

## Corette and Colstrip power plants – economic resources for our state

*The following article by Gordon Criswell, PPL Montana's director of environmental and engineering compliance for PPL Montana, ran Oct. 15 in the Billings Gazette.*

PPL Montana's Corette and Colstrip power plants are vital economic resources for our state in terms of the thousands of good jobs they create and the electricity and tax revenue they generate.

They are operated responsibly, in compliance with state and federal regulations, and are a low-cost provider of electricity. Considerable invest-

ments have been made at both plants to limit their environmental impact, including the installation of equipment that reduces nitrogen oxide, coal ash particulate, sulfur dioxide and mercury emissions.

PPL Montana believes that any federal regulation of coal combustion residuals (fly ash, bottom ash and scrubber wastes) should be as a nonhazardous waste. Chemical concentrations of residuals from PPL Montana plants or any coal-fired plant are below limits that the U.S. Environmental Protection Agency uses to define a hazardous waste. A nonhazardous waste regulation will also allow for the continued beneficial uses of the material. These residuals are now being beneficially used in making concrete, wallboard and other similar products. These beneficial uses provide environmental, public safety and economic benefits.



Fly ash from the Corette plant is not stored in ponds. It is collected dry, and 100 percent is beneficially reused for concrete manufacturing and other purposes. Corette does collect bottom ash in a pond, but the ash is removed and 100 percent is beneficially re-used.

The water discharged from the Corette plant is regulated by a state-issued permit, which has water quality and treatment standards that are monitored for compliance and reviewed by the EPA and the Montana Department of Environmental Quality.

The Colstrip plant is a zero discharge facility and has been working with the DEQ to ensure compliance with the permit requirements and address groundwater issues at Colstrip. We have taken aggressive actions to control seepage from the storage ponds into groundwater by investing \$64 million over the last 10 years, and will spend another \$14 million this year and next on innovative groundwater protection systems.

These actions include installing double liners at the storage ponds and using an innovative technology that

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# PPL Montana dedicates advanced fish ladder at Thompson Falls Dam

*Hundreds of miles in Clark Fork River system reopened to native Montana trout, other fish species*

Rare species of native Montana trout and other fish now have easier passage into the Clark Fork River thanks to an advanced fish ladder dedicated Sept. 8 at PPL Montana's Thompson Falls Dam.

"Montana has healthy, diverse and dynamic river fisheries populations, and PPL Montana is doing its part, in collaboration with agency partners, to protect this valuable natural resource," Pete Simonich, vice president and chief operating officer of PPL Montana, told the 75 guests who attended the dedication ceremony.

"The Thompson Falls project is indicative of PPL Montana's commitment to responsible power generation and river resource stewardship," he said.

Funded entirely by PPL Montana and built in collaboration with federal and state wildlife agencies and the Confederated Salish and Kootenai Tribes, the \$7.5 million fish ladder reopens hundreds of miles of the upstream Clark Fork River and its tributaries for native bull trout, westslope cutthroat trout and other fish species.

The new steel and concrete ladder system — which replaces an experimental, small-scale temporary fish ladder used since 2003 — has 48 step pools that will permit fish to gradually ascend about 75 feet to the top of, and over, the dam.

According to the U.S. Fish and Wildlife Service, it's the first full-length fish ladder in the continental United States specifically designed to accommodate bull trout, a federally listed threatened species. It's also the tallest fish passage facility of its kind in Montana.

Advanced biological monitoring, trapping and tagging technology, and adaptive ladder operations, will allow scientists to better support and enhance fish movement patterns and timing of runs in the Clark Fork River.

As part of the project, PPL Montana is improving public access and recreational facilities at Thompson Falls, including an observation deck for visitors to view fish ladder operations as well as pedestrian access to trails and other recreation sites on Island Park.

"PPL Montana deserves credit for not only funding the fish ladder but also with providing a visitor overlook of the facility, visitor information and educational opportunities for the local community," said Mark Wilson, field supervisor with the U.S. Fish and Wildlife Service's Division of Ecological Services in Helena.

"The Thompson Falls project is a good example of state, federal, tribal and a private utility partnership to provide natural resource protection," he said.

The project is part of PPL Montana's federal operating license in compliance with the Endangered Species Act.

"The key is balance," Simonich said. "There can be fish, power and other resources available to the public, if there's good river science and management. This fish ladder is an important way to sustain valuable fisheries resources."

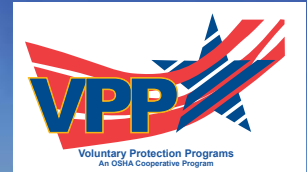
Native trout get a lift at Thompson Falls.





## Colstrip plant to be recertified as one of nation's safest industrial sites

PPL Montana-operated facility honored for safety excellence



The Colstrip power plant, one of the first private-sector work locations in Montana to be recognized by the Occupational Safety and Health Administration, has been recommended for VPP Star status.

The Colstrip power plant operated by PPL Montana has been recommended for Star recertification in the Occupational Safety and Health Administration's Voluntary Protection Program.

"Employees at Colstrip and other PPL Montana facilities across the state share the value that the health and safety of employees come first," said Pete Simonich, vice president and chief operating officer of PPL Montana.

"Our facilities were the first private-sector work locations in Montana to be recognized by OSHA for safety excellence through the VPP program. It's an honor to be recognized for setting high standards and fostering employee-led programs that protect our greatest asset: our people," he said.

In its audit of Colstrip's health and safety programs, OSHA commended PPL Montana employees for their leadership in supporting a range of activities that lead to safe work practices and overall wellness.

"Your continued commitment to employee safety and health excellence is greatly appreciated," said Brad Baptiste, VPP manager, OSHA Region VIII, in Denver.

"Through hard work and teamwork among management and labor, we have a work environment that engenders a genuine caring for each other's welfare every day," Simonich said. "We still have work to do before we're recertified, such as improving near-miss incident reporting, lighting and the emergency alarm system, but employees

understand the importance of going beyond compliance to reduce hazards and prevent accidents."

In addition to Colstrip, PPL Montana's Corette and Kerr power plants are certified Star sites in VPP, and initial certifications are done at the Madison and Holter hydroelectric plants. The Thompson Falls and Hauser hydroelectric plants have submitted VPP applications and are scheduled for evaluations this year.

OSHA evaluates the following components of a safety and health program to determine if a facility is worthy of VPP Star status: management leadership, employee involvement, work-site analysis, training, and hazard prevention and control.

An OSHA team re-evaluates VPP Star sites every three to five years for recertification. To be recertified, sites must continue to show improvement in their safety and health programs.

Operated by PPL Montana, Colstrip is owned by PPL Montana, Puget Sound Energy Inc., Portland General Electric Company, Avista Corporation, PacifiCorp and NorthWestern Energy.

Colstrip is operated in an environmentally responsible manner. All four units have scrubbers, and the plant's use of low-sulfur Montana coal minimizes emissions of sulfur dioxide. Colstrip recently commissioned a system designed to reduce mercury emissions by up to 90 percent on all four of its units.

# PPL Montana expresses community support at Colstrip tailgate party

PPL Montana employees served hundreds of barbecue pulled pork sandwiches on Sept. 24, continuing a nearly 10-year tradition of supporting a communitywide tailgate party to show community spirit in Colstrip.

“It was great to tie in this year’s tailgate with the homecoming celebration at Colstrip High School and the football game against Broadus High School,” said PPL Montana’s Debbi Beartusk Dove, administrative assistant at the power plant.

Sandwiches, chips, cookies and bottled water were served to more than 750 people, including the football players on both teams and shift workers at the plant. Colstrip’s employee-led Activities and Recognition Team coordinated the food and set up of the tailgate party on the practice field below the main football field.

“Welcoming fans from both Colstrip and Broadus was a lot of fun,” Beartusk Dove said. “Everyone was welcome to stop by, just like in past years, and join the party and camaraderie.”



PPL Montana also gave away

stadium seat pads and foam footballs, and glow-in-the-dark toys for children.

“The annual tailgate is another good example of PPL Montana giving back to the community and supporting youth activities in Colstrip, which is a big part of our lives,” said Jim Atchison, executive director of the Southeastern Montana Development Corp. and a previous guest of the Colstrip tailgate.

“The tailgate event shows PPL Montana’s interest in being part of the local scene versus just doing business,” he said.



Colstrip plant employees pitch in to build a shed at the Boys and Girls Club of the Northern Cheyenne Nation. **Back row from left:** Chuck Farr, Jarrad Means, Lonnie Beckman, Marlin Brady, Richard Foote and Mervin Lei. **Bottom row from left:** Tina Castro, Emma Harris with Boys and Girls Club and Debbi Beartusk Dove.

## PPL Montana employees help Boys and Girls Club at Day of Caring

PPL Montana employees at the Colstrip power plant pulled together brawn, carpentry skills and community spirit recently to construct a storage shed at the Boys and Girls Club of the Northern Cheyenne Nation.

The project, part of PPL Montana’s United Way Day of Caring outreach, resulted in a secure building to store lawn care equipment and tools at the club. PPL Montana provided the materials, which were purchased from Reid’s Hardware in Colstrip, and labor.

“We started bright and early with a safety meeting, reviewed the project and finished up around 5 p.m.,” said PPL Montana’s Debbi Beartusk Dove, an administrative assistant at the Colstrip plant. “We were pleased with the innovative design of the shed, which is on a skid allowing it to be moved easily around the club’s grounds.

“The club had a need, and the crew came away with a very good feeling about being able to fill that need and about having an opportunity to participate in PPL’s United Way effort,” she said. “This is a tight-knit area, home to many of our employees, and whenever there’s a need, people hear about it and respond.”

PPL Montana employees who built the shed are Lonnie Beckman, Richard Foote, Mervin Lei, Jarrad Means, Marlin Brady and Chuck Farr.

Tina Castro of the Information Services Department worked on computer issues in the club’s computer lab, and Beartusk Dove helped clean the children’s library.

# Robotic lab monitors water quality at Hebgen Lake

PPL Montana has a new sentry on guard 24 hours a day, floating quietly on Hebgen Lake to monitor toxic algae blooms.

As part of its lake and river resources stewardship program, PPL Montana's Hydro Licensing and Compliance group deployed a remote robotic lab this summer that will test the lake for the dreaded blue-green algae.

Blue-green algae (cyanobacteria) are a common and natural component of the microscopic plants found in the lake and other bodies of fresh water. Either by wind or wave action, the algae are often concentrated in shallow areas where water is warmer.

Some kinds of blue-green algae produce natural toxins or poisons. If animals ingest it, it can be fatal.

"Our federal license requires us to have a program in place to monitor blue-green algae blooms," said Frank Pickett, senior aquatic ecologist for PPL Montana. "If we find it, and our



Frank Pickett checks robotic lab at Hebgen Lake.

tests show that it is toxic, we report it to the Gallatin County Department of Health and the Montana Department of Environmental Quality."

Pickett said PPL Montana set out to research ways to make the algae detection program even stronger.

"There are a lot of businesses and recreationists here who depend on the lake, so we need to focus on public safety and meet or exceed our license requirements," he said. "We strive to get beyond mere words on paper. With this new state-of-the-art system,

we've got a real leg up to anticipate algae blooms in near real-time."

The 100-pound, solar-powered buoy, which is anchored in a shallow area on the northeast side of the lake, supports a water quality lab that can detect blue-green algae blooms by identifying turquoise pigmentation.

The buoy takes readings every 30 minutes and has a cell phone that sends data to Pickett's laptop.

"Fortunately, there hasn't been a serious outbreak since the 1980s in Hebgen, but we're even better prepared now if problem conditions develop," Pickett said.

Hebgen Dam creates Hebgen Lake just north of the Idaho border, which stores water for the Madison-Missouri river system.

## Corette and Colstrip

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provides for deposition of the plant's scrubber slurry, composed mostly of coal ash and gypsum, into a paste that dries quickly and provides an effective sealant when placed in the existing storage ponds.

The paste plant technology is just one part of our strategy to eliminate water in the storage ponds and clean up affected areas. None of the issues with seepage from plant storage ponds is affecting local drinking water, and we continue to work in full cooperation with the DEQ to address groundwater issues.

PPL Montana employees at Corlette and Colstrip are proud to operate power plants that generate electricity to power homes and businesses here in Montana and the West.

Operating decisions at both plants are made by long-time Montanans with deep roots in the community. We share an interest with all Montanans to make sure our operations are safe and environmentally responsible.

For more information, visit [www.regulatecoalashright.com](http://www.regulatecoalashright.com)

## Rainbow Dam celebrates century of powering economic growth

PPL Montana's Rainbow hydroelectric plant has been producing safe, reliable and clean energy for 100 years.

This year's centennial anniversary of Rainbow, on the Missouri River near Great Falls, is a reminder of PPL's commitment to reliable and responsible long-term power plant operation.

Even after a century of service, PPL Montana is not letting the plant settle in for retirement.

Quite the contrary. The plant is undergoing a major \$230 million expansion that will prepare it for the

changing energy demands of the 21<sup>st</sup> century.

It involves constructing a new powerhouse and replacing smaller units with a combined capacity of 37 megawatts, with a single 62-megawatt unit. Rainbow will add enough clean energy to power about 45,000 homes.

Around the Rainbow plant, PPL Montana works with state and federal agencies and private groups to implement a diverse array of public recreation and environmental stewardship projects.

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## Century of growth

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### About Rainbow

Great Falls is forever known for the series of waterfalls that drop 300 feet in 14 miles along the Missouri River.

Paris Gibson, a wool merchant and businessman from Minnesota, came to the area in 1880, inspired by the journals of Capts. Meriwether Lewis and William Clark. He convinced his friend and railroad magnate, James J. Hill, to invest in the area.

Gibson had a vision of a new kind of planned city – different than other settlements and boom towns in the American West. Stores, homes, parks and abundant trees planted symmetrically along streets soon take root, a place where business would thrive.

The ability to generate electricity from the power of the Great Falls helped fuel more prosperity. In 1891, Black Eagle Dam was built just above Black Eagle Falls.

Then, in 1910, came Rainbow, larger, more powerful and ready to help fuel the industrial age.

Rainbow’s reliable units, installed between 1910 and 1917 in the old brick powerhouse, are the workhorses that helped power Great Falls and the region through the 20<sup>th</sup> century.

“The Rainbow plant has been part of Great Falls’ economic growth from the very beginning, and symbolizes a tradition of hydroelectric energy that has been part of Montana’s history and the Great Falls area for more than 100 years,” said Brett Doney, president and chief executive officer of the Great Falls Development Authority.

“And it continues to make history,” he said. “Rainbow’s redevelopment for the 21<sup>st</sup>

century is the largest private sector project, in terms of dollars, in the history of Cascade County. Paris Gibson would be proud.”



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