MYSTIC RELICENSING MEETING
OCTOBER 21, 2003
BILLINGS SHERATON HOTEL

The purpose of today's public meeting was to openly discuss 1) resource goals for the Mystic Project area, 2) possible resource impact study needs, 3) anticipated Project impacts to resources, 4) anticipated PM&E for Mystic Project resources and 5) determine a next meeting date and agenda for the group. The discussions presented below are a work in progress and do not reflect formal decisions made by PPLM or any agency or public group.

Persons Attending:

Frank Pickett	PPL Montana, Butte	fjpickett@pplweb.com
Jerry Bird	USFS, Salt Lake City	jkbird@fs.fed.us
Chris Levine	MDEQ, Helena	clevine@state.mt.us
John Lane	USFS, Billings	jrlane@fs.fed.us
Doug Foss	GEI Consultants, Inc.	dfoss@geiconsultants.com
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Tyler Haddix	GEI Consultants, Inc.	thaddix@geiconsultants.com

GOAL STATEMENT:

1) **Maintain water quality, and minimize impacts to all beneficial uses.**
2) **To achieve a list of 401 certificate conditions.**

The group discussed the work that has been done in the recent past to characterize water quality resources:

Mystic Lake:

- Zooplankton sampling (density, species composition)
- Chlorophyll *a* (discrete depth analysis)
- Temperature and dissolved oxygen profiles
- Secchi depth
- Conductivity
- Bathometric map
- Phytoplankton (species composition)
- Nutrient analysis (done a few years ago)

West Rosebud and Emerald Lakes:

- Zooplankton sampling (density, species composition)
- Chlorophyll *a*
- Secchi depth
- Conductivity
- Temperature and dissolved oxygen profiles
- Bathometric map

Total dissolved gas (TDG) study:

- Done in 2003
- Measured TDG at eight locations listed below:
  1. Above Powerhouse (30 feet above Upper Weir)
  2. Between Weirs Left (20 feet above Lower Weir and below Powerhouse discharge)
  3. Between Weirs Right (20 feet above Lower Weir and below Powerhouse discharge)
  4. Below Lower Weir (300 yds. below Lower Weir)
  5. Above Regulation Dam (25 feet above Dam)
  6. Below Regulation Dam (75 feet below)
  7. Below Regulation Dam #2 (45 feet below)
  8. Below Emerald Lake (.4 miles below lake outlet)

The issues noted for Mystic Lake project:

- Bypass reach, flow is a concern (effect on aquatic life, bugs, fishes, temperature, and dissolved oxygen)
- Possible PCB's in system (below powerhouse) from old wood stave penstock (creosote)
- Possible heavy metals in system (below powerhouse), due to water flowing through penstock, if present they could pose a problem (due to the soft water characteristics)
- Temperature for spawning fish above and below powerhouse (mimic natural temperature variation)
- Plans for oil spills and other hazardous materials for project facilities
- Penstock Flow Restoration Plan (if penstock breaks, are there any plans to restore flow in a timely manner to accommodate aquatic life in West Rosebud Creek?

Potential future studies and needs:

Continue documenting the resource (next year):

- Chlorophyll *a* (Mystic Lake)
- Nutrients (Mystic Lake and below powerhouse)
- Conductivity
- Zooplankton
- Secchi Depth
- Temperature and dissolved oxygen profiles

Studies to evaluate concerns (within next couple years):

- Metals sampling (Iron, Sodium, Calcium, Magnesium, Lead, Zinc, Copper, Chromium (?), and standard hardness (bicarbonates and sulfates))
    - Five locations 1) Mystic Lake at intake depth
      2) Bypass Reach (upper weir)
      3) Powerhouse (water out of penstock)
      4) Mixed sample (bypass and powerhouse water) below powerhouse
      5) Re-regulation dam
    - Two samples should be taken on the rising hydrograph, one on the descending hydrograph, and one during stable flow in the late summer - early fall (4 total).
    - "Clean" sampling techniques need to be used
    - West Rosebud and Emerald lakes metals sampling from sediment (how many years?)

- Polychlorinated biphenyls (PCB's) testing
    - West Rosebud and Emerald lakes sediment
    - Fish testing (large brown trout in West Rosebud or Emerald Lake)
    - This is a one year effort

- Temperature same four locations as for metals, as well as below re-regulation dam (hourly temperatures using optic stowaway thermometers) (time frame?)

- Study the effects of Mystic Lake winter draw down

    - Measure turbidity below powerhouse (lower weir), and below re-regulation dam
    - Measure during three-week period of high flow, and during the three-week period (near bottom?) of draw down. May want to monitor it on a daily basis to estimate the effects of daily peaking (once?).

- Pictures of Mystic Lake in the winter months

Potential protection, mitigation, and enhancement measures (PM&E):

The group discussed initial ideas for PM&E measures for the project.

- The group discussed different options for the long-term water quality monitoring plan for Mystic Lake. No decisions were made at the time of the meeting on the intensity or length of time that monitoring would be done.
- Road maintenance (grading, plowing)
- Stream bank restoration (riparian restoration), possible cooperation with NRCS, USFS, private land owners, and conservation districts
- Mystic Lake trail maintenance
- Long-term water monitoring plan (four times a year, less sampling over time, and parameters to be decided)
- Issue identification
- Supervisory Control and Data Acquisition Systems (SCADA) / Operation
- The group discussed some of the potential benefits and impacts of raising the dam 10 feet at Mystic Lake
- Mystic Drawdown Plan for Maintenance of the Dam

Next meeting should be joined with the aquatic resources fisheries group.

Note: Chris Levine mentioned that MDEQ might not be able to issue the 401 conditions until at least a draft EA or EIS is completed.