

Target: Coal ash

EPA proposal a costly burden

By Erin Huntimer

Coal ash is a recycling success story. Once disposed of as waste, coal ash is now built into the world around us – in concrete, in road beds, in feedlots, on icy roads, and more. And what isn't recycled is landfilled responsibly.

In spite of the industry's smart management practices, the Environmental Protection Agency (EPA) has picked coal ash as the next target in its onslaught of rapid-fire regulations. On June 21, the EPA proposed a rule that would regulate its disposal and management. One of EPA's two options would treat coal ash like a hazardous waste, a move that could end recycling and place a costly burden on Basin Electric and other utilities that already handle it responsibly.

Basin Electric, along with allies in the utility and construction industries, is standing up and speaking out for what is right and reasonable in the management of coal ash.

Coal ash basics

The national spotlight was shown on utilities and their coal ash handling practices following the 2008 disaster at the Tennessee Valley Authority's Kingston Fossil Plant when an

earthen dam collapsed, sending millions of gallons of wet fly ash into a populated area. Though the disaster was the result of a structural failure, the EPA took notice and started reconsidering how it classifies coal ash.

Two kinds of ash result from burning coal in a boiler: fly ash and bottom ash. Fly ash is collected from the flue gas in electrostatic precipitators or bag houses, and bottom ash settles to the bottom of the boiler. When mixed with water, fly ash sets up hard, making it a good substitute for portland cement in concrete. Bottom ash is sand-like, ideal for traction material on roads and sandblasting.

According to the American Coal Ash Association, coal ash recycling is increasing nationwide. In 2008, 44 percent of coal ash was recycled; that's up from 30 percent in 2000. Part of the increase is due to industry partnerships and advocates like Al Christianson, manager of business development and government affairs with Great River Energy, which markets much of the ash from its lignite coal-fueled Coal Creek Station near Underwood, ND.

With three coal-based power plants operating, and a fourth to start in the spring, Basin Electric has a steady supply of coal ash, some of which is sold. Coal ash that is not sold by Basin

Electric is managed responsibly at each of the cooperative's coal-based power plants. The North Dakota Department of Health and the Wyoming state engineer's office oversee Basin Electric's coal ash management practices.

Fly ash from Basin Electric's three operating coal-based power plants is disposed of in permitted, lined landfills. The same will be the case at the Dry Fork Station, under construction near Gillette, WY. Bottom ash is settled in ponds at Laramie River

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Voice your opinion

Basin Electric is a member of the American Coal Ash Association (ACAA), which has set up a website that makes it easy for you to voice your opposition to the EPA. The ACAA has a base letter you can submit electronically, but feel free to add personal comments. Go to the website www.recyclingfirst.org/form.php. Additional talking points can be found in the right-hand column at www.basinelectric.com/Legislation/index.html. EPA is accepting comments through Nov. 19.





Coal ash was used as an additive in the concrete used to build the new Memorial Bridge across the Missouri River in Bismarck, ND.

and in tanks at Antelope Valley, then recovered and landfilled. Dry Fork will use a dry handling method for bottom ash when it's operational in 2011. Leland Olds uses two ponds to recover bottom ash. While one pond is close to the Missouri River, it contains no bottom ash as it is settled out in the first pond. Bottom ash is reclaimed and landfilled.

Kris Schmidt, assistant coal and yard supervisor at Leland Olds, says in 2009 they hired a third party, AECOM, to inspect Leland Olds' bottom ash ponds. "Based on their recommendations, we reconstructed sections of the berms with compacted material. We also repaired erosion, removed brush, and installed riprap and concrete erosion control mats," he says. Repairs were complete in August 2010.

Options & consequences

Lyle Witham, Basin Electric manager of environmental services, says EPA states its rulemaking is based on a need for national management criteria. "But they're justifying it primarily on one event—the TVA incident. The old legal maxim, 'Bad cases make bad law,' warns against the danger of basing general public policy or legal precedence on one dramatic or unusual set of facts, but that's exactly what EPA is doing," Witham says.

Currently coal ash is considered non-hazardous, and its disposal is monitored by the states. Dale

Niezwaag, Basin Electric senior legislative representative, says it's best left that way. "The states do an extremely good job of controlling, inspecting and monitoring all ash disposal sites," he says.

For example, the state of North Dakota sets standards for landfill liner construction, leachate collection systems, landfill closing methods, groundwater monitoring requirements, and long-term monitoring after the landfill is closed.

However, the EPA is considering two new options for the management of coal ash. The first option would take control from the states and allow EPA to regulate coal ash as a new "special waste." This designation would subject landfill-bound coal ash to many of the requirements for hazardous waste under Subtitle C of the Resource Conservation and Recovery Act (RCRA).

The second option EPA is considering would be led by the states. Coal ash would be regulated in a manner similar to typical solid waste under Subtitle D of RCRA, subject to fewer and less severe requirements.

Witham says regulating coal ash under Subtitle C would unnecessarily impose a much higher degree of regulation and cost for disposal. "If we were

required to replace the bottom ash handling systems at one of our units with a dry handling system like we've installed at the Dry Fork Station, it could roughly cost Basin Electric between \$15 million and \$20 million per unit," Witham says. "And that doesn't take into consideration our grandfather in our existing disposal facilities? The cost to reclaim existing and build new would be astronomical."

Niezwaag says Subtitle C regulation would also have the effect of eliminating many beneficial uses of coal ash. "It would likely result in the need for new hazardous waste disposal sites, and the existing ones would be overwhelmed by the sheer volume of ash produced every day," he says.

Though the EPA claims new regulations would exempt the beneficial use market, Niezwaag says unintended consequences will have big impacts. "Down the road, who's to say EPA isn't going to change their mind, and then that highway you built with it becomes a hazardous site, so you have to tear it up," he says.

The unintended consequences are already creeping in. "The Los Angeles Unified School District has stopped using fly ash in any of its projects, pending EPA's decision. Companies that manufacture alternatives to fly ash are already using the proposed rule in advertising against competitors that use it," Niezwaag says.

EPA backtracks

EPA's proposed rulemaking goes back on its own previous findings that coal ash is not hazardous. On four separate occasions since 1988 EPA has determined coal ash does not warrant regulation as hazardous waste. In fact, Witham says EPA was required by Congress to study coal combustion residuals, including coal ash, through what is known as the Belvill Amendment to the Solid Waste Disposal Act. In EPA's resulting 1993 and 2000 Regulatory Determinations, the agency stated hazardous waste regulation is not necessary to ensure the safe management of coal ash. EPA also concluded hazardous waste regulation would adversely impact its beneficial use.

The state of North Dakota agreed with EPA's 2000 findings. In 2002, the North Dakota Department of Health issued a report, "Coal Combustion Waste North Dakota Regulatory Perspective." According to the report, the Health Department recognizes coal ash, "if properly characterized, utilized and handled can reduce the country's reliance on valuable natural resources, conserve energy and reduce the cost of waste management practices."

States' management of coal ash handling practices is occasionally brought into question by groups like Environmental Integrity. They released a report in August 2010 claiming contamination from coal ash disposal sites in 21 states, including two at Basin Electric's Leland Olds Station and Antelope Valley Station, both in North Dakota. The report gained little traction with media as state Health Department documentation solidly countered the report's claims.

Taking action

Subtitle C regulations would create an enormous burden on Basin Electric and its member-owners. Niezwaag says environmental groups are very organized, submitting letters and testifying in support of classifying coal ash as hazardous under Subtitle C.

Witham says EPA is taking the unusual route of appealing to emotions through this rulemaking, a tactic generally left out of the regulatory realm. "Regulatory proceedings should be based on science. The Tennessee Department of Health studied the TVA incident and concluded there were no significant human health impacts from

the coal ash spill. The largest impacts were due to the suddenness and size of the release itself. So this really was a dam structure issue, not a coal ash issue. But EPA's set that science aside to push its own agenda," Witham says.

"We need employees, directors, and as many co-op members as possible to let EPA know this regulation is unnecessary and will have severe economic consequences," Niezwaag says. The EPA is accepting comments through Nov. 19.

The ACAA has set up a website for the public to submit comments to the EPA in opposition to hazardous classification (see sidebar, page 13). The website has a basic letter, and Basin Electric is providing supplemental information on local and regional beneficial uses of coal ash.

"Get the word out – we think the non-hazardous designation is the way to go. We need a push from members, directors and employees – those involved with Basin Electric," Niezwaag says. "Understand the facts so if you're asked by friends, asked by family, asked at the store or the mall, you've got the answers for them. That's the best way to advocate for what's right for the cooperative."

Recycling coal ash

Coal ash is the most recycled coal combustion product. You can find it in places you might not expect:

- Coal ash made up 85 percent of the concrete used to repair the collapsed I-35W bridge in Minneapolis, MN, allowing for expedited construction and a longer-lasting bridge.
- The National Energy Center of Excellence at Bismarck State College in North Dakota used cement blocks made of 70 percent coal ash, and the parking lot cement also contained 70 percent coal ash.
- The Denver International Airport used coal ash from Basin Electric's Laramie River Station in Wyoming for a cement replacement in the concrete used for the runway construction.
- Livestock producers mix coal ash with the soil in their feedlots. Testing has shown that using coal ash improves wet, muddy feedlots, which can prevent animals from growing effectively and staying healthy.
- The Headwaters Fort Mandan Visitor Center near Washburn, ND, was constructed with concrete, carpet, ceiling tiles, wall boards, and more, all containing recycled coal ash.

