

► Tekkem Slaking System -Del Rapids, South Dakota

Project Profile



The Minnehaha Community Water Corporation service area covers most of the county. The corporation's well field and treatment plant are located above the Big Sioux aquifer midway between Dell Rapids and Baltic. The system serves over 3,000 individual rural users in addition to the cities of Baltic, Crooks, Dell Rapids, Hartford, Humboldt and Sherman.

The North Plant was retrofitted with a Tekkem Slaker approximately one year after successful operation of the Tekkem Slaker that was purchased as part of the construction of the New Minnehaha South Water Treatment Plant.

In addition to the Tekkem Slaker, RDP Technologies provided a Bin Activator for the existing lime storage silo followed by a new lime screw conveyor. The Tekkem Slaker then discharges lime slurry by gravity to an RDP Slurry Aging Tank that is located in lower floor of an adjacent building. The lime slurry passes over a stainless steel vibrating screen, provided by RDP, as part of the gravity path to the Slurry Aging tank.

*Above
New Screw Conveyor
conveys quicklime from
the existing bulk storage
silo to the Tekkem Slaker,
all inside the existing
Chemical building.*

Location:
Del Rapids, SD

Engineer:
Banner & Associates

**Permitted Plant
Flow:**
North Plant- 4.0 MGD

Installation Date:
2004



RDP Technologies, Inc.®

► Tekkem Slaking System -Del Rapids, South Dakota

Project Profile



Above:

5 foot diameter Bin Activator added to the cone section of the existing lime storage silo to insure reliable flow of quicklime to the lime screw conveyor.



Above:

Lime feed screw conveys quicklime to the Tekkem Slaker . Note the Slaker is mounted above the stainless steel circular vibrating grit removal screen.



► Tekkem Slaking System -Del Rapids, South Dakota

Project Profile



Above:
Slurry Aging Tank holds 2-1/2 batches (500 gallons) of slaked lime for pumping by either Watson Marlow hose pump to the softening basin.



Left:
Stainless steel circular vibrating screen discharges “clean” grit that is used for maintenance purposes on the plant’s gravel road



► Tekkem Slaking System -Del Rapids, South Dakota

Project Profile



Above:

Original Chemical Building with a Continuous Paste Type Slaker and a bulk quicklime storage silo without a Bin Activator.

The plant staff reports the following enhancements to operation of both the North and South Plants:

- Lime consumption has been reduced by at least 10%.
- Cleaning the slakers has gone from a weekly chore to only once per year as the Tekkem Slakers are “self cleaning”.
- pH set points are now easily maintained due to the precise slaked lime concentrations produced with the load cell based operation of the Tekkem Slakers.
- Plant wide start up and shut downs are easily accomplished as the Tekkem Slaker produces final slaking temperatures of 185 degrees F every batch.



RDP Technologies, Inc.®

2495 Boulevard of the Generals
Norristown, PA 19403

Phone: (610) 650-9900

Fax: (610) 650-9070

www.rdpotech.com

For additional information sales@rdpotech.com