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MRES® Today

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Water reintroduced into tailrace as Red Rock Hydroelectric Project construction continues

A view from the downstream side of the Red Rock Hydroelectric Project looking toward the powerhouse shows water beginning to be reintroduced into the tailrace.

Recent high water levels at the Red Rock Dam have slowed construction work on the upstream side of the dam, but work continues to progress well on the downstream side. The exterior structure of the powerhouse is complete and water has been reintroduced into the tailrace. The tailrace is the channel that carries water from the turbines, out of the powerhouse, and directs it back into the Des Moines River.

Crews began pumping water into the tailrace Oct. 4 in preparation for removal of the temporary cofferdam. The cofferdam was among the initial components installed in 2015 to keep water out of the construction site, allowing for work on dry land. The tailrace was flooded to the same level as the Des Moines River, which flows on the opposite side of the cofferdam. This stabilizes water levels, equalizes water pressure, and will minimize any disturbances to the river or to the dike when the cofferdam is removed.

Heavy gates, known as stop logs, were installed between the turbines in the powerhouse and the tailrace. The stop logs are used to stop the flow of water during maintenance of the turbines.

The North Tailwater Recreation Area, a popular spot for fishing enthusiasts, has seen improvements recently. Two new fishing access walkways and a stairway have been constructed along the tailrace that will provide access for fishermen in most water conditions. The walkways are designed to accommodate water levels resulting from both high and low water releases by the U.S. Army Corps of Engineers.

Construction of the Red Rock Hydroelectric Project was approximately 84 percent complete at the end of September. Almost 81,000 cubic yards of concrete have been poured at the site and more than 6,600 tons of rebar has been installed. Project completion, along with reopening of the North Tailwater Recreation Area and other recreation features, is expected in the first half of 2020.

When operational, the project will produce enough electricity to serve about 18,000 homes and it will be the second largest hydroelectric facility in the State of Iowa.

Generation from Missouri River hydro plants expected to be well above normal for 2018

The U.S. Army Corps of Engineers projects that the six mainstem power plants along the Missouri River will generate 12.6 billion kilowatt-hours of electricity this year, compared to the long-term average of 9.3 billion kilowatt-hours. These hydroelectric facilities provide about 40 percent of the power required by MRES members.

The 2018-2019 draft Annual Operating Plan for the Missouri River Mainstem System was posted in September at: http://www.nwd.usace.army.mil/MRWM/Public-Meetings/.

Fall public meetings will be held in six cities throughout the Missouri River basin in early November. These meetings will include a presentation regarding 2018 operations and plans for regulating the reservoir system in 2019, followed by a question and answer session. MRES staff will participate on behalf of the membership.

The Big Bend Dam in South Dakota

WMMPA granted new permit to study Gregory County Pumped Storage Project

The Western Minnesota Municipal Power Agency (WMMPA) has been granted a new Preliminary Permit from the Federal Energy Regulatory Commission to study the feasibility of a pumped-storage project located in Gregory County, S.D., referred to as the Gregory County Pumped Storage Project (GCPSP). The permit was issued Sept. 7, 2018.

WMMPA previously was awarded a preliminary permit in December 2013 to study the project. Under this permit, MRES studied the GCPSP site and found that the project was not economical with off-peak to on-peak energy arbitrage. With new interest for pumped-storage in the future ancillary market and the potential for nearby high-voltage DC transmission, other economics are coming into play that may make GCPSP profitable.

WMMPA is made up of most of the Minnesota members of MRES. WMMPA has provided financing on behalf of MRES and owns all generation and transmission facilities that MRES uses to serve the needs of its 61 member municipal electric systems in the states of Iowa, Minnesota, North Dakota, and South Dakota.

The proposed GCPSP would work by pumping water from the Lake Francis Case reservoir, behind Fort Randall Dam on the Missouri River near Pickstown, S.D., to a man-made higher-elevation reservoir, where the water would be stored. Pumping typically would occur during times of peak generation from regional wind and solar resources. Then, during times when electrical demand is higher than the output from wind and solar resources, the stored water would be released through turbine generators to produce electricity and maintain grid reliability.

Barnesville dedicates solar garden

Barnesville, Minn., on Oct. 15, became the latest MRES member to install a community solar garden with dedication and open house ceremonies to unveil its project.

The project consists of two arrays of 40 panels. Each panel is expected to produce 496 kilowatt-hours of electricity per year.

Barnesville residents and businesses can buy individual solar panels to receive credit on their utility bill for the next 20 years, equal to the electricity produced. In addition, qualified individuals may receive a 30 percent energy credit on their federal tax return.

Barnesville entered into a Member Renewable Resource Agreement with MRES and Western Minnesota Municipal Power Agency that allows MRES member communities to self-supply up to five percent of their energy needs annually using locally owned and operated renewable resources. MRES purchases the output of these facilities and resells it to the municipality.

Tri-State G&T allowed to purchase Heartland's share of MBPP

The Western Minnesota Municipal Power Agency (WMMPA) Board of Directors, with the recommendation of the MRES Board, passed a resolution that allows Tri-State G&T to purchase the Heartland Consumers Power District's share of the Missouri Basin Power Project (MBPP). WMMPA joined the other MBPP participants in approving Tri-State's purchase.

MBPP includes the Laramie River Station coal-fired power plant, the Grayrocks Dam and Reservoir, and associated facilities. WMMPA and the other project participants had to waive their rights of first refusal in order to allow for this ownership change.

In addition to removing Heartland as an owner, the participants also agreed to extend the term of the Project agreements from 2027 to 2042.

Board member profile – Bill Schwandt

Bill Schwandt

Editor's Note: In each issue of MRES Today, we will feature one member of the organization's Board of Directors. The Board meets once per month and the schedule can be found on our website, www.mrenergy.com under the Events tab. Members are invited to attend any of these meetings.

Bill Schwandt serves as 2nd vice chairman of the MRES Board of Directors. He also is president of the Western Minnesota Municipal Power Agency (WMMPA). He represents Moorhead Public Service (MPS) in Moorhead, Minn., and has been a member of both the MRES and WMMPA boards since 1992. MPS is an electric and water utility serving more than 13,000 customers and is governed by a five-member commission appointed by the Moorhead City Council.

Schwandt began his career with MPS in 1985 as project engineer. In 1988, he was named manager of Technical Services. He was named interim general manager in September 1992, when Tom Heller left Moorhead to take the job as CEO at MRES. Schwandt became general manager in April 1993.

In addition to his leadership role at MPS, which has included development of wind and solar resources, Schwandt has been involved in several capacities with the Minnesota Municipal Utilities Association and the American Public Power Association.

Schwandt is a native of Minot, N.D. He has a bachelor's degree in electrical and electronics engineering from North Dakota State University and a master's degree in business administration from Minnesota State University Moorhead. He is a registered professional engineer in Minnesota and is a member of the Institute of Electrical and Electronics Engineers.

Bill and his wife Cheryl have six grown sons.

Members of the MRES Board of Directors represent all MRES members, and members are invited to contact Bill to discuss issues, policies, or other matters of concern regarding the organization. He can be reached by phoning 218-477-8004 or by email: bschwandt@mpsutility.com.

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Member profile – Beresford, S.D.

Beresford is located in Lincoln and Union counties, in southeastern South Dakota. It is about 34 miles south of Sioux Falls.

The Homestead Act of 1862 opened the West to settlement and following the Civil War, thousands of people settled in Dakota Territory in 1871 and 1872. The town that is now Beresford was a beneficiary of the Homestead Act. Beginning in 1873, the town was known as Paris, Dakota Territory.

One of the early homesteaders was Eli Ricard. In the early 1880s, Ricard offered the Chicago and North Western Railroad 80 acres if the company would build the railroad across the area where Paris was located. English capitalists interested in the railroad renamed the town after Lord Charles Beresford of England. It was formally incorporated July 12, 1884.

Today, Beresford is home to 2,005 people, according to the 2010 census. The Beresford Municipal Utilities includes electric, water, wastewater, broadband, phone, cable TV, and internet services. The electric utility was established in 1950. It serves 913 residential, 232 commercial, and 16 industrial customers. The utilities are governed by the city council.

Jay Nordquist serves as the utility superintendent as well as the official representative to MRES. Beresford is one of the 33 MRES members located within the Southwest Power Pool footprint.

Member Survey helps MRES understand member concerns and challenges

MRES, in every even-numbered year, conducts a Member Survey with each of its members to determine their concerns and challenges, learn about changes in their operations and customer makeup, examine their use of MRES programs and services, and more.

This year's survey has been completed and what follows is a summary of some of the results.

Among the challenges facing their utilities, members cited retirements, hiring, and retaining employees among their top concerns. Other major concerns were keeping up with technology, system upgrades and associated costs, and power supply and transmission rates.

Many members expect retirements of personnel in key positions directly affecting the utility within the next three years. Those positions include electric superintendents, general managers, directors of public works, city administrators, utility managers, linemen (supervisor, lead, foreman, crew, journeyman). Members have discussed a development or training plan to identify and provide further education of potential leaders, while a good number indicated an interest in assistance from MRES to develop or host employee-development training programs. Several members have an interest in the MRES Distribution Maintenance (DM) Program or short-term DM management assistance.

MRES uses the Member Survey results to learn about the issues that are important to members and to try to find areas where MRES might be able to help. Where it makes sense, MRES will incorporate the findings into its strategic planning initiatives and try to develop services to fulfill member needs.