

► Tekkem Slaking System - Danville, Illinois



The water source for this Aqua Illinois facility is Lake Vermilion which is a 1000-acre lake located in Danville. The water supply lake is owned by Aqua Illinois, Inc. The Vermilion County Conservation District maintains the lease on the lake and manages the recreational activities

In 2002 the plant staff began an investigation of slaking technologies to replace a 25 year old convention continuous paste slaking system. For years the plant was faced with continual high slaking equipment maintenance and excessive cleaning man hours. Also the lime slurry delivery system continually clogged due to scaling and grit accumulation.

The plant staff elected to install two new Tekkem Slaking Systems with new lime screws, a grit removal system, Slurry Aging tanks and a direct pumping system to 4 existing softening clarifiers.

Above:
Main entrance for the Aqua Illinois Water Plant that houses the Tekkem Slaking System.

Location:
Danville, Illinois

Engineer:
Aqua-Illinois

Permitted Plant Flow:
7.5 MGD

Installation Date:
2003



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Above:
Original continuous paste slaker located beneath the quicklime bulk storage silo with gravity lime slurry feed to the clarifiers.



Above:
The Tekkem System included two new lime transfer screw conveyors to convey the lime to an adjacent building room with the Tekkem Slakers.



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Project Profile



Above:

Tekkem Slaker room showing one of the quicklime screw conveyor addition point through the top opening of the slaker. Also shown is the water piping and Tekkem Slaker Dust Arrestors for both slakers

One Tekkem Slaker operates for 2 months while the other Tekkem Slaker sits idle. The plant staff spends about one day cleaning the idle slaker. Maintenance and cleaning on the old slakers required several hours per day.



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Left:
Hose pumps deliver lime slurry from the Slurry Aging tank portion of the Tekkem Slaking System. See lime slurry discharge point below at each softening clarifier.



Left:
Two Tekkem System Control Panels (one shown) each with an Allen-Bradley Panel View 550 control screen, which achieves complete system redundancy



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