3/14/2014

Some Dam – Hydro News TM
And Other Stuff

i

Quote of Note: *"If one way be better than another, that you may be sure is nature's way." - Aristotle*

Some Dam - Hydro News ➔ ***Newsletter Archive for Back Issues and Search*** http://npdp.stanford.edu/
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"Good wine is a necessity of life." - -Thomas Jefferson
Ron's wine pick of the week: **Artezin Zinfandel Mendocino, 2011**
"No nation was ever drunk when wine was cheap." - - Thomas Jefferson

Dams:

(For those interested, this was sent to me from a posting on the Internet.)
http://www.grantpud.org/blog/wp-content/uploads/2014/03/Wanapum-Dam-Spillway-Board-Presentation.pdf

(The EAP and drawdown are good. It's the right things to do until you understand the problem!)

Crack found in Washington dam on Columbia River

A 65-foot-long crack in a Columbia River dam in central Washington has prompted officials to begin lowering the water level by 20 feet so inspectors can get a better idea of how serious the damage is.

March 1, 2014, seattletimes.com

Ephrata, Wash. — A 65-foot-long crack in a Columbia River dam in central Washington has prompted officials to begin lowering the water level by 20 feet so inspectors can get a better idea of how serious the damage is. There's no immediate threat to public safety from the crack in the Wanapum Dam, Grant County Public Utility District spokesman Thomas Stredwick said Friday. The dam is located just downstream from where Interstate 90 crosses the river. "At this point we already know there's a serious problem," Stredwick said. "We want to make sure the spillway is

stable enough that inspectors are safe when inspecting it." An engineer earlier this week spotted a slight "bowing" above the spillway gates near where cars can drive across the dam, The Seattle Times reported (http://is.gd/aE0vDj). Divers found a 2-inch-wide crack along the base of one of the spillway piers. Public utility district officials analyzed the divers' data and decided Friday that the failure risk was sufficiently high that they should notify other government agencies and downstream water users. Officials have lowered the water level by 6 feet already and plan to let the level drop another 14 feet by Monday. Dam failure in the rural area south of the small town of Vantage would primarily affect farmers, fishermen and power generation. The dam can generate more than 1,000 megawatts of hydroelectric power. PUD officials are working with the Federal Energy Regulatory Commission to determine how best to repair the cracked pillar. Repairs could also affect the rest of the Columbia River hydroelectric system. "All these dams coordinate to generate energy on a regional scope," Stredwick said. "If Wanapum is impacted, that has impacts on dams upstream as well as below." Officials with the Bonneville Power Administration, the federal utility that sells and transmits much of the Northwest's cheap and abundant hydroelectric power, declined to comment on any potential impact to power generation, The Times reported.
Wanapum Dam was built in 1959 and is more than a mile long. The piers supporting its 10 spillway gates are each 65 feet wide, 126 feet tall and 92 feet deep.

(Looks very serious even if it doesn't fail completely.)

'Serious problem': 65-foot crack found in Columbia River dam

Inspectors found a 65-foot crack in a dam below Vantage on the Columbia River, prompting the Grant County PUD to begin lowering water levels.

By Craig Welch, Seattle Times environment reporter, seattletimes.com

Wanapum Dam in Grant County, built in 1959 and more than a mile long, can generate more than 1,000 megawatts of power. Water levels are being lowered 20 feet because of a failure risk from a 2-inch wide crack that stretches 65 feet along the base of one of the dam's spillway piers. A massive crack in a major Columbia River dam poses enough of a risk of dam failure that Grant County authorities have activated an emergency-response plan. Officials said there is no threat to the public from the crack in the Wanapum Dam, which is just downstream from where Interstate 90 crosses the river. But utility managers are lowering water levels a total of 20 feet because they fear the structure otherwise could endanger inspectors trying to get a better handle on how seriously the dam is damaged. "At this point we already know there's a serious problem," said Thomas Stredwick, spokesman for the Grant County Public Utility District (PUD). "We want to make sure the spillway is stable enough that inspectors are safe when inspecting it."

Earlier this week, an engineer noticed a slight irregular "bowing" above the spillway gates near where cars can drive across the dam. When divers finally took a look under water they found a 2-inch-wide crack that stretched for 65 feet along the base of one of the dam's spillway piers.

After analyzing the data gathered by the divers and plugging it into computer models, the PUD determined late Friday afternoon that the failure risk was high enough that they needed to officially start notifying other government agencies and downstream water users. “This is a situation that’s really changing as more information becomes available,” Stredwick said. “But there’s no immediate threat to public safety.”
Wanapum, just below The Gorge Amphitheatre and the hamlet of Vantage, is in a rural area. Failure would primarily impact fisherman, orchardists, farmers, boaters — and, of course, power generation. Wanapum currently can generate more than 1,000 megawatts of power. PUD officials have lowered the water 6 feet behind the dam since discovering the problem earlier in the week, leaving many boat ramps above the dam inaccessible. Authorities plan to let water levels drop another 14 feet by Monday.

So far the PUD has been able to continue meeting all of its power needs, but Wanapum is such a big electricity generator the utility may ultimately have to turn to buying power on the open market. Even if the dam doesn’t fail, the significance of the damage is likely to require extensive repairs and that, too, could impact the entire Columbia River system. “All these dams coordinate to generate energy on a regional scope,” Stedwick said. “If Wanapum is impacted, that has impacts on dams up stream as well as below.” Officials with the Bonneville Power Administration (BPA) declined to comment on the potential impact to power generation because they did not want to unduly influence energy markets. But Kevin Wingert, a BPA spokesman, said the immediate impact would be an increase in flow from Priest Rapids Dam downstream, which would temporarily exceed the low flows needed to protect chinook salmon redds (nesting holes) through the Hanford Reach area. He expected flows to return to normal once the drawdown was completed. Wanapum Dam was built in 1959 and is more than a mile long. The piers supporting its 10 spillway gates are each 65 feet wide, 126 feet tall and 92 feet deep.

(This guy thinks the crack is from an impending polar shift. I tend to think, the more you read that it may be a foundation problem which means big bucks to fix right!)

Dams at Risk: 65-Foot Crack in Washington State Dam

by Howard on March 2, 2014, poleshift.ning.com

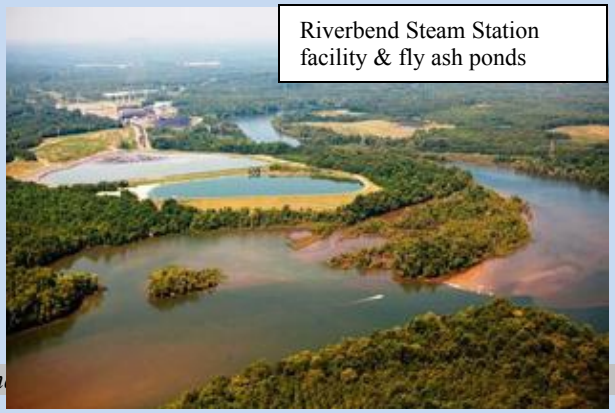
65-Foot Crack Found in Washington State Dam (Feb 25)

The 2-inch-wide crack was found Thursday after divers were sent into the Columbia River because engineers detected a misalignment in a spillway on Wanapum Dam near the central Washington town of Vantage, said Tom Stredwick, a spokesman for the Grant County Public Utility District. The Wanapum Dam generates more than 1,000 megawatts of electricity for the Grant County PUD, the utility that provides electricity to major data centers operated by Microsoft, Yahoo, Dell, Sabey Data Centers and Vantage Data Centers. On February 25, dam officials noticed an irregular bowing of the dam near a section of a spillgate pier along the mile-long structure. Divers examined the area Thursday and discovered a two-inch wide crack running horizontally, located about 75 feet below the water’s surface. It runs the entire width of the 65-foot-wide pier. The risk of a failure of the dam is high enough that the county has initiated an emergency plan. To relieve pressure on the dam, the water level is being lowered by 20 feet.

(A dam is a dam no matter what its purpose! When will the states staff up?)

Dams, and questions, separate coal ash from water supply

By Bruce Henderson, Mar. 01, 2014, charlotteobserver.com



Riverbend Steam Station facility & fly ash ponds

A pair of 80-foot-high earthen dams, one of them built in the Eisenhower era, stand between Charlotte’s water supply and more than 5 billion pounds of coal ash.
Duke Energy promises the dikes at its retired Riverbend power plant on Mountain

Island Lake are safe. The latest detailed inspection, ordered by the Environmental Protection Agency after a huge ash spill in Tennessee in 2008, deems them "satisfactory." But it's hard for the public, or even state inspectors, to learn much beyond that. Clouded by protective legislation, company secrecy and security concerns, the paper trail about Duke's ash ponds is a foggy path. The drabbest of byproducts, coal ash took on new importance after a failed dike smothered two rivers and 300 acres in eastern Tennessee five years ago. Environmentalists sprang into action, demanding that regulators rein in a massive, lightly policed and potentially toxic waste. Duke's 39,000-ton ash spill into the Dan River a month ago set off a new round of scrutiny. A federal grand jury is investigating. State officials, themselves under pressure, are weighing what to do about ash ponds scattered at 14 Duke sites statewide. Duke won't release its internal assessments of the dikes. "We're not going to elaborate beyond what's in the public space," said spokeswoman Erin Culbert. North Carolina legislators, meanwhile, limited the amount of information about the dikes that's available to state dam safety officials. Reacting to the Tennessee spill, lawmakers ordered the state dam-safety office to take over ash pond inspections in 2010. The legislators deemed all the ponds to have state approval at that point. They also said utilities didn't have to provide documents to continue operating them.
State officials did not know that stormwater pipes ran under the ash ponds on the Dan River until one of them broke Feb. 2. The two ponds at Riverbend have four times the capacity of those on the Dan. They help make Charlotte an epicenter of ash.

Riverbend's are among 45 ash-pond dams the EPA classifies as "high hazard" for their damage potential if they fail. Duke owns 12 of those dams in North Carolina, four of them in the Charlotte region. High-hazard dams also sit at the Allen power plant on Lake Wylie and Marshall plant on Lake Norman. The saving grace on the Dan was that the closest drinking water user, Danville, was 25 miles downstream of the spill. The city of 43,000 has been able to filter ash out of its water. On Mountain Island Lake, Charlotte-Mecklenburg Utilities' main water source, the intake sits three miles downstream of Riverbend. CMUD serves 800,000 people. Mecklenburg County's water-quality chief has said an ash spill into Mountain Island would be "catastrophic."
The Charlotte City Council asked staff last week for more information on Riverbend's ash, including what Duke will do with the 2.7 million tons of ash stored there. The power plant closed last April. "We're just interested in understanding what the plan might be," said environment committee Chairman John Autry. "How do we clean it up? When do we clean it up? "I don't want a spill. I don't want any seepage." The 2009 inspection report recommends stability analyses and other studies of the Riverbend dikes that Duke says it has completed. "The Riverbend dams remain safe and are routinely investigated by a number of professionals both inside and outside the company," Culbert said. "We're taking another look at ash basins across the fleet and will work through these issues with all the stakeholders involved." The EPA has access to all of Duke's records on its ash ponds, she said. The EPA-ordered report, and recent state inspections, note seepage from a secondary ash dam at the power plant. The Catawba Riverkeeper Foundation has detected metals above state standards in seeps around the plant. State dam officials say seepage is normal and appears to pose no structural risks. Internal erosion from seepage causes about 20 percent of dam failures, says the Association of State Dam Safety Officials. The association counted 173 dam failures and 587 "incidents" that could have caused failures between 2005 and mid-2013. Riverbend had operated since 1929, apparently without a dike failure. But environmental advocates say ash ponds, like nuclear power plants, pose low-probability but high-consequence risks.

The 2008 Tennessee Valley Authority spill will cost up to $1.2 billion to clean up. One scientist has estimated it will cost at least $70 million to repair the Dan River. The dike that separates the two ash ponds at Riverbend was built on sluiced ash, similar to the construction blamed in the TVA spill, said Richard Gaskins, the engineer-turned-lawyer who heads the Catawba Riverkeeper Foundation. "It's always the unexpected thing that causes the problem," Gaskins said. "Nobody thought about drainage pipes until this (Dan River) thing happened. The next one, it'll probably be something we haven't thought about."

Visual inspections

It's hard to know what's inside old dams such as Riverbend's. Some were documented only in photographs as they were built. "Some are not engineered. It's basically a hole in the ground and you're forming a containment system," said Mohammed Gabr, a civil engineering professor at N.C. State University. The legislation that put ash ponds under the state dam-safety office in 2010 said Duke and Progress Energy, then separate companies, weren't required to supply the backup documents they did have, such as construction drawings and emergency action plans.

"That's a bit of a hindrance," said state dam-safety engineer Steve McEvoy. "It might have been nice to have plans." The utilities, citing the legislation, have refused to provide some information the state sought, he said. Duke's 23 active and 14 inactive ash ponds are among the 1,184 high-hazard dams the dam-safety office oversees. Nineteen staff members oversee a total of about 3,600 dams. The office found six ash ponds with "deficiencies" needing repair the first time they were inspected in 2010. None have been cited since then. Inspectors spend 90 minutes to two hours looking over an ash pond dike. Inspections are required, but most get annual checks. Following a checklist, they note animal burrows, overgrown vegetation, signs of erosion, obstructions and seepage from the dams. The inspectors also look for signs of internal erosion such as muddy seepage or "boils" of water bubbling up near the dam. Gabr, the N.C. State professor, said experienced inspectors should be able to detect seepage that's likely to become a problem. "The key, in my opinion, is consistent observation to establish a baseline that can tell you when it's getting bigger," he said. But the state inspections are purely visual. They can't look inside the dams. "This letter carries no implication regarding the internal stability of the dam," state officials wrote after the most recent inspection of Riverbend's dams in late 2012.

Litigation Duke's adversary on coal ash, the Southern Environmental Law Center, is itching to get inside the records and heads of utility executives. So far that hasn't happened. "Where they have been in violation (of environmental standards) for years, it's not something a utility executive wants to be questioned about," senior attorney Frank Holleman said. "It's not the highlight of a career." The law center's threats to sue Duke last year prodded North Carolina's environmental agency to file its own lawsuits over ash contamination. That produced a proposed settlement over Riverbend and a second power plant that, if approved, would have let Duke avoid removing the ash from its ponds. The law center found far more success when it filed notice it would sue two South Carolina utilities on similar grounds. South Carolina's environmental agency, unlike North Carolina's, did not file its own lawsuits. The law center sued S.C. Electric & Gas and, separately, state-owned Santee Cooper. Both utilities agreed in the past two years to remove ash from their ponds near waterways. That's also the law center's goal in North Carolina. The N.C. Department of Environment and Natural Resources' lawsuits, aimed at all 14 of Duke's coal-fired power plants in the state, are based on groundwater contamination and tainted seepage flowing to rivers and lakes. The Catawba Riverkeeper Foundation, one of the groups the law center represents, was allowed to join the state lawsuits over the three Charlotte-area plants. The state and Duke proposed a settlement of the litigation over Riverbend and Duke's Asheville plant. It called for a $99,000 fine and continued assessment of contamination. Holleman views that deal as part of a state strategy to punish only the weakest violations by Duke, not those with more severe penalties. DENR withdrew the proposal after the Dan River spill. But last week the department said it might be put back on the table this month – or expanded to include other Duke power plants. An April 4 hearing is scheduled on the law center's request for Duke's internal risk assessments and other documents about Riverbend. DENR never sought Duke's internal records, Holleman said. "They just relied on what Duke told them," he said. The Catawba Riverkeeper Foundation, meanwhile, has also filed its own federal action over Riverbend.

A magistrate judge has recommended that it be dismissed. But if the case goes forward, Holleman said, the law center will again demand company documents and try to question executives under oath.

Concerns

Sara Behnke, who lives on Mountain Island Lake, is a cancer survivor and a founder of the community group We Love Mountain Island Lake. She worries about whether pollutants from Riverbend, her neighbor across the lake for 14 years, will someday haunt her two children. But her overwhelming worry is "definitely the idea of a catastrophic failure," Behnke said. "I feel like we are at much greater risk of that than they would like to let on." The water utilities that rely on the lake take a calculated view of Riverbend's ash stockpile. In contrast to the relatively small Dan River, said Charlotte-Mecklenburg Utilities director Barry Gullet, Mountain Island Lake covers 3,281 acres. Unlike the free-flowing Dan, he said, Duke's dams control the flow of water – and contaminants – into and out of the lake. Gullet won't detail the department's emergency plans for responding to water contamination but said they don't focus specifically on Riverbend. Lake

Norman is a backup water source but supplies only about 20 percent of the county's needs. "There are a lot of things in this river basin that are potential water supply issues," Gullet said. "So it's hard to say that one's a bigger risk or bigger threat than another because you don't know the failure mode, you don't know how it can be contained, you don't know how quickly you'll detect it." Gastonia's intake on the lake is just downstream of Charlotte-Mecklenburg's. The city has up to 10 days' water supply in its Rankin Lake and could also turn to the South Fork Catawba River, its old source, in a pinch. Like Charlotte, Gastonia is eager to see Duke's plan for closing the Riverbend ash ponds, Assistant City Manager Flip Bombardier said. The city hasn't taken a position on whether Duke should remove the ash, he said. "But if it's a hazard that could impact your raw water," Bombardier said, "we would like to see that potential hazard minimized to the greatest degree possible."
(I don't want the liability or cost to fix them – take 'em out!)

Owner wants dams removed: Sawyer Mill consultant says state lists them as 'high hazard'

By Kendall Salter, fosters.com, March 4, 2014

Dover, NH — Two dams located along the Bellamy River near the Sawyer Mill Apartments could be removed in the next two to three years, according to a feasibility study conducted by the owners of the complex. Speaking in front of the city's Conservation Commission, consultant Duncan Mellor, of Waterfront Engineers, outlined some of the results of the study into whether the dams should be either lowered or taken out entirely. The dams, which Mellor said were constructed sometime in the 1870s, have been designated as high hazard dams by the N.H. Department of Environmental Services. This designation is due to the location of the structures, which are in proximity to the populated former mill buildings, and could pose a significant risk should they fail. Over the course of the hour-long meeting, Mellor and other consultants outlined some of the potential impacts of removing the dams, including how this would affect aquatic life, sediment buildup and surrounding wetlands.

In 2009, both the upper and lower Sawyer Mill dams, which are privately owned by the Sawyer Mill complex owners, were issued letters of deficiency by the DES. According to Mellor, the goal of the study was to either settle on modifying the dams to reduce flooding or removing them, which would eliminate barriers to fish passage on the river and restore normal river function, including sediment and nutrient transport. Removing the dams would also eliminate impoundments, areas of still or slow moving water behind the dams. Danna Truslow, of Truslow Resource Consulting, said one of the most important impacts of removal would be to renew the passage of aquatic species, such as alewife, blueback herring and the American eel, back up the river. Also, removal would create a more natural water flow and transform the open water habitats of impoundments into a narrower river channel. Mellor said the study, which is almost completed, indicates the most beneficial solution would be taking out the dams, but the process still has some way to go before

reaching that point. Consultants will now have to go through permitting processes, apply for further grant funds and eventually engineer the removal of the structures. That could be at least two to three years away, Mellor said.

(A reminder. When all else fails you should have an EAP!)

10th Anniversary of Mississippi Dam Failure Highlights Importance of Emergency Action Plans

The Association of State Dam Safety Officials is commemorating the 10th anniversary of the Big Bay Dam failure, which failed on Wednesday, March 12, 2004, and resulted in one of the largest releases of water due to a U.S. dam failure. Approximately 3.5 billion gallons of water over a quarter-mile-wide path traveled at least 17 miles downstream after what engineers determined to be internal erosion as a result of internal seepage.

Lexington, KY (PRWEB) March 05, 2014, prweb.com
When the Big Bay Dam in Lamar County near Purvis, Miss. failed on Wednesday, March 12, 2004, it resulted in one of the largest releases of water due to a U.S. dam failure. Approximately 3.5 billion gallons of water over a quarter-mile-wide path traveled at least 17 miles downstream after what engineers determined to be internal erosion as a result of internal seepage. Thankfully, no one was killed as a result of the failure. There was significant property damage, however, including the destruction of or damage to more than 100 homes, two churches, a fire station and a bridge. Dam safety experts attributed this outcome partially to the activation of the dam's emergency action plan. Upon activating the plan, local emergency officials conducted door-to-door evacuations and initiated a reverse call-back system to warn residents of the situation.

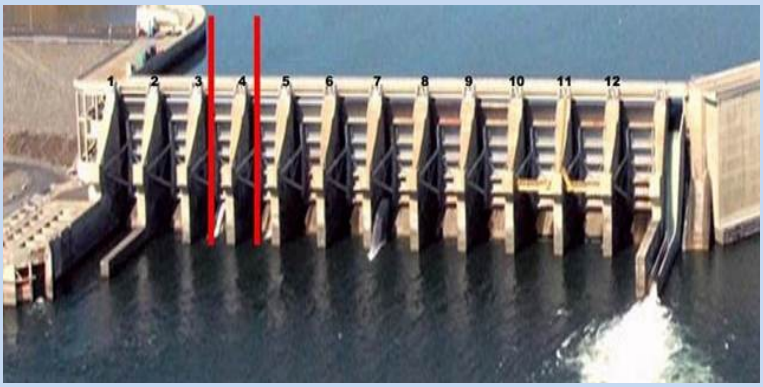
"Emergency action plans are valuable tools that can help save lives by putting important safety and evacuation procedures in place before an emergency occurs," said Lori Spragens, executive director of the Association of State Dam Safety Officials (ASDSO). "Everyone has a role to play in creating a future where all dams are safe, and the anniversary of the Big Bay Dam failure reminds us of the importance of understanding the risks associated with potential dam incidents and failures." According to the Mississippi Department of Environmental Quality, Mississippi has 3,845 state-regulated dams, of which 269 are classified as high-hazard potential dams. The high-hazard potential classification indicates that a dam may cause loss of life if it were to fail. Of the state's 269 state-regulated, high-hazard potential dams, 229 have emergency action plans in place. ASDSO encourages members of the public to educate themselves on both the benefits of dams and the risks of dam incidents and failures. Residents can determine if they live in a dam failure flood inundation zone by contacting their local emergency management agency or the state dam safety program. ASDSO recommends that people who live near dams familiarize themselves with evacuation routes, make sure all family members know what to do in the event of an emergency and prepare an emergency kit. More information on staying safe near dams can be found in ASDSO's informational guide, Living with Dams: Know Your Risks, which the organization developed in conjunction with the Federal Emergency Management Agency.

(Good news! Now, they have to decide what caused the crack in the first place. Was it the foundation or what?)

65-Foot-Long Crack in Washington Dam Repairs Itself

nbcnews.com — M. Alex Johnson

The Washington state dam where inspectors found a 65-foot-long crack last week has fixed itself and is now safe, utility officials said Wednesday. Federal regulators and consultants rushed to Wanapum Dam — on the Columbia River near the central Washington town of Vantage — after the discovery of the 2-inch-wide crack last week in a spillway pier triggered an emergency alert. A spillway is part of a dam that helps control the release of water downstream, letting it spill over the dam rather than slice through its turbines.



The crack was found last week in the fourth of 12 spillway piers at Wanapum Dam on the Columbia River, as shown in this photo delivered as part of a report Tuesday night to the Grant County, Wash., Public Utility District. Grant County was under a flash flood watch because of the potential for uncontrolled water flow as water levels along the 8,320-foot-long dam were drawn down about 26 feet — about 3 feet a day. That was done to reduce pressure on the structure and allow the crack to close. It worked — integrity surveys showed not only that the spillway was stable but also that "the fracture has closed," Tom Stredwick, a spokesman for the Grant County Public Utility District, said Wednesday. The breach relaxed back into place thanks to the lower pressure pushing against it, and the utility district downgraded the dam's status late Tuesday to "non-failure emergency" while it seeks a permanent repair. The dam is producing only about half its maximum power capacity, however, partly because three of its 10 turbines were already offline for maintenance. All boat launches on Priest Rapids and Wanapum reservoirs remained closed.

Hydro:

(The last sentence of the article sums it up! Based on all the news reports, there is a failure. The good thing is it didn't fail completely and the owner is doing the right things!)

Crack in Columbia River dam may affect hydroelectric system

The Associated Press, March 3, 2014, seattletimes.com, by Don Seabrook / The Wenatchee World

There is no threat of downstream flooding from a 2-inch crack in the spillway at the Wanapum Dam, says a spokesman for the Grant County Public Utility District, which owns and operates the dam.

Ephrata, WA — A crack in a spillway pier at the Wanapum Dam on the Columbia River is a serious situation, but not a threat of downstream flooding even in a worst-case scenario, a spokesman for the Grant County Public Utility District (PUD) said. The 2-inch-wide underwater crack extends horizontally across the upstream side of the 65-foot-wide pier called a monolith. It's one of 12 monoliths on the spillway. "Say this section were to fail completely," spokesman Tom Stredwick said Monday. "The remainder of the spillway would remain intact, and with the current amount of water in the river, the water through that section of the dam would still be normal for this time of year."

The problems may arise in managing the river flow and power production from the network of Columbia River dams. "We're in a coordinated river system," he said. The utility is working with the Federal Energy Regulatory Commission and the Bonneville Power Administration to determine the long-term impacts, Stredwick said. The first step is to assess the damage and determine what it will take to repair the Wanapum crack. The reservoir behind the dam is being

lowered 20 feet. That was expected to be completed by early Tuesday, relieving pressure and helping with the inspection, Stredwick said. Pressure caused a slight bowing in the dam that was first detected Feb. 24 by a staff member who noticed a curb on the road on top of the spillway was out of alignment. Engineers sent down divers who discovered the crack Thursday, 75 feet below the waterline. The crack extends all 65 feet across the monolith, which is 126 feet tall and 92 feet thick. Stredwick doesn't think the crack extends all the way through the pier. Continuous surveying shows no additional bowing in that section of the dam, he said. The 51-year-old dam is a mile long, spanning the Columbia about 5 miles downstream from where Interstate 90 crosses the Columbia River at Vantage, Kittitas County. Its reservoir extends about 40 miles upriver to the Rock Island Dam, near Wenatchee. The next dam, about 20 miles downriver, is the Priest Rapids dam, near the Hanford nuclear reservation. The Wanapum and Priest Rapids dams are both owned by the Grant County PUD and operated under federal licenses. The Wanapum Dam can generate 1,092 megawatts, enough to supply 900,000 homes. The utility has 46,000 residential, business and farm customers. It sells surplus electricity through the grid.
Wanapum Dam continues to generate electricity and should continue to do so, but a crack of that magnitude is definitely unusual. "This is a serious situation for us," Stredwick said.

(Hydro must be where the votes are!)

Hydropower bill makes sense for Maine jobs

LETTER

March 1, 2014, onlinesentinel.com

Maine has a strong tradition of rivers powering our paper mills. In today's extremely competitive market for paper products, many mills rely on hydropower for more than making paper. They sell it to the New England power grid when peak prices are paid, as they idle machines for maintenance. Years ago, our Legislature passed a special law forbidding the Great Northern Paper mills to benefit from selling power. It made sense at the time to ensure that papermaking would remain the priority. Today, separate companies own the mills and the hydro facilities, and the need to prohibit the mill from selling power over short periods no longer exists. GNP has a multi-point plan to restructure and start up again to put more than 200 employees back to work, but it needs revenue from selling power for its plan to succeed. L.D. 1792 is a simple and sensible change to allow GNP to continue purchasing hydro power produced on our public waterway, the Penobscot River, and then sell it a few times per year for an additional source of revenue which is critical to GNP's plan for long-term viability. I know jobs in Maine's Katahdin region can be scarce, so when a common-sense solution to putting people back to work is right in front of us, we must support it. I ask my fellow lawmakers to do the right thing for Maine and support L.D. 1792. - *Rep. Stephen S. Stanley*

(If we can't build hydro, they can!)

Manitoba makes hydro power deal with U.S. utility

Critics warn crown corporation's plans put ratepayers at risk

cbc.ca, Feb 28, 2014

Manitoba Hydro has signed two major power deals with a Wisconsin utility for up to 15 years. "This is a historic deal for our province and for Manitoba Hydro that will create thousands of good jobs and power our economic growth for decades," Premier Greg Selinger announced Friday from Toronto, where he is taking part in the Energy Innovation Summit. "This is a final deal," he said. "[U.S.officials] obviously have regulatory requirements that they have to fulfill. But this is a firm sale into Wisconsin." The first deal, which runs from 2016 to 2021, is for 108 megawatts of power. The second is for 308 megawatts for up to 10 years, beginning in 2027. The deals, both with Green Bay-based Wisconsin Public Service (WPS), make it necessary to build the proposed $10.2 billion Conawapa hydroelectric generating station on the Nelson River in northern Manitoba, stated a news release from Manitoba Hydro. "Firm sales give very solid justification for building hydro," Selinger said. "It allows us to keep the lowest rates in North America. It allows for thousands of good jobs to be created in Manitoba."

Manitoba Hydro CEO Scott Thomson said the deals give new life to projects that have been waiting in the wings. "We've got a need in Manitoba to start rebuilding old infrastructure that's in our system," he said. No exact date is proposed for work to begin on the 1,485-megawatt Conawapa station, but the province's proposal calls for it to be operational by 2026. The 308-megawatt deal also requires a new 500,000-volt Manitoba-Minnesota transmission line, currently in the planning stages, to be built, stated a press release from Manitoba Hydro. A previously announced 100-megawatt sale to WPS is scheduled to run from 2021 to 2026, bridging the gap between the two newest deals, Hydro said. The total value of Manitoba Hydro export contracts since 2010, including the latest deals, is more than $9 billion, Selinger said.

Deal puts Manitobans at risk: consumer advocates

But critics say the crown corporation is gambling on an uncertain future.

Winnipeg lawyer Byron Williams who is director of the Public Interest Law Centre and represents the Consumers Association of Canada, Manitoba branch, said the market that Manitoba Hydro plans to sell to has changed dramatically in the recent years due to shale gas and new wind power projects south of the border. "Those have put downwards pressure on hydroelectric prices," Williams said.

[Manitobans face another hydro rate increase

Williams said Manitobans will bear the cost of paying for hydro projects that could fail to bring in the hoped for revenue.

Aboriginal leaders also critical

David Muswaggon of Pimicikamak Cree Nation said First Nations do not necessarily welcome more Hydro development. "History is repeating again, and developing on our territory without our consent," he said. "We're not scientists, but we live there. We see it. We live it. We feel it. So what we're saying here is cêskwa pitamâ. Wait."

(Never thought a company would sell a pumped storage project!)

Kinzua Dam sold by FirstEnergy to NY power firm

March 02, 2014, wjactv.com

Warren, Pa. (AP) -- FirstEnergy Corp. has sold the Kinzua Dam system in northwestern Pennsylvania along with 10 other hydroelectric power stations to a subsidiary of a New York-based power company. Akron, Ohio-based FirstEnergy sold the plants for $395 million to Harbor Hydro Holdings, LLC. Harbor Hydro is a subsidiary of LS Power Equity Partners II of New York City. The companies said in a joint release that employees of the Kinzua system will be retained by the new owner.

(It's just a preliminary permit. Don't worry, they can't build anything! This the ultimate uphill battle! It's hard to push a wet noodle uphill.)

Federal agency approves PUD's plans for study of proposed dam

By Bill Sheets, Herald Writer, March 3, 2014, heraldnet.com

A plan for studying issues related to a possible mini-dam on the South Fork Skykomish River near Index has been approved by a federal agency, despite Tulalip Tribes concern that the study won't accurately assess the possible effects on fish. The Snohomish County Public Utility District study plan will not gather enough information to determine the planned weir's potential effects on juvenile salmon that migrate downstream, said tribal environmental liaison Daryl Williams in a letter to the Federal Energy Regulatory Commission. "We have met numerous times with PUD and have provided extensive comments regarding the study plans and the proposed project but believe our comments were not adequately addressed," Williams wrote in the letter, dated Feb. 18. FERC determined that the PUD's study plan was mostly adequate and sent a letter to the utility Jan. 30 giving it the go-ahead. Some small changes were recommended. Williams' letter was in response to approval of the study. The PUD could have the study done and ready for public comment by early 2015, spokesman Neil Neroutsos said. If the utility formally applies to build the mini-dam, which it has yet to do, FERC would have the final say. The possibility of any type of dam on the scenic stretch of river above Sunset Falls has drawn fierce resistance from neighbors and environmental groups.

The $133 million project would involve diverting water from a pooled area behind a seven-foot inflatable weir above Sunset Falls into a 2,200-foot pipeline downstream to a powerhouse just below the falls. It's expected to generate enough power for about 10,000 homes. Some water would be allowed to flow over the weir. Chinook, coho, pink and chum salmon spawn above the falls and head downstream. The tribes have listed several conditions under which they'd support the project. They include assurance that stream flow will be adequate and establishment of a reliable fish-counting system. They don't believe the PUD's study plan accomplishes those goals. Kim Moore, an assistant general manager for the PUD, acknowledged some differences with the tribes but said he thought the Tulalips and the utility staff were in agreement on most of the points. "I was caught off guard by the tone of this letter" from the Tulalips, Moore said.
The South Fork Skykomish River is listed as a protected area by the Northwest Power and Conservation Council, a regional planning group based in Portland. The designation does not prevent development, but FERC must take it into account in its decision on the project. The PUD has asked the council for a rule change that would allow a mini-dam in a protected area if it can be shown that it's helpful to fish and wildlife. A decision on that request could come this summer, council spokesman John Harrison said. The Tulalips have said they could back the rule change if their conditions are met. Otherwise, "it is exceedingly difficult for the tribes to support exempting this site from the protected areas list," Williams wrote in the Feb. 18 letter.

The PUD has agreed to monitor fish passage after the dam is built but did not include a fish count in the study to be done beforehand. Officials say it's difficult to accurately measure the number of fry and fingerlings headed downstream. "It's an expensive proposition and it's hard to get really good data," Moore said. FERC agreed with the PUD on that issue. "Studying the out- migration timing of smolts in the project area is unnecessary because the timing is adequately understood," the FERC letter reads. The utility and the tribes also disagree on the amount of time needed to measure river flow to make sure that enough water will run over the weir to carry young fish downstream. The PUD's plan is to sample one migration season — this spring and summer. The tribes want two years of data. "We don't think there's a need," Moore said. The agency again agreed with the PUD, in part. It recommended that the utility study at least three different flow conditions to provide a range of scenarios. If not enough data are collected this year, more studies could be required next year. Moore said the PUD is doing the fish studies it believes are required by the federal government, 17 in all. He hopes to work things out with tribal officials. "We have overall a good relationship with the Tulalips," Moore said. "I do not think we're that far apart, quite frankly." Williams, too, said agreement is possible. "I think there's still some room to work with the PUD to try get part-way there on some of the issues, but we're not there yet," he said.

(This seems to be an extreme point of view!)

Cracked dam shows vulnerability of CA green power grid

By Wayne Lusvardi | Cal Watchdog, 3/5/14, sayanythingblog.com

California power grid operators learned Friday that Grant County in the state of Washington had implemented an emergency response plan due to a crack in the Wanapum Dam along the Columbia River. Divers detected a 65-foot long crack at the base of one of the dam's 10 spillways last week. While officials saw no immediate threat to public safety, they called the situation a "serious problem. "This is a harbinger of trouble for California's ambitious plan to broadly limit its reliance on fossil fuels. In two years, the state will initiate an "Energy Imbalance Market," which entails buying cheap hydropower during the sunset hours of each day from the Columbia and Colorado River hydropower systems. This will be necessary because of the conversion of much California's power grid from reliable conventional power to solar power that only generates electricity during daylight hours.

(GRDA history starts with hydropower. Highlighting the benefits of dams.)

Power for Progress GRDA and the benefits of hydroelectricity

Resting on a solid foundation

By Justin Alberty Grand River Dam Authority, grandlakenews.com

In recent weeks, the Grand River Dam Authority has announced its decision to construct a combined cycle gas plant on-site at its existing Coal Fired Complex. Along with that, GRDA has also announced that the new name of that complex will be "Grand River Energy Center", a name that not only reflects the broadened mission of the facility but also pays homage to GRDA's roots and the foundation of its electric generation: Oklahoma's Grand River. Even as the Authority moves ahead with this gas plant (which has the potential to be the most efficient of its kind in the entire nation), and also begins the long process to retrofit components on its Unit 2 coal fired plant (to continue reliable operations for years to come), it's important to note the important role that renewable hydroelectric generation has always played at GRDA. From its very beginnings, the Grand River Dam Authority has been in the hydroelectricity business. After all, Pensacola Dam – Oklahoma's first hydroelectric facility -- was built to harness the waters of the Grand River, and the river has produced a lot of megawatts of electricity for the state of Oklahoma in nearly 75 years of service. Of course, Pensacola is just one part of the hydroelectric history. GRDA also built Robert S. Kerr Dam in the early 1960s and the Salina Pumped Storage Project (SPSP) in the late 1960s/early 1970s. All together, these resources play a role in meeting the electrical demand of thousands of Oklahomans all across the state, and it's all done with clean, renewable hydroelectric power. According to the United States Geological Survey (USGS) hydroelectric facilities, like GRDA's, "fit the concept of renewable energy" because these facilities use "running water, without reducing its quantity, to produce electricity."

At GRDA, that water is used repeatedly as it flows down the Grand River, through Pensacola Dam and Kerr Dam, and also as it is pumped up and stored at the SPSP. However, the USGS states there are other benefits to producing electricity with the power of falling water. Here are a few:

- Hydroelectricity increases the stability and reliability of electricity systems because hydroelectric generator units, like those inside GRDA dams, can be started very quickly. In fact, "energy generated by hydroelectric installations can be injected into the electricity system faster than that of any other energy source" says the USGS. That is certainly true at GRDA, where a beneficial mixture of coal, natural gas, wind and hydroelectric generation resources also helps maintain system reliability.
- Hydroelectricity contributes to the storage of drinking water. Did you know that GRDA lakes serve as storage for 50 Oklahoma municipal water systems and rural water districts, including Tulsa? Grand, Hudson and the W.R. Holway Reservoir (SPSP) all serve as water storage reservoirs to help meet the needs of thousands of Oklahomans. Without the presence of hydroelectric plants, that storage might not be available.
- Hydroelectric power helps develop the entire region. Prior to Pensacola Dam, the surrounding region was rugged and rural. Today, that region is the heart of a large and thriving tourism and recreation industry that relies on GRDA lakes. Of course, the abundance of low-cost, reliable electricity, produced by GRDA, helps support that thriving region too.

There are other benefits, of course, but these are just a few of the reasons why the GRDA story is really a "power for progress" story for Oklahoma. At GRDA, we are proud of the role our employees play, every day, to keep the power flowing to our Oklahoma neighbors.

Water:

(Here comes the rain, late but welcome!)

Storm dumps snow on local mountains

abclocal.go.com, February 28, 2014, by Anthony Pura

Shaver Lake, Calif. (KFSN) -- Snow started falling on mountain roads Friday afternoon. It's a welcome storm as California continues on one of the driest winters on record.
Andy McMillan with the Big Creek Hydroelectric project, owned and operated by Southern California Edison, says local precipitation levels are less than 30 percent of where they should for the year. The snow pack is about 20 percent of normal. McMillan predicts the storm will help raise those numbers by 2 or 3 percent. It will help but it's not enough to take California out of the drought. "If we don't have enough water, we don't produce as much electricity," McMillan said in regards to the Big Creek Hydroelectric Project. "What that means for the local area is instead of using local energy, it has to be imported." He says that could be a possibility by the summer. The water at Huntington Lake could also be a telling sign of the how bad the drought is. It is low and it could stay that way through the summer. "Some of the lakes will not be full," he said. "But we're going to try and manage to maintain the minimum level." The mountains saw a combination of rain and snow on Friday. It began as rain in the late morning, and then the snow started to fall heavily by the late afternoon. Lightning from the storm temporarily shut down some slopes at the China Peak Mountain Resort, but owner Tim Cohee was more excited about seeing the snow. "We're still in the base-building business," he said. "It's unusual to be in the base building business in March, but we are. In that case, the wet snow is perfect." Snow also fell on the higher elevations most of Friday, which should help increase the local snow pack. "We'd rather see runoff from the snow in small measures, rather than rain all at once," McMillan said. But he added that it would likely take at least five more similar storms to return precipitation levels back to normal.

(Excerpts: In case he didn't know. Ever wonder how much water there would be if they had no reservoirs?)

Attention Mr. Kerry: California is a desert

March 02, 2014 • By Michael Reagan / Special to The Telegram , columbustelegram.com

Someone better send John Kerry a high school geography textbook. Our brilliant Secretary of State doesn't seem to know that California is about two-thirds desert....

(If it stinks and really tastes bad, do you really want to drink it? Do you want to buy shoes from this guy?)

Magalia Dam water okay to drink despite taste, odor

By Trevor Warner, paradisepost.com, 03/04/2014

Paradise residents may begin to experience an odd taste and odor to their water. Paradise Irrigation District Manager George Barber said the district started pulling water from Magalia Dam about six weeks ago. The move is to address drought concerns, Barber said. The Division of Safety of Dams requires the district to release water from Magalia reservoir when it gets to more

than 25 feet from spilling. Drawing down the water from Magalia Dam allows the district to maximize water collection, he said. "We can get these intense storms and we don't have to release any water," he said. But because there is more algae in Magalia Reservoir than Paradise Lake, some residents might notice their water has a different taste and odor. But the water is safe, Barber said. "The water is safe to drink," he said. "It's meeting and exceeding every state standard. The algae is killed and filtered out, but it releases a taste and odor you can't get rid of." In the meantime, the district is putting together a drought response workshop for the public. The meeting will be sometime this month, though a date hasn't been set. Barber said the meeting will likely be in the Town Hall chamber in order to utilize the town's live-streaming capabilities. That way, those who are interested can have access to the information without actually going to the meeting. The Post will announce the meeting date when the information becomes public.

Environment:

(Never saw a lamprey! What the heck are they anyway? Oh, an eel!)

Prototype lamprey passage structure installed at McNary Dam

Columbia Basin Bulletin

thedalleschronicle.com, March 1, 2014

Pacific lamprey migrating up the Columbia River will find their route past McNary Lock and Dam a bit easier to travel, thanks to a prototype lamprey-passage structure installed in the downstream end of the Oregon shore fish ladder, U.S. Army Corps of Engineers officials announced this week. The 40-foot-long structure, fabricated in several sections, was installed during the past week. In August 2013, Marine Industrial Construction of Wilsonville, Ore., was awarded a $336,542 contract to build, deliver and install the device. Pacific lamprey belong to a group of fishes that are eel-like in form, but lack the jaws and paired fins of typical fishes. Lampreys have a round sucker-like mouth, no scales and breathing holes instead of gills. “Lampreys are very important to the health of the inland aquatic ecosystem,” said Mark Smith, Corps project manager. “As larvae, they’re the vacuum cleaners of our streams and rivers, spending the first four to seven years of their lives in freshwater, filter-feeding among the sands and fine silt.”

Although not formally protected as an ESA-listed species, lamprey abundance has diminished in the Columbia River basin during the past 30 years. Lampreys are anadromous -- migrating from fresh to ocean waters and returning to spawn -- and were once common in the Snake, Clearwater and Salmon River drainages. The Snake is a tributary of the Columbia that feeds into the big river in southeast Washington. The Clearwater and Salmon flow out of Idaho into the lower Snake.

As adults, Pacific lampreys become parasitic and feed on a variety of saltwater prey. After two to three years, they stop feeding and return to the freshwater rivers and streams to spawn, said Smith. Lampreys are also culturally significant to the Pacific Northwest tribes who use these fish for food and medicine.

Recent studies indicated adult lampreys were unable to efficiently enter McNary’s fish ladder because lampreys, which move primarily along the bottom of the river, prefer lower passage routes with reduced water flows to negotiate the entrance weir, Smith explained. The fish ladder entrance was set high in the water column and uses higher velocities to attract salmon and steelhead. In May 2008, the Corps of Engineers entered into agreements with the other action agencies (the Bonneville Power Administration and the Bureau of Reclamation), four tribes and one state for 10-year commitments to benefit fish, particularly Columbia River Basin salmon and steelhead stocks. Those agreements, known as the Columbia Basin Fish Accords, later expanded to include a total of seven tribes and three states. As part of those agreements, the Corps committed to plans and actions designed to improve lamprey passage. Lamprey-passage modifications at dams are critical to improving their mobility up the rivers to reach spawning areas. Although the Columbia Basin Fish Accords put lampreys on the Corps’ radar as a species

that needed help to pass the dams, much is yet unknown about which in-water conditions best accommodate these unique fish. The new McNary lamprey-passage structure is fitted with pit-tag detectors at both ends. The one-foot-high flume between the entrance and exit contains circle- and half-circle-shaped baffles to produce a range of reduced water velocities across the width of the structure's interior. "We plan to conduct video monitoring to observe which velocity is preferred by migrating lampreys," said Smith. "We anticipate this prototype structure will help us learn quite a bit about what's best for lamprey passage." Tagging operations at Bonneville and John Day dams will help researchers track lampreys as they pass through the structure.

The McNary prototype is the latest of many modifications made to fish ladders at Corps dams to improve lamprey-passage conditions without negatively affecting salmon passage. At dams in the Corps' Walla Walla District on the Columbia and lower Snake -- McNary, Ice Harbor, Lower Monumental, Little Goose and Lower Granite -- metal plating attached along ladder floors and lamprey-friendly pass-through orifices in weirs provide smoother surfaces for lampreys to attach to as they move upstream. Corps dams in the Portland District on the Columbia River -- John Day, The Dalles and Bonneville -- have also made modifications to improve conditions for lampreys in their fish passage facilities. To learn more about the Corps' efforts to improve passage conditions for lampreys and ESA-listed fish species, visit the Federal Caucus website at www.salmonrecovery.gov

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