

Using the Integrated Licensing Process: Experiences with Mystic Lake

In December 2006, PPL Montana filed a final license application with the Federal Energy Regulatory Commission, requesting a new operating license for its 10-MW Mystic Lake project. This is the first relicensing application submitted to FERC that was developed under the integrated licensing process. The authors share approaches used in issue identification and studies, as well as how they employed a rigorous, yet transparent collaborative process.

By Jon H. Jourdonnais, John J. Pizzimenti, Bruce A. Bugbee, and James J. Shive

In 2005, the integrated licensing process (ILP) became the obligatory Federal Energy Regulatory Commission (FERC) standard hydroelectric project owners must follow when submitting licensing proposals. ILP proceedings are under way for 21 projects, but none has yet received a new FERC license. PPL Montana's 10-MW Mystic Lake project, one of the 21 currently navigating the new ILP standard, achieved a major milestone by completing all required formal studies within the first year of the ILP process.

While much work remains, the approaches used by FERC, PPL Montana, and all the project stakeholders in the

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issue identification and study stages may provide valuable lessons for other teams involved in or planning for the relicensing process. The approach used for Mystic Lake involved focusing investment in natural, recreational, and cultural resource needs and minimizing process activities.

PPL Montana filed a preliminary licensing proposal for the Mystic Lake project with FERC on June 1, 2006, and a final license application for this project on December 15, 2006. The Mystic Lake project license expires in December 2009.

Through this process, PPL Montana is investigating a key question: Have the new ILP rules resulted in "streamlining" of the licensing process? Our experience suggests the new rules and FERC's active participation greatly enhanced the unique approaches used to develop the Mystic Lake ILP. In addition, we conclude the successes achieved to date came by employing a rigorous but very transparent collaborative and open process.

Project background

Mystic Lake, built in the 1920s on West Rosebud Creek (see Figure 1 on page 2), is close to Yellowstone National Park and other national wilderness areas. Several species listed as threatened or endangered under the Endangered Species Act live in or near the project boundary. In

addition, the project is a recreational gateway to the Absaroka-Beartooth Wilderness, and access to Mystic Lake is restricted to foot. Access for construction and operations may require use of a helicopter or a historic construction cable lift that rises 1,100 feet in a dizzying half-mile ascent.

Mystic Lake is a natural lake that was raised by construction of the dam. The lake has an excellent coldwater trout fishery of mostly introduced species. During the current license term, PPL Montana responded to FERC requests to improve minimum bypass flows and reregulate peaking operations to protect fisheries in both the bypass and downstream reaches of the creek.

The project tailwaters provide unique late summer whitewater boating opportunities because of the late natural runoff of this high-elevation stream. In addition, there are cultural properties on the project, including historic plant operating facilities such as the dam and powerhouse. These resources have been evaluated as eligible for listing in the National Register of Historic Places.

Elements of the relicensing strategy

Before beginning the ILP for Mystic Lake, PPL Montana enlisted FERC's direct assistance to better understand the new process. PPL Montana then developed a three-point plan designed to build trust with stakeholders:

- 1) A good business plan based on the project's limited economic capacity;
- 2) Meeting federal, state, and tribal regulatory obligations; and
- 3) Collaborative and shared responsibility for resource stewardship.

A key goal of the partnership between PPL Montana and stakeholders was to improve project resources even before FERC awarded a new license. To accomplish this goal, PPL Montana drafted a formal process and communication plan and empowered a PPL

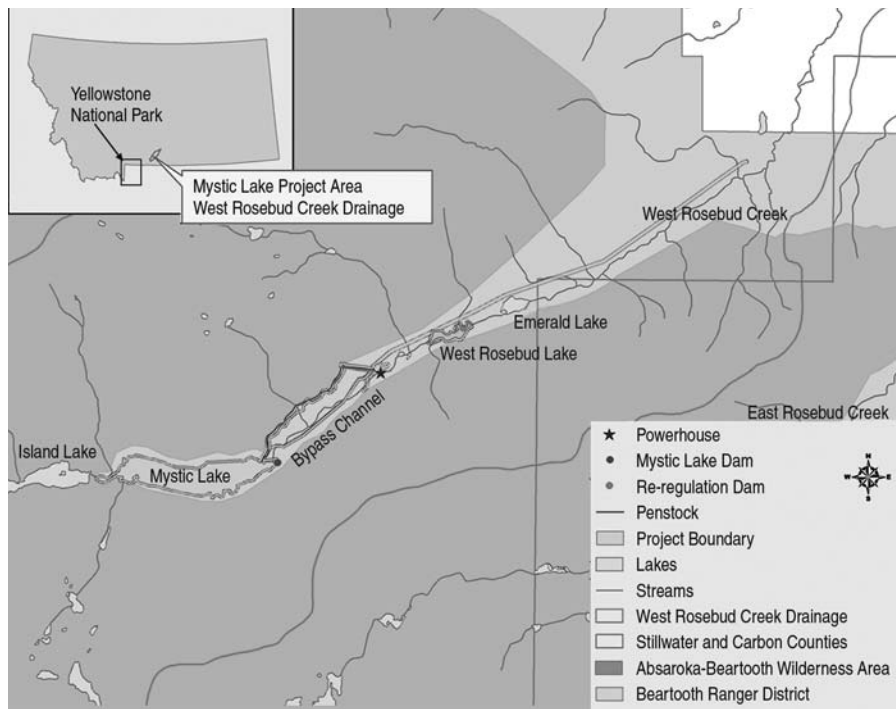


Figure 1: The 10-MW Mystic Lake project, on West Rosebud Creek in Montana, is close to Yellowstone National Park and other national wilderness areas.

Montana manager to push responsibility downward to the entire project relicensing team, which consisted of PPL Montana staff and management, as well as consultants. To rapidly and effectively communicate progress, PPL Montana employed facilitated meetings, breakout groups, conference calls, e-mails, and a website providing near-real-time progress and documents (www.mysticlakeproject.com).

One element that added complexity to the process was FERC security protocols for restricted information disbursement. FERC's rules have changed re-

cently regarding how critical energy infrastructure information (CEII) and certain non-Internet public information must be handled. PPL Montana worked with FERC during the Mystic Lake ILP to update information distribution protocols and to implement specific restrictions for certain classifications of information. The vast majority of Mystic Lake ILP information was and is available to the public.

Starting the ILP

PPL Montana began its ILP efforts two years before the recommended start date, which begins with filing of the notice of intent (NOI). The intent of this early start was to establish relationships with stakeholders and begin the process of information gathering, limited issues scoping, and preliminary application document (PAD) development.

The utility formed an expert team of staff and consultants to help identify resources and issues. By the time the NOI deadline arrived, there already had been a major effort to en-

gage and educate the public and meet with agencies to discuss the process.

This was a prescient decision because the ILP has an extremely demanding schedule. For example, some early FERC deliverables defining study plans have 60- and 90-day turnaround schedules, after which it is not possible to submit. The entire ILP schedule from development of the PAD to submittal of the final license application is very compressed for all stakeholders, not just the licensee.

PPL Montana convened a meeting with FERC and all stakeholders in Billings, Mt., to formally introduce the public and agencies to the project and PPL Montana's goals a year in advance of the NOI. The stakeholder group for the Mystic Lake project relicensing includes PPL Montana; the U.S. Fish and Wildlife Service; Montana Fish, Wildlife and Parks (MFWP); Stillwater County; the Montana Department of Environmental Quality (MDEQ); the U.S. Forest Service (USFS); American Whitewater; Trout Unlimited; and area tribes.

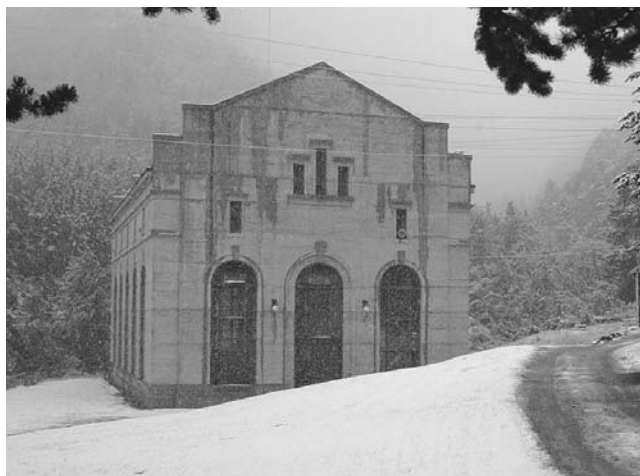
After this meeting, PPL Montana and FERC were well prepared for the formal kickoff site visit and meeting in 2003. PPL Montana added this site visit and meeting for all stakeholders at the start of the ILP process; the ILP only requires a formal site visit and scoping meetings after the PAD is filed.

During the 2003 site visit, which coincided with a late June blizzard, FERC led off the meeting explaining the process. Using PowerPoint presentations, PPL Montana reviewed existing and proposed project operations and data for each resource area. PPL Montana also presented the three-point plan (discussed earlier) for the Mystic Lake ILP.

At this meeting, specific resource working groups were formed to identify issues to consider. PPL Montana identified a key management team member to lead each resource group, including water quality; fisheries; terrestrial and riparian species; recreation; and aesthetic and cultural resources.

FERC actively participated with Tribal contacts under a special "government to government" policy to ensure tribal interests and resources were appropriately addressed.

The first major deliverable in the Mystic Lake ILP was the PAD. PPL Montana submitted this document with the NOI. In essence, the PAD is a first working draft of an eventual draft license application or National Environmental Policy Act (NEPA) document,



A late June 2003 blizzard at the 10-MW Mystic Lake project in Montana greeted stakeholders as they gathered to learn about the project and the integrated licensing process. PPL Montana organized the meeting and site visit at the start of the ILP process.



Mystic Lake in Montana is part of the 10-MW Mystic Lake hydroelectric project. Owner PPL Montana used the new integrated licensing process to prepare an application to relicense the project. PPL filed the final application with the Federal Energy Regulatory Commission in December 2006.

which is now in preparation. The Mystic Lake PAD helped set the pace and quality of the remaining efforts. It contained most resource issues identified by the licensee using informal consultation and data collection during the two years before the NOI. This informal process helped identify the project issues and possible avenues for resolution, as well as enabling advance strategies for protection, mitigation, and enhancement.

Developing resource study plans

PPL Montana held further public meetings three and six months after the first to identify and prioritize studies.

Resource group participants did their homework and were prepared to begin framing the data and study needs and bringing critical information to the each subsequent meeting. The resource group teams quickly identified key issues: what data was needed, how it might affect the new license, its significance to the public, and use of the most appropriate scientific method or data to answer a key question about project operations or resource protection.

The resource stakeholder teams collaborated to define and then conduct 20 studies in 2005 in a single study season. Results were presented in written reports and discussed at length in a special meeting attended by FERC representatives in October 2005. The study data suggested that most of the resources are in excellent condition but raised specific questions that, while not requiring further study, required resolution by the team. This col-

laboration and communication precluded the need for dispute resolution or any new or extended formal studies.

In a world of limited resources, the Mystic Lake partnership between PPL Montana and stakeholders has been able to agree on priorities across subject and jurisdictional lines and find resolution with a balanced approach to scientific data collection and collaborative issue resolution. This has enabled PPL Montana and the agencies to put more money to work on-the-ground, enhancing resources stewardship without abandoning a scientifically sound assessment of conditions. This philosophy carries over into implementing certain protection, mitigation, and enhancement measures two years before required by FERC license, which helped achieve early agreement.

PPL Montana endorses and seeks collaboration in not only studies, which builds “buy-in,” but also in collaborative protection, mitigation, and enhancement measures. This leverages additional state, federal, and non-governmental organization funds into common resource goals for the Mystic Lake project.

The following provide synopses of some of the focal points of the study plans from the resource group collaboration that were submitted and approved by PPL Montana and FERC.

Project hydrology and operations

Stakeholders were concerned about the adequacy of bypass and downstream flows to protect fisheries, riparian resources, and water quality. To address

this issue, PPL Montana monitored resources two years in advance of filing the NOI and PAD and during the formal ILP in consultation with state and federal agencies. PPL Montana examined historical project flow compliance, which showed that Mystic Lake was meeting or exceeding compliance nearly continuously for more than 25 years. The few times minimum flow was not met were mostly within two short periods of extreme low temperatures when natural inflows virtually reached zero.

This exercise educated everyone and demonstrated the good faith intentions and compliance history of PPL Montana. At the request of USFS, the team used a special evaluation tool from the Nature Conservancy, IHA (Indicators of Hydrologic Alteration), to characterize the project area hydrology. PPL Montana also established enhanced means to monitor flows in the project waters by installing a remote telemetry station to monitor reservoir elevations. These new additions to the supervisory control and data acquisition (SCADA) system capture and preserve data and can be used for compliance monitoring and public information.

PPL Montana used aerial photography and site reconnaissance to evaluate riparian vegetation to ensure that project operations are not negatively affecting streamside vegetation, reservoir shoreline, wetlands, sensitive species, or important habitats. The utility also conducted fishery sampling in specific areas to enhance existing data. Bypass fisheries and habitat were studied using simple and direct observation methods. Because the fishery was shown to be self-sustaining and healthy, complex hydraulic modeling was determined to be unnecessary.

The protection, mitigation, and enhancement measures will contain plans for future monitoring of the project resources.

Emergency preparedness

The Mystic Lake project is in a very harsh environment and subject to extreme freezing temperatures, snow and ice, and rock avalanches. These events can damage power lines and penstocks and create unplanned — albeit rare — outages of electricity or project discharges.

Currently, electricity is transmitted through a dual line so that if one line has an outage, the other can pick up the load. PPL Montana worked with USFS to evaluate the visual effects of alterna-

tive options — such as combining, re-routing, or redesigning the transmission line — to ensure that visual aspects of the project are kept at a minimum while reliability is maintained. PPL Montana is upgrading the lines, documenting their historic resource values to the standards of the Historic American Engineering Record, and avoiding effects on natural resources in the area. The utility also is upgrading a few areas still in need of raptor electrocution protection.

Because Mystic Lake is drawn down in winter, a penstock rupture during this time might disrupt downstream flows. Although such events are rare, PPL Montana is developing an emergency penstock release valve for the unique site conditions at Mystic Lake. If a rupture was to occur, the valve would release enough water to maintain minimum instream flows in the bypass and downstream until emergency repairs are made. This will minimize potential for serious effects to the natural and hydrologic resources in the event of flow emergencies.

Public use of project and federal land resources

USFS is interested in maintaining the character and use of the project area and continuing to provide for outdoor recreation consistent with a wilderness setting. The agency supported study efforts to identify important resources and data while avoiding studies where agreement on priorities and existing data can be reached. Likewise, MFWP and MDEQ focused on study results, not theory. The attitude seems to be to leave alone what is not broken; but if cost-effective enhancements can be achieved, they are worth pursuing.

The whitewater boating community and Trout Unlimited also have worked well with PPL Montana. The two groups see this small project as a gem — it provides recreation at a time when spring freshets and boating opportunities are unavailable at most streams, as well as outstanding fishing in an accessible wilderness setting. To support the interests of the whitewater boating community, PPL Montana is collaborating with U.S. Geological Survey to provide real-time flow data on the PPL Montana

website that recreational boaters can use to determine whitewater conditions.

Cultural resources

PPL Montana worked with USFS and other interested parties to identify cultural properties associated with the Mystic Lake project eligible for listing in the National Register of Historic Places. Little data existed on these resources before initiation of the ILP.

The study team developed a reasonable plan for field and literature inventories to better characterize these cultural resources, assess potential project effects, and provide for appropriate measures to address the effects of the project on these resources. PPL Montana completed comprehensive inventories of cultural properties, including field investigations around Mystic and West Rosebud lakes and the plant operating area. The utility will continue consultations in additional phases of study per FERC ILP standards. In addition, the final license application includes a Historic Properties Management Plan and a Programmatic Agreement.

Lessons learned to date

PPL Montana completed all requested ILP studies for Mystic Lake without dispute, based on a collaborative effort of stakeholders and a prioritization aimed at results, not theory. PPL Montana prepared the way for completion of a final license application in an accelerated time frame (one year for formal studies instead of two) and to settlement discussions with resource agencies and the public. The goal is to begin establishing on-the-ground protection, mitigation, and enhancement measures even before FERC awards a new license.

We believe the new ILP rules and FERC participation are a marked improvement over traditional and alternative licensing processes. Elements of the ILP that work especially well include early identification and action lists, accountable and measurable study guidelines, requirement for prioritization, use of collaboration, and stringent schedules of deliverables.

That said, the process has been a “sprint” for all stakeholders involved in this relatively small, resource-conscious hydroelectric project, especially in the

study definition stages. For larger projects that have profoundly larger and potentially more diverse public involvement or conflicting issues, the ILP will be a major challenge because of its speed and requirements that everyone be on board or risk being left behind. Although FERC offers a dispute resolution process, it is unclear how effective this will be in meeting a primary objective of the ILP: shortening the time frame and costs of the hydroelectric licensing process.

One USFS manager suggested that the advance informal preparation achieved at Mystic Lake be incorporated as standard practice for ILP applicants, especially larger projects. Another USFS manager emphasized the value of positive collaboration. This was echoed by an MFWP manager who suggested that much of the success at Mystic Lake was built on a cornerstone of trust between the agencies and the utility.

In summary, the Mystic Lake experience suggests the following strategy for ILP relicensings: start early, build trust, collaborate in good faith on all issues, and be prepared for the fast lane. ■

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