**Some Dam – Hydro News™**

**And Other Stuff**

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**Quote of Note:** “Whenever you have an efficient government you have a dictatorship.”

*Harry S Truman*

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

*Ron’s wine pick of the week: 2011 Chateau Ste Michelle Cabernet Sauvignon "Canoe Ridge Estate"

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

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**Dams:**

(How do you give a beaver an illegal dam building citation?)

**Beaver Apprehended while overseeing Dam Construction Project!!!**

Breaking News Alert——Dateline Jan 14, 2015——Tempe, Arizona------ ---Beaver Apprehended While Overseeing Dam Construction Project!—— For sequence of 20 images from this capture, go to [http://johnmoreyphotography.com/beaveratlargetttl](http://johnmoreyphotography.com/beaveratlargetttl)

Last evening the airwaves came alive with tales about a beaver-at-large in the Tempe Town Lake area, in the vicinity of the Western shores along the lake’s edge. It seemed suspiciously close to the very large and active construction project of the new dam for the lake, and raised concerns of local passers-by who happened to catch a glimpse of him hanging out in a watery concrete drainage area, raised up and overlooking the entire construction scene. Regardless if the beaver was hired by the

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*Copy obtained from the National Performance of Dams Program: [http://npdp.stanford.edu](http://npdp.stanford.edu)*
City of Tempe to oversee the project, since as we all know what beavers like to build, or if he has been the custodian of the soon to be antiquated dam, it makes little difference – This is currently a dangerous place for a beaver, at least without a construction helmet. I retired for the evening, while watching the latest live update from the local news channel, with promises of more updates to come the following morning, once Arizona Game and Fish officials could assess the situation in daylight, and safely relocate him if needed. As I turned in, I amused myself with the duel thoughts of wondering if this really warranted so much attention in the local world of news, yet I was also oddly interested in the little fella’s outcome. When I awoke in the morning, the airwaves repeated the same stories every half hour, with no additional information, so I decided to dress for work in a little more haste than usual, and see if I could stop by the area on my way to work that day for a glimpse. The way the reporting was going here, I half expected to arrive to a carnival-like atmosphere of onlookers, well-wishers, and officials.

(Guess that’s a photo of the reservoir?)

**DNR to Fund Fox River Dam Removal in Carpentersville, Geneva**

The dam removal is meant to improve the river for aquatic life and improve recreational opportunities.

*By Amie Schaenzer (Patch Staff)*

January 16, 2015, patch.com/illinois/algonquin

The Illinois Department of Natural Resources (IDNR) will provide $3.5 million in funding to remove two dam structures from the Fox River, as part of an intergovernmental agreement between the Forest Preserve District of Kane County and IDNR. In the agreement, ratified by the Forest Preserve Commission on Jan. 13, IDNR agreed to provide $2.4 million to remove the Carpentersville Dam at Fox River Shores Forest Preserve in Carpentersville, and $1.1 million to remove the Causeway at Fabyan Forest Preserve in Geneva. The funding will cover costs for engineering and removal of the two structures as well as shoreline restoration at the two Fox River sites. “Ultimately, these two projects will greatly benefit the Fox River. These dams are major barriers for fish and other aquatic animals. By removing these structures, animals could more freely move throughout the river corridor. This would greatly improve water quality and fish habitat,” said Monica Meyers, executive director of the Forest Preserve District. “The District set the standard many years ago in dam removal when we took out the South Batavia Dam,” added Drew Ullberg, director of natural resources. “Fisheries biologists have demonstrated through their sampling that removing dams is the most positive thing we can do to improve the rivers for fish. Upstream of the Carpentersville Dam are excellent spawning grounds. Holistic restoration is still in process, but even removing the dams one at a time works to restore the structure and function of the entire Fox River corridor,” he said.

The Carpentersville Dam removal will also improve recreational opportunities for the public, in addition to fishing. Currently, those who canoe or kayak the Fox River could put in at Buffalo Park Forest Preserve in Algonquin but then need to portage around the dam just 2.8 miles later in Carpentersville. Removal of this obstruction would allow canoeing and kayaking from Buffalo Park roughly 9 miles until the next dam location in Elgin. Meyers said the District has been watching for opportunities to modify the Carpentersville Dam for some time. As far as the Fabyan Causeway removal, she said the agreement comes at a perfect time. “We’re already working at Fabyan Forest Preserve on an island improvement project right now. The Causeway removal would have
been the last part of that project, but we couldn’t move forward until funding was secured,” she said.

(Shortened dam. Tilt!)

**Adirondack dam plan to improve salmon, trout habitat**

Jan 19, 2015, myfoxny.com

PLATTSBURGH, N.Y. (AP) - The state Department of Environmental Conservation is taking public comments on plans to modify a dam on the Saranac River a few miles upstream from Lake Champlain. The proposal for the Imperial Dam in Plattsburgh calls for decreasing the height of the spillway by 8 ½ feet and building a concrete fish ladder to let salmon and trout swim nine miles upstream to spawn.

Anglers and conservationists have asked for the dam to be removed or modified for years, saying it serves no purpose and is a barrier to spawning fish. Derrick Miller, President of the Lake Champlain Chapter of Trout Unlimited, says the dam proposal is great news. The Saranac River is also part of the Northern Forest Canoe Trail. A public information meeting is planned Wednesday evening at Plattsburgh Town Hall.

(Article too long, but great photos.)

**Beautiful dams around the world**


(This must be the PMF from hell!)

**Disaster scenario for Cherry Creek Dam weighed**

By John Aguilar, The Denver Post, 01/23/2015, denverpost.com

AURORA, CO — A failure at the Cherry Creek Dam would inundate the heart of the Denver area with a torrent of deadly water, putting more than 280,000 people, nearly 39,000 structures, and $14 billion of land and property in jeopardy. That nightmare scenario is why federal officials are taking steps to assess the safety of the 140-foot-high earthen dam on the border of Denver and Aurora and lay out ways — such as raising the dam, building a second spillway or adding more relief wells — to make it safer. On Saturday, the Army Corps of Engineers will take its Dam Safety Modification Study for Cherry Creek Dam to the public to get feedback on how to move forward. Another meeting was held Thursday night.

John Palensky, the Army Corps' Cherry Creek Dam safety-study manager, said any risk associated with the 65-year-old dam is because it is perched over a densely packed urban corridor, not because of problems with its structural integrity. In other words, he said, "the risk is skewed by the consequences." "There is not an operational or structural deficiency with this dam," Palensky said. "If this dam was out in the middle of nowhere, we wouldn't care about it." That said, Cherry Creek Dam has received an elevated risk rating from the Corps because of its large downstream population. The agency began screening its dams — it has about 700 across the country — after Hurricane Katrina in 2005 to determine each structure's risk level. The Corps also runs the Bear Creek and Chatfield dams in the metro area. The Chatfield Dam was completed in 1975 after floods 10 years earlier caused millions of dollars damage to Denver
and the South Platte River basin. The Cherry Creek Dam also was built as a flood-control structure. It has never come close to overtopping since its opening in 1950, according to the Corps. Its spillway, which would divert rising water from Cherry Creek Reservoir long before the top of the dam was reached, has never been used.

The highest water level recorded in the reservoir was 5,567 feet in 1973 — just 15 feet above its normal level, said Army Corps dam-safety engineer Steve Butler. The top of the dam is at an elevation of 5,646 feet. The Corps has projected that it would take about twice as much precipitation as was dumped on Boulder County during the historic floods of September 2013 to cause water to spill over the top of Cherry Creek Dam. The chances of an overtopping are one in 58,800 in any given year, the agency projects. But Butler said a storm of that size, while "very unlikely," is not outside the realm of possibility. And the consequences of such an event would be so severe that they can't be ignored, he said. An overtopping of the dam would send 143,900 cubic feet of water per second crashing over Interstate 225, through Kennedy Golf Course and along 11 miles of Cherry Creek to the confluence of the South Platte River in downtown Denver — wrecking houses, sweeping cars off roads and potentially flattening entire neighborhoods. A breach would send that much more water downstream. And the damage wouldn't be limited to the metro area. The inundation area would stretch all the way into Nebraska, according to Corps modeling.

Scott Field, head of the Denver Office of Emergency Management and Homeland Security, said a failure of the Cherry Creek Dam is such a distant possibility that it doesn't keep him up at night. But he said the world of emergency management nevertheless operates "in the world of worst-case scenarios." His office has been looking at ways to evacuate people as quickly as possible along Cherry Creek should it become necessary. He hasn't taken a position on whether any particular measures or safeguards, such as raising the dam or modifying the spillway, should be implemented. Part of the reason is that the Corps hasn't attached costs to any measures. "We're still at the 'everything is on the table' point in this discussion," Field said. Where: Cafeteria at Campus Middle School, 4785 S. Dayton St., Greenwood Village

(A little sense of urgency might help.)

TVA still investigating cause of water seepage at Boone Dam
January 22nd, 2015, by BRAD HICKS, NET NEWS SERVICE, timesnews.net

TVA officials say the 'rooster tail' of water is not a leak — it's just water being released through the dam's sluice gate, located at the bottom of the dam, rather than the spillway gates. Photo by David Grace. The warmer days of spring are just over the horizon, but what that will mean for boaters, skiers and fishermen who want to take to Boone Lake's waters is, well, up in the air. The Tennessee Valley Authority's investigation into water seepage at Boone Dam hasn't progressed far enough for TVA to decide on Boone Reservoir's spring operations, said TVA spokesman Jim Hopson. "A lot is going to depend upon where we are with the investigation in terms of what decision can be made about how we're going to operate the reservoir moving forward," Hopson said. "But a decision has not yet been made." Hopson also said it's too early to tell what TVA will do if the seepage not resolved by the spring.

They approach dam removal with a fervor!

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
For River Falls, it’s dam right…or wrong?
By Phil Pfuehler on Jan 22, 2015, riverfallsjournal.com

On Jan. 13 the City Council voted to ask for an extension on the federal licensing of the two River Falls hydroelectric dams. The license was to expire just over three years. The extension, if approved, would push back the license expiration until December 2025. On Dec. 8 the Kinnickinnic River Land Trust, a nonprofit founded in 1993 “to protect the natural resources and scenic beauty” along the river passed a resolution to support a process leading to removing the dams. KRLT has over 600 members and its board of directors – Judie Babcock, Jeff Bump, Roseanne Bump, Rob Chambers, Peter Dahm, Leonard Dayton, Dale Jorgenson, Joel Larsen, Shawn Monaghan, Alison Page and Hal Watson – voted unanimously for the dam-closing resolution. KRLT’s Executive Director Dave Fodroczi is satisfied that the City Council, which hasn’t taken a position on the dams, is being open minded. “Although their actions do not commit to dam removal and restoration, they do formally establish those outcomes as an option to consider,” he said. “Before Tuesday night, the only option in play was the ongoing application process to relicense the dams for 30 more years until 2048.”

Fodroczi was blunt about why KRLT’s dam-removal position is right. He said the dam relicensing process has set the stage: “Dam removal represents an unprecedented opportunity to truly breathe life back into the river where it runs through River Falls,” he said. “We believe that the restoration of the river corridor following dam removal will lead to a renaissance of the river and the heart of the community.” KRLT’s resolution, in part, highlights environmental problems resulting from the two dams, including “causing algae blooms” and “the river’s summer temperature below the dams to increase.” Fodroczi said scientific evidence, especially as it pertains to the 66-degree ‘threshold’ temperature for trout habitat, is, in a sense, damning. “We have 20 years of temperature data to analyze,” he said. Fodroczi says the algae that coats much of Lake George in summer is fed by upstream water runoff, mostly phosphorous. The dams only worsen this condition by “trapping all the nutrient-rich sediments in one place and providing still water and a warm place for the algae to feed and bloom.” Fodroczi says the Kinnickinnic has healthy sections but also a dead section. “We all like to talk about how the Kinni is a Class-1 trout stream, and our pride is justified by how far the river has come back to health overall since the 1930s,” he said. “However, within the heart of River Falls where the dams and impoundments impede flow, there is no sport fishing, there are no (surviving) macroinvertebrates, and the river is effectively dead as a natural ecosystem. “All you have to do is walk over the footbridge at Veterans Park and look at the river bottom to see that this is not a healthy section. If you were to try to walk across the river there, you would get stuck in the mud and need a lot of help getting out.”

Hydro:
(More hydro with the same water.)

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
Ceremony marks the end of a 22-month hydropower project
By Karen Bliss, cedarrepublican.com | 1/16/15

It was a day of celebration for the U.S. Army Corps of Engineers, not only in Stockton, but for the Kansas City District, at 1 p.m. Wednesday, Jan. 7, at the power plant at Stockton Lake. A commemorative ceremony was held to mark the competition of a long-term project. “It’s a great day for power,” Robin Wankum, USACE Kansas City District Project Manager said.

The ceremony was a ribbon cutting for a $31.2 million project, which took 22 months to complete, replacing a turbine runner, rewinding the generator, upgrading the governor system and replacing the excitation system for the Stockton Power Plant. The plant, which originally was placed into service in 1973, provides $8.3 million in annual energy benefits.

“This was an important project to the U.S Army Corps of Engineers, the Southwest Power Administration and more than 2.6 million people in the state of Missouri,” Col. Andrew D. Sexton, commander and district engineer for the Kansas City District U.S. Army Corps of Engineers said. This new turbine will provide power through the SWPA to six states, Arkansas, Kansas Louisiana, Missouri, Oklahoma and Texas. The previous turbine rated the power plant at 45-megawatts, but the upgrades will help power output as well as working with a turbine with seven blades instead of six. “The plan is that this will generate power more efficiently because the old turbine generated 45-megawatts, where this one generates at 52-megawatts,” Wankum said. “The amount of water required is less. Hydropower is more green than many sources of power, and will be a benefit to the people of Missouri.” This project began in February 2009 when the original power generating turbine lost a blade. In April 2010, the contract was awarded to Voith Hydro Inc. All the upgrades were made possible through the American Recovery and Reinvestment Act. An additional $6 million was provided by SWPA. David S. Kolarik, the chief of public affairs at the U.S. Army Corps of Engineers said at the ceremony, he didn’t even know the room in the powerhouse where the ribbon cutting was held was so large, because during the project, it literally was filled with various parts and pieces. The USACE is the largest producer of natural hydropower in the United States, representing 24 percent of total U.S. Hydro capability. Hydropower is the largest renewable energy source which offsets greenhouse gas emissions, according to a news release from the USACE.

(A case all hydro owners should watch!)
Divided By A River: Yadkin ownership hangs in the balance
thesnaponline.com, Jan 17, 2015, by Jason Boyd

A federal lawsuit pitting the state against Alcoa Power Generating Inc. should settle a longstanding controversy that continues to divide Stanly County’s movers and shakers about the area’s future of economic development. Pre-trial conferences begin next month, with the case between the state of North Carolina and APGI not expected to reach a federal courtroom until April. The trial will decide a feud that first began between Stanly County and the private company, which sowed its roots as an aluminum manufacturer powered by a
hydroelectric dam. It then evolved into a producer of energy. The lawsuit will finally determine ownership of the Yadkin River, but not before debating unprecedented issues dating back to the Colonial era. It will tackle issues of the river’s navigability and titles or lack thereof.

Before a decision is rendered, however, the case will reopen a wound few fully understand. “There’s so much noise around it, it’s hard for people to get at the truth,” said Roger Dick, president of Uwharrie Bank and proponent of the state’s lawsuit. “It’s about who controls water. Water is a commodity. Water is the oil of the 21st century. This is not a frivolous debate. It affects the economics of this region.” For nearly 100 years, Alcoa-Yadkin has been generating clean renewable energy from four hydroelectric dams and reservoirs along the Yadkin River. The production of energy was a way to subsidize the cost of construction for the dams. Alcoa was also a manufacturer of aluminum, a commodity that, along with textiles and agriculture, remains part of the county’s official seal. Aluminum was responsible for hundreds of jobs. Aluminum and Alcoa built the town of Badin and remains steeped in its history. Alcoa opened one of the nation’s first aluminum smelters, Badin Works, and produced aluminum there since 1917. Its influence, although not like it once wielded, is still evident in Badin today. Badin, as well as Stanly County, was regarded as a company town. Folks rewarded the company with loyalty and trust. Operations at the smelter were curbed in 2002 due to global aluminum market conditions, and operating inefficiencies at Badin Works compared to more modern plants, according to Robert Brown, a company spokesman. At that time, Badin Works employed 373. About 130 of the employees remained with the plant producing high purity aluminum and anodes until 2003 when all production ceased. Badin Works permanently closed in 2010. Alcoa spent approximately $200,000 to assist employees, providing services to assist in the transition to a new job, including resume development, interviewing skills and job placement services. In addition, a NAFTA-related government program provided free tuition to laid off employees. Many former employees took advantage of this program, attended Stanly Community College and were eligible for outplacement services offered by the school, Brown said.

Relations Sour
Meanwhile, county officials began to re-examine its economic relationship with Alcoa. After all, the company was no longer providing the jobs it once guaranteed. Alcoa was still in the aluminum business, just no longer in Stanly. Instead of aluminum, the company’s chief economic engine here rested on energy. Neither was the energy part of public consumption nor did the community share in the company’s profits. Instead APGI’s energy is sold for profit on the open market. Because Alcoa is a private company, it is difficult to ascertain exactly how much revenue APGI generates from its four dams in the Yadkin River. Will Scott, the Yadkin Riverkeeper, said the revenue is as much as $30-$40 million annually, although the company reports a net income closer to $8 million. In Alcoa’s financial statements in 2010, the company reported that it spent $41 million in capital expenditures at the dams. Only APGI’s property taxes pose a revenue source for Stanly. According to the Stanly County tax administrator, properties of APGI accounted for more than $82,500 in taxes last year. Alcoa’s real estate represented more than $318,000 in property taxes. The combined totals make the company the largest property taxpayer in the county. Alcoa actively donates funds to community-related causes. Alcoa and the Alcoa Foundation have contributed nearly $2.5 million to support the local community in the past 10 years, including education, job training, water safety and assisting the less fortunate. Alcoa has supported more than 100 local nonprofits in the region, Brown said. In 1958, the Federal Energy Regulatory Commission (FERC) granted a 50-year license to Alcoa to operate four dams and related electrical generation and transmission facilities on the Yadkin River. The license expired in 2008, but is being renewed annually until a new long-term license is issued. Under the Federal Power Act, FERC is responsible for issuing licenses for private companies or non-federal public entities to build and manage dams and power plants on the nation’s navigable waterways. Benefits of the Act were to ensure protection of economic development at the national, state and local level.

Stanly Balks at Relicensing Efforts

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
Stanly County challenged APGI's pursuit of a FERC relicensing for its dams, arguing the company was not fulfilling its economic commitment. APGI countered with a public records lawsuit against the county. Consequently, Stanly County spent $5.7 million in legal fees over a span of seven years, riling taxpayers about wasteful spending. “We spent so much in local dollars,” said David Morgan, secretary of the Stanly County Democratic Party. “It should have been spent on schools and economic development and not lawyers.” Commissioner Peter Asciutto used the wasteful spending in fighting Alcoa as a campaign platform for his election in 2012. He is equally distressed that the state is now spending taxpayer money the same way. “I’m disappointed in the state for stepping in, wasting tax dollars on a lawsuit,” Asciutto said. Ultimately Stanly County reached a settlement with Alcoa in 2013. Stanly agreed not to impede the company’s federal relicensing efforts. In exchange, Alcoa dropped its lawsuit. Terms of the settlement call for each party to be responsible for their own legal fees while refraining from any disparaging remarks about the other. However, the settlement also calls for Alcoa to pay Stanly County $3 million, $2 million for the county’s sole discretion and $1 million earmarked for economic development. Alcoa is also to pay Stanly another $1 million ($100,000 for each year a new FERC license exceeds 40 years, but capped at 50 years). The settlement includes that Alcoa and Stanly work in concert toward economic development of Badin Business Park. Because it has a financial interest in developing the business park, Alcoa said it successfully recruited Electronic Recyclers International (ERI), the world’s largest recycler of electronic waste, to open a regional recycling hub in Badin. Since 2010, Alcoa claims to have invested more than $10 million to redevelop the former plant site into a modern business park.

State Picks Fight
Just as Stanly bowed out, the state chose to assume the fight and filed suit against Alcoa. The state’s lawsuit, however, put the provisions of the Stanly-Alcoa settlement on hold, pending the outcome. Stanly has yet to collect any of the proceeds per the agreement. “I hope Alcoa gets its license renewal so the county can get some of its money back,” Asciutto said. In 2009, Gov. Beverly Perdue asked FERC to recommend “recapture” of the license and reissuance to North Carolina. Since he assumed office, Gov. Pat McCrory has stated the people of North Carolina own the water. Alcoa counters it owns the riverbed occupied by its dams and reservoir. “We have all the rights necessary to own and operate the Yadkin Project and we will prove that when the case goes to trial. The state’s position is wrong,” said Ray Barham, Yadkin relicensing manager. Determining control of the water is considered critical with compassing the region’s future and why some welcome the state’s lawsuit against Alcoa. “The public should share in the wealth of the water,” Dick said. “We’re rich in water here. We shouldn’t be struggling economically. We should be prospering.”

Water Key to Future Economy
Michael H. Shuman, an economist, attorney, author and entrepreneur, reported in a financial essay that 58 percent of Alcoa’s annual revenue from the dams is spent outside North Carolina, referred to as “leakage.” Leakage represents lost jobs, wages and taxes for North Carolinians. The Yadkin River is more than a catalyst for economic development. It provides a necessity for life, drinking water. There are 700,000 water customers served in the region of Alcoa’s dams. About 1.6 million are served in the Yadkin-Pee Dee river basin, Scott said. The city of Albemarle draws about 6 million gallons of water per day (MGD) from the Yadkin River for customer distribution, including Stanly County which buys 1.3 MGD from the city and another 50,000 gallons per day from Norwood. Albemarle has contractually committed to sell Concord-Kannapolis 2 MGD as soon as a waterline is completed. The amount could balloon to 5 MGD. Not everybody is excited that the city is selling the county’s most valuable resource for the benefit of municipalities outside Stanly County. “It concerns me that Albemarle sells water to Cabarrus County,” Morgan said. “They say they’re getting $1 million revenue for selling water, but at what costs?” Many agree the county’s proximity to a natural water source is Stanly’s advantage for future growth, especially when growth in surrounding counties has otherwise strained water availability. Controlling the water’s future is considered a catalyst for the county’s future economic development.

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
Agricultural hydropower projects coming to Colorado

A Telluride hydroelectric advocacy organization announced Thursday a $1.8 million grant awarded to the Colorado Department of Agriculture by the United States Department of Agriculture to support the development of agricultural hydropower projects in the state. The Colorado Small Hydro Association, based in Telluride, said the grant will be important in stemming energy costs for area farmers. “Water is vital to Colorado’s agricultural community; by making small hydropower accessible to our producers we are helping them become more self-sufficient and protect their bottom line while creating more efficiency in their water usage,” said CDA Conservation Services Director Eric Lane in a press release.

According to COSHA, the new hydro projects won’t result in any new dams or water diversions, but will instead rely on existing untapped water pressure. The COSHA report also said Colorado farmers spend an average of $33,000 each year on electricity, mostly to power irrigation pumps. A 2013 analysis by the Colorado Energy Office found that farmers in Colorado report energy expenses around seven percent of total operating costs. Through the newly established Regional Conservation Partnership Program, the USDA is investing $370 million in the implementation of conservation projects in all 50 states. “It’s good news that the 3rd District will receive needed resources under the RCPP that were requested by a broad coalition of regional stakeholders,” U.S. Congressman Scott Tipton said in a press release. “The stakeholders include water districts, local governments, conservationists, agriculture producers and others, who stand ready to put these resources to work on projects that will create clean, renewable hydropower, help ensure sustained agriculture production and limit the impacts of severe drought in the Colorado River Basin.” Tipton and U.S. Senators Mark Udall and Michael Bennet requested the funds for Colorado conservation projects.

COSHA estimates 500 new jobs could be created by the new hydro development in Colorado. The new agricultural hydropower program will facilitate the conversion of flood irrigation systems to pressurized irrigation systems with integrated hydropower, according to the COSHA release. “Colorado’s innovation in hydro policy is serving as a model for other states nationwide,” COSHA President Kurt Johnson said. In fact, the town of Telluride completed a 20-year public works project at the end of 2014 to harness even more hydroelectric power from Bridal Veil Creek and Bridal Veil Falls. With the completion of the Pandora Water Treatment Plant, the town entered into an agreement with the San Miguel Power Association to sell electricity generated by a hydroelectric generator in the treatment plant.

Two Hamilton Mill companies attract investor attention

In mid-December, the Hamilton Mill announced a partnership with Queen City Angels, a group of over 50 investors who are strong believers in supporting the region's entrepreneurial ecosystem. The group’s attraction to the Hamilton Mill had a lot to do with the fact that many of the Mill's manufacturing and clean tech projects fit nicely into the fund requirements set by Ohio Third Frontier. Two companies in particular that attracted QCA: kW River Hydroelectric and
WaterOxyChem. Founded by Paul Kling and Fred Williams, kW Hydroelectric is working on creating a micro-turbine for low-head dams. Since the city of Hamilton and the Great Miami both have low-head dams, the company has found an ideal location at the Hamilton Mill.

WaterOxyChem, founded by Kerry Jackson, has created a unique wastewater treatment solution that uses an aerobic environment to algae and other contaminants from forming in sewers. The solution promises to save thousands of dollars for city water treatment. By investing in companies such as these, Queen City Angels is adding to their network and bringing attention to Butler County. "We chose to focus on areas that made the most sense for our base of business," says QCA Executive Director Scott Jacobs. "We have so much expertise within our group that I can find Angels that will immediately know and understand the types of business the Mill is trying to attract." The lead angel on this project, John Bruck, happens to be the owner of an environmental engineering firm, BHE Environmental. With a career focused on renewable power consulting, Bruck has worked as a project manager for both the EPA and the Federal Energy Administration (FEA) and has been active in groups such as the American Wind Energy Association. With his skill set behind them, the Hamilton Mill's clean tech emphasis will likely grow considerably over the next several years. "His background in perfectly suited for Hamilton Mill," Jacobs says. CB Insights recently recognized QCA as one of the top two private seed-stage venture capital investors in the United States. With this new partnership secured, the Mill will now have access to numerous mentors like Bruck as well as other regional resources.

(A story on this before, now it's a reality.)

Portland Now Generating Hydropower In Its Water Pipes
OPB | Jan. 20, 2015 4:45 p.m. | Portland, Contributed By: Cassandra Profita, opb.org

Portland start-up has tapped the city’s water pipes as a new source of renewable hydropower that doesn’t disrupt fish migration or stream flows. Lucid Energy has installed a series of small hydroelectric generators inside a pipe that carries drinking water to the city. The company announced Tuesday that its new in-pipe hydro system is now producing power for Portland General Electric customers. It’s the first arrangement of its kind in the country. Lucid has a 20-year agreement to sell the power generated by water rushing through the city

Illustration of the Lucid Energy pipe system installed inside the drinking water line in Southeast Portland.
pipe. Some of that revenue will come back to the city to help offset the cost of running its water system.

Lucid Energy CEO Gregg Semler said his company’s in-pipe system offers a way to generate hydropower without environmental impacts. Plus, he said, it’s constant – unlike solar and wind energy. “The advantage we have compared to say solar or wind is we produce electricity around the clock,” he said. “It’s not weather dependent. So, electric utilities and farmers and industrial users can count on our energy from these pipes for energy around the clock.”

The Lucid system taps the power of gravity in the city’s water system. Water flowing through the Portland Water Bureau pipe at 147th and Powell will now flow through four small turbines as well, generating enough electricity to power 150 homes along the way. The turbines are 3.5 feet wide – just big enough to span the diameter of the city’s water pipe. The company expects the turbines to generate $2 million worth of renewable energy over the next 20 years. After that, the Portland Water Bureau can take control of the system and the power it produces.

Semler said he hopes to see the same type of system installed in cities across the country. The company is already working on possible projects in California, Arizona and Las Vegas. “There’s a huge amount of potential for this,” he said. “Once we’ve proven Portland over the next few months, we’ll announce our next one.”

(More hydro on the way! They’re going to review this one into reality.)

Panel approves Hydropower work done thus far
journalexpress.net, January 21, 2015

A four-member panel of experts in dam and hydroelectric project design and construction has given its approval to construction work thus far at the Red Rock Hydroelectric Project, located on the Des Moines River near Pella. An Independent External Peer Review (IEPR) Panel was on site at the project Jan. 14-15 to review reports, tour the facilities, observe construction activities, and examine various construction elements.

The IEPR Panel’s job is to meet the Safety Assurance Review (SAR) requirements of the Water Resource Development Act of 2007. SARs are conducted to ensure that good science, sound engineering, and public health, safety, and welfare are the most important factors in guiding the engineering design and implementation of the project. SARs are used to inform the U.S. Army Corps of Engineers’ Chief of Engineers of the adequacy, appropriateness, and acceptability of the design and construction activities for the purpose of assuring public health, safety, and welfare.

Representatives of the U.S. Army Corps of Engineers, the Federal Energy Regulatory Commission, the project’s design engineering firm – MWH Americas, the project’s general contractor – Ames Construction, and Missouri River Energy Services joined the IEPR Panel for the meeting and review. The Panel noted that “the quality of the work by the contractor and the control of the construction being maintained by MWH and the owner are commendable.” The panel also said that, after examining test sections of elements of the project, work could proceed on remaining elements following the means, methods, and procedures used in the test sections. Work on the project began in August 2014 and is expected to be completed by early 2018. When complete, the Red Rock Hydroelectric Project will produce 36.4 megawatts of electricity – enough to meet the needs of about 18,000 homes.

Other Stuff:

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(So much for low inflation!)  
Price of Electricity Hit Record High in U.S. in 2014  
By Terence P. Jeffrey, January 16, 2015 - cnsnews.com

(CNSNews.com) - Even as gasoline prices plummeted and the overall energy price index calculated by the Bureau of Labor Statistics declined, electricity prices bucked the trend in the United States in 2014. Data released today by the BLS indicates that the electricity price indexes hit all-time highs for the month of December and for the year. 2014 was the most-expensive year ever for electricity in the United States. The annual price index for electricity, published by BLS today, was 208.020. That was up from 200.750 in 2013.

The seasonally adjusted electricity price index for the month of December was 210.151, according to the BLS. That sets an all-time record for the seasonally adjusted monthly electricity price index. The previous high was 209.341 in March of this year. In December 2013, the seasonally adjusted electricity price index was 203.740. The average price for a kilowatt hour of electricity in the United States was 13.5 cents in December. That is the highest average price for KWH of electricity in the month of December since the BLS started recording the December monthly price for a KWH in 1978. In December 2013, the average price for a KWH was 13.1 cents. The average price for a KWH of electricity tends to hit its annual peak in the summer months, decline in the fall, hit its nadir in the winter and rise in the spring. In 2014, the average price for a KWH hit a record high for that particular month in each month of the year. In June, July and August of this year the average price of a KWH hit 14.3 cents—its all-time high for any months on record.

By contrast, the overall Consumer Price Index declined by 0.4 percent in December with particular help from the decline in the price of gasoline. “The gasoline index continued to fall sharply, declining 9.4 percent and leading to the decrease in the seasonally adjusted all items index,” said the BLS in its press release on the CPI. “The fuel oil index also fell sharply, and the energy index posted its largest one-month decline since December 2008, although the indexes for natural gas and for electricity both increased.”

The BLS’s price indexes measure relative change in prices against a baseline of 100. The annual electricity price index exceeded 100 between 1983 and 1984, when it rose from 98.9 to 105.3. In the past two decades, the price of electricity in the United States has roughly doubled. Rising

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electricity prices have not always been the norm in the United States. In 1913, the BLS annual electricity price index was 45.5. By 1946, it had dropped to 26.6. In 1974, it was still only 44.1—less than it had been six decades before in 1913. The net production of electricity in the United States peaked in 2007, according to data published by the Department of Energy’s Energy Information Administration. That year, the United States generated 4,156,745 million KWH of electricity.

In 2013, that latest full year on record, the United States generated 4,058,209 million KWH of electricity—or about 2.4 percent less than in 2007. The latest data from the Energy Information Administration, published in December, includes electricity generation numbers through the first nine months (January through September) of 2014. In those nine months of 2014, more electricity was generated (3,117,501 million KWH) than in the first nine months of 2013 (3,077,418 million KWH) or 2012 (3,095,504 million KWH), but less than in the first nine months of 2007 (3,166,614 million KWH). The composition of the sources of electricity generation also changed between 2007—when the nation produced its peak volume of electricity—and 2014. In the first nine months of 2007, the U.S. produced more electricity with coal (1,523,714 million KWH) than in the first nine months of 2014 (1,231,795 million KWH). The U.S. also produced more electricity in the first nine months of 2007 with nuclear power (607,846 million KWH) and petroleum (53,802 million KWH) than it did in the first nine months of 2014, when it produced 596,174 million KWH and 24,953 million KWH from those source respectively. By contrast the U.S. produced more electricity in the first nine months of 2014 than it did in the first nine months of 2007 by means of natural gas (844,743 million KWH to 688,035 million KWH), conventional hydroelectric (200,614 million KWH to 199,261 million KWH), wood (31,668 million KWH to 28,729 million KWH), waste (14,499 million KWH to 12,723 million KWH), geothermal power (12,170 million KWH to 10,967 million KWH), solar (14,271 million KWH to 532 million KWH), and wind (133,495 million KWH to 23,522 million KWH). In the first nine months of 2014, solar power equaled about 0.46 percent of total electricity generation. Wind power equaled about 4.3 percent of total electricity production.
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