

## Energy for Today and in the Future

Our commitment to clean, renewable resources reaches back more than 50 years, when our member utilities began to purchase energy from the federal hydroelectric facilities on the Missouri River. Today, 58 of our 60 members hold hydropower allocations for the energy produced at these hydroelectric plants.

“The Red Rock Hydroelectric Project gives MRES another reliable generating resource in our ongoing efforts to diversify our resource portfolio.”

Tom Heller, Chief Executive Officer, MRES



### Why Hydropower

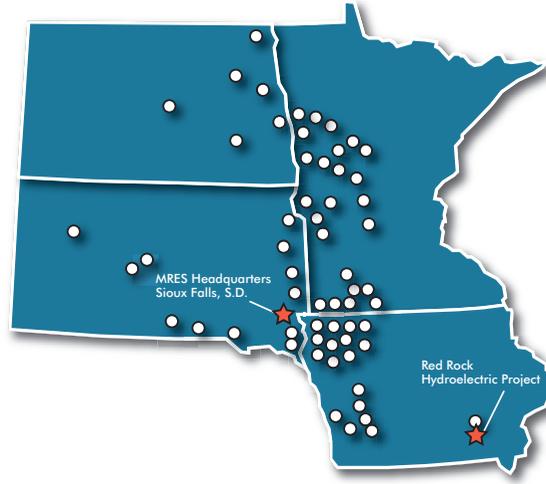
Hydropower – a clean, renewable resource that uses the power of running water to perform work – has been around for more than 2,000 years. Hydroelectric facilities use the power of flowing water as it moves downstream. Turbines and generators convert the energy into electricity, which is then delivered to homes and businesses.

Hydropower continues to be a popular renewable resource, and it accounts for 6.5 percent of total U.S. electricity generation, according to the U.S. Energy Information Administration.

MRES continues to develop a diverse power supply portfolio that will have a lasting effect on our member communities for generations to come.

RRHP is the latest example of how our commitment to the environment extends to our generation facilities as well as our energy efficiency programs.

## MRES MEMBERS



### About Missouri River Energy Services

MRES provides wholesale electric service and other energy services to 60 communities in Iowa, Minnesota, North Dakota, and South Dakota. Each of these members owns and operates its own municipal electric distribution system. MRES, headquartered in Sioux Falls, S.D., is a not-for-profit joint-action agency, and is governed by a 13-member Board of Directors elected by and from the ranks of our member representatives.

### About Western Minnesota Municipal Power Agency

WMMPA obtains the financing for and is the owner of the power supply and transmission facilities used to serve MRES members under the terms of a power supply contract between WMMPA and MRES.



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Red Rock  
Hydroelectric  
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## The Red Rock Hydroelectric Project INVESTING IN THE FUTURE

Missouri River Energy Services (MRES) is developing a new hydroelectric facility that will add to our members' renewable resource portfolio, and will help meet the growing energy needs of our members and their customers.

The Red Rock Hydroelectric Project (RRHP) is licensed at 36.4 megawatts (MW) of electricity, or enough energy to meet the needs of about 18,000 homes. It will be capable of generating up to 55 MW at certain times of the year when the water level is elevated.

In addition, the peak flow of water at Lake Red Rock typically occurs between March and August, which coincides with the highest demand for electricity for MRES and its members.

RRHP is being constructed at the existing Red Rock Dam on the Des Moines River near Pella, Iowa. The Red Rock Dam was finished in 1969. The federal government owns the Red Rock Dam, reservoir, and surrounding lands. The U.S. Army Corps of Engineers will continue to operate and manage the dam and river at Lake Red Rock.

MRES began construction of RRHP in 2014. The project is expected to become operational in late 2018. When operational, RRHP will be the second largest hydropower generating facility in the State of Iowa.

The Red Rock Hydroelectric Project is being constructed and will be operated by MRES. Western Minnesota Municipal Power Agency (WMMPA) will finance and own the project.

## The Red Rock Hydroelectric Project BY THE NUMBERS

Operator	Missouri River Energy Services
Owner	Western Minnesota Municipal Power Agency
Plant Capability	36.4 MW (55 MW peak output at times of high water)
Location	Des Moines River, about 2.5 miles southwest of Pella, Iowa
Energy Production	178,000 megawatt-hours estimated annual average
Capacity Factor	50 percent estimated annual average
Type of Project	Run-of-release with storage of water for flood control as directed by the U.S. Army Corps of Engineers
Operator of Dam	U.S. Army Corps of Engineers
Owner of Dam	U.S. Government
Size of Dam	Length is 5,676 feet; height is 110 feet

## Benefits of Red Rock Hydroelectric Project:

- Clean, renewable resource with no emissions
- Provides minimal impact on the environment, including fisheries
- Serves as an additional clean, baseload resource to serve MRES member municipal utilities
- Provides a domestic source of energy
- Known capital costs and minimal operational costs such as on-going fuel costs, or potential emission taxes and staffing
- Long-term operational investment

## 2016 Sources of Energy

