



ACAA

Beneficial Use Case Study

Special-Waste Landfill Reclamation

Coal Combustion Product Type

Fly Ash

Project Location

Underwood, North Dakota

Project Participants

Great River Energy, Falkirk Mine, Boral Resources

Project Completion Date

October 2017

Project Summary

An on-site project at Coal Creek Station provided Great River Energy with the opportunity to reclaim fly ash from a nearby special-waste landfill that had been considered inactive and covered since 2005. Use of fly ash from the Section 26 landfill would allow the electric cooperative to fulfill the on-site project's requirements for fly ash without cannibalizing its existing fly ash sales revenue. It also eliminated the need for Great River Energy to allocate funds to close the landfill.

Project Description

When looking at the feasibility of using the Section 26 fly ash—a portion of which had been landfilled almost 20 years earlier—the utility engaged in extensive testing to determine its quality. After confirming the quality, the utility next had to factor in the cost of removing the fly ash.

A major cost saving from using the landfilled ash arose from the fact that the 42-acre lined landfill was required only to

have a temporary protective cover. After the cost savings were determined, Great River Energy had an easy decision and started the reclamation process in the summer of 2016.

The fly ash reclamation work was contracted to a third party, which removed the temporary cover. The reclaimed ash was blended with virgin ash, moisture conditioned, and transported via haul truck to build an FGD upstream raise landfill at Coal Creek Station. Use of the reclaimed fly ash allowed Coal Creek Station to make its new production of fly ash available for the concrete market instead of using it to build the upstream raise.

The fly ash reclamation project generated many benefits for Great River Energy and its member cooperatives, including:

- Avoiding landfill closure costs
- Making available more fly ash for the concrete market
- Declassifying Section 26 as a landfill area and returning it to its original use as agricultural land

In total, the process took over a year to complete, during which Great River Energy reclaimed over 236,000 cubic tons of fly ash from the special-waste landfill. Use of the reclaimed fly ash also resulted in millions of dollars in cost savings.

“Every dollar we save goes back to our cooperative members—we always keep that in mind with everything we do,” said Al Christianson, Director of Business Development and Governmental Affairs at Great River Energy. “Not only are we saving money for our members, but we are declassifying a landfill and restoring it to its original intent, which is a win-win for everyone.”

