

Project Profile

► Tekkem Slaking System -Normal, Illinois



The Treatment Division's responsibilities include the operation and maintenance of fifteen wells, a lime softening treatment plant, three booster pumping stations, four elevated tanks, and one ground storage reservoir. Activities of this division include the operation of the Water Treatment Plant on a 24 hour per day, 7 day per week basis as well as the repair and maintenance of all wells, treatment plant equipment, elevated tanks, booster pump stations, and telemetry equipment. Also included in the Treatment Division is the Laboratory, which performs not only the sampling and testing required by the Illinois Environmental Protection Agency, but also provides for the quality control and quality assurance testing. The Water Treatment Plant has a design rate of 9.6 million gallons per day. The source of supply for the short term is just under 10 million gallons per day provided by fifteen wells. This is the total combined pumping capacity of all the Town's wells.

Above:

The Normal Water Plant is located within the City limits. The Tekkem Slaking System is located in a single room just below the existing silo.



Location:
Normal, Illinois

Engineer:
City Engineering Department

Permitted Plant Flow:
9.6 MGD

Installation Date:
2003



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Left:
One of two existing continuous paste type slakers replaced with a Tekkem Slaker.



Above:
The first Tekkem Slaker that was operational May 2003. Slurry Aging Tank visible in the background.

Back in 2002 the Normal Water Plant staff began an investigation of other slaking technologies that could replace one of their existing slakers. The City was aware of the success of two Tekkem Slaking Systems that were installed as replacement slakers at the nearby Bloomington Water Plant.

Through a field survey conducted by RDP Technologies, it was determined that a Tekkem Slaker and Slurry Aging Tank would fit in the existing slaking room while maintaining gravity feed to the existing softening clarifier.

The Tekkem System was installed by Normal Plant personnel and started up in May 2003. Maintenance was significantly reduced as compared to the other existing paste type slakers. In addition, due to the load cell technology employed by the Tekkem Slaker, tighter pH control is maintained in the softening basin.



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Above: Gravity flow from the Slurry Aging Tank to the softening basin is controlled by a Magnetic Flow Meter and a Pinch Valve.



Above: Stainless steel vibrating screen installed above the Slurry Aging Tank to maintain gravity flow of the lime slurry from the discharge point of the lime slurry transfer pump.



Above: Old vibrating screen shown discharging grit and lime paste.

Below: New vibrating screen discharges mainly "clean" grit due to Tekkem's full 10 minutes of slaking time at 185 degrees F.



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