

# Why the EPA's Proposed Coal Ash Rule Is Concerning

Avner Vengosh, PhD

Over the past decade, together with my students and colleagues at Duke University and other academic institutions, I have conducted scientific research and published 13 scientific articles on different aspects of coal ash's environmental effects. While some of these studies have supported claims made by environmentalists that show evidence for coal ash pollution, others have vindicated power companies that own coal ash sites.

Overwhelmingly, however, these studies point to the need for more monitoring, strict standards, and more transparency of coal ash disposal issues. Based on my knowledge and experience as a scientist, the amendments to the 2015 final Coal Combustion Residuals (CCR) rule proposed in March 2018 by the Environmental Protection Agency (EPA) would considerably weaken the existing federal regulations. And perhaps worse, reducing environmental protection and safeguards that were established as part of the federal 2015 Coal Ash Rule would severely exacerbate the already identified environmental effects associated with coal ash storage and disposal. Below I outline the major issues that could result from the proposed EPA amendments.

## Groundwater Contamination by Coal Ash Is Real

One important component of the 2015 Coal Ash Rule is that it requires comprehensive water quality monitoring of groundwater located in the vicinity of coal ash impoundments. However, the EPA has proposed modifying the required monitoring program, even though evidence points to the presence of contaminants in aquifers.

Our 2016 evaluation of seeps and surface water from seven sites and shallow groundwater from 15 sites in five states (Tennessee, Kentucky, Georgia, Virginia, and North Carolina) found that they were contaminated above background levels. Contamination levels above drinking water and ecological standards were observed in 10 out of 24 samples of impacted surface water. Out of 165 monitoring wells, 65 were contaminated. Distinct isotope fingerprints, combined with elevated levels of contaminants known to be enriched in coal ash, provide strong evidence for the leaking of all investigated coal ash ponds to adjacent surface water and shallow groundwater.

The results of this study are consistent with recent data published on the EPA website. A large water quality dataset of groundwater from sites near coal ash facilities that was released this March by owners and operators of CCR units, as required by the EPA's 2015 final CCR Rule, also revealed large-scale water contamination of groundwater in the vicinity of coal ash impoundments and other storage and disposal facilities at numerous sites throughout the country. In particular, elevated levels of toxic and carcinogenic arsenic, chromium, molybdenum, lead, selenium, thallium, radium (radium-226 and radium-228), boron, fluoride, and sulfate were discovered in numerous groundwater wells near coal ash disposal sites. If finalized, the EPA's proposed modifications could increase the risks for the further spread of contami-

nated groundwater and impact thousands of drinking water wells located downstream from these disposal sites.

## Groundwater Quality Standards Should Not Be Modified

The 2015 Coal Ash Rule requires owners and operators of CCR units to conduct groundwater quality monitoring and other post-closure care activities—such as maintenance of the cover and leachate collection systems—for a period of 30 years after coal ash sites are closed. But the proposed amendments call for a much shorter period of post-closure care activities and groundwater quality monitoring. Yet, as the evidence makes clear, long-term monitoring and protection measures are critical for public protection.

Groundwater flow in aquifers is a long-term process, and the migration of contaminated groundwater from the CCR storage sites to pumping areas in aquifers could take decades. Because we have clear evidence that coal ash contaminants have already arrived in shallow groundwater underlying and downstream from coal ash storage facilities, shortening the monitoring period could paralyze detection of how far contaminated groundwater has migrated toward drinking water wells near coal ash impoundments and landfills.

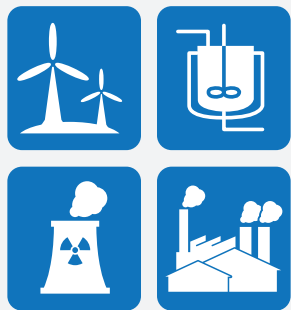
Also concerning is a proposed amendment that suggests modifying the 2015 Coal Ash Rule to allow states to set different standards for some contaminants identified by coal ash site owners in their March groundwater monitoring datasets—including high levels of toxic elements such as lithium, cobalt, lead, and molybdenum. Another proposed amendment seeks to eliminate a 2015 Coal Ash Rule requirement that coal ash site owners post groundwater quality and air quality data on publicly available websites. Given that these contaminants are known to have direct human health effects, any reductions in the protection threshold or compromised data transparency could have negative effects on human health. People need to know what's in nearby groundwater.

Compared to the 2015 Coal Ash Rule, which mandates that unlined coal ash ponds in areas where underlying groundwater was contaminated should install liners or be closed at a certain date, the EPA's proposed amendments would allow state agencies or utilities themselves to make those decisions. However, avoiding actual closure or liner installation could further exacerbate the water quality situation in shallow groundwater underlying and downstream from CCR storage sites.

Another proposed amendment would meanwhile make contaminated groundwater cleanup discretionary. However, given the economic cost of such cleanup operations, many utility owners may be reluctant to conduct large-scale cleanup operations, which could result in continued contamination of the impacted aquifers, or allow contaminated groundwater to migrate farther toward drinking water wells. ■

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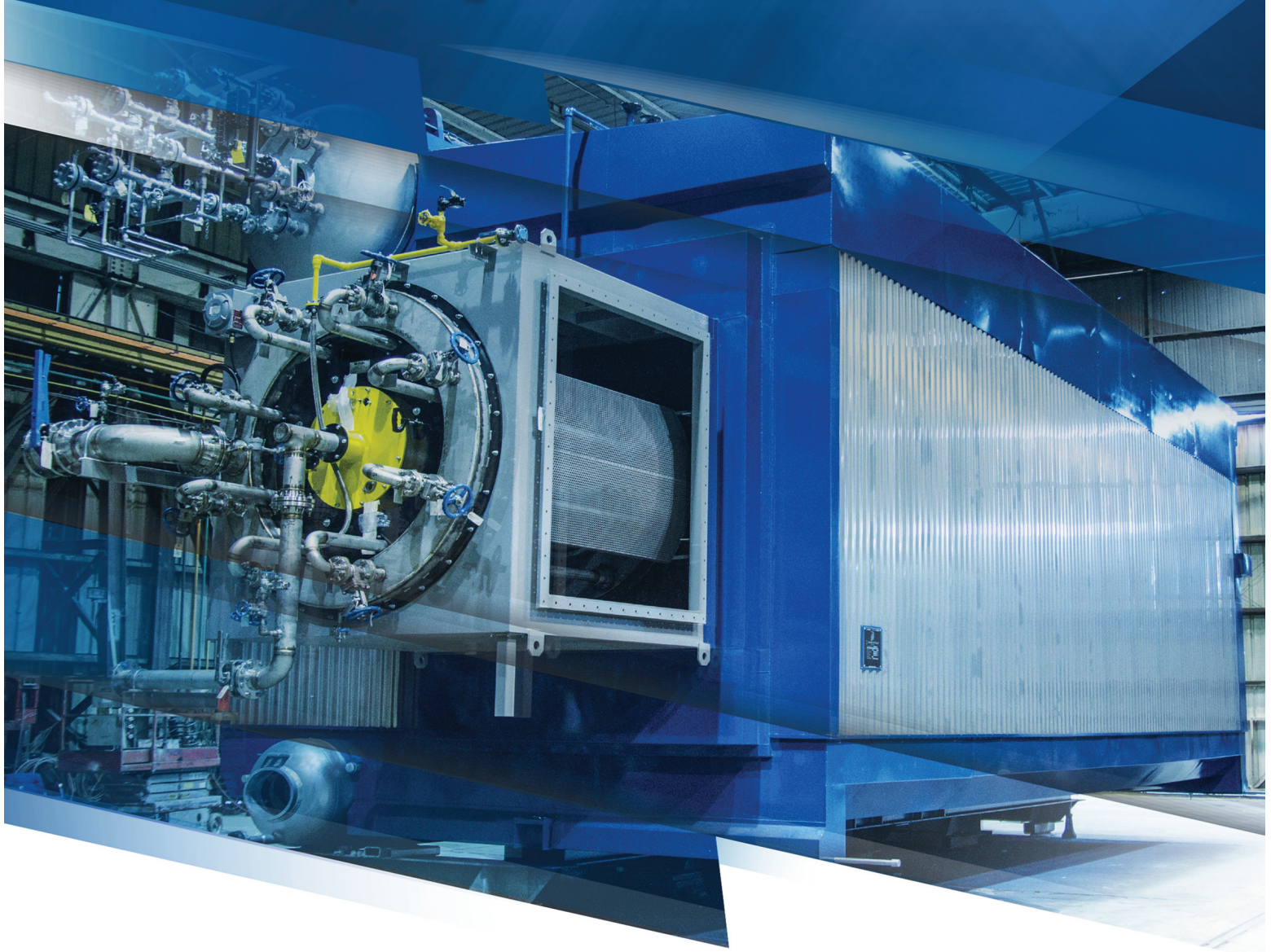
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