

MIDWEST

Historic coal ash raises concerns at iconic Illinois coal plant site

As owner NRG proposes a remediation plan for coal ash covered under state and federal law, other, older deposits that are exempt from the laws may pose a greater risk to water contamination and future redevelopment.



by Kari Lydersen

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NRG's Waukegan plant on the shore of Lake Michigan north of Chicago. Credit: ribarnica / Creative Commons

Coal ash will remain in the ground at the site of a closing coal plant on the shores of Lake Michigan in Waukegan, Illinois.

Owner NRG explained its plans on Dec. 15 at a public meeting required under the state's coal ash law. Residents at the virtual meeting voiced concerns, given that significant groundwater contamination has been documented at the plant.

NRG officials said their modeling shows capping the coal ash in its East Pond and leaving it in place is safe, and that groundwater flowing toward Lake Michigan is not contaminated at levels above legal standards.

Meanwhile, older coal ash dumped long before current state and federal laws took effect may be a bigger concern, according to environmental experts, in terms of both groundwater contamination and limiting future redevelopment at the site.

Coal ash has been dumped around the Waukegan coal plant since at least the 1940s, according to historical photos and other evidence introduced in years-long legal proceedings about historic coal ash at four Illinois plants now owned by NRG. Much of it is dispersed throughout the site, including berms and other structural components actually built with coal ash, according to environmentalists and legal filings.

Not only does this historic coal ash pose a risk to groundwater, advocates fear the presence of coal ash will hamper redevelopment of the site and its surrounding area, which has become a regional symbol of the need for and potential of a “just transition.” Waukegan is home to at least five Superfund sites, and the town has a largely Latinx immigrant population, with locals increasingly mobilizing around environmental justice.

The Waukegan coal plant is slated to close next year. Residents have long demanded a robust transition process protecting jobs and the tax base, and expressed hopes of seeing things like a park, brewery or educational facility at the lakefront site.

“You will never be able to put recreational or residential or any public use on that site” with extensive buried coal ash, said Faith Bugel, an attorney representing environmental groups that sued in 2012 regarding historic coal ash at Midwest Generation plants, bought by NRG in 2013. “Maybe something industrial, but Waukegan should not be burdened with more polluting industry, or another site that has waste on it that is undeveloped.”

Closure plans

The Waukegan coal plant has two recently active ash ponds on-site, [subject to Illinois's 2019 coal ash law](#) and the federal coal ash rules created by 2015 legislation. One pond is nearly empty, as NRG officials explained at the Dec. 15 virtual meeting, so they propose to remove any ash and the liner, which will be cleaned and reused for stormwater retention.

Unlike many coal ash impoundments nationwide, the other pond is also lined, with a high-density polyethylene liner installed in 2003. NRG proposes to close that pond leaving the 70,000 cubic yards of ash in place and cover it with a thick artificial turf to prevent rainwater infiltration. Under the Illinois law, the company also must monitor surrounding groundwater for at least 30 years.

The company has acknowledged in past legal proceedings that contamination at the site is due to coal ash. At the meeting, NRG said its modeling suggests that contaminants in groundwater around the ponds would return to near-background levels within a decade under their proposed closure plans.

Residents entering questions into the Zoom webinar chat at the public meeting raised concerns about proven contamination and whether it could impact their drinking water, drawn from Lake Michigan or wells. Residents also asked whether NRG could instead move the ash off-site, a common demand at coal ash sites nationwide.

“Why are you capping in place at the East Pond when it is so close to our drinking water?” asked one resident. “My concern is with extreme shore erosion ... which Midwest Generation should be very aware of,” said another. “We are experiencing accelerated storms in both frequency and power,” which could hasten erosion along Lake Michigan and change groundwater flow. (Meeting participants’ names could not be verified since NRG’s virtual format did not allow the 65 attendees to publicly share comments or names.)

NRG officials said state officials have surveyed any impact on drinking water and found no evidence of risk. Environmentalists’ expert witnesses have also not found an immediate risk to drinking water, Bugel said.

At the meeting, Rich Gnat, an environmental consultant hired by NRG, said that the groundwater contamination “concentrations we’re seeing are generally already below groundwater drinking water standards, and by the time they reach the area around Lake Michigan, they would not be detected in water within the lake.”

Under the Illinois coal ash law, NRG is required to publish a summary of the meeting and any changes made to their proposals as a result, and then their proposals go before state regulators for approval.

Historic ash

Bugel explained that most of the coal ash repositories at Midwest Generation's coal plants are lined, and unlike many other companies, Midwest Generation frequently emptied the ash and sold it for "beneficial reuse" as construction materials and other uses.

That means Midwest Generation's active coal ash ponds subject to the state and federal rules were probably less likely to be contaminating groundwater than at many other coal ash sites, she said. Since significant groundwater contamination has still been found, environmental groups that filed the ongoing litigation argue that historic ash — from repositories not subject to the laws and ash scattered throughout a site — are likely to blame for the contamination at Midwest Generation plants.

In Waukegan, they are especially focused on an area known as the Former Slag Area or "grassy field," where coal ash was deposited in decades past. A 1998 investigation identified contaminated groundwater coming from the site, though Midwest Generation argued the contamination was from a former leather tannery or a boiler facility upgradient of the former slag area.

Bugel noted that boron, found at high levels, is known as a prime indicator of coal ash, and "that site has lots and lots of boron — boron is not coming from the tannery, boron comes from coal ash."

In February 2020, the Illinois Pollution Control Board ruled as part of the historic ash litigation that Midwest Generation violated state groundwater protections with contamination at Waukegan and other Midwest Generation coal plant sites.

Expert testimony prepared for the Sierra Club by geologist Mark Quarles in July 2021 cited the pollution control board's opinion in writing: "Although MWG was aware of contamination, MWG did not undertake any further actions to stop or even identify the specific source(s) and had not taken actions to further investigate historic disposal areas, install additional groundwater monitoring wells, or complete further inspections of the ash ponds or the land around the ash ponds in areas that showed persistent groundwater exceedances."

In an email to Energy News Network, NRG spokesperson Dave Schrader said: “Since Midwest Generation began operating at the Waukegan Station, it has properly handled CCR [coal ash]. The Waukegan Station is more than 100 years old, and historic practices for handling CCR may have been different in the past. Midwest Generation is working with Illinois EPA to investigate and manage the Grassy Field, and there is ongoing litigation. As a result, there are challenges to taking any actions.”

The litigation — in its ninth year — is now in the remedy phase, hammering out what should be done to address the risk. A consultant hired by NRG in an April 2021 report found that it would be “both technically practicable and economically reasonable” to put a low-permeability cap on the former slag area, at a cost of \$1.9 million to \$3.3 million, to reduce rainwater infiltration and hence groundwater contamination. Schrader said NRG’s actions at the site will depend on the ongoing proceedings before the pollution control board.

Bugel said it’s impossible to know yet what the best solution might be for a site with potentially widespread coal ash dispersal, so more monitoring and study is needed.

“What we’ve said needs to be done as a first step is a deeper investigation,” Bugel said. “Some of these areas don’t have monitoring all the way around them. We need to know if ash is in contact with groundwater or above groundwater, because the remedy could be different. The next step is for Midwest Generation to do a complete nature and extent investigation with borings and monitoring, then lay out the alternatives. The burden is on the company to lay out all the alternatives and present back to us and the board, and quickly. It’s hard to believe this case has been going on so long and we’re still just fighting over getting them to do a full investigation.”