

Garrison Diversion O&M Maintained Busy Schedule in 2009



Garrison Diversion's O&M crew received an award from the Bureau of Reclamation in recognition of its effort during the 2009 flood, for work at Jamestown Dam.

By Kimberly Cook

The term workhorse is a fitting word to describe Garrison Diversion's Operations and Maintenance (O&M) team, considering the long list of duties it performs on a regular basis. A skilled and diversified O&M staff is employed by the Garrison Diversion Conservancy District, many who specialize in several areas as well as two professional engineers on staff that direct and oversee projects.

"I have watched a total of 42 different people all from different trades working on the house I am currently building," says Kerry Beckman, Garrison Diversion's O&M superintendent. "This same house could be constructed just as well by the 17 full-time O&M employees we employ in McClusky and New Rockford. Our employees have multiple specialized skills, ranging from equipment operating to concrete forming to plumbing to electrical work. All of these activities were performed in 2009 by our O&M staff. Our employees have also impressed other agencies with their responsive and high-quality maintenance work."

The Garrison Diversion O&M crew consistently performs at the best of its ability to keep the features of the Garrison Diversion Unit (GDU) Principal Supply Works running smoothly.

The McClusky Canal, New Rockford Canal, and Oakes Test Area are all operated and maintained by Garrison Diversion under a cooperative agreement with the Bureau of Reclamation. The Snake Creek Pumping Plant and other constructed facilities associated with the GDU, such as the Jamestown Dam and Arrowwood and Audubon National Wildlife Refuges, all receive assistance from Garrison Diversion on their O&M tasks. Garrison Diversion also does O&M work for the North Dakota State Water Commission and Game & Fish Department.

The O&M staff is responsible for completing a variety of specialized projects. Some of the projects it completed last year included fighting the 2009 flood, constructing numerous recreation facilities, the building and repair of several roads, and installation of a geothermal heating



system. The O&M staff maintains a large fleet of equipment, including a long-reach excavator, bulldozers and loaders, dump trucks, water pumps, and other specialized equipment, which enables the completion of its many projects.

2009 Flood

In March 2009, the O&M crew was called to Fargo to provide assistance in the fight against the Red River. The city was well on its way to experiencing a record flood event, and needed assistance from all available forces. Garrison Diversion deployed nine O&M employees and six dump trucks to Fargo to haul clay for the construction of secondary dikes for the protection of critical structures, such as its wastewater treatment plant.

The Arrowwood National Wildlife Refuge, located along the James River, also experienced severe flooding in March. O&M employees spent several weeks raising dikes at Arrowwood's headquarters and around the control building at Kurtz Crossing.

In April, Jamestown experienced record high water levels at the Jamestown Dam and Reservoir, and the

Bureau of Reclamation, which owns and operates the dam, requested Garrison Diversion's assistance to monitor the situation, and be there in case problems arose. Employees and equipment were dispatched and remained at the dam for several weeks until the water returned to normal operating levels. O&M staff provided 24-hour surveillance of the dam, raised two roads below the dam which provided access to the dam's structures and controls, and completed erosion control and bank stabilization below the dam. Garrison Diversion's O&M crew was later presented an award from the Bureau of Reclamation in recognition of its efforts during the flood.

Recreation Area Improvements

For the past several years, Garrison Diversion O&M employees have worked hard to improve the recreation opportunities at the four lakes along the McClusky Canal often referred to as the Chain of Lakes. Last year, the East Park Lake recreation area benefited from this effort, and several new developments were made, including the instillation of a handicap fishing pier, a sidewalk, concrete parking pad, and a handicap accessible fish cleaning station

Garrison Diversion's O&M crew replaced the McClusky field office's outdated coal heating system with an energy-efficient and environmentally friendly geothermal system. Two members of the crew are pictured here installing the slinky field, which is the heat source for the system.



and RV dump site. Parking and access to restrooms were also made handicap accessible. O&M staff constructed 200 feet of beach line at the East Park Lake recreation area, as well.

Arrowwood National Wildlife Refuge

A great deal of work was also done at the Arrowwood National Wildlife Refuge. The work began with several employees spending four weeks cleaning some 2,000 feet of the James River bypass channel with large bulldozers and excavators. Then, after the flood in the spring, part of the O&M crew helped clean up the area, removing the raised dikes and repairing the roads damaged by floodwaters.

Fort Berthold Rural Water Assistance

Last February, Garrison Diversion deployed nine O&M employees and seven trucks to western North Dakota to assist the Bureau of Reclamation with road repairs for Fort Berthold Rural Water. The O&M crew spent three weeks hauling scoria for five miles of the road leading from the water treatment plant to the water intake at Lake Sakakawea. “We battled snow, fog, cold, and mud,” says Darren Murray, O&M Foreman. “The conditions made it a challenging task to complete.”

Geothermal Heating System

Improvements were made at Garrison Diversion’s McClusky field office site, and the outdated coal heating system was replaced with a geothermal system, which is more efficient and environmentally friendly. O&M employees completed all electrical work for the heating system and installed the slinky field, which is the heat source for the geothermal heating system.

Devils Lake Outlet

In 2009, the Devils Lake outlet began full-time operation throughout the summer months, and O&M work performed by Garrison Diversion on the outlet, including the removal of weeds, cleaning the trash rack and adding rip rap, increased as a result. The outlet’s intake was installed by O&M employees in the spring and removed in the fall. The crew also completed weekly water sampling for the North Dakota State Water Commission during the months of open water. For the first time ever, an O&M employee, with a master electrician license, assisted in operating the outlet.

Oakes Test Area

During the Oakes Test Area’s 2009 growing season, irrigation water was provided to 4,382 acres of cropland, an increase of more than 1,100 acres from last year. As a result, several turnout boxes were used for the first time since the construction of the Oakes Test Area in 1987. A turnout is the point where an irrigation pivot connects to the pressurized main waterline.

As with much of the state, the Oakes Test Area saw severe flooding in the spring of 2009. The O&M staff worked diligently to prevent flooding at the Oakes Test Area pumping plant.

Garrison Diversion’s O&M crew will also operate three water pumps over the winter to help alleviate high groundwater levels in the Oakes Test Area. The drains typically do not require pumping; this is only the second time they have been operated during the winter.

Snake Creek Pumping Plant

Garrison Diversion assists the Bureau of Reclamation in performing O&M tasks at the Snake Creek Pumping Plant. With specialized equipment and personnel, the O&M crew has completed painting and coating capability, and in 2009 it completed a three-year project, painting and coating the third and final intake gate and trash rack. This project involved raising the gate, which is four feet deep, 17 feet high and 22 feet wide and weighs 48,000 pounds. The last time the gate was raised was in 1970. The painting crew also painted Snake Creek’s maintenance shop. “The Garrison Diversion O&M crew always does an excellent job for us,” says Tom Volk, the operator of Snake Creek Pumping Plant.

Day-To-Day Activities

In addition to the many special projects the O&M staff works on throughout the year, it is still tasked with routine operations to keep the GDU features running smoothly. Some of these tasks are vegetation management (including weed control), water operations, and road maintenance. In 2009, approximately 2,500 acre-feet of water was delivered through the McClusky Canal headworks from Lake Audubon to serve a variety of needs, including livestock watering, water for wildlife mitigation areas, water quality improvements, irrigation, and fish and wildlife purposes.

“Our O&M employees show their skills while completing a large variety of projects,” says Dave Koland, Garrison Diversion’s general manager. “They are critical in keeping GDU facilities running smoothly and play a vital role in the success of the Garrison Diversion Unit.”