

THE Current



MID's Monthly Newsletter

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MID Prepares New Exchequer Hydroelectric Project for Future

In November, Merced Irrigation District began the significant undertaking of replacing the turbine runner at its Exchequer power plant at New Exchequer Dam. The runner is a propeller-like component located deep inside the dam. As water rushes through the runner, it spins a shaft, which turns the generator, creating up to 100 megawatts of clean renewable energy. That's enough electricity to power more than 14,000 homes.



Workers inside the bottom of New Exchequer dam prepare to attach a "runner" to a crane so it can be removed from the powerhouse. The runner is a propeller-like component that spins as water rushes past it and turns a generator to produce emission-free electricity.

"This is a significant project," said Steve Wotruba, Deputy Manager of Energy Resources for MID. "Once completed, it will ensure more efficient generation of electricity and lead to less maintenance."

The project is being completed in conjunction with PG&E and consultant MWH.

PG&E currently receives the benefit of the electricity produced at the Exchequer powerhouse under the dam's construction agreements from the 1960s. On June 30, 2014, the agreements expire and MID will

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MID's Rudolph "the energy-efficient" Reindeer at the 17th Annual Merced Christmas Parade sponsored by MID and 20-30 Club.

See back for more parade photos.



FROM THE HEADGATE: MID GENERAL MANAGER JOHN SWEIGARD

On behalf of myself and the entire Merced Irrigation District team, I would like to wish you all the best for the coming year. We hope you had a safe and relaxing holiday season with friends and family. At MID we are looking forward to another busy but exciting year. From relicensing and retooling our hydroelectric project, to improving our recreation on Lakes McClure and McSwain,

we remain as busy as ever. As always, our top priority remains protecting our community's water and electric resources while providing affordable rates with top-notch service.

After several years of work, MID is on the cusp of submitting its final application for a

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receive full benefit of the power produced there.

The wide variation of conditions at Exchequer – particularly the wide seasonal variation in reservoir water levels – has caused continual deterioration. This has resulted in costly annual repairs of the turbine runner.

The new runner is intended to reduce the need for such repairs and to improve the efficiency of the turbine in

the process. MID invited bids for the supply of the new runner in 2008 and selected American Hydro Corporation, now Weir American Hydro Corporation.

The new runner design, as proposed by Weir American Hydro Corporation (WAHC), was tested in a hydraulic model test, using a small scale physical model of the Exchequer turbine. That testing was performed at Turbolinstitut, in Ljubiana, Slovenia, under subcontract to WAHC. Testing was completed in January 2010, with representatives of MID, PG&E and MWH in attendance to observe and

review the results.

The new stainless steel runner was delivered in December and currently being installed. It weighs approximately 45,000 lbs., has an outside diameter of 12 feet and overall height of 5 feet. The runner is expected to be installed and up and running by spring of 2012.

"We are eager to see the completion of this project," said MID's Wotruba. "This will be a significant benefit to MID and to all those receiving electricity from the New Exchequer Project."

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new operating license for our hydroelectric facilities with the federal government. The hydroelectric project – which includes lakes McClure and McSwain as well as New Exchequer Dam and powerhouse – are regulated by the Federal Energy Regulatory Commission, commonly known as FERC. The District is currently operating under a 50-year license that is set to expire in February 2014.

The lengthy process of relicensing began in November of 2008. Since then, MID has performed numerous scientific studies to fulfill federal and state environmental requirements. A draft application was sent to FERC in October and the final version will be submitted next month. In the decades since the current license was issued, there have been numerous environmental regulations enacted that may affect the conditions of MID's operations. We have been working diligently to reach agreement with federal, state and non-governmental organizations on required resource management measures and doing the work necessary to minimize impacts that these measures will have on MID's finances and water supply.

In addition to relicensing MID's



MID reindeer and elves are excited to greet the 5,000+ Christmas Parade attendees.

hydroelectric project, we also remain busy with our scheduled upgrade at New Exchequer Powerhouse. We are in the process of replacing the powerhouse's "runner," a large propeller-type component used in the generation of hydroelectricity. Once completed, more electricity will be produced with more efficiency.

In addition to efforts on the hydroelectric project, MID is continuing to work toward improving its facilities on Lakes McClure and McSwain. The marina and campground resort facilities are now under new management, and will remain open throughout the winter. MID rangers recently made several improvements to the Lake McSwain picnic areas, including the addition of new horseshoe tournament pits. Throughout the winter they will continue to improve picnic area and improve our electrical system in the campground areas. As always, MID continues to do all we can to help foster a sense of community in



MID employees and parade crew: Lindsay Carr, Gina Marks, Cheryl Miller, Ann-Marie Felsing and Danielle Smith.

Merced County. At MID, we believe a spirit of community responsibility is just as important a resource as our irrigation water. To that end, we will continue to cosponsor such events as the Merced Christmas Parade and to participate in canned food drives to assist those who have fallen on hard times in the down economy. As I've said many times before, our doors are open and our staff is ready and eager to assist you.

Again, on behalf of myself and the entire MID team, we wish you and your family all of the best for the coming year.