Dams:
(If you don’t subscribe to this Newsletter, you may have a reason to do so)

DamSafetyNewsletterFall2013.pdf

(100 years isn’t that old for a dam.)

Ballville Dam under close scrutiny
Sep. 27, 2013, Written by Daniel Carson Staff Writer, thenews-messenger.com

Fremont, Ohio—The Ohio Department of Natural Resources’ Division of Dam Safety and engineering firm Mannik and Smith conducted separate inspections of the Ballville Dam this week, Mayor Jim Ellis said Thursday. The ODNR inspection was a regular one conducted by the agency of the dam, Ellis said, while Mannik and Smith is looking at the 100-year-old structure as part of a study as to what repairs are needed and how much they would cost the city if Fremont City Council were to decide to keep the Ballville Dam.

“I’m thinking that the Division of Dam Safety does more of a visual inspection while these guys get more into construction,” Ellis said.
By next spring, the city council is scheduled to decide whether to repair or remove the dam. Ellis has repeatedly said the city did not have an updated cost estimate regarding potential dam repairs. The city has about $8 million in grants available for dam removal, if it decides to remove the structure. ODNR’s Division of Soil and Water Resources issued a notice of violation to the city in August 2007 for operating the dam in violation of state law. Deadlines were established for removal of the dam by December 2012. That deadline was extended to December 2013 in a June 2011 letter from the ODNR division to then-safety service director Sam Derr. In late August, Stantec engineer and dam project manager Scott Peyton told the News-Messenger that his firm and the city were still working with the U.S. Fish and Wildlife Service on environmental compliance documents for the dam’s Environmental Impact Statement. Ellis said Mannik and Smith had reviewed prior ODNR dam inspection reports and a 2005 study done by Arcadis on the dam’s condition and what repairs it needed. A July 2009 safety inspection of the dam by ODNR noted a continued severe deterioration in the dam’s concrete and asked the city to investigate the concrete’s structural integrity. Ellis said that the only thing Mannik and Smith had told him this week was that the integrity of the dam’s concrete looked pretty good. The mayor said he expected to see a report from the engineering firm on the dam by mid-October. He said he did not know when ODNR would release its inspection report. Ellis said Thursday that the next step for Mannik and Smith will be to do some engineering analysis on the dam and get specifications on repairs that would be needed.

(And a Grand project it is. Look at that PH. It’s so clean you could almost eat off the floor.)

**Grand Coulee Dam**

*September 27, 2013, Other places, Washington Van-Tramp, van-tramp.com*

Grand Coulee Dam is a gravity dam on the Columbia River built to produce hydroelectric power and provide irrigation. It was constructed between 1933 and 1942, originally with two power plants. A third power station was completed in 1974 to increase its energy production. It is the largest electric power-producing facility in the United States and one of the largest concrete structures in the world. While the Hoover Dam is taller, the Grand Coulee Dam is more than 3 times wider spanning just a few feet shy of 1 full mile across.

*Copy obtained from the National Performance of Dams Program: [http://npdp.stanford.edu](http://npdp.stanford.edu)*
I made sure to take the free tour as well, which is the only way to actually set foot on top of the dam, and see the interior of one of the power generating plants. The tour was escorted by armed security even after passing through security equal to boarding a plane. Why? Because if this Dam was damaged, it would knock out power to the entire Western third of the United States... and flood much of Washington, Oregon, and lower Canada. Yikes!

Smithfield dam to be repaired
AP / September 27, 2013, boston.com

Smithfield, R.I. (AP) — Repairs are coming soon for a dam in Smithfield that's now classified as a "high hazard" structure. Rhode Island's Department of Environmental Management announced Friday that it has approved Smithfield's plan to upgrade the dam. The town will lower the dam's water level before making the repairs, which are expected to be completed by March. The structure is located at the southeastern end of Georgiaville Pond. While the dam's condition is considered fair, its location has prompted the state to classify it as a "high hazard dam." That means that its failure would result in a "probable" loss of life downstream.

(Greers Ferry Dam set for 50th anniversary ceremony
By The Associated Press, September 27, 2013, arkansasonline.com

Little Rock, Ark, — Former President Bill Clinton is to top the list of speakers at a celebration of the 50th anniversary of the completion of Greers Ferry Dam at Heber Springs. On Thursday, it will have been 50 years since President John F. Kennedy stood at the dam and praised the programs of President Franklin Roosevelt as a way of bringing prosperity to the nation. The dedication was one of Kennedy's last public appearances before his assassination in Dallas the following month. The Heber Springs Area Chamber of Commerce is expecting a large crowd for the event, which is to start at 11:30 a.m. The group urges people to arrive early. An overflow parking lot will open at 9:30 a.m. The dam on the Little Red River is a popular recreation spot.

DEM approves plan to repair Georgiaville Pond dam
9/28/2013, valleybreeze.com

Providence, RI - The Department of Environmental Management has approved a plan submitted by the town of Smithfield to make repairs on the Georgiaville Pond

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
The repairs will be made at the northeastern end of the main dam, which is located on the southeastern end of Georgiaville Pond. The town of Smithfield owns the portion of the dam where the repairs will be made, and is making the repairs. The DEM is not requiring the town to make the repairs. DEM’s Dam Safety and Freshwater Wetlands programs reviewed and approved the proposed repair plan that was submitted by the town in August. Georgiaville Pond Dam is classified by DEM as a high hazard dam, which means that failure or mis-operation will result in a probable loss of human life. The hazard classification has no relationship to the current condition of the dam, which is considered to be in overall fair condition.

(More bad press about dams. The 50 year-old myth again when it has been shown that a properly maintained dam lasts much longer. Most dams have the problem that they don’t meet today’s safety standards. The PMF is a big problem because it is usually over-estimated.)

Crumbling dams could unleash disasters
Sep. 28, 2013, Written by Keith Matheny, Gannett, Michigan, livingstondaily.com

Flint, MI — University of Michigan-Flint student Hannah Lee studied on a park bench along the Flint River this month, unaware that a dam holding back the river a few hundred feet from her is falling apart. The Hamilton Dam runs through the heart of downtown Flint, with the U-M campus on either side. It’s “in very, very poor shape,” said Steve Montle, Flint’s former Green Cities coordinator, who now works on city projects as a consultant. Based on its location, it’s considered a high-hazard dam — meaning if it failed, people likely would die and significant structural damage could occur. Told of the dam’s condition, Lee, 18, of Clarkston said, “I had no idea. I’m a little bit scared to be sitting here right now.”

The Hamilton Dam is an extreme example of a growing concern in Michigan: aging, dilapidated dams and what to do about them. The Michigan Department of Environmental Quality oversees 88 potential high-hazard dams in the state — and all but six of them are approaching or past 50 years old, the average engineered lifespan for a dam. Overall, more than 90 percent of Michigan’s nearly 2,600 dams will reach or exceed their design life by 2020, the American Society of Civil Engineers stated in a report giving Michigan a D grade on the condition of its dams. “It’s infrastructure in our country today — not just dams; bridges, highways. That’s a huge, ticking time bomb in my mind for the entire country,” said Byron Lane, chief of the DEQ’s Dam Safety Unit.

Of the 22 state-managed, potential high-hazard dams in Wayne, Oakland, Macomb, Livingston and Washtenaw counties, inspections show all in satisfactory or fair condition. But all of the dams are near or more than 50 years old. Most Michigan dams no longer serve the purpose for which they were built in the late 1800s or early to mid-1900s — power for things such as grist and sawmills and, later, hydropower for small communities whose increasing power needs have since led them to tap into the electric grid. A 2007 study on the growing crisis of aging dams in Michigan, prepared by Public Sector Consultants and Prein and Newhof for the Michigan Municipal League Foundation, said Michigan has nearly 120 dams in need of an estimated $50 million to address their repair or removal. The DEQ rates the Hamilton Dam as “unsatisfactory,” state inspectors’ worst rating, a condition calling for “immediate or emergency remedial action.”
That needed action hasn’t occurred for years, as the dam continues to crumble. Huge chunks of concrete are missing in portions, the inner rebar exposed. Three of six floodgates no longer work. More than half of the state’s dams are privately owned, often “mom-and-pop-type organizations — maybe a condominium association that had a dam installed for their lake,” said the DEQ’s Lane said. The cost of dam repairs, often exceeding $100,000, is a “huge hit” for most.

Four state-managed, high-hazard dams are rated in poor or unsatisfactory condition:
• The Hamilton Dam in Flint.
• The Otsego and Trowbridge dams on the Kalamazoo River in Allegan County.
• The Boardman Dam, owned by Grand Traverse County on the Boardman River.

Gov. Rick Snyder approved $2.35 million last year for a new Dam Management Grant Program to assist local governments, nonprofit groups and individuals with repairs or removals of failing dams. Five projects received grants, including for removal of the Boardman Dam and repair of the Otsego Dam.

(A bit of history about Colorado flooding etc.)

**Nelson’s 'Big Dam' survives 1976 and 2013 floods**

By Kenneth Jessen, 09/28/2013, reporterherald.com

In 1880, the Home Supply Ditch Company hired engineer John H. Nelson to build a log dam across the mouth of the Big Thompson Canyon, located below North County Road 29 at the Big Thompson River. The dam made it possible for the ditch company to draw its allocation on the south side of the river. In 1887, Loveland placed its intake on the north side to bring water into its wooden pipeline. The log dam was destroyed in an 1894 flood. Nelson was hired once again, and this time, he was determined to design a permanent structure. Nelson's new dam used stone slabs held in place with concrete -- some stones weighing as much as a ton. It was also built as an arch. The cost was $11,000 and was dubbed "The Big Dam."

Nelson did a good job since his dam survived both the 1976 and 2013 Big Thompson floods. It is among the oldest dams of its type in the West, and in 1985 was designated a Colorado Historic Civil Engineering Landmark. Nelson suffered severe injury during the construction process. He was knocked off a cliff and fell onto a wheelbarrow. The sharp edge of the wheelbarrow cut open Nelson’s face from his forehead to his mouth.

This is how the Big Dam looked on Sept. 18 of this year. It survived in excellent condition, although debris piled up along its edges and clogged the Home Supply Ditch head gate. (Kenneth Jessen)

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
He was taken to the Chasteen home just below the dam, and a doctor was summoned. The doctor arrived intoxicated and managed only three or four stitches. Horrified, Mrs. Chasteen got out her needle, some thread and stitched Nelson's face back together. Nelson survived his ordeal and more important, his dam has survived for 119 years.

Kenneth Jessen has been a Loveland resident since 1965. He is an author of 18 books and more than 1,300 articles. He was an engineer for Hewlett-Packard for 33 years and now works as a full-time author, lecturer and guide.

(Not much chance these days for a dam offering flood protection)

**Pace: Dam best flood solution**
chieftain.com, October 4, 2013

A large dam on Fountain Creek is needed to prevent the kind of damage from flooding witnessed in Northern Colorado last week, a county commissioner says. "When the big one comes, there will be added damage from growth in Colorado Springs and the burn scars of two large fires. The flooding will be worse than ever," Commissioner Sal Pace said Thursday. "We only have to look at the tragic events in Boulder and Larimer counties, in Lyons and Estes Park, to see what could happen." Floods, some rated as 500-year storms, overcame numerous small dams. Larger dams, such as Bear Creek and Cherry Creek reservoirs in the Denver Metro area, held up, he pointed out.

**Ceresco, other communities fight against dam removal**
Written by Keith Matheny, Gannett Michigan, battlecreekenquirer.com

For communities with dams and millponds for a century or more, dam removals can be traumatic. "People see that as part of the identity of the community," said Chris Freiburger, a dam specialist with the Michigan Department of Natural Resources. "You take away that impoundment, the community's identity is gone." In Ceresco, a tiny community in Calhoun County, the Kalamazoo River was first dammed in the 1830s. The current dam and powerhouse was built around 1905 by what was then called the Commonwealth Power Company, which later was bought out by Consumers Energy. Electricity production was discontinued there in the 1950s. Now, as part of mitigation for the 2010 Marshall oil spill from its pipelines, Canadian oil transport corporation

*Copy obtained from the National Performance of Dams Program: [http://npdp.stanford.edu](http://npdp.stanford.edu)*
Enbridge, at the direction of state agencies, has purchased the dam and intends to remove nearly half of it by next spring; with full removal likely at some point thereafter. Heather Rocho and others who live around the small lake created by the dam founded a “Save the Ceresco Dam” committee whose Facebook page has nearly 1,000 “likes.” “Will it affect our property values?” she said. “Will it affect who chooses to come and live here? What will the river be? Will it become a creek? That’s what the true cost is to us.”

In Roscommon County, an ongoing study on the possibility of removing a small dam on Higgins Lake that helps regulate the lake’s level prompted more than 500 signatures and Petitions.com to save the dam. “It’s a big tourism area, and if people can’t get boats onto or off the lake easily, it's going to affect the economy in the area,” said Jack Bouck, a lakefront property owner. Byron Lane, chief of the state Department of Environmental Quality’s Dam Safety Unit and a 30-year veteran of the department, said dam removal projects are “the most contentious thing we deal with.” “You’re changing a lake environment to a free-flowing stream,” he said. “Those people who’ve enjoyed the lake, who are invested by the lake and have houses on the lake — sure, they are going to be upset.” But it's the dam owner's ultimate choice whether a dam stays or goes, as the owner is responsible for the costs of its upkeep, Lane said. Local frustration was even sharper south of Traverse City last October, when an ongoing project to remove the Brown Bridge Dam on the Boardman River breached and made what was supposed to be a gradual drawdown of water behind the dam instead a rushing wall of water, tearing up docks and damaging homes downriver. The cause of the breach is still under investigation by the DEQ. Jim Vezina’s dock at his home was damaged on Boardman Plains Road. But it was months later that “20 to 30 feet of mud and silt landed at my doorstep,” he said. His dock settlement included a waiver against future claims, leaving him without further recourse, he said. More concerning to Vezina is the lack of a structure to control the next flood, he said. “It’s always in the back of your mind,” he said. “Now I’m always looking upstream, keeping more of an eye out. You sleep a little uneasy in the springtime, when the snow starts melting and we have all of these storms come through. The water starts coming up, and you don’t know how high. It’s a little disconcerting.”

(This is a comforting thought! Somebody is manning the dams!)

**SHUTDOWN: Dams not affected**

By Chris Woodka The Pueblo Chieftain, October 1, 2013, chieftain.com

The Bureau of Reclamation controls storage and releases from Pueblo Dam, Twin Lakes, Turquoise Lake and Ruedi Reservoir as part of the project. It also operates the Mount Elbert power plant located at Twin Lakes. “All of the Fryingpan-Arkansas Project will continue to be operational,” said Kara Lamb, spokesman for the regional Bureau of Reclamation office.

(There’s always a lawsuit about something. All is not happy! Eventually it will delay this one! They looked like usable dams! Political correctness over sanity.)

**Lawsuit, Boardman Dam Removals Continue**

October 2, 2013, By Al Parker, theticker.tc

Copy obtained from the National Performance of Dams Program: [http://npdp.stanford.edu](http://npdp.stanford.edu)
The Boardman River restoration project -- and the removal of three aged dams -- is flowing ahead on schedule, but not without legal wrangling. "With a project this large, there are so many moving parts," explains Chuck Lombardo, a spokesperson for the project. "But it’s on schedule to return the Boardman to a free-flowing cold water stream. It’s moving along as planned and we continue to see the Boardman River heal itself, both up and down stream." The largest river restoration project in Michigan history includes the removal of the Brown Bridge, Boardman and Sabin dams, which were decommissioned in 2006 after Traverse City Light & Power determined that it was not economically feasible to produce hydroelectric power on the Boardman.

Phase I took five months and involved taking down the Brown Bridge dam, which was built in 1921. During that procedure in October 2012, floodwaters inundated more than 60 properties down river from the dam. Subsequently, a group of property owners filed a $6.3 million lawsuit against the City of Traverse City, contractors, engineers and the dam removal project team. TC attorney Krystin Houle represents the landowners and is considering filing an amendment to the suit to add more defendants. "The river will not recover from this disaster in our lifetime unless defendants are ordered to clean it up," says Houle. "Normally, our clients see hundreds of fish rises each summer, and this year they have seen only a few. There is contaminated muck that covers the river bottom and our clients’ properties. They have been flooded three times this year, each time, more of the sediment is washed onto their land. They are still living with compromised drainfields, mold, the stress from the event, and loss of income from rental properties that were completely totaled as a result of last year’s dam breach. The lawsuit asks that our clients be compensated for their losses and that the river be cleaned up." At a Sept. 17 hearing, Circuit Court Judge Philip Rodgers called the incident “an environmental disaster” and noted that somebody needs to be held accountable for it. The trial is scheduled to begin July 8, 2014 before Judge Rodgers.

Phase II of the project calls for replacing the cramped one-lane Cass Road bridge with a modern river crossing and the removal of the Boardman and Sabin dams. Phase I was completed for $4.2 million and Phase II is budgeted at $10 million for dam removal, plus $2.9 million for the Cass Road bridge. Much funding for the project came from federal and state grants. The Boardman includes 160 miles of river and tributary streams in Grand Traverse and Kalkaska counties. Each year an estimated 2 million user days are logged on the river for recreation purposes. Many come to fish the river, which is one of the top trout streams in the state. Restoring the Boardman is also expected to have a positive economic impact on the regional community. Officials estimate some $3 million will be generated by increased tourism, recreation and property values. In addition to the Army Corps of Engineers, other agencies partnering in the project include the GT County Road Commission, Michigan Department of Transportation and the project’s Implementation Team.

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
Work on Jackson Falls Dam continues, tons of rebar being encased in concrete; river level still low
By Don Himsel, Staff Writer, October 4, 2013, nashuatelegraph.com

Work is progressing at the Jackson Falls dam, NH construction site according to Neil Bodge, the project supervisor at the downtown location. “The two abutments are done,” Bodge said Thursday. “We’re doing half of the crest cap right now. We’re getting the rebar in and all the form work done.” The river level remains low as the renovation continues. “This is all structural right now for the concrete,” said Bodge, while standing among tons of rebar reinforcement rods being installed. Anchor bolts have also been installed as well as piping that will bring compressed air to fill the bags designed to lift the crest gates that will stretch across the length of the dam. “That’s going to be the compressor building,” Bodge said, pointing across the river to a spot near Margaritas restaurant, “The compressor building will put air through the pipe and inflate the air bags.” The new top of the dam will take shape soon. “We’re looking to place concrete here next week,” he said. “probably towards the middle to end of next week this half will be done.”

Hydro:
PRESS RELEASE (Excerpts)
September 26, 2013, online.wsj.com
NorthWestern Energy Agrees To Acquire Hydroelectric Facilities From PPL Montana
Completed acquisition would secure more than 60% of NorthWestern's average load serving capability in Montana and provide price stability for customers
Purchase price of $900 million
Expected to be accretive to earnings in first full year of operations

Butte, Mont. and Sioux Falls, S.D., Sept. 26, 2013 /PRNewswire/ -- NorthWestern Corporation d/b/a NorthWestern Energy (NYSE: NWE) today announced that it has entered into an agreement to acquire 11 hydroelectric facilities representing 633 MWs of generation, one storage reservoir, and related assets from PPL Montana, a wholly-owned subsidiary of PPL Corporation (NYSE: PPL), for a purchase price of $900 million, subject to adjustments as described below. The facilities are situated in two separate river basins, covering both sides of the Continental Divide, and benefit from a history of strong and reliable operating performance, low variable operating costs and favorable environmental qualities. NorthWestern's Board of Directors has approved the transaction.

"This is a unique opportunity to acquire hydroelectric facilities dedicated to serving our Montana customers for generations to come," said Bob Rowe, NorthWestern's president and CEO. "These facilities were originally built as part of the integrated system that we own today and complement our existing set of supply resources. The addition of Montana-regulated, clean, sustainable and reliable hydro power will provide supply diversity to our portfolio and will reduce risks associated with variable fuel prices."

This transaction is expected to allow NorthWestern to reduce its reliance on third party power purchase agreements and spot market purchases, more closely matching NorthWestern's electric generation resources with forecasted customer demand. Upon completion, about half of NorthWestern's total energy needs in Montana would be met with hydro and wind generation. In addition, the facilities are anticipated to provide energy stability well below the cost associated with "new build" alternatives, making this acquisition an attractive option to help stabilize customer rates over the long-term. "In joining our portfolio of wind, natural gas and coal assets, these..."
hydroelectric facilities will increase our energy capacity and provide NorthWestern with greater certainty about our energy supply. We’ll be able to provide continued reliability and price stability to our customers. We’ll also be better able to protect current and future NorthWestern customers from the impact of market price volatility, allowing us to offer clean, cost-effective and reliable energy for years to come,” added Rowe. Once the transaction is completed, it is expected that NorthWestern will be able to provide nearly all of Montana’s required power supply during light load periods, while using market purchases or other resources to meet demand during heavier load periods. These assets will be added to the rate base in Montana in keeping with NorthWestern’s long-standing commitment to being a regulated utility.

Transaction Terms
The proposed transaction is an asset acquisition for $900 million in cash. The purchase price is subject to adjustment for proration of operating expenses, performance of capital expenditures and termination of certain power purchase agreements. NorthWestern expects to fund the acquisition using a combination of debt securities, equity and available cash and to maintain its targeted debt to capital ratio of 50 -- 55%, supporting a solid investment grade credit profile. Financing is supported by a fully committed bridge loan facility with Credit Suisse and Bank of America Merrill Lynch. The transaction is expected to be accretive to NorthWestern’s earnings within the first full year of operation following the closing. The transaction is not expected to change NorthWestern’s targeted 60 -- 70% dividend payout ratio. The acquisition is subject to customary closing conditions and regulatory approval from the Montana Public Service Commission, the Federal Energy Regulatory Commission, other appropriate state and federal agencies and as required by the Hart-Scott-Rodino Antitrust Improvements Act. NorthWestern and PPL will work with regulators to move through the review process efficiently. Assuming receipt of regulatory approvals and satisfaction of the other closing conditions, the acquisition is expected to close in the second half of 2014.

Advisors
In connection with the transaction, Credit Suisse acted as lead financial advisor and Bank of America Merrill Lynch acted as financial advisor to NorthWestern Energy. Skadden, Arps, Slate, Meagher & Flom LLP served as lead legal counsel to NorthWestern Energy and Dorsey & Whitney served as environmental counsel. Blackstone Advisory Partners rendered a fairness opinion to NorthWestern’s Board of Directors. --------.

(If anyone thought this was going to be easy, the following letter is the tip of the iceberg)

Susitna-Watana Dam’s fast-tracking is reckless

September 30, 2013, juneauempire.com

As a Juneau resident who makes a living guiding out of Talkeetna in the summers I wanted to respond to a recent story on Alaska Energy Authority’s push to build the Susitna-Watana dam. Unfortunately the article didn’t highlight the risks of moving forward with the project. AEA’s proposal is to build a massive structure. It would stand over 73 stories and be the second largest dam on the on the continent. The estimated cost to the state is $5.2 billion but we know how construction estimates work, particularly when building in the remote Alaska wilderness. Whether the state has the financial wherewithal to move forward with the project is one question; they’ve already spent at least $95 million in public funds on this summer’s studies. Another question is whether the tradeoffs of building the dam and permanently changing the Susitna drainage is worth it? At stake is the health of the fourth most productive salmon river system in Alaska and one that supports the fragile, contentiously allocated Cook Inlet fishery. Beyond that, game resources would be impacted downstream by dramatically changing flows and upstream by a 40-mile long reservoir that is estimated to stretch up to five miles wide.

The issue isn’t whether there will be impacts but what those impacts will be and what the cost of this project is to Alaskans. State officials and AEA have chosen a fast-tracked approach to this project that is a reckless and irresponsible use of public funds. The problems with the fast-tracked approach are starting to add up. Scientists started their studies two months behind schedule because of a late breakup on the Susitna this spring. AEA has failed to negotiate access to native
corporation land and one science team trespassed on that land, ignoring private property rights. The studies are clearly going to be over budget. With the problems adding up, Alaskans need to ask whether pursuing this colossal project is in the interest of Alaskans and whether a small team of state bureaucrats are up to the task of moving it forward.

Mike Janes
Douglas

SF power plant damaged in Yosemite fire back up

San Francisco -- A San Francisco-owned hydroelectric plant damaged during the massive wildfire in and around Yosemite National Park is back online. The San Francisco Chronicle reports (http://bit.ly/1aG35JA) the Holm Powerhouse was restored to full power Monday, after being shut down as a precaution Aug. 19. Its roof was repaired after being severely damaged by the Rim Fire, one of the largest in state history. Holm was one of two San Francisco power plants taken offline because of the blaze. The Kirkwood station was quickly brought back online in early September. The San Francisco Public Utilities Commission spent more than $860,000 buying power on the open market and relying on agreements with other utilities to keep up supplies.

(Sounds like a good deal)

Santa Clara may buy Stanislaus hydropower

The Oakland and South San Joaquin irrigation districts plan to start selling their hydropower to the city of Santa Clara under a 10-year contract that could mean a big boost in income. The money would help the districts keep water rates low for farmers, something they have enjoyed since the powerhouses on the Stanislaus River started running in 1957. The district boards, acting as the governing body of the Tri-Dam system in Tuolumne County, approved the contract last week. The Santa Clara City Council, which oversees a municipal utility called Silicon Valley Power, is scheduled to vote on it Tuesday. The contract is expected to provide each district with $10 million to $17 million annually, depending on conditions in the watershed. "Under this contract, we will see the highest revenue we have ever seen at Tri-Dam," said Bere Lindley, finance and administration manager at SSJID.

The price would start at 6.3 cents per kilowatt-hour in 2014 and rise gradually to 8.5 cents in the last three years of the contract. That compares with prices that fluctuated between 4.5 and 6 cents from Shell Energy, which marketed the power for the districts under a five-year contract ending this year. The income, which the districts split, has risen and fallen because of water conditions, capital projects, general economic conditions and the comparative cost of other power sources. Natural gas has been especially cheap recently, holding down the price of hydro. In 2011, the districts each got $13.96 million from Tri-Dam. In 2012, the income dropped to $7.33 million. For OID, the power sales amounted to 83 percent of total income in 2011 but just 68 percent last year. "The bottom line to us is that (the Santa Clara contract) gives stability to our income," said Frank Clark, chairman of the OID board.

This district has about 62,000 irrigated acres in northeast Stanislaus and southeast San Joaquin counties. SSJID has about 55,000 irrigated acres in the southern part of San Joaquin. It also sells treated water to Manteca, Tracy and Lathrop. Along with the power income, both districts have also used substantial income from outside water sales to keep their farmers’ rates low and pay for canal system upgrades. Tri-Dam started with the construction nearly 60 years ago of powerhouses fed by Tulloch, Beardsley and Donnells reservoirs. A fourth plant was built downstream from Beardsley in the 1980s. The plants have a combined capacity of 125 megawatts. Silicon Valley Power reported peak demand of 471 megawatts last year from its 52,000 residential and business customers. It also gets electricity from natural gas, coal, other hydro plants, geothermal wells, wind, solar and biomass. The Tri-Dam purchase would help the utility meet a state mandate for at least 33 percent renewable power by 2020. Hydro counts if the
plants are 30 megawatts or less, which is the case with three of the four on the Stanislaus. The Modesto and Turlock irrigation districts have long used hydropower sales from Don Pedro Reservoir to cover some of the cost of delivering water to farms. They sell the electricity directly to district residents, along with power from natural gas plants and other sources.

(When rains, it rains kWh's!)

**TVA dams set power record in 2013**

timessdaily.com, October 3, 2013

TVA dams set power record in 2013 from staff reports. The Tennessee Valley Authority set a record for power generation through its 29 hydroelectric dams in fiscal 2013. The agency announced today the dams provided 18.5 million megawatt hours of energy, the most in TVA's 80-year history. The energy beat by 122,000 megawatt hours the previous record set in 1973. Above average rainfall fueled the increase in hydro generation.

(Mmmm! Some people worry about CHEAP hydro undermining SUBSIDIZED wind and solar.)

**State official to tour Canadian hydro plants**

By Erin Ailworth, Globe Staff, October 05, 2013, bostonglobe.com

The top energy official for Massachusetts heads to Canada on Sunday for a tour of massive hydroelectricity dams in Newfoundland, Labrador, and Quebec as way to cement the state’s interest in importing more power from the generating stations. The trip by Energy and Environmental Affairs Secretary Richard K. Sullivan Jr. comes just a few months after several New England leaders, including Governor Deval Patrick, unveiled a shared initiative to bring more hydropower into the region. Sullivan will visit facilities owned by Nalcor Energy and Hydro-Quebec early next week, then join Patrick on a longer trade mission to Canada. The goal of the trip, Sullivan said, “is to express the governor’s interest, the Commonwealth’s interest in having [hydropower] be part of the energy mix of the future.” Sullivan said the state views hydropower as a cheap, clean energy source that could not only help Massachusetts achieve its aggressive goals to use more renewable power and lower greenhouse-gas emissions, but also help lower the region’s energy prices. Additional hydropower would also help increase diversity in fuel sources.

In recent years, natural gas has become the dominant fuel for power generation in New England, making the region vulnerable to supply disruptions and price spikes. Natural gas fuels nearly 46 percent of New England’s electricity generation, and in Massachusetts the figure is nearly 65 percent. Hydropower accounts for less than 4 percent of net electricity generation in Massachusetts. But environmentalists and some industry officials worry that an influx of cheap hydropower could undermine efforts to develop new technologies like wind and solar.

In addition, the transmission system needed to bring hydropower south is also a big concern, particularly with some proposals extending lines through environmentally sensitive areas. Any new transmission infrastructure, environmental advocates say, must be carefully considered to avoid harm to natural resources and ensure it is compatible with alternative energy sources. Sullivan said Massachusetts officials recognize there is much planning to be done and discussions to be held with the region’s grid operator, ISO New England, local utilities, and other parties before any decisions are made. “We’ve been clear that the state has an interest in large-scale hydro, but it is not project specific in terms of what projects might ultimately end up being the successful supplier,” he said. “We’re not going to come back with a contract — that’s not the purpose of the trip.”

Dan Dolan, president of the New England Power Generators Association, a trade group representing plant owners, said hydropower should be part of the region’s energy mix, as long as it isn’t given preferential treatment over other options. He urged state leaders to maintain a level playing field, rather than promoting a select few with subsidies or other incentives. Paul Gaynor, chief executive of Boston-based wind and solar development firm First Wind, said he supports the state’s efforts to diversify the region’s energy mix. “Hydropower can complement other renewable

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resources, such as wind and solar energy," Gaynor said, "and we believe it is certainly worth studying to determine how these clean energy resources can work together to benefit the region, ratepayers, and the environment."

Environment

(It can be done as long as people have reasonable expectations)

Salmon May Return to Areas Above Grand Coulee Dam
By Benito Baeza September 27, 2013, newsradio1310.com

Spokane, Wash. (AP) — Salmon could one day return to areas above the massive Grand Coulee Dam. The Spokesman-Review reports that the issue of salmon passage has resurfaced as officials explore the renegotiation of the Columbia River Treaty. Tribes in the Northwest and First Nations in Canada have long sought the restoration of salmon habitat above the 550-foot-high Grand Coulee. The 1964 Columbia River Treaty focuses on hydropower and flood control. Officials in the United States are interested in expanding the treaty’s purpose to also address issues such as salmon and climate change. The Grand Coulee Dam was built in the 1930s without fish ladders, halting salmon runs to the Upper Columbia River.

(Someone – a friend, sent me the following two articles. Not all is running smooth yet with the Elwha River dam removals. Excerpts below.)

UPDATED — More repairs needed at water plant, will likely hold up Elwha River dam removal work
By Jeremy Schwartz and Paul Gottlieb, Peninsula Daily News

Port Angeles — Additional repairs are needed for the sediment-clogged Elwha Water Treatment Plant on the Elwha River, and that could push the removal of the remaining 60 feet of Glines Canyon Dam past the initially estimated July 1 resumption date, an Olympic National Park spokeswoman said. Earlier this year, National Park Service staff determined that the backup intake at the water plant, which is 2.8 miles from the river's mouth, needs new sediment-filtering fish screens, and two of six screens have been replaced by National Park Service contractor Macnak Construction. Work halted in April, however, after river sediment unexpectedly began flowing into the Elwha Water Treatment Plant — which was built to filter sediment.
from water before it is treated for the Port Angeles water supply — and reached components not
designed to ever handle the material.

Park Service engineers also have determined the pump station's pipes will not be able to handle
the amount of sediment in the river, Olympic National Park spokeswoman Barb Maynes said.
So additional repairs are needed for the pumping station that pulls Elwha River water from the
water plant's backup intake into the plant itself, she said. The water-treatment plant is part of the
National Park Service's $325 million restoration of the Elwha River, begun in September 2011.

The project includes the removal of two antiquated dams that blocked fish passage and stopped
sediment transport on the 45-mile-long river a century ago. An estimated 6 million cubic yards of
sediment — of about 34 million cubic yards trapped by the dams — have flowed down the river as
result of the removal of Elwha Dam, completed last March, and the demolition of Glines Canyon
Dam, which has been stopped since October. The initial hiatus was a “fish window” to protect fish
migration. That was first extended in January because of sediment problems at the plant, and the
latest date for resumption of work was set for July 1. "It's likely that will change,” Maynes said
Friday. "If dam removal is deferred until after July, then the earliest it can start after that is not until
mid-September." This is because dam-removal contractor Barnard Construction would have to
abide by another fish window set to start Aug. 1 and end Sept. 15.

“We're still looking at the project being completed within the contract period, which takes us
through September 2014, but a timeline within that hasn't been set," Maynes said. Designs for
fixes for the pump station and its pipes are in preliminary phases, Maynes said, adding that she
could not provide an estimate on cost or how long installing them might take. The Elwha Water
Treatment Plant was designed to filter water inundated with sediment to a certain degree and
pass it along for use by four downstream users: Nippon Paper Industries USA, the state
Department of Fish and Wildlife fish-rearing channel built along the river, the Lower Elwha Klallam
tribe's fish hatchery and the Port Angeles Water Treatment Plant, which provides drinking water
for the city. Since fall, however, the plant has not been able to provide enough filtered water to
these users. The city has had to pull more water from its primary water source, called the Ranney
well, than expected. Officials are concerned that ultimately could shorten the life of the decades-
old facility. The Ranney well, however, is continuing to do its job of supplying enough water for city
residents and businesses, said Glenn Cutter, Port Angeles public works director, on Friday.
Sediment has been seen inundating the shoreline of the river tributary that leads to the Ranney
well. The city's concerns over use of the Ranney Well and the need for additional fixes to the
treatment plant were discussed at a Thursday meeting between city and Park Service staff —
which included U.S. Department of the Interior Office of the Solicitor attorney-adviseers William
Back and Kelly Powell. City Manager Dan McKeen said Friday the meeting established lines of
communication between city staff and the Park Service over how Park Service staff are
addressing the problems at the Elwha Water Treatment Plant, which with its surface water intake
is collectively referred to as the Elwha Water Facilities. “We felt it was a very beneficial meeting,”
McKeen said, adding that more meetings are expected. Cutler said city engineering staff shared
data on the Ranney well's operation with national park engineers. -------.

Elwha Hatchery Loses Half Its Fish
July 11, 2013 | KUOW, Contributed By: Ashley Ahearn, earthfix.opb.org

More than 200,000 fish at an Elwha River hatchery died after a pump failed. That pump was put
on line after the above-pictured $79 million water treatment facility became clogged by the
sediment released from above the dams during removal. More than 200,000 fish at an Elwha
River hatchery died after a pump failed. That pump was put on line after the above-pictured $79
million water treatment facility became clogged by the sediment released from above the dams
during removal. More than 200,000 young fish have been killed on Washington’s Olympic
Peninsula — the apparent consequence of a pump that failed to deal with all the sediment flowing
downstream after dam removal work got underway on the Elwha River. The largest dam removal

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in U.S. history is taking place on the Elwha River. Work was put on hold last spring after sediment released from above the dams clogged the brand new Elwha Water.

Treatment Plant.
The facility was meant to ensure a reliable water supply for local businesses, the city of Port Angeles, and the Lower Elwha Klallam Tribe’s hatchery during dam removal. The hatchery had been forced to rely on a secondary pump to supply water for the hatchery fish, but that pump failed over the weekend and tribal officials say roughly 200,000 juvenile Coho salmon and 2,000 steelhead died. They represent about half this year’s production at the hatchery. Olympic National Park paid for the brand new $79 million dollar water treatment facility as part of the dam removal project. It’s very unfortunate and a shame that the fish were lost and we’re doing everything we can to get the water facilities back and operational so that all the users can obtain water from it,” said Barb Maynes, a spokeswoman for Olympic National Park, which is overseeing the dam removal. ********

(Let’s go fishing! I go fishing at the local seafood store. I catch a fish every time and get exactly what I want.)

Dam removal expected to boost trout populations on southern Vt. river known for good fishing
September 29, 2013, By Lisa Rathke, Associated Press, dailyjournal.net

Manchester, Vermont — Some locals keep secret how good the trout fishing can be on the Batten Kill in southern Vermont. Now the removal of a decades-old dam on the river's east branch is expected to boost the populations of wild brown and brook trout by giving them cooler water and more spawning habitat. "The fish are going to start to move through the site for the first time in a long time, so that's really exciting," said Roy Schiff, a water resource scientist and engineer working for the state. It's part of a larger movement to remove now-obsolete and risky dams that would cost more to repair and maintain than to remove, freeing up the rivers and restoring the ecosystem to its natural state. In Manchester, home to the American Fly Fishing Museum, some anglers are cheering the dam's removal. Long gone is the sawmill that the Dufresne Dam was built in 1908 to power. The pond that the dam created was later stocked with sizable fish. But the earthen dam was too small and has been leaking for many years, creating safety concerns.

Big floods over the years, including the remnants of Hurricane Irene in 2011, overtopped the dam and damaged the embankment, Schiff said. Officials determined that removing it would cost about $200,000, which is less than the cost of repairing and maintaining it. So crews got to work this month, taking down the concrete spillway and earthen embankment. The 8 feet of accumulated sediment was pushed onto the flood plain so it wouldn't affect the fish. Finally, the river was restored to its original spot in the center of the channel, noted in historic plans from the 1900s. "The nice thing about dam removals is you're letting Mother Nature kind of take it back over so it's not like we're building things that have to function a certain way. We're actually just unbuilding things that we put in the rivers that we're not using or are unsafe," Schiff said.

Locals might miss having a pond stocked with fish, but now they'll have a managed fishery with wild trout, Schiff said. "Small impoundments like this impact fisheries," Schiff said of the former pond. "They warm the water and they send slugs of water in. So we know that trout like cold water, so if you have these intermittent warm spots, they reduce the trout habitat." Some trout died during hot, dry summers because the water temperature was too high, said Tyler Atkins, an officer with Southwestern Vermont chapter of Trout Unlimited. He said he hopes that the fish having access to the cooler, spring-fed water will decrease the mortality rate. Additionally, the trout will have access to more and potentially better spawning habitat upstream, he said.

Schiff, who is also a fisherman, knows it will pay off. He says he's walked miles of the streams in Dorset and spotted huge trout that didn't have access to the main part of the river because of the dam. "So I know there's a gap here because of this dam, and that's going to go away for sure," he said.
Other Stuff:
(Deregulation: Investors loved it, rate payers hated it.)

Sale of Montana dams stirs up bad memories of deregulation
Sep 27, 2013, by Jay Kohn - MTN News, ktvq.com

Billings - Montana's first state Commerce Director recalls the "good ole" days when he used to travel the country and tout the fact that Montana had the sixth cheapest electrical rates anywhere in the nation. "Those cheap rates were a big reason we had smelters in Columbia Falls; and silicone plants in Butte," said Gary Buchanan, now co-owner of Buchanan Capital LLC in Billings. The relatively cheap electricity rates were the result of the Montana Power Company's (MPC) extensive system of hydroelectric dams across Montana, harnessing the power of the state's waterways. Then in 1997, the Montana legislature passed a controversial bill deregulating the state's electric power industry, and the rest is history.

"It was such a loss, such a giveaway," recalls Buchanan of the decision by MPC to sell its power generation facilities and exit the world of regulated utilities and venture into the world of telecommunications. Buchanan calls that decision "the worst mistake in Montana business history". "The original bankruptcy of Montana Power hurt thousands of retirees. The irony is that Humpty Dumpty is being put back together again, after one hell of a long ride and a lot of pain and suffering," said Buchanan. Buchanan refers to Thursday's announcement that NorthWestern Energy is buying back 11 Montana hydroelectric facilities from PPL Montana for $900 million dollars in cash. Combined the 11 dams have a generation capacity of 630 megawatts, nearly two thirds of Montana's power needs. "I do think it's a good deal. I think it's good for NorthWestern and I think it's very good for the state of Montana in terms of having these hydroelectric facilities back in more local ownership," explained Buchanan.

The 11 facilities involved in the deal span Montana on both sides of the continental divide. In western Montana, the sale includes the Thompson Falls Dam on the Clark Fork River, and the Kerr Dam on the Flathead River. In southwest Montana, the deal includes the Madison Dam, north of Ennis. Seven dams on the Missouri River from Helena to Great Falls are a key part of the deal. They include the Hauser, Holter, Black Eagle, Rainbow, Cochrane, Ryan, and Morony Dams.

And southwest of Billings on the West Rosebud Creek, the Mystic Lake Dam also shifts to NorthWestern ownership. "We gave away all of that when did deregulation and Montana Power went bankrupt. We'll never get back where we were, but this is a good step at getting something back," said Buchanan. Another irony is that Buchanan himself was part of a citizens initiative in 2002, that sought to remedy some of the damage from deregulation. The proposal from the Buy-Back Coalition called for the public to buy back the dams from PPL. The initiative was submitted to the Legislative Council as a way to provide Montanans with affordable power, but the idea was short-circuited by PPL when it opposed the deal. As for lessons learned over the entire deregulation ordeal? "The lesson we should have learned is that Montana's executive branch and the legislative branch should not be easily cowed by any company," Buchanan said.

"Deregulation was probably the worst financial mistake in our state's history. It really killed the state, really hurt us bad," recalled Buchanan. "We have to be real careful about jumping on national trends without being really careful and without doing our due diligence." The sale of the 11 Montana hydroelectric dams is subject to approval by the Montana Public Service Commission. NorthWestern's Board of Directors has already approved the transaction.

(Hydro fared pretty well. Still the best renewable! It's the subsidies that make the difference! Would we build any solar and wind without them?)

Renewable Energy in the Year 2013
By: SI Admin, Sep 30 2013 - sustainableindustries.com

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
According to the most recent issue of the "Monthly Energy Review" by the U.S. Energy Information Administration (EIA), with data through June 30, renewable energy sources – i.e., biofuels, biomass, hydropower, geothermal, solar, and wind – provided 9.8% of U.S. energy consumption and 11.8% of domestic energy production for the first half of 2013. EIA's earlier-issued "Electric Power Monthly" revealed that renewables had provided 14.2% of net electrical generation during the first six months of the year. Compared to the same time frame in 2012, overall renewable energy production (including conventional hydropower) was 2% higher, while production from non-hydro renewables grew by 4.1%. Specifically, solar grew by 32.5% in 2013, wind by 20.1%, geothermal by 0.9%, and biomass by 0.4%. Hydropower slipped by 2.6% and biofuels by 5.9%. Among the renewable energy sources, hydropower's share during the first half of 2013 was 30.18%, biomass 25.26%, biofuels 20.18%, wind 18.80%, solar 3.19%, and geothermal 2.39%, according to the SUN DAY Campaign. Production from all renewable energy sources including conventional hydropower is about 60% higher in 2013 than it was in 2003, while production from non-hydro renewable energy sources has more than doubled.

Over the past decade, domestic energy production from wind has increased by a factor of nearly 16 while output from both biofuels and solar is now about five times higher than in 2003. Geothermal has also grown – by about 30% – while biomass and hydropower have remained largely unchanged. By comparison, during the past 10 years, domestic energy production from fossil fuels has increased by about 11% and from nuclear power by 1%. "Renewable sources – particularly solar, wind, and biofuels – have been the real growth industries in the energy market over the past decade," said Ken Bossong, executive director of the SUN DAY Campaign. "They now provide more energy than nuclear and more electricity than oil." The U.S. Energy Information Administration released its most recent "Monthly Energy Review" on Sept. 25. EIA released its most "Electric Power Monthly" on Sept. 20, with data through July 31. However, the mid-year net electrical generation data is taken from the previous issue released on Aug. 22.

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