formal records of public safety incidents at the Project. If a death occurs within the Project boundary, PPL Montana reports the incident to FERC as required. To the best of the Applicant's knowledge, there have been very few public safety incidents within the Project boundary.

H.13 Description of the Current Operations of the Project and Constraints that Might Affect Project Operation

The Project has been operated within the constraints of the existing license requirements. Details on Project operation are included in Exhibit B. The existing license requirements regarding lake levels and minimum flows sometimes constrain Project operations, but the Project has operated continuously within those constraints and will continue to do so.

H.14 Discussion of Project History and Record of Programs to Upgrade Operations and Maintenance

A discussion of the history of the Project and programs to upgrade the operation and maintenance of the Project are detailed below as appropriate and included throughout other Exhibits of this document as noted.

H.14.1 Project History

A detailed Project history is provided in Exhibit A. The Project construction history is provided in Exhibit C.

H.14.2 Programs to Upgrade the Operation and Maintenance of the Project

The Project has been continually maintained, repaired, and rehabilitated since its original construction to provide reliable service. PPL Montana has an active and evolving Asset Management Program, which identifies and prioritizes equipment maintenance and reliability concerns both at a plant and system wide level. In addition, PPL Montana recently created a new position titled Manager of Equipment Reliability. This position was created to ensure focus and direction is maintained in the Asset Management Program.

Select special improvements as currently included in PPL Montana's 6-year budget for the Project are listed in Table H.14-1 below. This plan continually is subject to change due to reprioritization and budget constraints.

Table H.14-1. Mystic Special Projects 6-year Plan.

Project Description	2007	2008	2009	2010	2011	2012
Flow Restoration at Fish Valve Design & RFP	X					
Flow Restoration & Fish Valve Construction		X	X			
Mystic Turbine & Nozzle Upgrade Unit #1	X	X				
Mystic Turbine & Nozzle Upgrade Unit #2					X	X
Remote Control by Satellite Ethernet	X					
Replace Inverters	X					
Reconductor Distribution Line		X				
Flashboards on Dam		X				

H.14.3 Summary of Generation Lost at the Project Due to Unscheduled Outages

A summary of generation lost at the Project over the last five years because of unscheduled outages can be found in Table H.14-2.

Table H.14-2. Summary of lost generation due to forced outages between October 2001 and September 2006. MWhrs = megawatt hours

Date	Duration (hours)	Generation Lost (MWhrs)	Cause	Action
8/1/2006	65	178	Penstock Expansion Joint Packing	Replaced Packing
8/10/2004	159	444	Penstock Expansion Joint Packing	Replaced Packing
12/1/2001	2	6	High Winds Caused Line Trouble	None

H.15 Applicant's Record of Compliance with the Terms and Conditions of License

There have been very few incidents of non-compliance with the terms and conditions of the license at the Project. These incidences of non-compliance include minimum bypass flow requirements prior to PPL Montana ownership (July 1999) of the Project, and the maintenance of the minimum Mystic Lake recreational pool elevation (7,663.5 ft amsl) during severe drought in 2001. The following text summarizes the compliance history from 1979 through 2002.

H.15.1 Bypass Channel Minimum Flow Compliance

The compliance history for maintaining minimum flows in the bypass channel was analyzed during a 24-year period from 1979 through 2002. The bypass channel, between the powerhouse and Mystic Lake Dam, has varying minimum flow requirements through the year. For the winter months, September through May, the minimum flow requirement is 3 cfs. For the summer months, June through August, the minimum required stream flow is 10 cfs.

A total of 8,766 daily flow measurements were recorded of the bypass channel from 1979 through 2002. The measurements taken during the months of September through May comprise 6,556 of the 8,766 total (75%) measurements taken. During the winter months, a total of 150 incidents (2.3% of 6,556 flow measurements) were identified in the data set when the bypass channel flow was less than the minimum required value of 3 cfs. The majority of these incidents were clustered between January and May of 1989 and 1990 (Table H.15-1, which shows a weekly average). There were no flow excursions documented between September and December for the entire 24-year period. Additionally, there have been no flow excursions since PPL Montana acquired Project ownership.

Table H.15-1. Table showing weekly average bypass flows for each year of the analysis over the intervals from January through May. Flow exceedences are shown in red.

Bypass Channel Compliance History; January - May

Bypass Flow at Upper Weir, January - May; 3 CFS Minimum Flow Requirement																					
	1/1	1/8	1/15	1/22	1/29	2/5	2/12	2/29	2/26	3/4	3/11	3/18	3/25	4/1	4/8	4/15	4/22	4/29	5/6	5/13	5/20	5/27
year																						
1979	30.00	30.00	30.00	30.00	30.00	30.00	24.50	18.00	10.50	8.00	8.00	8.00	6.00	6.00	5.00	8.17	7.86	8.14	8.00	9.29	17.57	23.57
1980	8.00	8.00	6.17	5.00	5.00	5.00	5.33	5.00	5.00	5.00	5.00	5.00	5.00	5.00	6.14	8.86	16.71	17.14	20.43	19.86	29.86	25.43
1981	12.00	11.00	9.67	10.75	11.50	7.50	5.25	7.00	6.50	6.33	5.80	3.50	3.25	3.33	3.00	3.60	6.29	7.57	9.00	12.43	31.71	37.29
1982	6.00	7.00	7.00	6.67	7.00	7.00	5.80	5.83	6.80	6.40	6.33	6.67	5.83	5.80	6.67	7.67	8.00	10.83	17.17	9.80	15.57	20.57
1983		7.17	6.50	6.50	6.17	6.00	6.00	5.50	5.20	5.00	5.17	6.00	6.00	5.00	5.00	5.00	8.43	9.33	7.57	8.00	8.71	19.71
1984	8.33	10.17	9.67	9.80	8.17	8.00	7.17	7.00	6.60	6.33	5.50	5.67	6.00	5.17	7.00	15.00	12.00	10.57	19.00	28.67	26.00	25.00
1985	3.55	3.86	4.00	3.00	3.29	3.14	4.00	4.00	4.00	3.86	3.00	3.00	3.17	5.00	7.29	4.43	6.29	7.43	7.29	9.29	11.67	13.43
1986	4.00	4.00	3.29	3.43	3.14	3.14	3.14	3.43	4.71	3.71	4.17	3.00	5.33	5.83	6.00	5.00	6.14	5.71	7.14	6.14	9.00	17.43
1987	7.00	5.00	5.14	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.57	7.14	12.00	11.14	13.57	14.86	21.00
1988	6.00	5.36	5.00	5.00	6.00	4.71	3.83	4.00	4.00	4.00	4.00	4.00	4.00	4.57	6.57	7.71	7.00	8.86	23.14	21.29	39.71	81.43
1989	4.00	4.00	3.29	2.67	2.23	2.23	2.23	2.23	2.23	3.01	2.47	2.28	2.61	2.45	3.44	10.15	7.29	6.14	19.43	14.86	13.14	13.14
1990	4.17	3.26	2.38	3.70	2.84	2.38	2.28	2.19	1.69	1.82	1.87	1.97	1.87	2.61	2.97	5.84	6.88	4.42	7.38	8.57	10.20	18.59
1991	8.60	9.00	9.00	8.43	7.29	7.00	7.00	7.00	7.00	6.57	6.00	6.00	6.86	7.86	7.00	8.29	7.14	16.14	21.86	40.00	27.43	39.71
1992	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.14	5.71	6.71	10.86	7.14	6.14	11.00	12.00	14.14	73.43
1993	11.00	9.40	7.00	6.83	6.00	7.00	7.00	7.00	7.00	6.71	6.00	6.00	6.14	6.14	6.00	6.00	6.43	7.14	13.86	11.71	20.57	19.57
1994	7.00	7.00	7.00	7.00	7.43	7.43	6.29	6.00	7.14	6.14	6.00	5.57	6.00	6.00	6.00	6.00	9.00	6.43	6.00	15.71	13.71	14.57
1995	5.00	5.57	5.14	4.86	5.86	5.86	5.14	5.57	5.00	5.43	6.14	6.00	5.43	5.86	5.86	6.00	6.71	7.86	13.29	14.57	12.29	15.43
1996	4.83	4.86	4.50	4.00	4.00	4.00	7.00	7.40	6.86	5.83	6.14	6.00	6.00	6.86	13.14	9.57	11.14	9.14	8.86	29.71	18.43	17.00
1997	10.25	5.57	4.43	4.33	4.60	4.43	4.17	4.00	4.00	4.00	4.00	5.00	5.33	4.57	3.67	4.00	8.29	8.43	10.71	18.57	23.57	22.86
1998	7.00	7.86	7.57	6.14	6.57	6.57	5.71	6.43	5.57	5.14	5.14	5.00	5.29	5.43	5.14	5.00	6.14	7.50	9.00	6.86	7.00	8.43
1999	6.00	5.00	5.00	5.00	5.00	5.14	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.86	3.86	4.80	5.71	9.14	7.57	5.29	6.86	20.29
2000	5.00	4.57	4.14	4.71	5.14	5.00	5.00	5.00	5.00	5.57	5.14	5.14	6.43	6.00	5.86	6.00	5.57	4.43	6.14	5.29	6.71	14.86
2001	3.00	3.00	3.14	3.00	3.00	3.00	3.00	3.00	3.71	4.00	3.71	4.00	3.57	3.14	3.86	3.57	4.57	4.43	3.29	9.29	6.57	9.57
2002	4.00	4.00	4.00	4.00	4.00	3.86	4.86	4.14	4.00	4.00	4.00	4.00	4.00	4.00	4.14	5.14	4.00	4.00	4.00	6.86	16.00	24.14

During the summer months, June through August, the minimum bypass channel flow requirement is 10 cfs. Analysis between 1979 and 2002 was also performed to determine the number of days when the minimum flow was below this amount. Flow was measured at the upper weir immediately upstream of the powerhouse turbine discharge. A total of 2,210 daily measurements were made during the summer months. Of these, a total of 28 individual records (1.3%) were lower than the 10 cfs minimum flow. Table H.15-2 shows the compliance history (10 cfs minimum) displayed as a weekly average. It is noted that 1991 was the first summer operation season following the completion of the new flowline. It is possible that changes in the operational characteristics of the system may have caused changes in the methods or traditional settings needed to provide adequate flows.

Table H.15-2. Compliance history displayed as weekly averages of the daily measurements for the summer months (June-August) from 1979-2002 when the bypass channel flow requirement is 10cfs. Flow exeedences are shown in blue.

Bypass Channel Compliance History; June - August

Bypass Flow at Upper Weir, June - August; 10 CFS Minimum Flow Requirement													
	6/3	6/10	6/17	6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26
year													
1979	21.71	26.29	32.00	34.86	215.14	125.86	64.57	61.71	64.00	53.57	45.86	55.71	31.57
1980	19.71	26.00	34.43	223.57	274.14	329.86	152.14	104.29	83.86	45.57	28.57	25.00	23.00
1981	37.86	37.43	22.57	227.14	406.29	306.14	150.57	88.57	53.86	26.86	51.00	25.86	20.57
1982	13.29	14.57	30.14	41.29	120.57	190.86	309.29	273.57	295.00	119.86	80.00	57.71	53.71
1983	24.57	26.57	25.14	24.14	30.14	71.57	504.43	123.29	170.71	166.29	130.00	54.86	42.29
1984	18.71	22.29	32.57	50.71	279.14	395.29	246.43	310.43	163.00	65.86	25.14	23.71	23.29
1985	15.14	15.00	15.17	17.00	17.00	13.57	12.67	15.29	16.86	12.43	14.86	15.00	15.00
1986	35.29	32.86	39.71	217.14	231.71	89.00	98.00	79.57	84.43	33.00	20.14	20.00	22.57
1987	21.00	24.43	22.14	17.43	15.00	14.43	16.00	18.00	21.57	19.86	16.86	14.29	26.14
1988	138.14	381.71	491.14	325.29	170.71	147.29	128.86	112.86	102.00	93.14	87.00	84.14	58.43
1989	24.57	31.00	33.43	162.86	366.71	345.57	126.86	157.29	76.43	25.86	17.29	13.86	12.14
1990	20.30	21.67	21.76	32.34	615.14	385.00	307.71	164.14	172.57	162.57	157.90	204.41	132.86
1991	47.57	163.43	223.57	242.71	279.00	171.57	48.00	35.57	17.57	11.86	**8.33**	**6.43**	**5.00**
1992	76.86	82.29	302.00	542.14	401.71	207.71	116.53	125.29	97.43	50.14	23.57	15.86	**9.57**
1993	19.57	25.43	21.71	25.69	23.14	19.57	16.43	20.00	99.71	117.86	122.86	33.86	23.86
1994	19.57	15.57	18.29	17.14	15.43	21.43	46.86	23.57	20.00	17.86	13.29	12.14	12.43
1995	33.71	42.14	35.00	35.43	169.71	598.29	291.93	248.14	122.00	46.43	23.57	15.57	13.14
1996	28.43	48.61	367.29	432.39	574.56	389.29	230.03	176.34	135.57	43.29	18.57	17.86	12.29
1997	36.43	103.86	517.71	298.29	265.57	349.86	225.57	281.71	257.29	136.29	79.57	134.29	93.86
1998	11.14	11.29	18.57	22.71	26.29	346.43	346.14	192.86	192.86	118.29	59.43	30.00	19.71
1999	21.86	21.43	29.57	102.10	197.86	218.14	249.71	155.14	91.14	69.00	44.14	40.14	18.43
2000	21.00	20.86	19.43	18.43	21.57	73.14	157.29	84.86	31.00	24.29	20.00	11.43	11.14
2001	11.43	16.71	18.86	78.43	159.43	120.57	49.57	14.86	11.86	11.86	11.71	12.00	11.86
2002	32.57	21.29	136.71	400.43	295.43	170.71	124.29	113.86	38.57	19.71	14.29	10.71	11.57

H.15.2 Re-regulation Dam Minimum Flow Compliance

Minimum flow requirements dictate that a minimum of 20 cfs is continuously discharged below the Re-regulation Dam except when natural inflow is less than 20 cfs or when maintenance of facilities prevents such a release. To the knowledge of the Applicant, there have been no incidences of non-compliance regarding the minimum flow requirement below the Re-regulation Dam.

H.15.3 Reservoir Pool Elevation Compliance

Current license requirements for the Mystic Lake pool elevation require the Project attain a recreational pool elevation by July 10 of each year. The recreational pool elevation is defined to be that level that is within 10 ft of the full pool elevation of 7,673.5 ft amsl. Pool elevation levels therefore, must reach at least 7,663.5 ft amsl by July 10 of each calendar year and must remain at or above this level until September 15. Compliance in reaching recreational pool elevations by July 10 of each year was 100 percent over the 24-year period of record examined during this analysis.

The second component of the regulation for the recreational pool elevation is to maintain the pool level until September 15 of each year. In 2000, a year of extreme drought, the requirement to hold pool elevations above the minimum required level of 7,663.5 ft amsl was not met during the last eight days of the recreation level requirement period. In all other years the requirements was fully met.

H.16 Actions Taken by Existing Applicant that Affect the Public

It is anticipated that any actions taken by PPL Montana related to the Project will not adversely affect the public. Proposed enhancement of recreation facilities, as described in Exhibit C (section C.2.3) and Exhibit E (section E.5.3.7), will improve public recreation opportunities within the Project boundary.

H.17 Reduced Ownership and Operating Expenses if the Project License were Transferred

Annual ownership and operating expenses are provided in Exhibit D. PPL Montana continuously reviews annual operating expenses to ensure that the Project is safely operated and remains competitive within the western markets. PPL Montana has no reason to believe that these costs could be reduced or eliminated if the operating license were transferred to another party.

H.18 Annual Fees Paid Under Part I of the Federal Power Act for Use of Federal or Indian Lands

The Project is entirely located on USFS lands in Stillwater and Carbon counties, Montana. PPL Montana pays annual charges pursuant to Section 10(e)(i) of the Federal Power Act for the use of these lands. The Project does not occupy any Indian lands.