

12/02/2011



# Some Dam – Hydro News™ And Other Stuff



**Quote of Note:** *“Blessed is he who expects nothing, for he shall never be disappointed.”* - Benjamin Franklin

“Good wine is a necessity of life.” - -Thomas Jefferson

Ron’s wine pick of the week: Brown Estate Napa Valley Zinfandel 2009

“No nation was ever drunk when wine was cheap.” - - Thomas Jefferson



## Dams:

(Where did our reservoir go? And, the photo of Papa is a gem!)

### **Lake-Be-Gone Woes**

#### **Deterioration, Environmental Issues Threaten America's Dams—and Local Economies**

November 19, 2011, By Jim Carlton, online.wsj.com

Burlington, Colo.—It's getting wintry here on Bonny Lake in eastern Colorado, but Mike Webber is in his parka, fishing from his boat while he still can. Bonny Lake is down to 5% of its peak size, and by next year there won't be any water here to speak of, because Colorado is slowly draining the 1,900-acre lake. The Colorado Division of Water Resources pulled the plug in September as part of a legal requirement to send more water to Kansas and Nebraska, says state spokesman Theo Stein.



"What's left of it will freeze over soon and that will be it," says Mr. Webber, manager of a local petroleum service center. "I'm really sad to see it go."

Since 1951, when the U.S. Bureau of Reclamation dammed the Republican River, creating Bonny Lake, the local community has enjoyed a recreational and economic livelihood. Now, as the waters recede, Burlington is joining dozens of other communities across the U.S. that must readjust as dams that once gave birth to new waterways and thriving economies based on

tourism, irrigation farming and hydropower are altered or dismantled, reverting landscapes to the way they were decades ago. Many of the nation's 85,000 dams were built more than 40 years ago when the nation was immersed in a frenzy of infrastructure construction. But since then, many dams have become weakened by age, deterioration and a build-up of sediment, according to a 2009 report by the Association of State Dam Safety Officials. According to the report, the number of deficient dams has more than doubled to 4,095 as of 2007—the latest period for which it had statistics—from 1,348 in 2001. In one case, the dam on Iowa's Lake Delhi burst last year, transforming an 11-mile reservoir into a river, threatening a lake-based tourism economy that brought in \$20 million to the community, estimates the Lake Delhi Recreation Association, a nonprofit group that owns the dam. "We had a great lake with the best bass fishing in Iowa, and now it's a muddy swamp," says James Willey, immediate past president. The community earlier this month passed a \$6 million bond measure to help repair the dam and restore the lake. In North Carolina, Hope Mills Lake has drained twice since 2003, the first when an 88-year-old earthen dam failed, and last year when a sinkhole opened under a concrete replacement. Town Manager Randy Beeman says the lake draining has sharply reduced revenues for lake-related businesses, such as boat-rentals. The town of 2,000, which owns the dam, is seeking funds from private donations and federal grants to repair the dam so the lake can be refilled again.

In Burlington, Bonny Lake has been a big draw for anglers and local tourists, generating about \$20 million in annual revenues, says Burlington City Administrator Bob Churchwell. Roughly one of every five jobs in this town of 3,700 is tied to lake-related businesses, Mr. Churchwell says. "I wouldn't call it a devastating impact, but it will be huge." With up to 200,000 visitors to Bonny Lake annually, retailers have counted on lake traffic. September unemployment in surrounding Kit Carson County was 4.3%—well below the national average of 9.1%, and boosted by strength in farming. But with so many jobs tied to tourism and recreation, Mr. Churchwell says that unemployment figure is likely to rise. "It's going to impact us a lot," says Clint Mullis, manager of the local Burger King, which he estimates gets 70% of its revenue from lake visitors. Mr. Mullis adds it's too early to tell how many of his 32 employees will have to be laid off. Another problem confronting dams is the threat of lawsuits and government regulations challenging operations on environmental grounds. For example, the federal government has required some dams in the Pacific Northwest to install expensive structures that allow fish, such as salmon, to pass through unharmed, while environmentalists and groups such as local tribes have sued to try and remove dams that they contend lack measures to protect fish runs. In Washington state, PacificCorp breached its Condit Hydroelectric Project dam in October to comply with federal rules on fish passage. The result was the draining of the 92-acre Northwestern Lake to restore the White Salmon River to its original course. The Portland, Ore., utility had agreed in 1999 to punch a hole in the 98-year-old dam to avoid as much as \$100 million in costs to install structures to allow fish to pass. But before doing so, local economic concerns were raised, and PacificCorp wasn't able to follow through with the plan until agreeing in 2010 to pay two counties, Klickitat and Skamania, \$675,000 to help offset damages, such as impacts to nearby cabin owners from loss of the lake, according to company documents. Micheal Dunn, CEO of PacificCorp, a unit of MidAmerican Energy Holdings Co., says in a statement the alternative to draining the lake would have been too costly.

On the Klamath River in Oregon and California, PacificCorp also has agreed to calls from environmentalists and others to dismantle four hydroelectric dams, a move that some critics, including local farmers, say could hurt the local economy. The Interior Department is set to decide by March if the removals will go forward. The threats are being aimed not only at smaller regional lakes, but massive ones like Lake Powell in Utah and Arizona—the second largest man-made lake in the U.S. Although Lake Powell serves as a backup to the nation's largest man-made reservoir—Lake Mead—for Colorado River water, some environmentalists want it drained to restore scenic canyons and wildlife. However, that effort has gained little traction so far.



"It rips the heart out of a community when you lose a lake," says Paul Ostapuk, leader of a group in Page, Ariz., trying to block a push by environmentalists to drain Lake Powell. "It means everything to the local economy." Environmentalists say dams hurt not only fish, but the overall health of rivers such as by reducing their water purity.

"Waterways are irreplaceable," said Lori Pottinger, spokeswoman for International Rivers, an environmental group in Berkeley, Calif. "You can't make new water." In June, when Colorado officials dropped catch limits on Bonny Lake's 200,000 or so fish, business boomed at Papa's Bait Shop, for a while anyway. "Guys were catching 40 to 50 fish each," says Bob Shade, Bonny State Park's ranger. But locals dread the coming of Spring, when they expect to be left with rotting fish left in the emptied lakebed—and a hit to their pocketbooks. Other businesses are bracing for the worst. Papa's gets most of its nearly \$100,000 in annual revenues from sales of fishing-related equipment,

says owner Kenny Condrey. It will probably have to close, he says, costing the jobs of his four employees.

(Up up and away. This will be a great site to visit when finished.)

## San Vicente Dam Raising is Biggest of its Type in the World

The capacity of emergency water storage in the reservoir will more than double.

By Julie Pendray, November 22, 2011, [santee.patch.com](http://santee.patch.com)

San Vicente Reservoir dam is a hive of activity as work progresses on the effort to increase emergency water storage for San Diego county.

"This is the largest dam raise in the United States and the largest roller compacted concrete dam raise in the world," Bill Rose, director of

engineering for San Diego County Water Authority (CWA) said Tuesday. When finished, the reservoir will be able to store 242,000 acre-feet of water. Its current capacity is just over 90,000 acre-feet, said project manager Kelly Rodgers. An acre-foot is

enough to supply two average single-family

households for a year, she said. Rock for the concrete is being taken out of a hill by the reservoir and crushed on site, to avoid taking loaded trucks through the community of Lakeside, Rodgers said. Rollers are used to speed the setting of the concrete, rather than using the chemical curing process, which is less efficient for a project this size, she said. "The process is similar to paving an asphalted road," she said.



The dam will be raised from its current height of 220 feet to a total of 337 feet. Concrete is set in layers in front of the existing dam and will bond to the dam by means of a paste and also through the roughening of the old dam surface to allow for better adherence, Rose said. There is no reinforcing used in the process. "It's like a layer cake," he said. "We do about one foot a day." The dam raising is the final stage of a \$1.5 billion emergency water storage project undertaken by the CWA in case imported water from the north is cut off. The project began with the construction of Olivenhain Dam, finished in 2003, Rodgers said. It also includes the San Vicente Tunnel, pump station and surge tank, as well as the Lake Hodges pump station and pipeline and a North County pump station off Interstate 15, north of Twin Oaks Valley. The raised San Vicente dam is being built to withstand a 7.5 magnitude earthquake on the Richter scale, based on the history of San Diego county fault lines, Rose said. The project is expected to be completed in 2013. Rose said it will take until at least 2017 to raise the water level. "There is a minor watershed that drains in here, but most of it will be imported water," he said.

San Vicente Reservoir holds untreated water. Boating, fishing and wakeboard enthusiasts will have a new marina and access road when the reservoir re-opens for recreational use, possibly as soon as 2017. "This is a dream road," said Rose, as he showed reporters up the hill to where the old marina was located. "The old one was scary." The new paved road has two lanes and is not as steep as the old one, he said. Two deer crossed the road as Rose's vehicle descended the hill on Tuesday. "Obviously they're not concerned about the construction out here," he said, with a chuckle. "We saw a mountain lion the other day."

(Oops! Someone decided to do the arithmetic.)

## Oregon dam removal may cost California

fresnobee.com, Nov. 24, 2011

The California Oregon Power Co. was founded in 1911 to supply electricity to the southernmost Oregon counties and the northernmost California counties. It built four hydroelectric power dams on the Klamath River. The Klamath cuts across California's northwestern corner and is incredibly remote. Until those dams were built, blocking spawning runs, it supported an immense salmon and steelhead fishery that sustained Indian tribes living along its banks. COPCO merged with Pacific Power and Light Co. in 1961. PP&L eventually changed its name to PacificCorp, and in 2005 was acquired by Warren Buffett. Those Klamath River dams have become very contentious factors in a controversy over how the river's waters should be managed, involving not only their effect on fish, but the water supplies of farmers in the Klamath Basin, the southern Oregon region where the river begins.

While Indian tribes and commercial fishermen demand elimination of the dams to restore fish runs, farmers worry about irrigation water. The factions have worked out a deal to remove the four dams and restore fish habitat, while protecting water supplies for those farmers. California Rep. Mike Thompson, a Democrat who represents the North Coast, and Oregon Sen. Jeff Merkeley, have introduced legislation to implement it. However, a big sticking point is its cost, about a billion dollars. Thompson and Merkeley want the federal government to pay half, which already is drawing opposition in a Republican-controlled Congress. PacificCorp would pay about 25%. The remaining \$250 million? The two legislators say it would come from "non-federal sources." They don't say that it would come from California taxpayers, specifically a \$250 million chunk of the \$11.1 billion state water bond that is scheduled to go before voters next year. And why should California taxpayers be on the hook? The dams' removal would have no effect, positive or negative, on our water supply. The semi-official rationale -- weak at best -- is that improving fish runs on the Klamath would offset losses of habitat in the Sacramento-San Joaquin Delta. But the bottom line is that, with interest on the bonds, it's a half-billion-dollar gift from California taxpayers to Oregon farmers and Warren Buffett, because PacificCorp would otherwise have to pay for the dams' removal or attempt to get them relicensed, a virtual impossibility. Given the season, one could say that it's a real turkey.



### Hydro:

#### Hydro Proposal Offers 'Clean' Source of Local Power

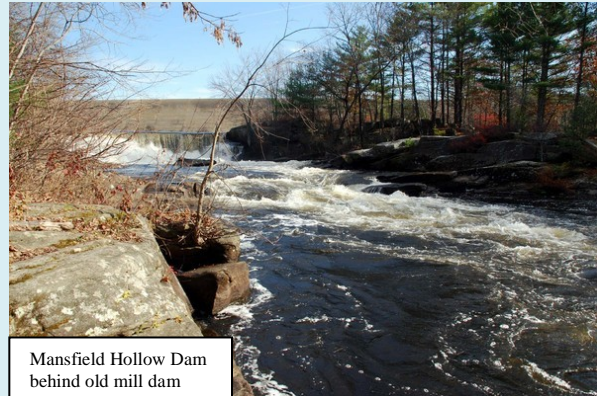
The renovation of an historic hydroelectric generator in Mansfield Hollow could produce enough renewable energy to power half Mansfield's public buildings.

By Paul Stern, tolland.patch.com, 11/21/11

Stand on the bank of the Natchaug River in Mansfield Hollow and it won't take you long to appreciate the opportunity there. Centuries ago people saw it: Power -- free for the taking as the river makes its way toward the sea. Power enough to run a prosperous industry for decades. Those days are long gone, but now a local entrepreneur again sees the Natchaug's potential to

provide inexpensive and, more importantly, clean and renewable energy to the community. **If he can only get it built.**

Sam Shifrin, owner of the Kirby Mill near the base of the Mansfield Hollow Dam, says he wants to install a small hydroelectric generator on his property along the Natchaug. His low-impact, state-of-the-art equipment would replace and update a hydroelectric plant that operated there in the late 1800s. Shifrin says his installation could produce enough power to run his mill and half of Mansfield's government buildings. Not only that, it would enable the town to achieve its renewable non-polluting energy goals for years to come – and cost the taxpayers less money than they are paying now. That's if he



Mansfield Hollow Dam  
behind old mill dam

and his wife, Michelle, can get the financing their business, Mechatronic Energy Systems LLC, needs to build the facility. ... And if the town agrees to buy the power. Inspired during their renovation of the historic 129-year-old mill, **the Shifrins have spent seven years obtaining the federal permit they need to install their high-tech turbines and related equipment.** Sam Shifrin, a mechanical engineer, designed the cutting edge hydrokinetic turbine system to take maximum advantage of the Natchaug River's flow as it fluctuates throughout the year. He estimates the hydroelectric plant -- about the size of a three-car garage -- will cost about \$2.2 million to build. Once up and running, **the system would produce 500 kilowatts of electricity, annually generating 2.25 million kilowatt hours of "green" or "clean" power – enough to supply half the town's municipal buildings,** Shifrin said.

**The Shifrins have offered to sell their hydropower to the Town for the same price it pays for non-renewable energy; and local officials are evaluating the offer.** The Town's sustainability committee has reviewed the proposal and endorsed it. Buying the local hydropower would spare the town the expense of buying the carbon credits or "renewable energy certificates" it must obtain to meet its clean-energy goals. According to Town Manager Matthew Hart, Mansfield spends about \$300,000 on electricity it gets through a consortium operated by the Connecticut Conference of Municipalities. The Town has made a commitment to use 20 percent renewable energy by the year 2010, and because it has not yet met that goal, currently spends about \$10,000 a year buying the "renewable energy certificates" it needs to compensate, Hart said. Those certificate fees are likely to increase in the years ahead unless the town can find a source of renewable, non-polluting energy like the power the Shifrins' hydro unit offers. Shifrin's hope is to use the Mansfield site as a model and demonstration site for the industry. The U.S. has some 80,000 dams that are not producing power, he said, offering great potential for expanding the use of small, low-impact hydroelectric generators. New England and New York have some 4,000 sites that could be used for generating hydroelectric power, he said. His plan locally is to rebuild and reopen an historic "headgate" a few hundred yards from the base of the massive Mansfield Hollow Dam. It was originally put there in the 1800s to power the mill, but was eventually abandoned and filled in by the state. The headgate is adjacent to a man-made dam created in the early 1700s. The renovated headgate, once reopened, will divert some of the river's flow into an engineered waterway or "head race" that will guide the water to a hydroelectric generator of Shifrin's design. The energy its five turbines produced would be metered and returned to the state's power grid over the existing lines. The system is capable of generating power even during low-flow periods when most generators have to shut down, he said. The water taken into the hydro unit would be returned to the river through a "tail race" a few hundred yards downstream. Hart said he wants to be sure that the grid's "virtual metering system" works properly so the town can get full credit for buying the clean power. More importantly, he said, he also wants to be sure that buying power locally will not have a negative impact on the town's participation in the CCM energy consortium. He expects to bring the matter back before the Town Council in January, he

said. The Shifrins have already obtained the Federal Energy Regulatory Commission's license they need to build the system and could start construction right away ... if they had the money. "The construction plans, design, engineering ... they are all done," Shifrin said. But over the seven-year permitting process, Shifrin said, the project costs have grown. As a result, his company needs to find the financing before moving ahead. Cementing a power purchase agreement with the town, Hart said, would help the Shifrins leverage the capital they need to proceed.

The Shifrins could, of course, sell the power to anyone who wants or needs renewable energy, including the power company itself; but "we would prefer Mansfield purchase the power," Shifrin said. The company wants to make the operation available as an educational tool as well as simply a source of local renewable energy, he said. Earlier this year the Shifrins were exploring a way to finance the project using zero-interest "qualified energy conservation bonds" available to the town through the Connecticut Development Authority. The Shifrins offered the town a 20-year lease on the property and federal license, hoping Mansfield could use the bonds to build the hydro plant. The project would eventually pay for itself in the form of inexpensive power, Shifrin said. Five new turbines would be part of the deal. Hart, however, said he is concerned that the additional risk, liabilities, management issues and expense might outweigh the benefits of that approach. Getting approval to install a hydroelectric generator on a public waterway is a long and laborious process. Shifrin said he originally planned to simply restore the mill's original hydro unit with something adequate to power his business at the mill. When he learned that the permitting process was equally complex for five or 500 kilowatts, he decided to expand his plan. FERC has a long set of requirements that include meeting federal and state environmental demands. The Mansfield project has undergone a number of environmental studies, Shifrin said, and projections are that by reducing and slowing some of the river volume when it is running at its fastest, his project will actually improve the fish habitat in that part of the Natchaug. At its fastest in the spring, the Natchaug flows at about 1,000 cubic feet per second, Shifrin said. His system will run at maximum output on 450 cfs, and could operate when the river goes as low as 30 cubic feet per second, he said. His permit, however, requires that at least 20 cfs flow freely down the riverbed to protect the habitat. The generators are likely to be operational every month but August. The "trash rack" at the head gate of Shifrin's system is designed to screen out any fish that is too large to pass safely through the turbine. It also limits the speed of the water into the race so fish can escape its pull. As part of the permitting process, Shifrin also agreed to trap fingerling eels twice a year and drive them upstream where, ironically, they currently do not exist, he said. Eight years after that process begins, he said, he will again have to modify the equipment so that the turbine does not harm the mature eels.

(The Cannelton Project has been in the dreams of developers for 50 years or more and now it's happening – amazing!)

### **AMP: Power projects advance**

martinsvillebulletin.com, November 23, 2011, By Mickey Powell - Bulletin Staff Writer

Construction is continuing on three hydroelectric dams along the Ohio River from which the city of Martinsville plans to eventually receive power. A dam at Cannelton, Ind., is expected to be finished in May 2014, and dams at Smithland, Ky., and Willow Island, W.Va., are expected to be completed in January 2015, according to American Municipal Power (AMP) President and Chief Executive Officer Mark Gerken. He updated Martinsville City Council on Tuesday on the status of the AMP projects.

In 2008, the council entered into agreements with AMP to buy electricity generated by the dams after they are up and running. Martinsville buys electricity on the wholesale market through AMP, an Ohio-based nonprofit organization. That power is then resold to city electric department customers. City officials have reasoned that by buying some of the power produced at the dams, Martinsville could save on its wholesale electricity costs. After the meeting, Gerken estimated that the city will save about 9 percent over 25 years. He said, though, that factors such as any expenses incurred in complying with environmental regulations could affect the savings. Figures

on how much the city will pay for power generated at the dams were not presented. AMP financed the three dams' total construction cost for about \$1.31 billion, including a 4 percent contingency budget. Gerken said that since 2007, the anticipated total cost has risen from about \$704 million because of factors such as having to excavate more rock during construction than expected and dealing with a new federal permit imposed on the project. He declined to elaborate on the permit. Councilman Danny Turner, who frequently has criticized AMP projects, said the cost seemed to have "exploded" and "there's no excuse." There was "a lot we had no control over," Gerken responded. Despite the increases, Gerken said AMP reduced the overall budget for the three projects by more than \$77 million by identifying costs and contingencies it thought could be lowered, largely based on cost factors for another AMP project — one in which Martinsville is not participating.

Martinsville is taking part in another AMP project, the Fremont Energy Center in Ohio. Earlier this year, the council entered into a 36-year contract to buy electricity generated at that natural gas-fired plant, which is nearing completion. Gerken said "performance testing" at Fremont will start Monday, and AMP executives "feel very comfortable" that the plant will be ready to generate power as of Jan. 1.

(The title doesn't give a hint, but this is about pumped storage. Those old mine pits are an ugly scene. Maybe, they need inundated with water.)

## Minnesota Study Finds Promise in Using Abandoned Mesabi Iron Range Mines to Store Wind Power

November 23, 2011 By Andrew Burger, cleantechnica.com, Source: Clean Technica (<http://s.tt/147Z3>)

The potential is there to re-purpose abandoned open pit iron ore mines in northeastern Minnesota's [Mesabi Iron Range](#) to store energy from wind turbines and farms, according to a team of researchers at the University of Minnesota-Duluth's [Natural Resources Research Institute](#) (NRRI). Doing so would not only enhance the competitiveness of wind power, it would make beneficial use of land that's been severely degraded. Wind energy has been



growing fast in Minnesota, thanks to its geography, climate and impetus from the state's [Renewable Portfolio Standard](#) (RPS), which requires that utilities and electric co-ops at least 25% of their electricity from qualifying renewable sources by 2025. Thing is, wind power production typically picks up at night when wind energy is higher. Electricity demand is lower at night, however, and suppliers selling power into the grid at night typically receive significantly lower prices than they might if they could sell it during the day. Minnesota Power and Great River Energy, two Minnesota electric utilities that have signed large, long-term wind power purchasing agreements (PPAs), helped fund the study, which looked into the policy, topographical and environmental, as well as energy storage, aspects of hydroelectric pumped storage systems at abandoned open pit mines in the Mesabi Iron Range.

### ***A Relatively Simple, Clean & Highly Efficient Means of Storing Energy***

Hydroelectric pumped storage systems were first used in Italy and Switzerland in the 1890's, Energy Journalism Fellow Dan Haugen writes in his report for [Midwest Energy News](#). Some 104 Gigawatts (GW) of electricity capacity was stored in [hydroelectric pumped storage systems](#) worldwide in 2008, according to the US Energy Information Administration (EIA), with the US accounting for just over 22 GW, or around 21% of the total. The system's basic design requires a permanent reservoir of water at a lower elevation and a temporary holding pond at a higher elevation. In the case of storing energy from wind turbines and farms, the water would be pumped from the reservoir to the holding pond during the night and then released during the day, passing through a [water turbine](#) or turbines on their way back down to the reservoir during the day as required by electricity demand. Hydroelectric pumped storage systems are highly efficient – 85%

of the stored energy can typically be converted into usable power. They're also relatively inexpensive to operate and maintain, and precise in their ability to deliver electrical power on demand.

They are costly to build, however. A 1,000-megawatt plant can cost around \$2 billion to build. Using abandoned open pit mines that are already filled or partially filled with water would eliminate, or partly eliminate, one entire phase of construction. That would lower the up-front capital costs. A significant amount of capital would still need to be invested in equipment and drilling the system's tunnels, one industry source told Haugen.

### **Cost and Other Considerations**

NRRI's Fosnacht said he thinks a 100-megawatt mining-pit system could be built for around \$120 million, although that is just a rough estimate. Environmental effects, along with the potential for abandoned iron ore mines to be reopened if iron ore prices continue to rise are also key considerations that the researchers and study sponsors need to evaluate in more detail before proceeding, however. "It's very difficult to manage [wind] without some kind of storage capability, and that's where this type of project fits in," Don Fosnacht, the study's lead investigator and director of NRRI's Center for Applied Research and Technology Development, was quoted as saying. On the Mesabi Iron Range, "the potential is certainly there, based on our study," he added. "The Laurentian continental divide crosses the region, which slopes down from there several hundred feet to Lake Superior. Its topography is also pocked by just over 100 iron ore pits that were mined to varying degrees during the last century. Some are still used in taconite <http://en.wikipedia.org/wiki/Taconite> mining operations, but many are abandoned and have since filled with rain water," Haugen writes.

See also: 25 TWh of Wind Power Idled in 2010 in US – Grid Storage Needed

<http://cleantechnica.com/2011/03/27/25-twh-of-wind-power-idled-in-2010-in-us-grid-storage-needed/>

(News flash: This may be the most important hydro case since 1943 regarding jurisdiction on hydro projects and it could cause a new round of taxes or fees for hydro that could jeopardize its future. What if every state jumps on the bandwagon as a way to help their existing budget problems. It will create another hidden tax on electric ratepayers.)

### **Lewis and Clark and Roberts and Alito: Montana case asks court to interpret 1805 Expedition**

By Robert Barnes, Published: November 27, [washingtonpost.com](http://washingtonpost.com)

Justice Samuel A. Alito Jr. got a laugh last term when he posed a hypothetical historical inquiry that he said could hold the key for some in determining whether it was constitutionally kosher to ban the sale of violent video games to minors. "I think what Justice Scalia wants to know is what James Madison thought about video games," Alito said during oral arguments. An upcoming case on the court's docket about who holds claim to the nation's riverbeds may depend on what appears to be a more discoverable answer to another historical question: **What did Lewis and Clark think?**



[PPL Montana v. Montana](#) asks the court to decide who owns the lands below three Montana rivers and pits the state against a company that operates three hydroelectric dams along the waterways. Both sides say the outcome could affect the control of riverbeds throughout the nation, especially in the West. And both sides claim that the 1805 journals of the great expedition to the Northwest conducted by Meriwether Lewis and William Clark lend credence to their arguments. (It is another pair — Clement and Garre — that have drawn the attention of Supreme Court insiders: It will be the first time that Paul D. Clement and Gregory G. Garre, both former



solicitors general in the George W. Bush administration, have argued on opposite sides.) Besides the questions of law, the justices will be called upon to act as historians, trying to discern the navigability of the rivers at the time Montana became a state in 1889. It starts with Lewis coming upon the Great Falls of the upper Missouri River in June 1805. “My ears were saluted with the agreeable sound of a fall of water and advancing a little further I saw the spray arise above the plain like a column of smoke,” Lewis wrote, adding that he heard “a roaring too tremendous to be mistaken for any cause short of the great falls of the Missouri.”

The Supreme Court [determined years ago that states own the title to rivers](#) that were navigable at the time of statehood. [The question now is whether that ownership is different in segments of the river impassable because of falls or other impediments, or is determined by looking at whether the river as a whole is navigable](#), evidence of which can be based on present-day use. The Montana Supreme Court [decided the latter](#). Even though the land on which PPL Montana operated its dams was never treated as belonging to the state — [Montana had never claimed it until private citizens acting on the state’s behalf sued in 2003](#) — the court said it belongs to the public. It agreed that PPL owed back rent — \$53 million and counting. [Clement argues on PPL’s behalf](#) that the Montana court disregarded “long-settled understandings and the overwhelming weight of historical evidence” to allow the state “to effectuate a massive land grab.” [The federal government agrees with the company, saying it retains title to land where a waterway is not navigable and may issue permits for its use](#). But Garre [argues for Montana](#) that the state court simply “reached a judgment that would surprise few Montanans: The rivers at issue are navigable, and Montana therefore took title to the riverbeds at statehood, in public trust for Montanans.” Accepting PPL’s test would “upset centuries-old expectations and call into question the navigability of rivers not just in Montana but throughout the United States,” Garre wrote. [Twenty-six states are supporting Montana.](#)

Both the state and the company say Lewis and Clark’s experiences make their case. Clement points out that the expedition never even attempted to navigate one of the rivers at issue, and that the record shows Lewis and Clark bypassed the 17-mile Great Falls Reach of the Missouri “not out of convenience, but out of necessity — the stretch was impassable.” [Historians who agree with PPL said the state’s evidence of the commercial history of the rivers is in part based on notoriously unreliable frontier-era newspapers with boosterish and fabricated tales of “28-pound radishes and steamboat traffic between Denver and the Gulf of Mexico.”](#) Montana replies with Lewis’s observation that he did not believe “that the world can furnish an example” of how rivers can run through such mountainous country as Montana and yet be “so navigable as they are.” It is beyond dispute that the rivers played an important part of the new nation’s economic development, Montana argues. The state’s supportive historian is Stephenie Ambrose Tubbs, who has written extensively about Montana and is the daughter of Lewis and Clark scholar Stephen Ambrose. “For those of us who have spent our lives on these Rivers, retracing Lewis and Clark’s historic footsteps,” she [told the court in a brief](#), a piecemeal approach to ownership is threatening. And, for those who look to original meaning, she proposed that the court affirm the Montana Supreme Court, which she said recognized “that these rivers were navigable, as that term was understood by President Jefferson and the Founders before him.”



## **Water:**

(Wouldn't want to be in the Corps' shoes – trying to answer all the people with the benefit of hindsight isn't easy.)

### **Army Corps Of Engineers Explain Decision Making**

by Jill Johnson, November 21, 2011, kdlt.com

The U.S. Army Corps of Engineers continues to face criticism after record flooding along the Missouri River. Many have pointed the finger at the Corps for how they handled the situation. On Monday, the Corps explained why they reacted the way they did to the Sioux Falls Downtown Rotary Club. The Commander of the Omaha District of the U.S. Army Corps of Engineers Colonel Bob Ruch says there were several days in the 2011 Summer months that were worse than any day he spent serving in Iraq. "There were a lot of long nights, I thought we were going to lose levees in Council Bluffs... when we tried to put in temporary structures," said Colonel Bob Ruch. Colonel Ruch says he knows all too well the damage that the record amount of runoff and rainfall caused to farms and homes along the Missouri River.

Colonel Ruch said, "I've been up and down the River Basin as much as anyone." He says making decisions that impact thousands of lives isn't easy. That's why he wants to dispel any rumors that played into the decisions that were made to release water through the six dams he manages on the River. "There were all kinds of rumors about dams cracking and decisions were made to release the amount of water because the structures couldn't hold up but that's simply not true. These dams worked magnificently. They were only releasing 25 percent of the actual design was made to handle," said Colonel Ruch. According to Colonel Ruch there's millions of dollars in damage they have to fix including repairs to dam infrastructure and levee systems but decisions can't be made until the money is there. "We're just bandaging things right now until the funding comes from Congress to get to work," said Colonel Ruch. Colonel Ruch says many people want more water storage space in the reservoirs to prevent this from happening again but says flood control isn't the only thing he has to worry about. He says if there are changes in flood control storage they have to figure out where to take it away from. Currently there is an independent study being done on how the Corps of Engineers handled the flood.



### **Environment:**

(I suppose this is news regardless of which side you're on!)

### **Judge James Redden to step down after a decade on the Northwest's biggest salmon lawsuit**

By Scott Learn, The Oregonian, November 23, 2011, oregonlive.com

U.S. District Judge James Redden this week notified lawyers in the Northwest's biggest salmon case that he'll step down before 2014, when another court-ordered plan for salmon and Columbia Basin dam operations is due. Redden, 82, has rejected three federal government plans for operating hydropower dams on the Columbia and Snake rivers without causing undue harm to salmon and steelhead on the endangered species list.

In August, the Portland-based judge rejected the government's "biological opinion" for the third time, ordering the National Oceanic and Atmospheric Administration to submit a new plan no later than Jan. 1, 2014.



In an email to attorneys on the case Tuesday, he said he would step down prior to the filing of the 2014 plan. It's not clear how soon he will retire, though he said in his email that he wants to give another judge time to review the history of the case before another plan is filed. Attorneys say they wouldn't be surprised if he stepped down before year end. Redden's office couldn't be reached for comment. The announcement wasn't a surprise, given Redden's age and earlier signals that he would step down. But it's a significant change in a case that affects both electricity ratepayers and the Northwest's storied runs of wild salmon. Redden's stern oversight has helped

prompt more fish-friendly spill over dams, at the expense of power generation, federal government accords with Northwest tribes and millions more in federal spending on habitat improvements.

Redden has been on the federal bench since 1980, after serving as a Democrat in the Oregon Legislature and as state attorney general and treasurer. Salmon advocates see Redden as a champion for threatened runs. Critics say he's demanded too much from the government, stretching the legal requirements of the Endangered Species Act. Nicole Cordan, policy and legal director for Save Our Wild Salmon in Portland, said Redden is "an amazing man and an amazing judge." But Cordan said she doesn't expect a change in legal direction from a new judge: "I have all the faith that any other judge in the Portland district is going to do the exact same thing."



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12/09/2011



# Some Dam – Hydro News™

## And Other Stuff



**Quote of Note:** *"Age is an issue of mind over matter. If you don't mind, it doesn't matter."* - Mark Twain

**"Good wine is a necessity of life." - -Thomas Jefferson**

**Ron's wine pick of the week:** Sean Thackrey Pleiades XVII (blend of Syrah, Sangiovese, Mourvèdre, Barbera, Carignane, Petite Sirah and Viognier, among others)

**"No nation was ever drunk when wine was cheap." - - Thomas Jefferson**

### **Other Stuff:**

(Excerpts. This is the same bat that drives hydro projects batty! Amazing what one dead bat creates.)

Full Article: [http://www.energybiz.com/article/11/12/bats-endanger-wind&utm\\_medium=eNL&utm\\_campaign=EB\\_DAILY2&utm\\_term=Original-Member](http://www.energybiz.com/article/11/12/bats-endanger-wind&utm_medium=eNL&utm_campaign=EB_DAILY2&utm_term=Original-Member)

### **Bats Endanger Wind**

Bill Opalka | Dec 01, 2011, energybiz.com

The recent discovery of a dead endangered bat at a Pennsylvania wind site led to the immediate shutdown of night-time operations of a wind facility. The practice has become more widespread in recent years. Unlike a few years ago, the wind industry has been armed with studies and procedures that lead to immediate actions to prevent further fatalities, which have been deployed in sensitive areas populated by migrating birds and bats. On September 27, Duke Energy Corporation notified the U.S. Fish and Wildlife Service that a dead Indiana bat, a state and federally protected species, had been found at its 35-turbine, North Allegheny Wind facility. The facility, located in Cambria and Blair Counties in Pennsylvania, has been in operation since September 2009, and the bat carcass was located during voluntary post-construction mortality monitoring, FWS said. Duke Energy stopped operating the wind farm at night "to prevent additional mortalities of Indiana bats," spokesman Greg Efthimiou said. ----- In other locations, bat and bird monitoring has led to wind curtailment. Not the most lucrative solution, as curtailment cuts into wind plant revenue, but it helps avoid a PR disaster-in-the making.



On September 27, Duke Energy Corporation notified the U.S. Fish and Wildlife Service that a dead Indiana bat, a state and federally protected species, had been found at its 35-turbine, North Allegheny Wind facility. The facility, located in Cambria and Blair Counties in Pennsylvania, has been in operation since September 2009, and the bat carcass was located during voluntary post-construction mortality monitoring, FWS said. Duke Energy stopped operating the wind farm at night "to prevent additional mortalities of Indiana bats," spokesman Greg Efthimiou said. ----- In other locations, bat and bird monitoring has led to wind curtailment. Not the most lucrative solution, as curtailment cuts into wind plant revenue, but it helps avoid a PR disaster-in-the making.

**This is a great comment:**

**Bats Endanger Wind? Really??**

- Dec 2, 2011 - 8:35 AM

I am pro-alt energy. Very much so.

But shouldn't the headline read "Wind Endangers Bat"?



## ***Dams:***

### **Downtown dams will come down**

by Steve Wiandt | Reporter, fallsnewspress.com, 11/27/11



Cuyahoga Falls, Ohio -- City Council took the first step toward removing its two dams, a project that could be completed by next summer, a city official said. Council unanimously approved legislation Nov. 14 to enter into an easement agreement with the Ohio Environmental Protection Agency for the Cuyahoga Falls Dam Removal and Cuyahoga River Restoration Project. The design phase of the project will begin in January 2012, City Engineer Tony Demasi said. Bidding for the project would then take place, and removal of the dams would begin in May. Demasi said that the project is expected to be completed in July or August 2012. **One dam is behind the Sheraton Suites Hotel and the other is behind Samira's Restaurant.** The EPA approached the city in 2007 to discuss the possibility of taking down the two dams on the Cuyahoga River within city limits that are owned by the city,

according to Valerie Wax Carr, the city's service director. "One of the things I said in the beginning was, 'We are open to it, but we don't want to fund it,'" Wax Carr said. The Northeast Ohio Regional Sewer District, through its Water Resource Restoration Sponsor Program, will pay for the removal of the two dams and river habitat restoration, said Demasi. The Sewer District is sponsoring several watershed restoration projects as part of its combined sewer overflow elimination program, Demasi said.

**Last August, the NORSD approved a sponsorship agreement with the city, agreeing to provide a 100 percent grant [\$1 million] for dam removals,** according to a report by the city. "We're very excited," said Wax Carr. "This will actually take place in 2012 during the city's bicentennial ... healing the river back to its original state." She said the city and EPA's goal is to be able to see the original falls that Cuyahoga Falls is named after. "The removal of the dams would help restore and maintain the chemical, physical and biological integrity of the Cuyahoga River," said Demasi. "The Ohio EPA, encouraged by the success of the dam removal projects of Kent and Munroe Falls, is starting to see the benefits of those projects including better water quality, increased fish population and the return of some native animals." With the increased velocity of the river's flow created by the dam removal, Demasi said, Class 4 and 5 whitewater rapids will be formed within the city. The development of a river trail will also take place, he said, as well as the appearance of more recreational use of the river including fishing.

### **History of city dams**

Dams along this section of the Cuyahoga have been around for 200 years, Demasi said. The dams were built by industrialists for the purpose of power mills to make products including lumber, paper and flour. **The first dam built on the river dates to 1812,** he said, when Kelsey & Wilcox built it near the location of the current stone railroad bridge. In 1815, a dam was built upstream near Gaylord Grove, and in 1826, William Wetmore, the founder of the city, built a dam further downstream, which flooded the earlier upstream dams. By 1837, three dams were located on the river, and by 1881, there were five dams located within a quarter of a mile, Demasi said. **Following the flood of 1913, which damaged or destroyed most of the dams on the river, the current two dams were built.** The Powerhouse or LeFever Dam was built in 1914 to supply power for the Walsh Paper Company. The Mill or Sheraton Dam was built between 1914 and 1918 for

the Vaughn Machinery Company for use in the production of steel, rubber, copper and clay products. In 2003, the U.S. EPA approved the total maximum daily load study of the river, Demasi said, and it was determined the dams significantly impair the biological habitat and water quality. "The physical structure itself causes water quality impairment, habitat impairment and the fish communities don't resemble those in natural streams," said Bill Zawiski, environmental supervisor of water quality for EPA. "... Dams are a fairly easy thing to address." Removing the dams will not cause increased flooding, Zawiski said. Dam removal restores the flood plain buried in the water, he said, and increases the capacity for water storage.

(And, the battle and rhetoric goes on re the Klamath River Dam removals)

### **Wally Herger: Where I stand on the Klamath dams**

November 27, 2011, redding.com

I have always been — and continue to be — a fervent supporter of dams. I believe we need more dams, not fewer. They are invaluable because of their many benefits, including as a source of abundant and cheap electricity, protection from flooding, and recreational opportunities (including the economic benefits they create) for local communities. Unfortunately, decades of increasing environmental regulation have created skyrocketing costs and potential liabilities for existing dam owners. It's a problem we are seeing play out across the West and indeed right here in our own backyard as four dams on the Klamath River are currently being considered for removal because the environmental costs and risks of continued operation have become so high. The debate over these four Klamath River dams has become a big issue in our area. Constituents I have known and worked with for many years are sharply divided on it.

Farmers in Tulelake in Siskiyou County have been fighting regulatory battles like these for years. Indeed, in 2001 their area was ground zero for a national battle over the inflexible Endangered Species Act (ESA), as farmers there had all of their irrigation water abruptly shut off in a decision that was later determined to be not justified by science. It is these same farmers who have been working to take the best advantage of a settlement agreement that they fervently hope will provide them the regulatory certainty they need to survive. They are hardly cheerleaders for dam removal. But they have concluded that giving up certain dams that create hydropower but do not store agricultural water is a trade-off they are willing to make in exchange for what they hope will stop the endless regulatory and court battles over their water supplies. If I were in their position, I would be advocating for the same settlement agreement to have a more secure economic future. There is a wider community sentiment that strongly opposes dam removal. This was reflected in a lopsided but legally nonbinding referendum. This emotionally charged issue is further complicated by the fact that, at its core, dam removal in this case involves a private property right. PacifiCorp, the owner of the dams, has reluctantly made a tentative business decision to remove its dams. The company indicated to me that it did not reach this decision lightly. But, to be blunt, the company had a regulatory gun pointed at its head. It is not that the dams are structurally deficient; the problem is that they cannot meet current state and federal laws and regulations. As PacifiCorp moved through the relicensing process, it realized it would be required to spend hundreds of millions of dollars for fish ladders and other mitigation, and yet it was still unclear whether it would receive a vital permit required under the Clean Water Act. Faced with this prospect, PacifiCorp decided to cut its losses. (The negotiated settlement allows the company to cap its costs at \$200 million. Seeking to relicense the dams would far more than double that cost, which, under current law, would be passed on to ratepayers.) That said, dam removal is by no means a "done deal." The "Agreement in Principle" requires a \$250 million contribution from the state of California. Given the acute fiscal crisis facing California, such funding is by no means assured.

Furthermore, the Klamath River Expert Panel (a scientific "peer review" panel convened by the Department of Interior) recently concluded that current studies are deficient in addressing a host of subjects. A June story in the Los Angeles Times was headlined: "Scientists find holes in Klamath River dam removal plan." The opening sentence bluntly noted, "A \$1.4 billion project to remove four hydroelectric dams and restore habitat to return Chinook salmon to the upper

reaches of the Klamath River amounts to an experiment with no guarantee of success, an independent science review has concluded." Bear in mind that the Department of Interior asked for this review. I contacted Interior Secretary Ken Salazar in late August and asked him to respond to the Expert Panel's scathing criticisms, but I have still received no reply. Before the secretary renders a decision on dam removal, and before the Congress is asked to expend roughly a billion dollars to implement a "restoration" program, it might be a good idea to make sure that the plan will not be a colossal failure. **If the science does not justify the proposal to remove the dams, or if the cost/benefit ratio is so out of kilter that it does not pass the straight-face test, then PacifiCorp should be owed the opportunity to seek a new license that contains reasonable and affordable conditions.** But the bottom line is we must continue working to reform the environmental laws that are making life so difficult and costly for farmers and energy producers alike.

(Now, what dam owner allows this to happen? If someone gets hurt or worse, guess who gets sued and loses?)

### **The Most Dam Fun A Guy Can Have**

December 1, 2011 | Author: Alec, thechive.com

Click on this link and watch the short video:

<http://thechive.com/2011/12/01/the-most-dam-fun-a-guy-can-have/>

(Here's a different view from a guy with a kayak and I guess according to this writer the power is worth nothing. 1/500<sup>th</sup> of a really big number is a really big number - about 670+ GWh. Why didn't he include the actual generation data? Manipulating the data to his advantage hides the facts.)

### **The Klamath River debate: Harm from dams far outweighs kilowatts produced**

oregonlive.com, December 03, 2011, By Guest Columnist Bill Cross

**Not all dams are created equal. Each is endowed by its creators with certain abilities: Some provide flood control, some store irrigation water, some generate electricity, and some are engineering compromises that do a bit of everything.** If we're going to debate whether to remove a dam, we need to know precisely what it does. The nation's hottest dam-removal debate centers on four PacifiCorp dams on the Upper Klamath River, yet many people don't understand what these dams can -- and cannot -- do. The fact that they are owned by PacifiCorp, an electric power company, is a big clue. PacifiCorp is not in the business of providing flood control or storing irrigation water for farmers. PacifiCorp generates and sells electricity, and that's the only thing their Klamath dams are designed for. This surprises most people. They assume all dams reduce winter flooding and boost summertime flows. But to do those things, a dam must store and release large amounts of water by raising and lowering its reservoir. At Lost Creek Reservoir on the Rogue River, for example, the U.S. Army Corps of Engineers releases extra water every summer, lowering the lake dramatically, then uses that excess space to capture high winter and spring flows, refilling again in time for summer. Not so with PacifiCorp's Klamath dams. Seasonal raising and lowering is inefficient for generating hydropower, so these reservoirs maintain a near-constant level, with no ability to store excess water in one season for release in another. These dams are what engineers call "run of river," releasing essentially the same amount of water that flows in. They can alter flows only very briefly, typically storing water at night and then releasing it in an oversized pulse at midday, when demand for power is highest. They simply cannot store enough water to reduce winter floods or release extra water in summer.

Consider the numbers. Lost Creek can be raised and lowered by 121 feet and can store -- or release -- 315,000 acre-feet of water. That's enough to cover Portland 3 1/2 feet deep. Iron Gate Reservoir, biggest of the four PacifiCorp reservoirs, can be raised or lowered just 4 feet, storing only 3,790 acre-feet of water -- 1/80th as much, or enough to cover Portland a mere half-inch deep. That's the difference between a single-purpose hydro dam like Iron Gate and a multipurpose dam like Lost Creek. But these numbers are purely theoretical, because PacifiCorp will never operate these dams for flood control or water storage; the company isn't required to,

and, given the dams' design, it couldn't if it wanted. The only dam on the Klamath that provides water storage is Link River Dam, located well upstream at the outlet of Upper Klamath Lake. That dam, which stores 128 times as much water as Iron Gate, is run by the U.S. Bureau of Reclamation, not PacifiCorp, and no one is suggesting that it be removed. So let's be clear, and let's be fair. PacifiCorp's Klamath dams do just one thing: generate electricity. Which means the question we should be debating is simply this: Do the merits of power production outweigh the environmental costs of keeping the dams in place? American Whitewater believes the dams' modest electricity production -- about 1/500th of California's and Oregon's demand -- pales compared with the tremendous harm they cause by blocking migrating fish, brewing toxic algae and flooding or dewatering almost two dozen miles of one of America's greatest recreational rivers. *Bill Cross is regional coordinator for American Whitewater, which works to protect and restore the nation's whitewater rivers.*



### **Hydro:**

(EIA just shows no respect for the most efficient renewable – HYDRO!)

For Immediate Release

### **EIA releases analysis of Bingaman CES proposal**

**Statement of NHA Executive Director Linda Church Ciocci**

Washington, D.C. (November 30, 2011) – The following is a statement from the National Hydropower Association Executive Director Linda Church Ciocci regarding EIA's Clean Energy Standard Analysis:

“NHA appreciates Senator Bingaman’s leadership on clean and renewable energy issues and applaud his dedication to developing policies that support increased development. However, we are discouraged by the overall treatment of hydropower in his scenario submitted for analysis by the Energy Information Administration and urge his reconsideration. “Today’s Energy Information Administration analysis of Senator Bingaman’s Clean Energy Standard clearly shows the central role that hydropower must play in any federal energy policy. NHA strongly believes that in order to achieve the President’s goal of providing 80 percent clean and renewable energy by 2025, new and existing hydropower resources must be recognized under any federal standard on par with other new and existing renewable technologies. “We are concerned with some of EIA’s findings and assumptions in this analysis, particularly the failure to accurately represent hydropower’s growth potential. With the right policies in place, hydropower can double capacity. The analysis released today shows little to no growth in the hydropower industry, and does not accurately reflect a growing and dynamic hydropower sector with over 80,000 MW of capacity before the Federal Energy Regulatory Commission. We encourage policymakers to look closely at the facts about hydropower: it is the nation’s most available, reliable and affordable renewable energy source, with the potential to support more than 1 million jobs in the years to come. “We stand ready to work with Senator Bingaman as he and other lawmakers craft national clean energy standards that, with hydropower’s inclusion, will support America’s economy and drive development of vital energy resources.”

### **Hydroelectric Technology Research Fellowships for Mechanical and Electrical Engineering Students**

By Ryan On December 2, 2011 · profellow.com

The [Hydro Research Foundation's Hydro Fellowship Program](#) will be offering as many as 10 fellowships in 2012 for Mechanical and Electrical Engineering graduate students in their final year of study who are interested in conducting research related to the improvement of conventional hydropower and pumped storage hydropower. Fellowship candidates must choose a research



topic related to advances in generators, turbines, transformers and electrical systems, as well as a myriad of other topics such as simulation and optimization tools, protection of critical hydropower infrastructure, market trends and strategies, water management innovations, and many more. A full list of topics can be found on the [website](#). The Hydro Fellowship Program fellowships typically range from 1-3 years in length and provide a living stipend of up to \$26,000 annually along with an annual tuition allowance of up to \$16,000. Other benefits include a health insurance allowance, travel costs to attend the Annual Hydro Fellows Roundtable, and mentors from the Hydro Research Foundation and the hydropower industry. Applications for the 2012 program are due March 1, 2012. Fellowship winners will be announced on April 4.

(Another benefit of hydro and sort of that home town stuff)

### **Chamber celebrates 85 years**

By Joseph Kohut (Staff Writer), November 27, 2011, [thetimes-tribune.com](http://thetimes-tribune.com)

Eighty-five years ago, when the Hawley, PA Chamber of Commerce was established, the region was a small rural community that was tied closely to coal mining and agriculture. In 1925, Pennsylvania Power & Light Co. began damming Wallenpaupack Creek to generate hydroelectric power, and by 1926, Lake Wallenpaupack, then the largest man-made lake in the state, was born, said Debbie Gillete, executive director of what is now known as the Pocono Lake Region Chamber of Commerce. Since that time, the lake has become the single greatest earner for the region, bringing in tourists each year, and the region's Chamber of Commerce has responded by making tourism its primary focus - something the chamber said it tries to accomplish by blending the "old and the new," she said. "Family-owned and -operated mom-and-pop shops are a very big aspect of business in the area," she said. With many small businesses in the area being owned and operated within families for many generations, the small-town aesthetic is very strong in the area and is used as a draw to bring in vacationers and "daycationers," locals said. One such local is former chamber president Dick Teeter, 71, whose family has owned Teeters' Furniture and Teeters' Funeral Chapel for the past 162 years. "In downtown Hawley, we try to keep that hometown, sort of Victorian, sort of relaxed feeling," Mr. Teeter said.

Jim Shook, the current board president of the Pocono Lake Region Chamber of Commerce, said the potential for Lake Wallenpaupack as a tourist attraction was seen in the 1930s, as summer homes were being built on its shores, but the 1970s saw a marked increase in tourism and the mid-'80s and early '90s saw an "explosion" in vacationers. As a result, more hotels, bed-and-breakfasts and local business have sprung up to meet the increased demand, he said. "When I graduated high school there wasn't a single traffic light," Mr. Shook, 45, said. "Now there's five." Mr. Shook said he expects the area to continue to grow. He said the recently added presence of two colleges in the Hawley area, the Lackawanna College-Lake Region Center and the Hawley campus of Northampton Community College, may entice students to stay in the area. Mr. Shook also said there is the possibility Marcellus Shale drilling may begin within five years. He said he believes the drilling will impact tourism though he does not know to what extent. He said the big concerns with the drilling are not landscape modification, but rather overcrowding and traffic. He said it is possible that workers may book the majority of the rooms at the hotels, making it difficult for vacationers to make reservations, with the trade-off being a more stimulated local economy. According to its website, the Lackawanna College-Lake Region Center saw the addition this fall of the Kiesendahl School of Hospitality and Tourism with concentrations in hospitality management and culinary arts, and a one-year career advancement program in oil and gas accounting. Mr. Shook said that the implementation of the oil and gas accounting program is directly related to the Marcellus Shale work expected to take place in the near future. The implementation of the Kiesendahl School of Hospitality and Tourism is also directly related to promoting tourism in the area, he said. "The aim is to maintain the same level of hospitality excellence that has come to be expected from the area," Mr. Shook said.

(It would be good if they could do what Idaho Power did many years ago at the Swan Falls project on the Snake River – turn it into a museum and educational site, but cost may be a problem, as

usual – [see web site: <http://www.boisestate.edu/research/history/teachingidaho/swanfalls.shtm>]. Maybe the Company can turn it over to someone who is in the historic preservation business.)

## **PPL seeks input on fate of historic Rainbow Dam powerhouse**

Nov. 28, 2011, greatfallstribune.com

PPL Montana owns an antique powerhouse at Rainbow Dam after the company upgraded its hydropower system at the dam and built a new powerhouse over the last two years. Now PPL is trying to figure out what to do with the historic building. David Hoffman, director of external affairs for PPL Montana, indicated the company is not very interested in putting on a new roof on the building and mothballing it for some project years into the future. "We're not in the historic preservation business," Hoffman said in an interview Monday. "We're in the electricity generating business." Today's meeting is not a fait accompli, with the outcome already decided, he said. "We're not coming in with a preferred alternative," Hoffman said. Officials want to know what ideas people have on how the big building could be used. Options range widely on everything from re-using the masonry building to tearing it down, Hoffman said.



Residents of Black Eagle, Great Falls and elsewhere are invited to attend the session from 6 to 8 p.m. today at the Black Eagle Community Center. Destruction is not the preference of several preservationists in the area who would prefer the building remain standing and be re-used for some other purpose. "To be truly sustainable, we have to quit throwing buildings away," said Ellen Sievert, city-county historic preservation officer in Great Falls. "There are some wonderful examples (of re-use) out there. I think it's time we get creative." Sievert and Carol Bronson, a historic preservation board member, attended a National Trust for Historic Preservation conference in Buffalo, N.Y., in October that looked at ways Buffalo and other cities found new uses for industrial structures. "This is a very well-built building," Bronson said Monday. "It's a beautiful location." She called the option of tearing down the building "a waste of resources." Bronson said possible uses could include a restaurant, housing or a museum focused on the history of area dams and their importance to the Black Eagle community. Once Black Eagle is cleaned up through the Superfund program from pollution by the defunct Anaconda Co. smelter and refinery, the community may see an expansion of River's Edge Trail through the area, Bronson added. "I could easily see a bike path up there," Bronson said. Bronson said she doesn't think the condition of the road leading to the dam powerhouse is an issue, but she said access to the property could be for PPL Montana. "I can completely understand that," Bronson said. "It's an issue." Hoffman said the federal government is concerned about security around energy facilities such as hydropower dams near Great Falls. How the building would be used "would have a lot to do with" whether security could be affected, according to Hoffman. "It would be a challenge," Hoffman said.

Hoffman said PPL Montana hopes to provide a recommendation to the Federal Energy Regulatory Commission by March. At that point, people once again could offer comments to FERC about plans for the old powerhouse. Hoffman said if the community rallies in favor of saving the building and a solid plan emerges, the company would consider it. Regarding the idea of a water-power museum, "I think clearly it would have to be done by a group or another entity," Hoffman said. "That's not to say we couldn't help financially to some extent." Hoffman noted PPL Montana has given a lot of grants in the Great Falls area during the last decade or so. Hoffman added there are plenty of practical complications to re-using the old Rainbow Dam powerhouse. He said it has no heat, since the building's power generators kept the structure warm. The building needs a new roof, the foundation might require work and some windows would need to

be replaced. In addition, the water level at the foot of the structure may rise, and any re-use of the old building may require "a pretty significant capital investment," Hoffman said. However, "it's not written in stone" that the building is doomed, he said.

## Construction on schedule, turbine components arriving \$550M project ready for concrete

Wendy Mitchell, Ledger Independent | maysville-online.com, November 29, 2011

Foster | Rock removal has been completed and progress on construction of the powerhouses for the Meldahl Dam Hydroelectric plant are on schedule, officials said on Tuesday. "We are about three to four months into powerhouse construction. We completed rock removal last week," said Tom Leibham, Meldahl Dam Hydroelectric Plant project manager. Early core testing gave contractors a good idea of what to expect as they began removal of rock from the site between the Ohio River and Kentucky 8 in Bracken County, he said. "The amount of rock checked out just as expected," Leibham said. "Concrete work starts in a few weeks; about mid-December."



Components for the three turbine generators have also begun to arrive, he said. "Unlike when we were working on the coffer dam, for this work, the rain and weather have not been an issue for us," he said. The powerhouse will house three horizontal 35 MW bulb type turbine and generating units with a capacity of 105 MW. A three-phase completion of the turbine generator area is planned with the last turbine completed and commercial operation in 2014, he said. The \$550 million endeavor is coordinated through the city of Hamilton, Ohio, and expected to eventually provide 520,000 megawatts of electricity per year. According to officials, when completed, Meldahl will become the largest hydroelectric power plant on the Ohio River and provide the city of Hamilton with nearly 70 percent ecologically "green" power.

In partnership with American Municipal Power of Ohio Incorporated, COH is committed to have the facility into commercial service in 2013, officials said. As part of the agreement, AMP-Ohio is financing hydroelectric plant construction at Meldahl. AMP-Ohio, is a nonprofit wholesale power supplier and services provider for more than 120 municipal electric systems in six states. Its partnership with COH at Meldahl, allows it a 48.6 percent share in electricity produced at Meldahl and 51.4 percent for COH, officials said. The project has a potential of helping stabilize electricity rates for COH service area. When completed, and in conjunction with other COH and AMP-Ohio electric projects, like the Prairie State Energy Campus in Lively Grove, Ill., officials anticipate 85 percent of electric rates for energy used by COH served customers will be fixed rates, officials said. When completed, the site will include an intake approach channel, a reinforced concrete powerhouse, and a tailrace channel. A recreation area is also planned adjacent to the site to provide the public with access to the river.

(Too many regulators. Hope that they can get these kinds of projects authorized in a short time)

## Hydropower may come to Ridgway

### Bureau of Reclamation reviews environmental assessment

By Benjamin Preston, Associate Editor, telluridenews.com, December 2, 2011

Federal regulators are looking at Ridgway Dam as the potential site for a 7-megawatt hydroelectric power plant project. In September, the U.S. Bureau of Reclamation, which owns the dam, submitted a draft environmental assessment examining a lease agreement with the Tri-County Water Conservancy District, the agency that would build the plant and sell electricity to the grid. Public comment on the environmental assessment recently ended, and a spokesperson

from the Bureau said that public input generally favored the project. Tri-County manages Ridgway Dam, providing 28,100 acre-feet of water to 7,500 domestic water taps and 11,200 acre-feet to more than 50,000 acres of agricultural land. (An acre-foot is the amount of water it takes to cover an acre of land with a foot of water, or about 326,000 gallons.) Tri-County District Manager Mike Berry said that aside from storing municipal and irrigation water, the dam was originally intended to include a hydroelectric plant. Although the Bureau of Reclamation owns the dam, it can allow a non-federal agency to develop hydropower with a lease of power agreement.

"The dam has been there a long time, so it's time to use the power that comes from the release of water," Berry said. "It's clean, green energy and everyone likes it." Berry added that the district is in the process of seeking buyers for the electricity, and hopes to get a purchase of power agreement signed within the next 90 days. Without contracts in place, the project will not proceed, but the City of Aspen and a few other entities have expressed interest in buying power from the district. Although Ridgway Dam was built in 1987, planning the project — dubbed the Dallas Creek Project — took years. Congress passed the Colorado River Storage Project Act in 1956, authorizing irrigation water storage projects in high altitude areas that typically produced low value crops such as alfalfa, meadow hay, pinto beans and small grains. These irrigation projects were to be made economically feasible by including hydroelectric plants with the dams. Selling electricity would pay for the irrigation infrastructure. It took another act of Congress, appended to the CRSP Act, to get the ball rolling on the Dallas Creek Project. Authorized as part of the Colorado Basin Act in 1968, construction began a decade later and took another nine years to wrap up. The reservoir filled for the first time in 1990. But there was one part missing — the hydropower plant meant to finance the project. If the environmental assessment and contracting bids go as Tri-County wants them to, that piece could fall into place soon.

Conceptual plans for the new plant call for two turbines, one rated at 4.9 megawatts and the other at 2.1. Berry said half the electricity produced by the plant would be cranked out between June and September, with the rest trickling in during the other eight months of the year. Berry said that based upon federal biological studies, the way the turbines and their attendant pipework are designed could improve water quality. The turbines, planned to be independent of the dam's current spillway, will discharge water through submerged pipes, slowing it down. Berry said the design aims to ameliorate a nitrogen-rich condition affecting fish downstream of the dam. Justyn Hock, a Bureau of Reclamation spokesperson, said that the U.S. Fish and Wildlife Service, Colorado Parks and Wildlife and environmental groups including Trout Unlimited and the High Country Citizens Alliance gave the project a thumbs-up during the comment period. But the plans are still in the conceptual phase. Pending approval of the environmental assessment, which should happen within the next 60 days, and final purchase of power agreements, Tri-County will have to solicit bids for an engineer and contractor to design and build the project. "It's a good project," Berry said. "We've scoped it and written an environmental assessment, and I think it's going to get built. A lot of things are going to happen in the next year."



### **Environment:**

(Click on the links in the article for some great photos. This is a story that pops up every so often and is worth noting again.)

### **Dam Eagles!**

wbal.com, November 24, 2011, Bill Vanko

On any given day around this time of year, you can find a group of cold, hearty people gathered in a parking lot along the banks of the Susquehanna River in Harford County. Some of them have spent thousands of dollars to get there.



Others have spent nothing more than the cost of the gasoline they used. But they're all in search of the same thing. Bald eagles. For several weeks from November to January, the Conowingo Hydroelectric Dam in northeastern Maryland becomes ground zero for east coast eagle watchers. They know the dam plays host to one of the largest assemblages of America's national bird anywhere in the eastern U.S.. The birds are drawn there by the plentiful fish in the river, and the guarantee of open water, no matter what the temperature, courtesy of the dam's constantly spinning generators. The people are drawn there by the birds. WBAL's Bill Vanko has been photographing eagles at Conowingo for several years. And every now and then he gets a picture worth keeping. You can see some of those shots by [clicking here](#), and on his website [VankoVision.com](http://VankoVision.com). You can also relive his recent "Wild Kingdom Moment" when two eagles and one fish had Bill's trigger finger in overdrive!



Less than 35 years ago in Maryland would have been unheard of. In 1977, biologists counted only 44 pairs of nesting eagles in the entire state. Today there are more than 500 pairs, and it's not unusual to see dozens or even scores of eagles sitting on the rocks at the base of the dam, or on the tall power line towers that stretch skyward from an island in the middle of the river. Some people come simply to marvel at the sight. Others are photographers who come armed with high-tech and expensive camera equipment hoping to capture the proverbial "shot of a lifetime" as the eagles swoop down and pluck hapless fish from the river below. But despite spending, in some cases, tens of thousands of dollars on their camera equipment. Most of the pack of Conowingo photographers know that the vast majority of the pictures they take won't be worth a second look. "You can't control the light, and you can't control the eagles," says one photographer, who estimates he has \$15,000 worth of equipment scanning the skies for the birds. Another says it's not unusual for him to take up to 2,000 pictures in a single day, knowing that if just one or two are "great shots," then he'll go home a happy man.



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12/16/2011



# Some Dam – Hydro News™ And Other Stuff



**Quote of Note:** *“An expert is a man who has made all the mistakes which can be made in a very narrow field.” -- Niels Bohr*

**“Good wine is a necessity of life.” - -Thomas Jefferson**

**Ron’s wine pick of the week: Catena Mendoza Malbec 2009**

**“No nation was ever drunk when wine was cheap.” - - Thomas Jefferson**

## ***Other Stuff:***

(How do you put this fire out? The fire hose isn’t that long! Too much wind!)

### **Vestas turbine catches fire in high winds**

James Quilter, Windpower Monthly, 09 December 2011, windpowermonthly.com

UK: A wind farm in Ayrshire, Scotland has been disconnected from the grid after one of the project's Vestas 2MW turbines caught fire during high winds. The 30MW Ardrossan project in Ayrshire is owned by Infinis Energy and uses Vestas 2MW turbines. **The incident occurred as the northern half of the UK faced winds of up to 165mph.** In a statement, Infinis confirmed the nacelle had caught fire but was unable to give further details on the cause. It said **no one was present when the incident happened, as staff are always evacuated from the site in 55mph+ winds as a precautionary measure.**



## ***Dams:***

(USSD responds to INR article and video. See video at: <http://news.softpedia.com/news/Dams-Are-Wrong-Answer-to-Climate-Change-237045.shtml>)

### **Dams Are Wrong Answer to Climate Change**

news.softpedia.com

**On the first day of the Durban summit, International Rivers and Friends of the Earth International launched a video showing that dams are the wrong answer to the climate change phenomenon.**

The Google Earth 3D tour raises the public opinion's level of awareness regarding the connection between dams and current climate conditions, by presenting useful information about the role played by these structures. The study takes into consideration actual cases from Africa, the Amazon and the Himalayas. First of all, climate change influences the amount of precipitation, therefore river flows cannot be properly controlled, as they are highly unpredictable, reports *International Rivers*. Dams endanger the resources of the already challenged local communities and wildlife representatives. Such a structure can flood land surfaces, reduce the quantity of water and destroy fisheries. Last, but not least, these giant structures trigger a significant amount of greenhouse gas emissions. Dams, especially those located in the tropics paved with rotting vegetation, are a significant source of methane.

**Comment #2 by: Michael Rogers, USSD on 01 Dec 2011**

Dear Editor – The video presented as “news” on your site is a one-sided opinion put together by the “Friends of the Earth” and “International Rivers” to further the single-minded anti-dam views of their leadership. The video begins encouragingly with common sense goals to address Global Climate Change, including the reduction of fossil fuels, more efficient use of energy and the increased use of renewable forms of energy. Unfortunately, the piece then launches into an assault on all dams. This conspiracy conjecture is absolutely not true and there is no evidence to support such accusations.

The remaining portion of the video includes distorted details, misinformation and flat-out untruths, including pictures taken out of context to support extremist statements. These images are construed to incite ill feelings towards the dams and reservoirs without considering the critical power and water supplies that are being provided to people in cities and villages to survive. It is interesting that the video shows the drought effects on Lake Mead as an example of how dams cannot react to changing climate. When in fact, Lake Mead is a perfect example of how dams can be part of a sustainable solution. Good foresight and rational policy has allow this dam and reservoir to continue to provide reliable and clean power, water supplies and recreation even during a 10 year drought. Without Lake Mead’s storage, the drought would have had catastrophic effects on western portions of the United States.

For thousands of years, society has built dams to prevent catastrophic flood damages, provide a dependable supply of water for agriculture and domestic needs and provide renewable power to support the economies of growing and increasingly civilized populations. Society is best served by the balanced examination of the benefits and costs of dams to arrive at good decisions about new dams, modifying or remediating existing dams, or decommissioning dams as is appropriate given our best current engineering, scientific and social understanding. Some of the benefits of dams are documented on the USSD website at <http://ussdams.org/benefits.html>. Specific information on incorporating climate change science into the design, construction, and operations of our water resources management infrastructure is addressed in a published a report, "Addressing Climate Change in Long-Term Water Resources Planning and Management: User Needs for Improving Tools and Information." This report can be accessed at <http://www.usbr.gov/climate/userneeds/>.

The individuals that prepared this anti-dam video under the guise of climate change concerns never address real solutions to these serious needs of our worldwide population. The United States Society on Dams and other similar organizations are committed to developing infrastructure to meet the critical standard-of-living needs of people in a world with an ever-increasing population, including adaptability to climate change and sustainable development. We invite you and your many readers to take a hard, factual look at dams and the part they can play in dealing with climate change and welcome your participation in this conversation.

**Michael F. Rogers**  
**President, United States Society on Dams**

(Even the small reservoirs get major opposition. This is basically an off-stream reservoir that affects a few small streams tributary to the Catawba River. Is drinking water important?)

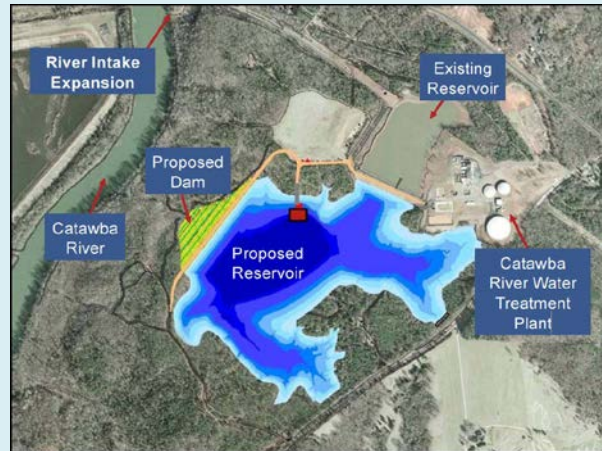
## Catawba River Water Grab Feared

12/04/2011, enr.construction.com, By Bruce Henderson, The Charlotte Observer, N.C.

A proposed reservoir south of Charlotte would help the region survive droughts, but environmental advocates say it appears to also be part of an undisclosed plan to expand water sales from the Catawba River. Officials of the Catawba River Water Supply Project, owned by Union County and a Lancaster County, S.C., water district, insist they have no approval, money or immediate need to expand its water-treatment capacity.

The \$27 million reservoir would only store water for use during dry spells, they say, as it has been described in applications for state and federal permits. The reservoir has been endorsed by Duke Energy, which manages the Catawba, and municipal water utilities in the basin.

But a 2008 engineering contract says the reservoir is the first of two projects. The second stage, it says, would expand the treatment plant from its 36 million-gallon-a-day capacity to 54 million gallons. A new pump station that is part of the reservoir project will be able to pump 100 million gallons a day, the maximum the project is permitted to draw from the Catawba, according to a project presentation. Charlotte-Mecklenburg Utilities, by comparison, pumps 121 million gallons a day.



Use of the Catawba, which crosses the South Carolina line in southwest Mecklenburg County, is an increasingly sensitive topic. As droughts parched the region and growing communities demanded more water, the Carolinas faced off before the U.S. Supreme Court in a water-rights case settled about a year ago. Union County, which the Catawba River Water Supply Project serves, was one of the nation's fastest-growing counties before the recession. Most of the county is not in the Catawba basin. At a meeting Friday of a two-state Catawba advisory commission, environmental advocates said water conservation measures could end the need for a new reservoir. The Southern Environmental Law Center, representing the advocacy groups American Rivers and the Catawba Riverkeeper Foundation, says the project could also connect to neighboring water systems. The law center calls the project "a precedent-setting, unnecessary expenditure of public and ratepayer funds" that will encourage other water systems in the Catawba basin to create their own reservoirs rather than find alternatives.

### Preserving their options

After a public records request, the center found emails in which local officials discuss dodging questions about whether they plan to expand the treatment plant after building the reservoir. "Union County can't be in a position six months from now of having to move forward with an expansion and defending a statement from today saying 'we have no expansion planned,'" the county public works director wrote in June. Project officials, however, say they have no immediate plans to expand. The project now treats no more than 22 million gallons a day of its 36-million-gallon capacity, director Michael Bailes said. "Obviously, yeah, we've been looking at growth, but it's on the back burner and that's not an issue," he said. "Is it in the long-range plans? Yes." The immediate concerns, Bailes said, are new restrictions on how much water Duke Energy would release down the Catawba during a severe drought. The 92-acre reservoir is intended to store water for use in such an event. Duke official Mark Oakley agreed, saying the reservoir would help ease pressure to release water from upstream reservoirs during droughts.

### Ecological concerns



Even relatively small reservoirs do environmental damage. The Lancaster County reservoir, about 20 miles south of Charlotte, will affect wetlands and two streams. The U.S. Army Corps of Engineers, which is considering a permit for the reservoir, focuses on ways to avoid environmental harm in evaluating such projects. **The environmental groups have asked the Corps to demand an analysis of alternatives to building the reservoir.** The Environmental Protection Agency has also written the Corps, expressing "significant concerns" with the reservoir. Apart from environmental damage, the EPA says it hasn't received full information about water-conservation measures enacted by the Lancaster-Union project. Project officials say they're making progress on conservation. **Even in a worst-case drought scenario, EPA said, the project could get by with an additional 135 million gallons of stored water. The new reservoir would hold 900 million gallons.** "These measures should be exhausted before an additional reservoir is considered," EPA wrote the Corps.

## Sierra river dam plan dropped

By Mike Taugher, Contra Costa Times, mercurynews.com, 12/05/2011

**In a major victory for Sierra river advocates, the East Bay's largest water district said Monday it will drop its plan to enlarge a reservoir in the Sierra foothills,** which would have inundated stretch of the Mokelumne River prized by kayakers. The East Bay Municipal Utility District had argued it needed to either raise its dam to enlarge the reservoir or invest heavily in desalination to meet its needs over the next 30 years. Conservationists and others sued, saying the district had not considered other alternatives, including investing in the far less controversial Los Vaqueros Reservoir near Brentwood. The possibility of investing in an expansion of the Contra Costa Water District's reservoir was among the factors that led EBMUD to conclude it did not need to raise the dam at Pardee Reservoir. The district said its other options for meeting its long term water supply needs included water purchases, groundwater storage and desalination.



### **Hydro:**

(EIA shows it's no friend of hydro. Looks like the Environmental community got to them. Let's face reality – if it's not wind or solar, EIA doesn't like it. Discouraged is putting the issue mildly. I guess it's PC to be gentle with comments.)

For Immediate Release

## **EIA releases analysis of Bingaman CES proposal Statement of NHA Executive Director Linda Church Ciocci**

Washington, D.C. (November 30, 2011) – The following is a statement from the National Hydropower Association Executive Director Linda Church Ciocci regarding EIA's Clean Energy Standard Analysis: **"NHA appreciates Senator Bingaman's leadership on clean and renewable energy issues and applaud his dedication to developing policies that support increased development. However, we are discouraged by the overall treatment of hydropower in his scenario submitted for analysis by the Energy Information Administration and urge his reconsideration.**

"Today's Energy Information Administration analysis of Senator Bingaman's Clean Energy Standard clearly shows the central role that hydropower must play in any federal energy policy. **NHA strongly believes that in order to achieve the President's goal of providing 80 percent clean and renewable energy by 2025, new and existing hydropower resources must be recognized under any federal standard on par with other new and existing renewable technologies.**" "We are concerned with some of EIA's findings and assumptions in this analysis, particularly the failure to accurately represent hydropower's growth potential. With the right policies in place, hydropower can double capacity. The analysis released today shows little to no growth in the

hydropower industry, and does not accurately reflect a growing and dynamic hydropower sector with over 80,000 MW of capacity before the Federal Energy Regulatory Commission. We encourage policymakers to look closely at the facts about hydropower: it is the nation's most available, reliable and affordable renewable energy source, with the potential to support more than 1 million jobs in the years to come. "We stand ready to work with Senator Bingaman as he and other lawmakers craft national clean energy standards that, with hydropower's inclusion, will support America's economy and drive development of vital energy resources."

(Another article on the most important hydro case since the 1943 First Iowa case. In the end, this will cost ratepayers if the state wins. It's too bad that States have to stoop to this end to collect taxes. Who owns the rivers should not have degenerated into a Supreme Court Case. We have got along for over 200 years without this issue! It's also of note that MT was so in favor of deregulation that the end result was a PA Company bought Montana Power and the cost of electricity went up as was inevitable.)

### Who owns the Great Falls?

greatfallstribune.com, Dec. 4, 2011, Written by Karl Puckett

The Great Falls of the Missouri River — five scenic waterfalls near the present day city of Great Falls — are featured prominently on Montana's official state seal. But whether the state owns the land beneath the waterfalls it proudly advertises, or if ownership belongs to PPL Montana, which uses the falls to generate electricity at hydroelectric facilities, is in dispute. The U.S. Supreme Court will hear arguments Wednesday in *PPL Montana v. the state of Montana*. At stake is ownership of the land under the five falls, which are located over 8 miles of river, and more than \$50 million in rent.



Observers say the case also has national implications because it pits private property rights and commerce versus public benefits derived from river beds, such as unimpeded travel and access. "This case has huge implications for anyone who uses the streambed under a navigable river," PPL spokesman David Hoffman said. That importance is reflected in the attorneys who were hired to represent PPL and the state before the court. Gregory Garre, who served as solicitor general of the United States in 2008-09, a role in which he was the federal government's top lawyer before the Supreme Court, is representing Montana. The state is paying Garre's firm \$500 an hour, with a cap of \$450,000. The firm has been paid \$248,559 to date. "It's an important case," Montana Attorney General Steve Bullock said. "He's a capable lawyer and, given who the state was up against, it made sense." Considering that ownership of the riverbeds and millions of dollars in revenue are at stake, the fees are reasonable, according to Bullock's office. Representing PPL is Paul Clement, a partner at Bancroft PLLC, a firm specializing in Supreme Court cases. Clement served as solicitor general of the United States from June 2005 to June 2008. He has argued 50 cases before the high court. PPL's Hoffman said he wasn't sure how much the company was paying the firm, and said he probably wouldn't share that information if he did know it. "I'm sure it's quite a lot," he said.

The Montana Supreme Court ruled in 2010 that the state owns the land underneath 500 miles of the Missouri, Madison and Clark Fork rivers, where PPL operates dams, allowing the state to charge rent. Farmers, ranchers and resource developers already pay rent to use state land. Bullock said the revenue from state land is earmarked for schools. The court also ruled that PPL owed the state \$42 million in back rent and future rent. With interest added in, the judgment now stands at \$53 million. Hoffman expects annual rent to exceed \$7 million. PPL, arguing that the court got it wrong and prompted a "massive land transfer," appealed to the U.S. Supreme Court questioning "the state's belated effort to assert ownership" of the riverbed 100 years after statehood. Justices agreed to hear the case. Under a longstanding legal doctrine, states receive ownership of land underlying "navigable" waters upon statehood. Montana became a state in

1889. But whether the stretches of the three rivers in question were "navigable" when Montana became a state is in dispute, and thus so is ownership. "In a real sense, the question in this case is whether The Great Falls belong to the people of Montana in public trust, or instead to the federal government or petitioner PPL Montana (PPL)," the state writes in its brief.

The federal government also owns hydroelectric facilities on the Missouri. The state argues that the rivers as a whole were navigable at the time of statehood, even if there were obstacles. "Even back in Lewis and Clark's day — yes, they portaged around 17 miles — but it's still a continuous highway for commerce at the time of statehood," Bullock said. PPL argues for a segment-by-segment approach to determining navigability, and says The Great Falls are not navigable, giving PPL ownership of the riverbed there. Historically, riverbeds beneath the dam facilities were treated as being owned by private parties or the federal government, PPL states in its brief.

"Other states have joined in on the side of the state of Montana because they see it as a revenue stream — pardon the pun," Hoffman said. Twenty-six states have filed briefs in support of Montana in the case. Also supporting Montana are 22 national and state wildlife and conservation groups from 19 states. "The fundamental thing here is PPL wants to take land owned by Montana for its own good," said Bruce Farling, executive director for Montana Trout Unlimited, which filed a brief supporting Montana in the case. "The state of Montana is saying, 'No, that's our land, you've got to pay rent for occupying it.'" With state ownership of major riverbeds, the public has more influence over conservation and fishery protection in instances such as the installation of pipelines and bridges, Farling said. Montana already has the toughest stream-access law in the country, giving recreationists access to any natural stream irrespective of who owns the banks, he said. But the PPL case could affect recreation in states where stream access laws aren't as strong, and are based on navigability, he said. Among the groups filing briefs on behalf of PPL are the federal government, the American Petroleum Institute, the National Mining Association, the National Hydropower Association, the Colorado Cattlemen's Association, the Montana Water Resources Association and the Montana Farm Bureau Federation. "If they can make PPL pay for those structures, how far are we away from farmers and ranchers paying for diversion?" said Hertha Lund, an attorney for the Montana Farm Bureau Federation. The bureau considers the Montana Supreme Court's actions a "judicial taking" of land, she said. Lund plans to attend the U.S. Supreme Court hearing. The case is drawing a lot of interest nationwide, she said. "You kind of have to be a water law geek," Lund said. "But it is a big deal." The state argues that the Montana Supreme Court made it clear that farmers who use riverbeds for irrigation are not under the same rental obligations as power companies. Top Lewis and Clark historians have filed briefs to bolster the case that the river near the falls is navigable — or not. "Once the expedition reached the Great Falls, it found that continued travel in large boats had become impossible," writes David Emmons, a history professor at the University of Montana, in a brief filed in support of PPL. "The expedition then portaged around Great Falls, a process that took 33 days. The party was then forced to resort to dugout canoes for the remainder of its trip up the Missouri to its headwaters. They could no longer navigate the river, at least not in any way relevant for commercial use." Emmons concluded that the Montana Supreme Court's main basis for finding that the state proved navigability before statehood was based on a "tendentious reading of the journals of the Lewis and Clark expedition."

In a brief submitted on behalf of the state, historian Stephanie Ambrose Tubbs, a Lewis and Clark expert, wrote that the Montana Supreme Court got it right. "As with other rivers throughout the country, portaging The Great Falls of the Missouri was common and not viewed as an obstacle to navigation," said Tubbs, the author of "Why Sacagawea Deserves the Day Off and Other Lessons From the Lewis and Clark Trail." She also is the daughter of Stephen Ambrose, whose book, "Undaunted Courage," drew greater interest in the 200th anniversary of the famous 1803-1806 expedition. "Indeed portaging The Great Falls simply presented another commercial opportunity," Tubbs wrote. "By 1867, commercial entrepreneurs were vying for rights to a portage route around the falls."

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(Sometimes you find the darndest things on the internet when you're looking for something else!)  
**Hydroelectric for the Home: An Alternative to the Alternatives**

It is hardly surprising that off-the-gridders and preppers would be intensely interested in the possibilities offered by alternative energy. Self-sufficiency and independence on a small and manageable scale are the goals of those who are making the effort to live outside the mainstream, and methods of generating energy that harness the bountiful gifts of nature are a perfect way to live freely and in harmony with all of God's magnificent creation. Most of the focus lately on alternative energies has been on [wind and solar](#).



The sun and the wind are indeed omnipresent, and while they tend to be inconsistent in their frequency of appearance, when combined with a bank of storage batteries, small solar and wind systems can help supply ample amounts of energy for those building their own personal energy mini-grids. There is another option that most never think about, however. Most likely, that is because it never occurs to anyone that such an option even exists. But, in fact, the very same source of energy that is used at the mighty edifice called [Hoover Dam](#), which powers the bright lights of the Vegas strip, can also be exploited by those living off the grid. Almost all of us associate hydroelectric power with raging rivers, plunging waterfalls, and massive government-funded dam projects. But as Mr. Ripley would have put it, micro-hydroelectric generators that can produce enough electricity to power homes and run home appliances do in fact exist – believe it, or not.

#### **The Magic Power of Water: Harvesting the River Wild**

Despite all the hype and publicity that solar and wind have gotten, hydroelectric power is easily the most successful form of alternative energy, currently meeting 16 percent of the world's vital energy needs. One of the real advantages of hydroelectric is that while the sun and the wind shine and blow intermittently, rivers flow all the time, and unlike nuclear, with hydro no expensive process is required to release the available energy from a separate source. Everything that can be said about large-scale hydroelectric certainly goes double for the home version, and it is the technology's reliability and ease of access to its power source that makes micro-hydro generation a great selection for off-the-gridders looking to install a renewable energy system – *if* there is a river, stream, or creek nearby from which water can be safely and harmlessly diverted. A [micro-hydroelectric system](#) (<http://homepower.com/basics/hydro/>) is relatively simple. A miniature version of what can be found at Hoover Dam or Niagara Falls, a home hydroelectric set-up will consist of pipes to carry water, a generator with a rotating turbine and blades, an inverter, and an electric transmission and control system to carry the power produced to where it can be used to provide energy. The two principles that determine how much hydroelectric system can produce are flow and head. Flow measures the amount of water available to turn the generator turbine or water wheel, and it is measured by the cubic feet of water that flows over the generator each second. Head measures the force with which the water hits turbine blades, independent of the amount that is passing by. The entrance end of the water pipe will always be elevated above the exiting end, allowing gravity to determine the intensity of the head based on the angle of elevation and the length of the pipe, while the size of the pipe used to divert water from its original source will determine the amount of flow. Flow and head working together will determine the quantity of the electricity produced by a particular system, with most existing micro-generators capable of delivering about 1 kWh (1,000 watt-hours) of electricity per day on average. There is variance here, and some of the better (and more expensive) micro-generators can produce up to 30 kWh every 24 hours, which is about double the amount of energy used by a typical (and typically inefficient) American household in a day.

The two primary [types of generators sold](#) (there are other types as well) are reaction turbines, which are submerged underwater and function well with high flow and low head, and impulse turbines that are placed above the water and are built to work with high head and a low flow.

Micro-hydro system sellers can handle installation of the products they sell, and they will be able to determine which type of system would be most appropriate for a particular homestead. For generators that are able to produce between one and ten kWh per day, costs for the entire system can range anywhere from \$5,000 to \$60,000 in total, so it seems clear that for most households a smaller system would be the only reasonable choice.

### **The Lifestyle of Less is More**

While this might seem like a lot for a relatively small output, the beauty of off-the-grid living is that increases in efficiency allow those choosing this lifestyle to use considerably less energy than the average. With most micro-hydro systems, it is not really possible to run more than one appliance at a time, with the exception of the refrigerator; but while this might seem like a horrible inconvenience to the typical American consumer, for off-the-gridders learning how to live on a smaller scale and learning to make do with less, this usually poses no problems whatsoever. Even for those living the simplest kind of life, a micro-hydro system alone might not provide enough power, obviously. But preppers and others living the independent life are [masters at cleverly combining various small-scale technologies to create highly functional interdependent networks](#) – in the case of energy, for example, a typical off-the-grid homestead might have some solar panels, a homemade solar thermal system, a good wood stove, large windows on the south side of the house to absorb sunlight, and a bicycle generator connected to a storage battery bank. And of course, if they are fortunate enough to live near a source of running water that can be tapped into without adversely affecting those living downstream, that independent network could also include a micro-hydroelectric generator. If this technology can meet 16 percent of the world's energy requirements, then there is no reason it should not eventually become a significant source of power for off-the-grid homesteads and prepper communities across the nation.

(Now – you gotta love this title! Those geologists are smart people.)

### **Hydroelectric dams are gifts that keep on giving**

By E. Kirsten Peters, BismarckTribune.com | [bismarcktribune.com](http://bismarcktribune.com), December 6, 2011

As the long season of darkness sweeps over the country, it's a natural time to think about lighting — and how dependent we are on electricity during this dim time of year. You can heat your home with several different energy sources, including natural gas, heating oil or wood. But unless you're living off-the-grid, the lights throughout your abode burn brightly because of electricity from the grid. Yes, I have a couple of candles, a flashlight and two kerosene lamps in my household. But I don't use them. **Instead, like more than 99 percent of us, I just flip up a switch to turn on electric lights throughout my house.** Of course people use electricity for many other purposes. We run all the equipment in emergency rooms on electricity — and when I'm trying to wake up in the morning I sometimes think it's almost equally important that we run our coffee makers on electrical current, too. It's commonplace to note that the landscape of energy is changing in this country. But it's harder to get agreement on where we should get our electricity in the coming years. People disagree about that, and for some good reasons. **But no matter what you feel about our various energy options, some basic facts about solar energy are worth review. We could start by noting that most of the energy we use is ultimately solar in origin. Fossil fuels, after all, represent solar energy that Mother Nature stored deep in the Earth over whole geological eras. One down side about fossil fuels is that once we use them, they're gone.**

Engineer Bob Olsen of Washington State University recently explained to me his view that we have quite a wonderful system of “renewable solar” energy in place, especially in the Western parts of the U.S. and around the region of the Tennessee Valley Authority. **“That's the case not because of solar electric panels, but because of the world's largest solar collector — seawater,” Olsen said.** Because we live on land, we don't often think too clearly about the seas. But the oceans cover about two thirds of the planet. They absorb a lot of heat energy when light shines on them. Each day they soak up enormous quantities of energy from the sun, warming and evaporating as they do so. It's evaporation from the seas that fills the sky with clouds. Water in the clouds comes down as rain or snow. **Olsen sees precipitation as the linchpin of renewable solar energy. That's because the rains flow into major rivers across which we've**

built hydroelectric dams. By running the water behind the dam through turbines, we generate electricity. Electric utilities take that energy and move it from the dams to our kitchens and workplaces.

The dams have several good features. One is that they have the ability to cheaply store a great deal of energy. The vast reservoirs behind each dam are natural storage devices. Solar electric panels on a roof don't have this feature unless linked to expensive batteries that degrade over time. Simply put, dams can easily produce electricity when the sun isn't shining, a clear advantage in having them power the grid. If we ever get a large slice of our electricity from windmills and solar panels, I think there will still be room for the dams. They —like fossil fuel and nuclear plants — are able to produce juice on a still night when the wind isn't blowing and the sun isn't shining. Because we want large amounts of electricity at our fingertips 24-7, windmills and solar panels cannot be our sole source of electricity. Another positive attribute of the dams is that they make a lot of electricity without producing any greenhouse gases. And once the basic investment of constructing the dams is finished, they are economical to run because their "fuel" is freely supplied by Mother Nature. That's essentially why those of us who live in regions of the country with dams have relatively cheap electric rates. From where I sit, the hydroelectric dams are gifts that keep on giving — every time we switch on the lights. (E. Kirsten Peters, a native of the rural Northwest, was trained as a geologist at Princeton and Harvard.)

(Relicensing costs have reached the point of ridiculous! This shows that the relicensing policy set up by the revisions to the Federal Power Act in 1986 and sponsored by Congressman Dingell is totally broken.)

(Excerpts)

## **Dec. 7 ID Energy Update: Idaho Power to Review Coal Fleet; Hells Canyon Relicensing Costs**

By kmiller1, 12/07/11, sunvalleyonline.com

### **III: Idaho Power: Hells Canyon Relicensing Cost is \$141 Million and Counting**

Idaho Power says it has spent \$141 million so far in its eight-year effort to relicense its Hells Canyon Complex, which includes the Brownlee, Oxbow, and Hells Canyon dams, which at 1,167 megawatts of generation comprise the company's largest power generation resource. Idaho Power has been pursuing the relicensing of the Hells Canyon Complex (HCC) with the U.S. Federal Energy Regulatory Commission (FERC) and other state and federal agencies since 2003. As part of its 2008 general rate case, Idaho Power agreed to file periodic status reports with the Idaho Public Utilities Commission (PUC) to keep regulators abreast of the process and the costs the company and its customers are incurring as part of the hydropower relicensing effort. In an earlier order, the PUC referenced the relicensing costs as building to "alarming levels." Eventually, the costs associated with relicensing the dams will be included in rates paid by Idaho Power customers. Currently, only small portions of the costs are being recovered through customer rates.

"Idaho Power considers the HCC relicensing project to be a viable, cost-effective effort that will ultimately serve the best interests of customers," the company wrote in its latest status report to the PUC, which must approve utility expenditures before they can be included in rates and recovered from customers. The Hells Canyon relicensing process is profoundly complex, which is one reason why it has dragged on for so many years. Even before filing for its HCC license renewal in 2003, Idaho Power said it spent about \$45 million on 200 stakeholder meetings and more than 100 relicensing studies to prepare for the relicensing. The relicensing application alone consists of more than 35,000 pages. Twenty-seven parties filed motions to participate in the case, including four Native American tribes. Key issues in the case deal not only with the power generation from the dams, but also myriad environmental and recreation issues and how to deal with some of the dams' environmental impacts. Besides dealing with the regulatory issues governed by FERC, Idaho Power must also navigate a complicated environmental process that

includes measures to mitigate the hydropower complex's impacts on downstream fish and wildlife. The case is also complicated by the fact that the HCC straddles two state borders (Idaho and Oregon) and is above federally protected salmon and bull trout species, the federal Hells Canyon National Recreation Area, a 70-mile stretch of the Snake River that's designated as "wild and scenic" under the Wild and Scenic Rivers Act, and has impacts on two national forests as well as lands managed by the U.S. Bureau of Land Management. If things go as planned – and so far not much has in this case – Idaho Power anticipates the relicensing process might be concluded sometime in 2014. Since the prior FERC license expired in 2005, Idaho Power and its HCC have been operating under one-year licenses issued by FERC.

(It's a hydro project!)

## US plans its first megadam in 40 years

10:20 08, by Fred Pearce, newscientist.com

It reads like a fairy tale from the brothers Grimm: a giant US state is planning a giant hydroelectric dam that could flood a tiny shrew out of its idyllic home. Later this month, Alaskan authorities will file plans in Washington DC for a 213-metre megadam on one of the country's last remaining wild rivers: the Susitna. If approved, it would be the country's first hydroelectric megadam for 40 years, and its fifth tallest, just 8 metres shy of the Hoover dam.

Opponents say the project is a \$4.5 billion boondoggle that will affect wildlife including caribou, grizzly bears and salmon. Instead they say the state should tap its abundant tidal, geothermal and wind power. But the icon for protest against the dam may turn out to be the country's most secretive shrew. Weighing in at just 1.5 grams, *Sorex yukonicus* lives on a bank 10 kilometres downstream of the proposed site for the dam. In 1995, Daniel Beard, head of the US Bureau of Reclamation, the nation's main constructor of dams, declared the US dam-building era over. He cited growing environmental concerns. Dozens of dams have since been torn down to revive fisheries and reinstate river habitats.



### Comeback dams

But after years in the environmental doghouse, large dams are being promoted as a source of low-carbon energy, and the 600-megawatt Susitna project looks like it could be the first to get the green light. The Susitna dam was first planned in the 1970s, but was dropped on both cost and environmental grounds. Two years ago, then-governor Sarah Palin revived the scheme. State legislators voted to go ahead in July. On 29 December, the Alaska Energy Authority will submit a preliminary licence application to the Federal Energy Regulatory Commission, which could trigger a national debate on dam construction. The number of wild rivers in the world is diminishing fast as a result of dam construction and other engineering projects. According to a report on wildlife in the vicinity of the dam, prepared for the state by consultants Alaska Biological Research and published in August, Susitna's 62-kilometre reservoir will flood a migration route used by pregnant caribou and the grizzly bears that prey on them, and disrupt a major run for Coho and sockeye salmon. Then there is the shrew. The 7-centimetre-long mammal was discovered in 1982 by Stephen MacDonald of the University of Alaska Museum. MacDonald, who is now at the Museum of Southwestern Biology in Albuquerque, New Mexico, says that small mammals dependent on habitats that will be destroyed or altered by the dam could disappear. That includes the shrew, whose riverside habitat will be subject to drastic changes in water levels as the dam's turbines are turned on and off to power the nearby towns of Fairbanks and Anchorage. Despite extensive searches, only 38 specimens of the shrew have been found, according to the Alaska wildlife study.

(Mmmm! I wonder if the cards say – Happy Holidays! The only way the project can be transferred to the State is for Congress to enact a law to do that, and that just isn't going to happen.)

## Alcoa Postcards Pressure Stanly County

Julie Rose, wfae.org, December 8, 2011

**Alcoa and a company called Clean Tech have given Stanly County commissioners an ultimatum: Support Alcoa's request to renew a 50-year hydropower license on the Yadkin River, or miss out on 450 jobs. The deadline is December 15.**

Alcoa sent more than 20,000 postcards to mailboxes in Stanly County and surrounding areas this week declaring December 15 a "deadline for Stanly County jobs."

But Stanly County Commission Chairman Lindsey Dunevant says, "I don't think that it's a makeable deadline." Alcoa is a minority

investor in a new company called Clean Tech that says it wants to move onto Alcoa's old smelter site in Badin and create 450 jobs - but only if Stanly County drops its long-standing opposition to Alcoa's Yadkin River license. Clean Tech says Alcoa's dam operations will help off-set the large amounts of power it needs to make silicon metal and recycled rebar.



Commissioner Dunevant says Clean Tech is welcome. "We've encouraged them to locate in Stanly County, we just know it shouldn't be tied to the issuance of a hydroelectric license," says Dunevant. In fact, Dunevant says there are two other companies interested in the Badin site who aren't demanding Alcoa's license renewal as part of the deal. The county says those offers are not moving forward and Dunevant fears Alcoa is hand-picking economic development opportunities as a way to force renewal of its hydropower license. Alcoa spokesman Mike Belwood says that's not true and points out in an email that an electronics recycler already operating on the Badin site did not demand Stanly County support the hydro license. But even if Alcoa fulfills its promise to eventually attract 750 jobs and \$400 million of investments to Stanly County, Commissioner Dunevant says the hydropower dams are worth more. Alcoa says the dams generated about \$18 million in electricity sales last year. Dunevant expects demand for electricity will bring that yearly figure to at least \$100 million in coming decades. Stanly County wants Alcoa to share the wealth as part of its license. "If you generate more, then we benefit from it, if you generate less than we take the hit as well as you do," says Dunevant. Alcoa has so far rejected such an arrangement and negotiations with Stanly County have been at a standstill since they last met on Oct. 10. Dunevant says Stanly County Commissioners have no other meeting with Alcoa on the calendar. However, commissioners do plan to meet Friday morning with Clean Tech - the company that says it needs a deal by Dec. 15.



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12/23/2011



# Some Dam – Hydro News™

## And Other Stuff



**Quote of Note:** *"Ability will never catch up with the demand for it."* –Confucius

"Good wine is a necessity of life." - -Thomas Jefferson

Ron's wine pick of the week: Barnard Griffin Cabernet Sauvignon, Columbia Valley 2009

"No nation was ever drunk when wine was cheap." - - Thomas Jefferson

*Happy Holidays &  
A Happy, Healthy New Year!*

### Other Stuff:

(The FERC asks the impossible. When you're dealing with a power supply that's not dependable, why does hydro have to do the adjusting? After all, it is the cheapest power available. The FERC just raised the cost of power in the Northwest.)

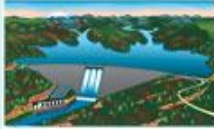
### **Wind, hydro operations create balancing act for regulators**

12/11/2011, Becky Kramer, power-eng.com

One of the conundrums of wind energy is that the wind doesn't blow constantly. In the Northwest, most wind farms operate at about 30 percent capacity, which means backup electrical generation is needed. The Northwest's extensive network of hydropower dams helps balance fluctuations in wind output, said Tom Karier, Washington representative on the Northwest Power and Conservation Council. Dam operators can adjust hydro output in response to shifting wind production. But problems arise in late spring and early summer, when peak runoff from snowmelt coincides with peak wind production. In high runoff years, the region is awash in surplus hydro power. Prices can plummet to very low levels. Some years, the Northwest gives away electricity from federally owned dams, and adding wind generation "aggravates the situation," Karier said. Last summer, the Bonneville Power Administration ordered wind farms to shut down their power output at times when Columbia River reservoirs were brimming and dams were operating at maximum capacity.

Wind farm operators appealed to the Federal Energy Regulatory Commission, which ruled in their favor last week. Federal officials said the BPA must come up with new rules that don't discriminate against wind generators, which lost about 6 percent of their potential power sales

between mid-May and mid-July. Karier said efforts to find equitable solutions are already under way. He and BPA Administrator Steve Wright co-chair a group called the Wind Integration Forum. "Every day, the hydro system is adapting to changes in wind that occur on an hour-to-hour, minute-by-minute basis," he said. "We're able to absorb and use wind power much more efficiently than many other parts of the country."



### **Dams:**

#### **Xcel putting up sirens along Chippewa River**

**This week Xcel Energy workers will begin installing nine warning sirens along the lower Chippewa River in Chippewa and Eau Claire counties.**

weau.com, Dec 12, 2011

(WEAU) - This week Xcel Energy workers will begin installing nine warning sirens along the lower Chippewa River in Chippewa and Eau Claire counties. They'll be used to alert people in the area if there is a failure at one of Xcel Energy's hydroelectric dams which could cause water to rise rapidly downstream. The sirens include a distinct tone and voice message. The sirens will be put up on 55 foot poles and will be tested monthly.

#### **Xcel Energy Press Release**

Eau Claire, Wis. – This week contractors working for Xcel Energy will begin installing nine warning sirens along the Lower Chippewa River in Chippewa and Eau Claire counties. The warning sirens would be used to quickly and safely alert nearby residents if there was a catastrophic failure at one of Xcel Energy's hydroelectric dams that caused water to rise rapidly downstream. "Our emergency planning process is very detailed and ensures that we evaluate many different scenarios," said Matt Miller, Xcel Energy coordinator, emergency action planning. "A recent evaluation identified opportunities to improve notification response times for downstream residents. While a major dam failure is unlikely, today's technology allows us to install sirens that include a distinct tone and voice message that can quickly and safely warn area residents if one were to occur." The solar powered warning sirens will be affixed to 55-foot poles and installed in nine locations along the Lower Chippewa River beginning at Lake Holcombe. The sirens can be activated from the hydroelectric plants or remotely from the company's Hydroelectric Generation Control Center that is staffed 24/7. The sirens will be spaced to maximize the audible area in the impacted zones and testing will begin shortly after they are installed.

#### **Testing sequence:**

1. Whoop tone for 30 seconds.
2. "Attention! This is a test of the dam failure warning system. This is only a test. If this was an actual emergency you would receive instructions. This is only a test."
3. Post Test Message: "This has been a test of the dam failure warning system. This was only a test."

In the event of a dam failure, the sequence would be:

1. Whoop tone for 10 seconds.
2. "Attention! An upstream dam has failed. Remain calm and seek higher ground immediately. Expect rapidly rising waters. Please evacuate to a safe area immediately!" (repeat three times with five-second delay between messages).
3. Whoop tone for 60 seconds.
4. Repeat for 30 minutes or until warning is cancelled.

Xcel Energy will be distributing information to local and county officials as well as local residents regarding the new warning sirens. Monthly tests will be conducted in coordination with Chippewa County's weather sirens.



## **Hydro:**

(All is well that ends well!)

### **Aspen City Council approves plans for hydroelectric plant**

Writer: Curtis Wackerle, Byline: Aspen Daily News Staff Writer, [aspendailynews.com](http://aspendailynews.com)

Aspen City Council on Monday night approved land-use plans for the building that would house the turbine and other critical equipment for the Castle and Maroon Creek hydroelectric plant. The approval came over the objection of some who have lingering questions about the project's finances and stream health impacts. But council members said that passing the land-use plan for the hydro plant building is not a final approval of the project itself. The Federal Energy Regulatory Commission is currently reviewing the city's application for a small project license. "At the end of the day, this is a land-use application and it provides every off ramp that we need," Councilman Derek Johnson said.

One issue still to be resolved involves an "intergovernmental agreement" (IGA) with Pitkin County. The city has agreed that the project should be overseen by a board of experts, who would have authority over how much water the plant takes from the streams, basing its decisions on stream health impacts. The board would consist of an appointee from the city, another from the county and another from the Colorado Parks and Wildlife. The IGA is intended to hash out how the board will function. The ordinance passed Monday gives the city and the county five months to reach an IGA. The building housing the turbine would be on Power Plant Road near the existing city shop building underneath the Castle Creek Bridge. It is planned at 1,700 square feet. The approval also requires the noise from the hydro turbine to be no more than 55 decibels during the day at the property line surrounding the building, and 50 decibels at night. The approval came after a five-hour afternoon session that delved into financing and environmental concerns surrounding the hydro plant. Tim McFlynn, who has taken an active role in community dialogue on the hydro project, urged the council to either delay approving the ordinance until the IGA with the county could be finished, or eliminate the five-month time frame. With that deadline left in the ordinance, the city could end up with a less-stringent oversight board if it fails to come to an agreement before the time is up, he said. Approving the ordinance sends the message to the community that "science-based decision making could evaporate," McFlynn said. City officials said there is no reason why the IGA can't get finished before the deadline. Aspen Mayor Mick Ireland referenced the phrase "to delay is to deny," and noted that the land-use approval doesn't take effect until the city has a federal license to operate a hydro plant. **Best-case scenario, according to Assistant City Manager Randy Ready, is that the 1.1 megawatt plant will come on line in 2014. The plant would take up to 27 cubic feet per second from Maroon Creek and 25 from Castle Creek using existing city diversion infrastructure.**

(I guess this guy's motto is – "Never give up!")

### **Massive Hydropower Project Returns To Lake Elsinore**

#### **Nevada Hydro and the LEAPS project are back.**

By Toni McAllister, December 10, 2011, [lakeelsinore-wildomar.patch.com](http://lakeelsinore-wildomar.patch.com)

The massive proposed hydropower project in Lake Elsinore continues ... by way of a new application. **After the Federal Energy Regulatory Commission (FERC) in July dismissed an application from Nevada Hydro Company to move forward with the Lake Elsinore Advanced Pumped Storage (LEAPS) project, Nevada Hydro appealed the decision. Then on Nov. 17, FERC's regulatory commission announced the company would not receive a rehearing, mainly because the project was ill defined. But Nevada Hydro is back.** On Nov. 29, FERC put the public on notice that the company has once again filed a preliminary permit application. (See attached FERC notice.)

As with the past proposal, the current LEAPS project would consist of building a new “upper” reservoir above Lake Elsinore in Decker Canyon. The reservoir would feature a 240-foot-high dam and a powerhouse with two reversible pump-turbine units. Lake Elsinore would serve as the “lower” reservoir. Water from Lake Elsinore would get pumped to the upper reservoir at night, then released during the day to power turbines to generate electricity. The hydropower generated from LEAPS would be harnessed over approximately 32 miles of 500-kV transmission lines that would connect the project to one existing transmission line owned by Southern California Edison to the north, and a second transmission line to the south owned by San Diego Gas & Electric. Environmental groups and the local community have largely opposed the LEAPS project. Click here to read more about the opposition. Elsinore Valley Municipal Water District has backed the water-pumping portion of the project, but in July announced it was terminating its agreement with Nevada Hydro after FERC dismissed the company’s application.

With this latest application from Nevada Hydro, FERC is seeking public opinion -- but time is limited. For those who want to be heard, the deadline for filing comments, motions to intervene or competing applications to FERC on the LEAPS project is 60 days from the Nov. 29 date. See the FERC website at [www.ferc.gov/docs-filing/efiling.asp](http://www.ferc.gov/docs-filing/efiling.asp) for instructions on how to comment, intervene or file. (The website requires registration.) For those who want to submit brief comments about the proposed project (6,000 characters or less) without registering on the FERC website can do so at [www.ferc.gov/docs-filing/ecomment.asp](http://www.ferc.gov/docs-filing/ecomment.asp). Comments must be submitted before Jan. 29. You must include your name and contact information at the end of your comments.

(Here’s a guy who has an idea to develop hydropower and it sounds like the neighbors who have done nothing want a piece of the action. No wonder he looks so forlorn.)

### **Woodbury man's plan to generate power riles neighbors**

#### **Wants to harness power of Pomperaug River**

By Rick Harrison Republican-American, rep-am.com

Woodbury, Conn. -- Andy Peklo has riled neighbors with his plan to install a hydroelectric power plant at a dam beside his home on the Pomperaug River. Peklo is befuddled at their reaction. "I'm just totally amazed people can't see the environmental benefit of this," Peklo said. "The vehement opposition is very surprising." But for nearby residents like Sean Elwell, the opposition stems from a belief that Peklo has acted only for his own benefit without considering others.



(It’s amazing what can happen even with the smallest of hydro projects.)

### **Meetings focus on hydro project, cost projections**

Writer: Curtis Wackerle, Byline: Aspen Daily News Staff Writer, [aspendailynews.com](http://aspendailynews.com)

With city staffers now adding another million to the expected cost of the Castle and Maroon creek hydroelectric plant, the controversial proposal takes City Council’s center stage Monday with a day’s worth of meetings. While about \$6 million has actually been spent to date, the current cost estimate to complete the 1.1 megawatt plant is now at \$10.5 million, Councilman Adam Frisch said. That’s up from a previous estimate of \$9.5 million in October. The original budget estimate for the plant in 2007, when voters approved \$5.5 million in bonds for its financing, was \$6.2 million. “Every time we get an update, it’s another million more,” Frisch said. “I don’t think anyone is happy with going from \$6.2 to \$10.5 [million].” The latest increase is related to the increasing costs of the federal licensing process, as well as more detailed construction plans for the building that would house the hydro turbine and equipment, Frisch said.

A three-hour work session is scheduled for 1 p.m. today in council chambers, where officials from the city manager’s office and the finance and utilities departments will present information related





to the project's financial implications, as well as the health of the streams. Aspen Mayor Mick Ireland said the city has drawn up projections showing that the plant will pay for itself in 20 to 35 years, depending on how much water is drawn from Castle and Maroon creeks. The plant would have a capacity to take 25 cubic feet per second (cfs) of water from Castle Creek and 27 cfs from Maroon, but environmental concerns likely would keep the city from taking the full draw outside of the high-water months in the spring and summer. At 11:30 a.m. Monday, two reports commissioned by outside groups will be presented in council chambers. Although not an official city meeting, council members are invited to attend. The contents of one of the reports, commissioned by Public Counsel of the Rockies, headed by Pitkin County open space board member Tim McFlynn, have not yet been disclosed. But a second report, paid for by Washington, D.C.-based stream health advocacy group American Rivers, sharply criticized the city's financial projections for the project. That report, from the firm Tier One Capital Management, claims the city is not figuring in the interest over the lifetime of the bonds — which it puts at \$7.3 million — in its financial projections, and the actual cost of the project will top \$16 million considering the cost of funds. The report, which was disseminated on Thursday, prompted a statement in response from the city issued late Friday. The one-page press release from community relations director Mitzi Rapkin says that the city does consider the cost of funds in its projections, and that the report contains other “egregious mistakes.” Included in that list is the report’s assumption that the cost of coal will inflate by .3 and .6 percent annually, which according to Rapkin’s statement is “ridiculously low.” Ireland said that with \$6 million out the door, it’s a possibility the city could cut bait on the project. “It’s always a possibility,” Ireland conceded. “It’s not the most likely outcome, but I think it’s possible.” Frisch said he’s not interested in pursuing hydro at any expense, and that he wants to see more detail on where potential cost increases could arise in the future. The city is now asking for a small project license from the Federal Energy Regulatory Commission, when in the past it had applied for a “conduit exemption,” which is a less-rigorous review process. The city formally switched its application from a conduit exemption to a small project license this fall. A group of property owners along the creeks also filed a lawsuit against the city in September in state water court, claiming the government abandoned its water rights for hydropower after taking the plant off-line in the late 1950s.

(So, why don't we see more pumped storage (PS) projects being built? Look at the graphics (Click to enlarge) by the ESA that clearly show PS is the best choice - [http://www.electricitystorage.org/technology/storage\\_technologies/technology\\_comparison](http://www.electricitystorage.org/technology/storage_technologies/technology_comparison))

## Technology Comparison

### Technology Description

Each technology has some inherent limitations or disadvantages that make it practical or economical for only a limited range of applications. The capability of each technology for high power and high energy applications are indicated by the following symbols:

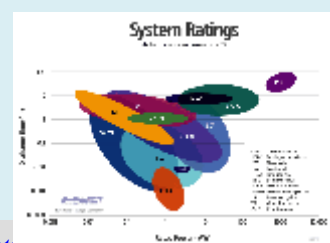
-  Fully capable and reasonable
-  Reasonable for this application
-  Feasible but not quite practical or economical
-  Not feasible or economical

Technology	High Power & High Energy	High Power & Low Energy	Low Power & High Energy	Low Power & Low Energy
Hydro	●	●	●	●
Pumped Storage	●	●	●	●
Batteries	○	○	○	○
Compressed Air	○	○	○	○
Superconducting Magnetic Energy Storage	○	○	○	○
Flow Batteries	○	○	○	○
Thermal Storage	○	○	○	○
Hydrogen	○	○	○	○
Other	○	○	○	○

▶ Click to enlarge

## RATINGS

Large-scale stationary applications of electric energy storage can be divided in three major functional categories:

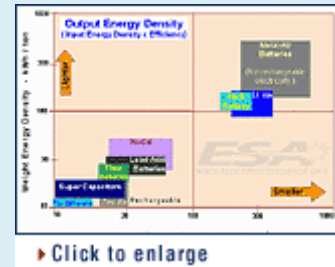


1. Power Quality. Stored energy, in these applications, is only applied for seconds or less, as needed, to assure continuity of quality power.
2. Bridging Power. Stored energy, in these applications, is used for seconds to minutes to assure continuity of service when switching from one source of energy generation to another.
3. Energy Management. Storage media, in these applications, is used to decouple the timing of generation and consumption of electric energy. A typical application is load leveling, which involves the charging of storage when energy cost is low and utilization as needed. This would also enable consumers to be grid-independent for many hours.

Although some storage technologies can function in all application ranges, most options would not be economical to be applied in all three functional categories.

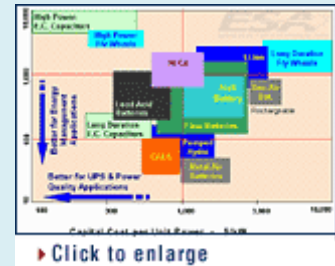
### SIZE AND WEIGHT

Size and weight of storage devices are important factors for certain applications. Metal-air batteries have the highest energy density in this chart. However, the electrically rechargeable types, such as zinc-air batteries, have a relatively small cycle life and are still in the development stage. The energy density ranges reflect the differences among manufacturers, product models and the impact of packaging.



### CAPITAL COSTS

While capital cost is an important economic parameter, it should be realized that the total ownership cost (including the impact of equipment life and O&M costs) is a much more meaningful index for a complete economic analysis. For example, while the capital cost of lead-acid batteries is relatively low, they may not necessarily be the least expensive option for energy management (load leveling) due to their relatively short life for this type of application.



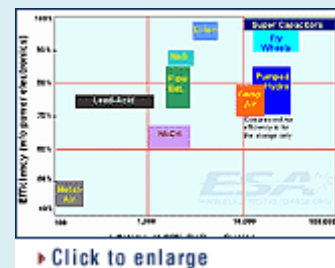
The battery costs in this chart have been adjusted to exclude the cost of power conversion electronics. The cost per unit energy has also been divided by the storage efficiency to obtain the cost per output (useful) energy. Installation cost also varies with the type and size of the storage. The information in the chart and table here should only be used as a guide not as detailed data.

#### NOTES:

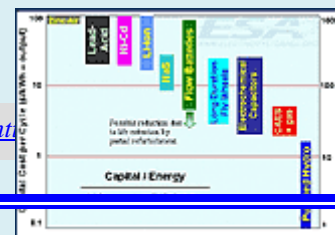
1. The costs of storage technologies are changing as they evolve. The cost ranges in this chart include approximate values in 2002 and the expected mature values in a few years.
2. The Metal-Air batteries may appear to be the best choice based on their high energy density and low cost, but the rechargeable types have a very limited life cycle and are still under development.

### LIFE EFFICIENCY

Efficiency and cycle life are two important parameters to consider along with other parameters before selecting a storage technology. Both of these parameters affect the overall storage cost. Low efficiency increases the effective energy cost as only a fraction of the stored energy could be utilized. Low cycle life also increases the total cost as the storage device needs to be replaced more often. The present values of these expenses need to be considered along with the capital cost and operating expenses to obtain a better picture of the total ownership cost for a storage technology.



### PER-CYCLE COST



Per-cycle cost can be the best way to evaluate the cost of storing energy in a frequent charge/discharge application, such as load leveling. This chart shows the capital component of this cost, taking into account the impact of cycle life and efficiency. For a more complete per-cycle cost, one needs to also consider O&M, disposal, replacement and other ownership expenses, which may not be known for the emerging technologies. It should be noted that per-cycle cost is not an appropriate criterion for peak shaving or energy arbitrage where the application is less frequent or the energy cost differential is large and volatile.

Updated April 2009

## Revamped W.Va. hydro plant to resume operations

By AP | December 14, 2011, [canadianbusiness.com](http://canadianbusiness.com)

Glen Ferris, W.Va. (AP) — A hydroelectric plant on the Kanawha River that shut down in 2004 is preparing to resume operations. Owner Brookfield Renewable Power has completed a \$25 million overhaul of the plant in Glen Ferris. David Barnhart with Brookfield tells the Charleston Daily Mail (<http://dailymail.com/Business/201112130090>) that the plant's two larger units are expected to begin generating electricity in about a week. Six small units will come online in the second quarter of 2012. Once all the units are operating, the plant will generate 5.45 megawatts of electricity, enough to power 4,500 households. Brookfield bought the plant, along with the Hawks Nest hydroelectric plant, from Orkla ASK in 2006. Barnhart says the Glen Ferris plant hadn't undergone a complete overhaul since it was built in 1899.

(Excerpts – What's good for Canada is also be good for the U.S. if we develop our hydro potential at existing dams)

## Hydropower Investment Could Create A Million Canadian Jobs

pr-usa.net, 15 December 2011

The Canadian Hydropower Association (CHA) reported today that a study it commissioned indicates hydropower investment could produce over 1,000,000 Canadian jobs over the next 20 years from construction activities alone. These are known as FTEs, or "full-time equivalents," where each represents one person employed for one year. The employment opportunities would occur in every region of the country. The business school, HEC Montréal, conducted the study, entitled *Job Creation and Economic Development Opportunities in the Canadian Hydropower Market*. Electricity generation projects already under consideration for 2011-2030 would create 776,000 FTEs for construction firms and their suppliers, which is the equivalent of 38,800 positions lasting 20 years. A further 224,000 induced FTEs are forecast to be created by increased spending by those directly or indirectly employed by the projects. "These results highlight what appears to be one of the best kept secrets of the Canadian energy sector," said CHA President and CEO Jacob Irving, "the multiple benefits of Canada's extraordinary hydropower potential."

The report's authors employed the commonly used Statistics Canada *Input - Output Model* of the Canadian economy to test various scenarios. The 158 potential projects that industry members identified for the study would require investment of \$127.7 billion and would result in 29,060 megawatts (MW) of both refurbished and new generation capacity. The model results predict that Gross Domestic Product (GDP) would be about \$15 billion per year greater over the study period than it would have been otherwise, due to the construction of the capacity and its subsequent operation. "The researchers call this the 'optimistic' scenario," said Mr. Irving, "but it's good to remember that it is limited to projects currently under some degree of active consideration. We're already the world's third largest hydropower generator. It's astonishing to think, big as we are, we have still vast clean and renewable undeveloped hydropower potential from coast to coast". While the employment totals are impressive, the study did not attempt to quantify employment created by investment in new and upgraded transmission and distribution capacity that would be necessary to handle the increased hydropower production. Moreover, these infrastructure expansions could also enable increased investment in other electricity projects, such as wind and solar generation. The impact on employment of this type of activity also fell outside the scope of

the research. "The Canadian hydropower industry has been, and will continue to be, a reliable source of clean, renewable energy for Canada, and North America. The HEC Montréal study also reminds us of its tremendous potential as an economic driver for Canada," said Mr. Irving.

(Looking at this practically. The permit process is blackmail and the jobs offer is a bribe! The mussels just add a little nonsense!)

### **Yadkin River advocates urge Perdue to deny Alcoa certificate**

By: Lisa O'Donnell | Winston-Salem Journal, December 14, 2011, journalnow.com

Stakeholders on both sides of the Yadkin River debate expect to hear today whether Gov. Bev Perdue will grant Alcoa Inc. a water-quality certificate in exchange for a new manufacturing plant that will create about 450 jobs in Stanly County. The permit is a key piece of documentation that is needed for Alcoa to renew its 50-year license to operate four hydroelectric dams on a 38-mile stretch of the river. The dams generate millions each year in electricity sales.



Officials with Clean Tech Silicon & Bar LLC, a startup company that incorporated in Delaware in August, told Stanly County commissioners in November that it would withdraw its plans to build in Badin if Perdue does not grant a certificate by today. Alcoa and Clean Tech, which makes silicon for the solar industry, announced plans for the plant last summer. Alcoa, the country's largest aluminum maker, operated a smelting plant in Badin for several years, closing it in 2002. It is appealing the state's revocation of its license.

The state revoked Alcoa's water-quality certificate last year, saying that Alcoa purposely withheld information about how it planned to address dissolved oxygen levels in the river. Yadkin Riverkeeper, an environmental group, said last month that a study of mussels in Badin Lake and fish tested downstream show the presence of PCBs in the aquatic life. Alcoa has maintained that the levels are no risk to humans. PCB production was banned by Congress in 1979 because of its classification as a toxin. Mike Belwood, an Alcoa spokesman at its corporate headquarters in Pittsburgh, said that the Clean Tech project would be a "once-in-a-lifetime opportunity to transform the economy of Stanly County and in the region." That company would make a significant investment in the county and create high-paying jobs, Belwood said. "We are hoping that everyone involved can reach an agreement to allow this project to proceed," Belwood said. Dean Naujoks, the Yadkin Riverkeeper, has been among the most vocal opponents of Alcoa's relicensing efforts, citing what he calls its "toxic legacy" at Badin Lake. The Riverkeeper is a nonprofit organization that is part of a larger network of water conservationists and advocates. Its Yadkin office is based in Winston-Salem. Naujoks has been asking supporters to email and call Perdue's office, encouraging her not to award the permit. "We just want her to know that this is the people's river. It belongs to the state," Naujoks said. "And we want her to stay the course on this issue." Chris Mackey, a spokeswoman for Perdue's office confirmed that the office had received several emails and phone calls about the issue.

(Does anyone want to guess where they got this idea? It's beginning! The Montana case involving ownership of lands under a licensed project is the tip of the iceberg. I grew up with the thinking that said rivers are a "national resource", not an individual state resource. And, the Federal Power Act was enacted to give the right to develop our "national resources".)

### **Does Alcoa Own the Land Under Its Yadkin River Dams, Lakes?**

Julie Rose, December 15, 2011, wfae.org

**An environmental watchdog is asking the North Carolina Department of Administration to dig through property archives and determine the rightful owner of the Yadkin River. It's a question that goes to the heart of the heated dispute between Alcoa and opponents who say the company doesn't deserve to continue operating dams on the river.**



Alcoa has a helpful little "Did you know?" box on its webpage with the following factoid: "Alcoa owns nearly 36,000 acres of land along the Yadkin River, including the property under the water and pays \$1 million in local property taxes each year." But that's not a fact at all, according to the Yadkin Riverkeeper's Dean Naujoks. "It's pretty concerning when you have private corporations trying to rewrite history and start claiming ownership over what rightfully belongs to the public," says Naujoks. The truth is Naujoks may not be right either and this gets into an old and murky area of the law.

We do know that the public has a right to benefit from the river, dating back to the 1700s when the U.S. broke from Great Britain and deeds to all navigable rivers went to the people. Early government documents show the Yadkin River fit that category. But the law also allowed North Carolina to give private companies ownership of riverbeds - to build a mill or dam, for example - so long as there was some benefit to the public. The Yadkin Riverkeeper's attorney uncovered just such a transaction in 1897 between the state and a person named W. Smithdeal for land under two of Alcoa's current dams - which wouldn't be built for several more decades. Smithdeal agreed to pay royalties to the state, if requested. Historic documents written in scrawling script show the deeds changing hands several times before landing with an early predecessor to Progress Energy. But that's where the trail ran cold. So Naujoks is now asking the North Carolina Department of Administration - which manages state lands - to dig deeper and determine once and for all who holds the deed. "We don't know what the Secretary of Administration is ultimately going to determine, but we feel pretty confident that Alcoa cannot prove deed of ownership," says Naujoks.

Alcoa calls the claim "ridiculous" and says it has all the rights needed to own and operate its dams. WFAE asked to see those deeds and Alcoa declined. But the company insists its ownership was established in the early 20th century when the dams were built and again when the federal operating license was issued in 1958. If the state were to take over the dams, Alcoa says it would be owed millions for the property. If the Secretary of Administration determines Alcoa does indeed own the property beneath its dams, Naujoks believes Alcoa would owe the state a century's worth of royalty payments. That was spelled out the original deed for the land. A similar a case involving a Montana river is now before the U.S. Supreme Court. And if Alcoa turns out not to own the Yadkin River bed, Naujoks argues the company has no claim to the dams or the profit they generate. The North Carolina Secretary of Administration has 30 days to take up the Yadkin Riverkeeper's request.

## Hydro power agency to look at raising dam

Joe Viechnicki, kstk.org

Petersburg, AK (2011-12-16) The agency that sells hydro-electric power to the Southeast communities of Ketchikan, Wrangell and Petersburg is going to look into the possibility of raising one of its hydro dams. The Southeast Alaska Power Agency is trying to make up for a shortage of cheap hydro electricity from an increasing wintertime demand. SEAPA officials say adding new hydro plants to the southern Southeast power grid may not be answer. The SEAPA board met in Petersburg this month and voted to investigate the potential for raising the dam at Swan Lake near Ketchikan, and will hold off on applying for a new project near Wrangell.



## Quincy considering litigation against hydropower contractors

By Matt Hopf, Herald-Whig Staff Writer, Dec 17, 2011, whig.com

The City of Quincy appears to be exploring a malpractice suit against contractors who advised the city in its failed pursuit to construct hydropower facilities on the Mississippi River. The City Council will enter into executive session Monday night "to discuss professional malpractice claims

against contractors who gave advice to the city in connection with its hydroelectric project," according to the council's agenda. Quincy Mayor John Spring declined to say which contractors the city was considering filing litigation against. "I think we just need to talk to the council about the possibility of looking at responsibilities for the hydro situation," he said. Spring said this could include recouping some of the money the city spent during the licensing process. "It's a little premature to say exactly, but we would not be doing our jobs if we didn't at least talk to the council about an issue like this," he said. Spring said the city's hydropower corporation counsel Joe Duesterhaus would address aldermen during the closed session.



The Federal Energy Regulatory Commission dismissed the licensing application and preliminary permit for Lock and Dam 21 in February. The city appealed the decision, but the commission upheld it in May. Washington-based law firm Van Ness Feldman advised the city not to seek a further appeal of FERC's ruling because it would likely take two years and a considerable amount more than the \$45,000 the firm was allotted to handle the initial appeal. The preliminary permit for Lock and Dam 21 is now held by Hydro Green Energy of Westmont. Since 2006, the city spent \$5 million toward developing hydropower on the Mississippi River, with much of the initial work being done at Lock and Dam 21 in Quincy. A \$6.6 million bond was approved in 2009 for the licensing work required to earn the permits to develop the facilities. In August, the aldermen approved paying off the \$7.3 million in outstanding bonds and interest over the next five years. City officials don't expect an increase in property taxes will be necessary to finish paying off the bond by Dec. 1, 2015. The city still retains preliminary permits at Lock and Dam 24 in Clarksville, Mo., and Lock and Dam 25 in Winfield, Mo.



## **Water:**

(Dumb! He let the anti-dam proponents have a venue.)

### **Dan Lungren wants SFPUC probed over Hetch Hetchy**

Peter Fimrite, Chronicle Staff Writer, sfgate.com, December 14, 2011

Rep. Dan Lungren, R-Gold River (Sacramento County), is accusing San Francisco of illegally using water from O'Shaughnessy Dam without first exhausting other available sources, an alleged violation that conservationists claim is more evidence that the Hetch Hetchy Valley should be restored. Lungren, a former California attorney general, sent a letter to Interior Secretary Ken Salazar urging the department to investigate alleged violations of Raker Act provisions that require the city to "fully develop and use other available water resources" before exporting only what is necessary from the Tuolumne River.



The San Francisco Public Utilities Commission, which supplies water to 2.5 million customers in the city, Peninsula and South Bay, has declared repeatedly that it has no intention of removing

the dam. The Raker Act, passed in 1913, allowed San Francisco to build the dam in 1923 and submerge the spectacular Hetch Hetchy Valley, in Yosemite National Park, under 300 feet of Tuolumne River water. Famed naturalist John Muir vehemently opposed the dam a century ago. "It is my belief that... the city is failing to satisfy the clear mandate of the Raker Act that all local resources be exhausted before drawing water from the Tuolumne," Lungren wrote in the letter, which accused the city of failing to adequately harvest rainwater, capture groundwater or develop water recycling programs. Lungren's call for an investigation was immediately picked up by Restore Hetch Hetchy, a group that has been pushing for years for the removal of O'Shaughnessy Dam. The PUC, which operates Hetch Hetchy, is nevertheless backed by a phalanx of politicians, including U.S. Sen. Dianne Feinstein, D-Calif., and House Minority Leader Nancy Pelosi, D-San Francisco, who insist the dam provides a crucial source of water and have opposed efforts to remove it.



### **Environment:**

(Oh oh, some people think the FERC reached too far into local property interests. This case and Ameren's Lake of the Ozarks case in Missouri are very similar.)

### **Rep. Robert Hurt seeks boost to landowner rights**

**His bill aims to give lake residents a stronger stand amid hydropower licenses.**

By Amy Matzke-Fawcett, December 15, 2011, roanoke.com

Sparked by complaints by Smith Mountain Lake residents, Rep. Robert Hurt filed a bill Wednesday to boost private property owners' rights in federally licensed hydropower projects. If passed, the Supporting Homeowner Rights Enforcement, or SHORE Act, would amend the Federal Power Act to require that the Federal Energy Regulatory Commission must take into consideration landowners' rights when issuing hydropower licenses. The act would also require "licensees consider the benefit of private landownership to investment and increased tourism when developing recreation resources within a project boundary," according to a statement from Hurt, a lawyer and former state legislator from Chatham who is in his first term representing the 5th Congressional District including Bedford, Franklin and Pittsylvania counties.

The Federal Energy Regulatory Commission licenses Appalachian Power Co. to operate Smith Mountain and Leesville lakes to generate electricity at the Smith Mountain Dam. Todd Burns, spokesman for Appalachian, said Wednesday he could not comment on the bill because he had only seen the news release, not the legislation itself. Bob Camicia, a member-elect of the Franklin County Board of Supervisors for the Gills Creek District, would not comment on the legislation when reached by phone. The act would help to balance environmental stewardship and recreation with private property rights, Franklin County Supervisor Russ Johnson said in a prepared statement. "The noble goals of this legislation go a long way towards fairness and responsibility, which are at the core of our nation and of our government's proper relationship with its citizens," Johnson said in the statement.

The proposed act is another step in the debate and discussion among landowners, Appalachian and the Federal Energy Regulatory Commission over waterfront rights. On Oct. 20, the commission rescinded an August order that the three docks at Gangplank Pointe condominium community be removed for noncompliance with the lake's shoreline management plan. The shoreline management plan regulates what waterfront property owners can do with their property. The order would have meant that the property owners association would have had to spend \$471,000 tearing out and rebuilding the docks, and that 26 of the 54 condos would lose their slips. New, smaller docks would have been restricted to only 28 slips. According to the association, each condominium losing a boat slip would have lost \$200,000 in taxable value, a

total of \$5.2 million, and property owners also would have been out the \$280,000 on repair projects completed in August.



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12/30/2011



# Some Dam – Hydro News™

And Other Stuff



**Quote of Note:** *“Do not let what you cannot do interfere with what you can do.” - John Wooden*

“Good wine is a necessity of life.” - Thomas Jefferson

Ron’s wine pick of the week: Cult Cabernet Sauvignon - 2009

“No nation was ever drunk when wine was cheap.” - Thomas Jefferson

## Other Stuff:

# Happy New Year!



## Dams:

(Historic preservation runs amok. They changed the rules in the middle of the game. Take a picture and get on with improvements.)

### **Historic Park balks at fed dam proposal**

By Jennifer Myers, utilityproducts.com

Lowell, MA -- Painting the proposed new pneumatic crest gate system at the Pawtucket Falls brown to make it more closely resemble the original flashboard system does not make up for altering a historic resource, Lowell National Historic Park officials say. They are refusing to sign on to a proposed memorandum of agreement drafted by the Federal Energy Regulatory Commission that includes steps to mitigate the changes to the Pawtucket Dam proposed by Enel North America, the hydropower company that owns the dam, a project the LNHP has opposed for more than a decade.

On April 26, FERC ruled the project would have "no adverse effect" on the historic location. It was the 30-foot drop of the Pawtucket Falls that drew industrialist Nathan Appleton and Patrick Jackson to what was then East Chelmsford farmland in 1821, a trip that led to the birth of the Industrial Revolution and the city of Lowell itself. The April ruling written by Robert Fletcher, chief of FERC's Land Resources Branch of the Division of Hydropower Administration and Compliance, states "while the Lowell Locks and Canals Historic District is listed in the National Register and the Pawtucket Dam is described as a component of the district, the dam is not identified as individually eligible for listing in either the 1976 or 1977 nomination forms." He added that the district is identified as historically important on both forms not based on its architectural or structural significance, but rather on its association to the Industrial Revolution and its pioneers. On Sept. 1, the Advisory Council on Historic Preservation requested FERC seek a formal determination of the eligibility of the dam as an individual historic property and clarification of the dam's significance as a contributing element to the listed historic districts from the Keeper of the National Register of Historic Places. On Oct. 26, the Keeper ruled the dam individually eligible because of its historical and engineering significance. "The Pawtucket Dam is significant as an element of an integrated historic industrial process which includes dams, canals, gates, locks, mill yards, machine shops, and managers and workers housing which form perhaps the most historically significant extant collection of 19th century industrial buildings and structures in the country," the Keeper determined. That ruling prompted FERC to reverse its earlier determination that the project would pose no adverse effect, which led to drafting the MOA.

"We now believe that installation of the pneumatic crest gate system and construction of a compressor house would result in an adverse effect because they will alter the architecture of the dam," Fletcher wrote. Mitigation measures proposed include:

- \* For Enel to create two interpretative displays, one a replica version of the flashboard system and one featuring the new crest gate system at the site.
- \* That construction material is consistent with the "historic fabric of the adjacent architecture," so the compressor house will resemble the Northern Canal Gatehouse.
- \* That Enel will use a brown-colored bladder, paint the downstream side of the crest gate panels brown and install retaining straps an average of 20 inches in the center in an effort to make the new system resemble the existing flashboards.

"The proposed mitigation is of no interest to us," said LNHP Assistant Superintendent Peter Aucella. "We don't care if you spray-paint it brown, it doesn't change the fact that you are putting tons on concrete on top of a historic structure." On Dec. 13, LNHP Superintendent Michael Creasey sent a letter to Fletcher stating the proposed project is "inconsistent" with the secretary of the Interior's standards for the treatment of historic properties for preservation for several reasons, including damage to the property and the "introduction of visual elements that diminish the integrity of the property's significantly historic features." The project was first proposed in 1999, again in 2006 and most recently in July 2010. The crest-gate system would replace the five-foot plywood flashboards and steel pins with a series of steel-hinged panels mounted atop a dam spillway. The panels can be raised or lowered, dependent upon river flow, through the use of 20-foot-long, low-pressure airbags. Enel argues that the new system will increase worker safety, provide consistent control over the depth of the head pond for recreational and public-safety use, and enhance the ability for fish, including Atlantic salmon, shad and herring, to migrate upstream to spawn. "Every time there has been an opportunity to comment we have expressed opposition on historic grounds and we will stick to that," Aucella said. "The ball is in FERC's court now to comply with federal law." Enel Vice President Victor Engel said he hopes the company can work out a compromise. "We find it unfortunate that the (National Park Service) have decided to refuse to open any meaningful dialogue on a project that will benefit the environment and all river users; most importantly, those of the City of Lowell, the home of the very National Park that they represent," Engel said. "We remain committed to working with all interested parties through transparent and open communication to develop a project that meets the needs of the various stakeholders along this section of the Merrimack River."

(Some dam history from Missouri)

## The dam near Table Rock Mountain

By: Paul Johns, ctheadliner.com, December 25, 2011

The dam that created Table Rock Lake is in many ways the dam that has produced the most changes in the Ozarks of southwest Missouri. For sheer impact, consider the size of the structure and the lake it created. The dam towers 252 feet above the riverbed, is 6,423 feet long—although 4,821 feet of that is an earth embankment. And at normal stage, the lake covers 43,100 surface acres, stretches 79 miles upriver from the dam and has 745 miles of shoreline. The site near Table Rock Mountain, which is 8 miles upriver from Branson, had been chosen in preliminary design work in separate studies by the Ozark Power and Water Company in 1912 and 1921. That was the company that had constructed Powersite Dam.

Congress passed a bill calling for its construction in 1951 and there was a ground-breaking ceremony in October of 1952, however construction of the dam did not begin until November of 1954 under the direction of the Army Corps of Engineers. Completed in August of 1958, it proved to be a monumental task. There were 1,500 men employed on the job. According to a story in the Joplin Globe from August of 1955, "The first phase was digging of a 'core trench' more than 1 mile long which will be the foundation of the dam. The trench was excavated into natural bedrock and extends the full length of the dam. "Then holes were drilled into the trench rock for a depth of 80 to 100 feet and a cement mixture was forced into the holes under high pressure to seal underground cracks and water-bearing streams under the foundation so that when completed the water from the lake cannot be forced under the dam." Once the pouring of concrete began, it went on 24 hours a day. A huge concrete mixer was constructed on the top of the bluff on the south side of the river downstream from the dam and the wet concrete transported in containers via railroad tracks to the spot directly above the dam site. A cable was then attached to the container and it was lifted and swung across the river to the appropriate concrete form where it was dumped. It took 1,300,000 cubic yards of concrete and 1,100,000 barrels of cement. Then there was the earthen embankment. The workers had to move 3,320,000 cubic yards of earth and rocks into position to create it. The dam cost \$24,438,738 to build. The \$6 million powerhouse with its four huge generating units was not completed until May 1959. The total cost for purchase of land for the lake and construction totaled \$66 million. The Corps of Engineers had to purchase 65,700 acres of land comprised in 3,000 separate tracts of land.

When the dam's spillway capacity was studied in the 1990s, it was determined the lake could actually rise 10 feet higher than the worst-case flood scenario projected when it was built. To ensure the safety of those who lived downriver from the dam, Congress approved the construction of an auxiliary spillway inserted into the earthen portion of the dam. It was completed in 2005 at an approximate cost of \$58.2 million—almost as much as the dam and lake property had cost in the '50s. The dam was dedicated on June 14, 1959. The main speaker at the



dedication was Dewey Short from Galena who was serving as the assistant secretary of the Army and who was the former Seventh District Missouri Congressman. He had been a staunch supporter of the dam and the visitor's center constructed near the dam is named in his honor. Not long after the new dam was in operation, my parents took us kids to tour the powerhouse and I remember what an impression it made on me to be inside the dam and thinking about that tremendous volume of water being held back by the concrete and steel. The impact of the new dam and lake was considerable. It helped control flooding downstream on the White River. It provided a tremendous economic boom for those catering to the needs of fishermen, skiers and other lake enthusiasts. Resorts, cottages and motels sprang up around the lake. And retirement communities like Kimberling City have flourished on the lake. But just as the creation of Lake Taneycomo forced the town of Forsyth to be moved, Table Rock Lake swallowed up the town of Oasis forever. It was not large enough to worry about moving, the people moved away and it was no more. Located 12 miles southwest of Kirbyville and 7 miles west of Pinetop, it was situated near the Stone County line. The post office there—first named Cedar Valley and then Oasis—had been in operation since the late 1800s but closed in 1951. The little town now sits under 100 feet of water and for years it was an underwater destination for scuba divers. Even the old wooden church stood preserved beneath the cold waters. The only part of the town that was moved was the cemetery. Another adverse effect from the new dam was that it turned Lake Taneycomo into a cold-water lake and helped speed the demise of the resort village of Rockaway Beach. And it brought an end to a long tradition on the White River—the week-long float trip.



## **Hydro:**

**For Immediate Release**

### **Legislators introduce bill to promote hydropower development**

Washington, D.C. (December 16, 2011) – Recognizing the economic and clean energy benefits of hydropower, two congresswomen introduced bipartisan legislation yesterday that promotes additional development of the nation's most affordable energy resource. Representatives Cathy McMorris Rodgers (R-WA) and Diana DeGette (D-CO) introduced H.R. 3680, the *Hydropower Regulatory Efficiency Act of 2011* yesterday. The legislation promotes the development of small hydropower and conduit projects and aims to shorten regulatory timeframes of certain types of hydropower projects.

The National Hydropower Association, the industry's national trade association based in Washington, DC, immediately endorsed the bill. "NHA appreciates the bipartisan leadership that Reps. McMorris Rodgers and DeGette have demonstrated and looks forward to working with them to get this bill to the President's desk. With so much untapped potential in the U.S., in terms of both electricity and jobs, hydropower has the ability to be a driving force behind America's economic recovery," said NHA Executive Director Linda Church Ciocci. A 2010 study by Navigant Consulting concluded that with the right policies in place, hydropower could create an additional 1.4 million new jobs and add 60,000 MW of new capacity by 2025. Current hydropower capacity in the United States is approximately 90,000 MW, generating about two-thirds of America's renewable electricity, and the industry employs 300,000 workers. The Senate Energy and Natural Resources Committee cleared a similar bill earlier this year. The Hydropower Improvement Act of 2011 was introduced by Sen. Lisa Murkowski (R-AK), joined by 8 bipartisan co-sponsors, and garnered the support of both industry and the environmental community. It currently awaits action by the full Senate.



(Here is a summary of the provisions of the proposed legislation. BTW, when this summary speaks to exemptions, it means you would file with the FERC, but it could be an exemption from licensing instead of a full license. The problem with exemptions is that there is no particular advantage since environmental agencies still have a blank check so they can throw the kitchen sink of conditions in an exemption and the FERC has to rubber stamp them.)

## **Hydropower Regulatory Efficiency Act of 2011 Introduced in the House of Representatives**

December 16, 2011 by Chad Marriott, lawofrenewableenergy.com

Today, Reps. Cathy McMorris Rodgers (R-WA) and Diana DeGette (D-CO) introduced H.R.3680, the "Hydropower Regulatory Efficiency Act of 2011", in the U.S. House of Representatives. Here is a summary of the bill's major provisions:

- Would exempt small hydroelectric facilities of 10 MW or less from the Federal Energy Regulatory Commission ("FERC") licensing process (currently, the exemption applies to facilities of 5 MW or less);
- Would remove conduit hydroelectric facilities of 5 MW or less from FERC jurisdiction (such facilities would not be required to file for a license or an exemption from licensing);
- Would exempt all conduit hydroelectric facilities of 40 MW or less from the FERC licensing process (currently, the exemption applies to facilities of 15 MW or less, or 40 MW or less in the case of municipal water supply projects);
- Would permit the development of conduit hydroelectric facilities on Federal land;
- Would provide FERC the ability to extend preliminary permits for up to an additional 2 years in certain circumstances;
- Would require FERC to investigate the feasibility of a 2-year licensing process for the development of (1) hydroelectric facilities at non-powered dams and (2) closed-loop pumped storage facilities;
- Would require the Department of Energy to study the potential for conduit hydropower development and potential sites for pumped-storage facilities located near existing or potential sites of intermittent renewable energy projects (e.g., solar, wind); and
- Would require the President to submit a report to Congress on actions taken by the DOE and other Federal agencies pursuant to the memorandum of understanding on hydropower that was signed on March 24, 2010.

Many of these provisions are similar to those contained in S.629, the "Hydropower Improvement Act of 2011", which was introduced in the Senate on March 17, 2011 by Sen. Lisa Murkowski (R-AK). Notably, however, approximately \$100 million in research and development funding included in S.629 was not included in the House bill. The National Hydropower Association ("NHA") and Stoel Rives partner Cherise Oram, a member of the NHA's Legislative Committee, have worked closely with Members on both sides of the aisle over the past several months to develop the language of H.R.3680. NHA supports the bill and is pleased with both the bipartisan support of its original co-sponsors and the additional interest that has been shown by democrats and republicans in different regions of the country.

### **Dam eyed for electricity**

#### **Francis E. Walter Dam will be subject of a feasibility study.**

By Tom Venesky, December 17, 2011, timesleader.com

A Utah company is looking into the possibility of constructing an electricity generation facility at Francis E. Walter Dam, but the process could take several years. Symbiotics LLC, a subsidiary of Riverbank Power, has submitted a preliminary permit application with the Federal Energy



Regulatory Commission to conduct a feasibility study on construction of a hydropower facility at the dam. Weatherly borough previously held a permit for the same purpose but it expired, according to commission spokeswoman Celeste Miller. If approved, the permit would give Symbiotics exclusive rights to the project for three years. The permit allows only for the study and not construction or operation of a hydropower facility, Miller said. A separate license would be needed from the commission in order to build something.

The flood-control dam for the Lehigh River straddles the Luzerne-Carbon County line. It is in Bear Creek Township in Luzerne County and Kidder Township in Carbon County. David Cannon of Symbiotics said the company studies dams around the country to determine if they can accommodate hydropower facilities. Several projects are close to the construction phase, he said. Symbiotics has conducted a preliminary review of the water flows at Francis E. Walter Dam and determined they are suitable for generating electricity, Cannon said. But more work needs to be done. "Usually when we file for a permit we figured out the dam is suitable, but we have to look at other factors such as environmental, cultural and archaeological," Cannon said. "The permit gives us control of the site long enough to conduct the feasibility study and to determine if we want to pursue a license." The dam is operated by the U.S. Army Corps of Engineers. George Sauls, Northern Area engineer for the Corps, said similar permits have been issued for the other five Corps-operated dams in Northeastern Pennsylvania. None have led to construction of a hydropower facility, he said. "All we do is review what they want to do and comment on it. When and if they want to do construction, it will have to be up to our standards," Sauls said. "The study will determine if it's economically feasible." Cannon said interest in hydropower in the U.S. is growing and there are benefits over other renewable energy sources such as wind. "The wind isn't predictable, but that's not the case with hydro," he said. "The water coming out of the dam is controlled. We can't alter the flows, but we do know when the releases will occur because everything is scheduled." If a hydropower facility is constructed at the dam, Cannon said it hasn't been decided where the electricity will go.

(This has got to be the most frustrating mess ever invented. It's a contest on who can shoot themselves in the foot more. They deserve each other I guess.)

### **Promised jobs are lost in Yadkin fight**

By Bruce Henderson, charlotteobserver.com, Dec. 17, 2011

A steel recycling company's promise of 250 new jobs in Stanly County dissolved Friday amid the bitter fight over control of the Yadkin River's hydroelectric power. Clean Tech Silicon and Bar LLC said it was abandoning plans to invest \$300 million on an industrial site owned by aluminum maker Alcoa, which is struggling to renew its Yadkin hydro license. Alcoa is a minority owner of Clean Tech. In a flurry of press releases, Clean Tech and Alcoa blamed Stanly County's refusal to drop its opposition to Alcoa's license. The county said Alcoa's position, linking the jobs offer to the hydro license, doomed the deal. Stanly and Clean Tech officials and representatives of Gov. Bev Perdue met repeatedly this week about the proposed industry at Badin Business Park, which occupies part of Alcoa's shuttered aluminum smelter. Clean Tech had set a deadline of Thursday to reach agreement. The county says Alcoa, which had promised to recruit 750 jobs and \$400 million in investment to the site, wouldn't budge from its demand that Stanly drop its legal challenges. Alcoa says it could afford those incentives only if it extended its hydro license for up to 50 years, bringing in millions of dollars a year from electricity sales. "We were all willing to make sacrifices to make this project a reality," the county said in a statement. "By rejecting that proposal, Alcoa stood in the way of Clean Tech's decision to create jobs for Stanly County." Clean Tech says it offered the county 30-year commitments in investment, job creation and payroll. Sources say the parties this week weren't able to resolve differences over how that commitment would be enforced.

"I am disappointed that things did not work out differently and that the legal maneuvering related to North Carolina's and Stanly County's attempts to take control of Alcoa's hydroelectric dams finally forced us to move on," said Clean Tech chairman John Correnti, a former CEO of steelmaker Nucor. "We tried our best, but in this case other agendas prevailed." Alcoa said it

would continue to recruit jobs to Badin - and "vigorously" pursue a new hydro license. "Opportunities like this don't come along very often, and it's incredibly disappointing that these 450 new jobs will not be coming to North Carolina, said Kevin Anton, the Alcoa executive responsible for recruiting Clean Tech. A key state permit, certifying Alcoa's dams won't harm the Yadkin River, has been withdrawn and is now before a state administrative court. The state certification is needed before the Federal Energy Regulatory Commission can renew the hydro license.

(The writer of this article is probably one of the most ill-informed people writing on the subject of energy. Hydropower has been proven to be the cheapest renewable energy resource available, and is far less costly than wind and solar that requires massive taxpayer subsidies to even exist. Additionally, hydropower is by far the most efficient energy resource with efficiencies of more than 90 %. Compare that with any other energy resource, all of which are below 50 %. As far as pumped storage is concerned, the sites actually unlimited. In addition, everyone qualified to discuss the subject agrees that pumped storage is the least costly energy storage option and the best complement to making wind and solar energy more viable.

<http://www.midwestenergynews.com/2011/12/20/hooray-for-hydropower/>

### **Hooray for hydropower?**

By Ken Paulman • 12/20/2011, [midwestenergynews.com](http://www.midwestenergynews.com)

While Congress debates cutting support for wind and solar energy, a new bill from members of the House Energy Committee proposes spending \$5 million to study the potential of expanding hydropower in the U.S. HB 3680, introduced by Reps. Cathy McMorris Rodgers (R-Wash.) and Diana DeGette (D-Colo.), notes that only 3 percent of the nearly 80,000 dams in the U.S. generate electricity. The bill claims that by 2025, we could build an additional 60,000 MW of new hydropower generation, creating 700,000 jobs in the process. About 7 percent of electricity in the U.S. is generated from hydropower, and Rep. McMorris Rodgers' home state of Washington already gets nearly 70 percent of its electricity from big dams like the Grand Coulee. It's a less significant energy source in the Midwest, accounting for less than 2 percent of the mix in most states. South Dakota is the outlier, getting more than half its electricity from hydro. The bill also includes a provision to study the potential of closed-loop pumped hydro storage projects.



While 80,000 dams sounds like a lot of untapped energy potential, as reporter Frank Jossi learned back in June, most of those dams are small, low volume and not at present economically viable to be tapped for energy. As of this summer, developers had applications on the table for an additional 321 MW of capacity on existing dams and locks throughout the upper Mississippi River system, doubling the river's current energy capacity, but still a far cry from 60,000. And pumped-hydro storage also has limited potential. Federal regulators have issued permits for 32,000 MW worth of pumped-hydro projects nationwide, but cost-effectiveness again remains a challenge. In a news release announcing the bill, Michigan Rep. Fred Upton calls hydropower an important part of an "all of the above" energy strategy. "Hydropower is renewable, reliable, and affordable, and the potential for this domestic resource is great. The increased development of hydropower will spur the creation of hundreds of thousands of American jobs and help us to meet our country's growing energy demands."

(Looks like the Supreme Court has easily figured out this is nothing more than a tax scheme.)

### **Editorial**

### **Who Controls Montana's Rivers?**

December 20, 2011, [nytimes.com](http://nytimes.com)

The Great Falls Reach of the Upper Missouri River in Montana cannot be navigated by boat. In that 17-mile stretch, as Lewis and Clark documented in 1805, the river cascades down nine

waterfalls. The explorers' journals are evidence in a Supreme Court case that turns on whether the Missouri and two other rivers were navigable in 1889 when Montana became the 41st state. **Though the history is esoteric, the legal issue is straightforward: can a state seek compensation for the use of a riverbed if it did not do so for a century?** The Constitution gives states control of navigable waters within their boundaries at the time of statehood and non-navigable stretches to the federal government. **If the court concludes that the Montana Rivers were navigable in 1889, the state could potentially collect more than \$50 million from a power company that owns hydroelectric dams, licensed by the federal government, on the rivers.** The power company appealed the Montana Supreme Court ruling that the rivers were navigable routes of commerce, despite obstructions in parts. It contends the court should analyze the rivers section by section, with some stretches like the Great Falls Reach deemed not navigable.

Justice Antonin Scalia zeroed in on what makes the case quite odd: from 1891 until 2004, the state never asked for compensation from the companies. He said, "Now they come back, what, 100 years later, and they not only want to get the land back, they want to tax them for their use of it over all these 100 years?" If a private party had sought back rent from the dams' owners, it would have been stopped for making the claim too late. But the Montana Supreme Court ruled the state's "lack of diligence" was not an issue. **The power company's analysis of navigability is less disruptive and more equitable than Montana's broader definition.** In adopting the narrower view, the court would not keep the state from regulating rivers for fishing and other public uses, and it would not have to alter a central principle in determining the ownership of waterways.

(Unbelievable – 11 years for licensing and construction with licensing taking a longer 6 years. Did you know that Hoover dam was built in 3 years and the Niagara Project in 35 months?)

### **Licensing process for Susitna dam slated to start with federal regulators soon**

The Associated Press, December 21, 2011, therepublic.com

Juneau, Alaska — The Alaska Energy Authority is moving to start the licensing process for a proposed large dam project between Anchorage and Fairbanks. **The authority plans to file a pre-application document for the Susitna-Watana hydro project with the Federal Energy Regulatory Commission next week.** She says this is the beginning of a process that will include the study of potential impacts, public input and licensing work. Emily Ford is the public outreach liaison for the project. She says this is the beginning of a process that will include the study of potential impacts, public input and licensing work. **The design and licensing phase is projected to last six years; construction is expected to take five. Plans call for a 700-foot dam, which would make this one of the largest dams built in the U.S. in decades.** The project is seen as a way to help meet energy needs of the state's most populous region.

(Excerpts)

### **More trouble for Ameren Missouri's Taum Sauk hydroelectric plan**

By Jeffrey Tomich, STLtoday.com | December 23, 2011

Troubles at Ameren Missouri's Taum Sauk hydroelectric project seemed over last spring when the 440-megawatt plant returned to service more than four years after its mountaintop reservoir ruptured, unleashing a torrent into a state park. But the plant about 100 miles southwest of St. Louis has been running at half-capacity since early June when **one of its two generating units failed, caught fire and suffered \$10 million in damage.** The fire only became public in a Dec. 16 staff memo to the Public Service Commission. PSC staff were unaware what had happened when members visited the plant eight days after the fire to discuss the rebuilding of the upper reservoir and saw the generator damage firsthand. Soon after the visit, the commission staff filed a complaint against the utility for failing to notify the PSC. **Rules require Missouri utilities to report within a day "any accident or event at a power plant" that involves serious injury, death or property damage in excess of \$200,000. Ameren classified the incident as an outage that didn't require immediate notification.** -----.

According to the report, the Taum Sauk generating unit tripped on June 6 and suffered an "extensive fire" that melted some of the stationary parts. Fire crews were dispatched to the plant's powerhouse, but employees had already extinguished the fire when they arrived, the report said. Ameren Missouri's vice president of power operations, Mark Birk, said in an e-mailed response to questions that an insulated copper winding inside the generator failed. He said the generators had been inspected while the plant's upper reservoir was being rebuilt, but showed no signs that repairs were imminent. -----.

(Excerpts)

## PID holds last meeting of 2011

### Corporate yard, backup generators up for discussion

By Trevor Warner, Assistant Managing Editor, 12/24/2011, paradisepost.com

The Paradise Irrigation District board heard a number of issues Wednesday night, ranging from hydro energy to director compensation. The district approved an agreement with Frisch Engineering, Inc. to help design conduit installation between a hydro generator and an emergency backup generator. District manager George Barber said there is a pressure brake at the district office that could be used for the hydro generator, but it is not feasible because of federal regulations. "Any hydro power, if it is interconnected to the grid, requires the approval of the Federal Energy Regulatory Commission," he said. Barber said it takes about \$20,000 just to work through FERC's approval process. Still, he said, there is legislation in the works that will fix that problem, making the project more realistic in the future. So the engineering company is designing a hookup between a hydro generator at the office and a proposed emergency generator. Barber said it will be more cost effective to install the conduit before district's new parking lot is paved and landscaped. If the district waits until the project is feasible, crews would have to tear up the parking lot to install the connection. The proposed emergency generator is about 25,000 watts, Barber said. "We need that," he said. "We have a responsibility to be prepared for any type of emergency in town." For comparison, a residential generator is generally about 6,000 watts. It is possible that the hydro generator could produce more energy than needed to run the backup generator. The extra energy could be sold to PG&E, he said. -----.

## Feasibility study sought for power plant

By Patrick Rupinski, Staff Writer, December 25, 2011, tuscaloosanews.com

Tuscaloosa, Ala. | Two companies are seeking federal approval for an exclusive right to conduct a feasibility study on the cost of building a hydroelectric generating facility at the William Bacon Oliver Lock and Dam on the Black Warrior River. The companies are Symbiotics LLC, a subsidiary of Riverbank Power Corp., Logan, Utah, and Free Flow Power Corp. of Boston. Both are seeking preliminary permits from the Federal Energy Regulatory Commission and both indicated that if the project was viable, they would build a powerhouse and other facilities on the south bank of the dam in Tuscaloosa. There are no cost estimates from either company at this time. Symbiotics in its application said it is interested in building two generating units at the powerhouse. It said the project could generate 11.72 megawatts of power. Free Flow's application indicates it would have four generating units that will have the capacity to produce up to 16.4 megawatts of power.



By comparison, Alabama Power Co.'s Miller steam plant in western Jefferson County can produce 2,640 megawatts of power. Alabama Power's hydro-generating plant at the Holt Lock

and Dam in Tuscaloosa County can produce up to 49 megawatts of power. A megawatt is 1 million watts, which is typically enough wattage to power 250 to 400 homes, according to Alabama Power. Neither company indicated how large an investment they might make nor how many jobs their respective projects might create. Symbiotics and Free Flow officials could not be reached for comment last week. Symbiotics was founded in 2001 as a hydroelectric power development company with projects across the United States, according to its website. Free Flow was founded in 2007. Its website said it operates as a hydropower developer and technology company and focuses on using rivers, streams, ocean currents and tides to generate electricity. It also designs and deploys turbine generators. Alabama Power Co. officials said they were aware of the companies' applications but said the company is not involved in either effort. Federal Energy Regulatory Commission spokeswoman Celeste Miller said the commission is accepting public comments on both companies' proposals. The comment period will end around Jan. 22, she said. The Federal Energy Regulatory Commission will study the comments, but the commission will issue only one preliminary permit, which will be good for three years, she said. The preliminary permit gives the holder the right to do a feasibility study. It does not allow any construction or development.

If a company decides the project is viable after the feasibility study, it must apply for additional permits and approvals from the Federal Energy Regulatory Commission and possibly other approvals from other a federal, state and local agencies, she said. The Federal Energy Regulatory Commission said those wishing to comment on the companies' applications for preliminary permits can do so online at <http://www.ferc.gov/docs-filing/ecomment.asp> or by mailing their original comments and seven copies to: Kimberly D. Bose, secretary, Federal Energy Regulatory Commission, 888 First Street NE, Washington, D.C. 20426.



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