



METRO ATLANTA

Impact of 'forever chemicals' is hazy as Cobb designs incinerators

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The R.L. Sutton Water Reclamation Facility is one of the largest wastewater treatment plants in Georgia.



Neighbors of the R.L. Sutton Water Reclamation Facility, one of the largest wastewater treatment plants in Georgia, have repeatedly expressed concern about mercury emissions and other hazardous chemicals they fear will be a byproduct of the county's plan to restart sewage sludge incinerators at the site.

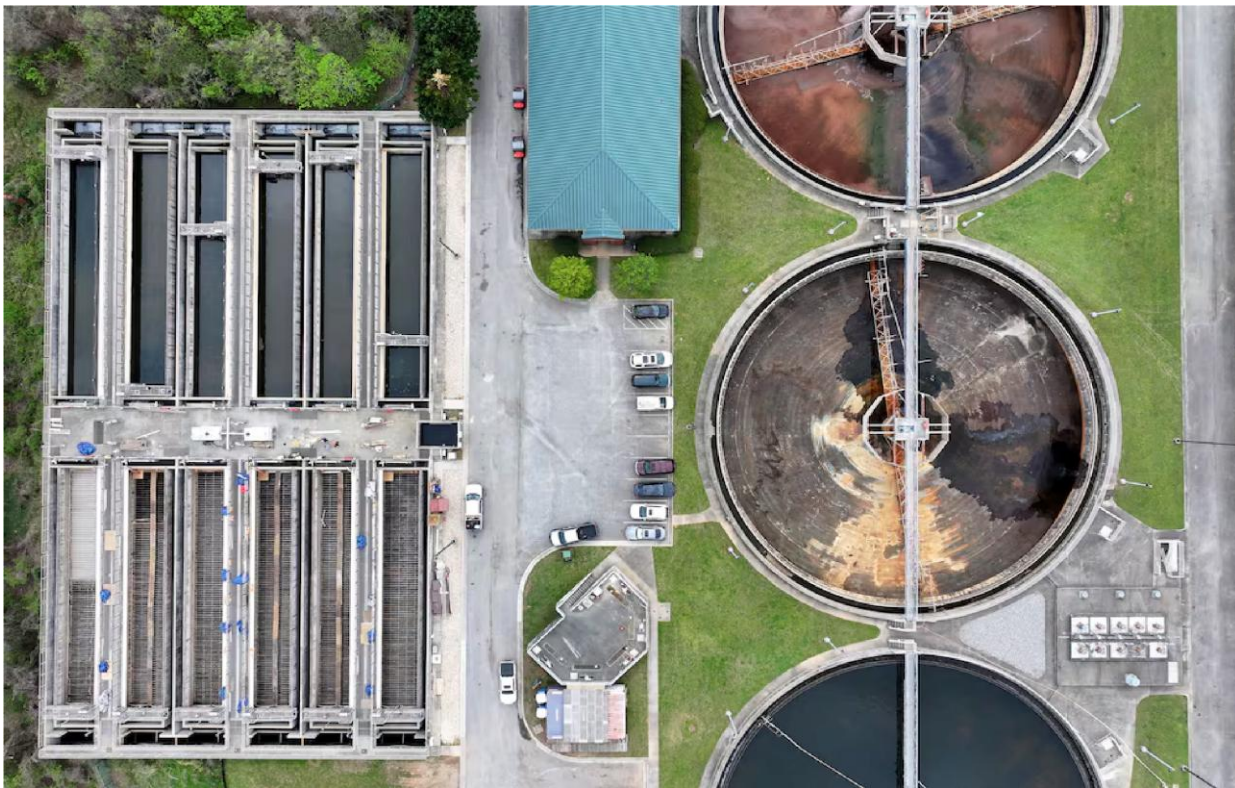
The Sutton facility sits across the Chattahoochee River from more incinerators at another of the state's largest sewage plants — the R.M. Clayton Water Reclamation Center in Atlanta.

But exposure to mercury isn't the only risk from incinerators.

In the waning days of President Joe Biden's administration, the U.S. Environmental Protection Agency released reports highlighting the threat from so-called toxic "forever chemicals" — scientifically known as PFAS, or per- and polyfluoroalkyl substances.

Forever chemicals are linked to cancer and other diseases, and have been detected in sewage sludge incinerator exhaust. But that data is limited, according to the EPA.

On the Chattahoochee's eastern bank, about 40% of Atlanta's sewage sludge is incinerated at R.M. Clayton, said Schereé Rawles, spokesperson for the Atlanta Department of Watershed Management.



Aerial photo shows R.L. Sutton Water Reclamation Facility, where Cobb County is preparing to upgrade incinerators for sewage sludge. (Hyosub Shin/AJC)

Explore Vinings residents concerned about air quality from sludge incinerators

Scientists are still researching ways to destroy forever chemicals. The few methods shown to be effective are rare in municipal wastewater treatment.

“There’s definitely not one nice clean way to dispose of people’s waste, so to speak,” said

Atlanta City Council member Dustin Hillis, whose district includes the R.M. Clayton plant.

Sewage sludge, also known as biosolids, is the solid byproduct of the wastewater treatment process. In residential areas, it includes human waste and scum from chemicals, such as cleaning products, that can contain forever chemicals.

After biosolids are separated from liquids at sewage treatment plants, they are dried and chemically treated. The resulting material is usually hauled to a landfill, incinerated or applied as fertilizer.

Forever chemicals can leach into waterways and evaporate into the air from landfills. They can also be spread by incinerator stacks or contaminate rivers and crops from fertilizer.

As of two years ago, about 200 wastewater treatment plants in the United States were operating incinerators, burning a total of more than 1 million tons of sludge per year, [according to a study](#) in the journal Science of the Total Environment. The EPA estimated 16% of the nation’s sewage sludge was incinerated in 2022.

Neighbors of the sewage treatment plants in Atlanta and Cobb have not raised the issue of forever chemical emissions from the incinerators because so little is known about the topic, according to leaders of local advocacy groups.

“It needs to be an upswell from the community that understands the challenge, that understands how it impacts their health and well-being,” said Gwen Smith, executive director of Community Health Aligning Revitalization, Resilience & Sustainability, an Atlanta-based organization that tracks other emissions from R.M. Clayton.

Almost all the sewage sludge incinerators operating around the country were designed to reduce biosolid mass, not forever chemicals, because widespread concern over them is relatively recent. That’s according to Thomas Borch, a Colorado

State University professor who runs an environmental and agricultural chemistry lab and researches forever chemicals in biosolids.

Cobb County Water System Director Judy Jones cited research indicating incinerators would be “very effective at removing (forever chemicals) because they operate at high temperatures.” But experts estimated incinerators would need to reach at least 1,832 degrees Fahrenheit and heat biosolids for longer times to destroy forever chemicals without creating other toxic substances.

Cobb’s proposed incinerators would operate at a maximum of 1,459.5 F. Atlanta’s incinerators operate at 1,250.6 F, Rawles said.

Running hotter incinerators, however, would increase energy demands and release more hazardous greenhouse gases, Borch said.

“Waste management is always challenging, right?” he asked. “You take care of one problem, you create another.”

Borch researches pyrolysis, a method of heating without oxygen that has been shown to destroy forever chemicals at lower temperatures than incinerators. As of 2022, only one wastewater treatment plant in the United States was using the method at full scale, according to the journal Water Environment Research.



A man fishes in the Chattahoochee just upstream of a pipe discharging water from the R.L. Sutton Water Reclamation Facility near Smyrna.(Courtesy)

Feng “Frank” Xiao, a civil and environmental engineering professor at the University of Missouri and an editor of the Journal of Hazardous Materials, is trying to destroy forever chemicals at lower temperatures with the addition of other materials, such as calcium or soil, that help transform the chemicals into harmless inorganic fluorine.

“So far our funding is very limited, but we’re doing a lot of important research,” Xiao said.

The EPA estimates there are nearly 15,000 kinds of forever chemicals, but can detect and quantify only about 50.

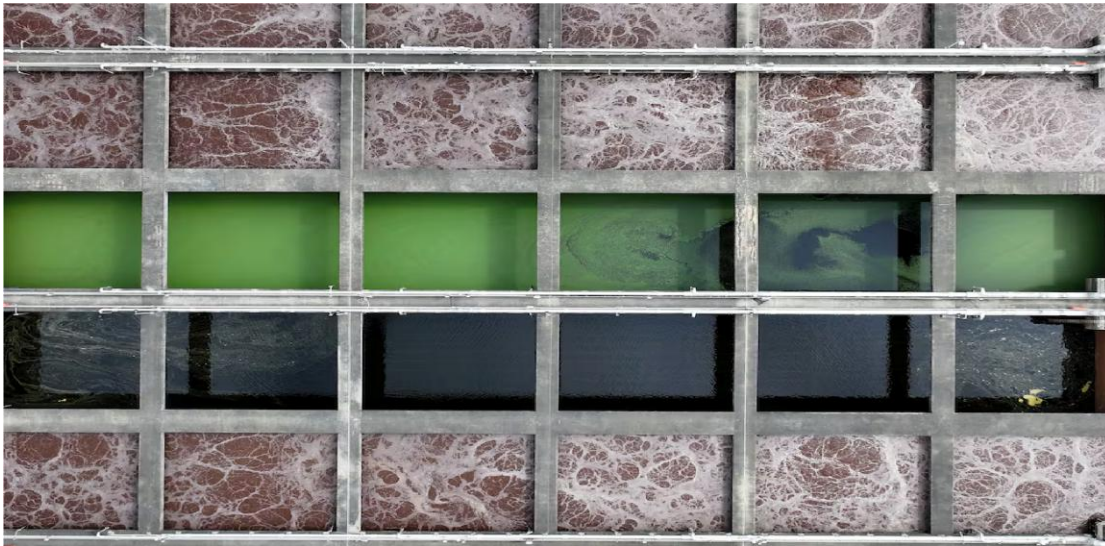
“We don’t know all the (forever chemicals) because we don’t have the tools,” said Borch, adding that researchers also don’t know the toxicity level of all that have been identified.

“There’s no easy answer. Honestly, you have to go out and research it, and I think that is what people are doing right now.”

The federal Clean Air Act sets strict limits on mercury, lead, carbon monoxide and other emissions from sewage sludge incinerators. But no regulations exist for air emissions of forever chemicals.

Local governments are unlikely to pay for new equipment to destroy them unless the permitting process requires it, experts and officials said.

Three states asked the EPA last year to set limits on emissions of some forever chemicals. But this year, President Donald Trump’s administration instead [revoked the only federal forever chemical regulations](#), which limited the amount in drinking water. The administration also proposed weakening other air pollution rules.



This aerial photo shows R.L. Sutton Water Reclamation Facility, where Cobb County is preparing to redesign the incinerators.

Cobb County incinerated biosolids at R.L. Sutton for 34 years, until 2016, when regulations tightened and officials determined upgrading the incinerators to comply would be too costly.

The county subsequently landfilled its biosolids, but landfill space is shrinking, quadrupling Cobb's costs. Now, the incinerators are the budget-friendly option, Jones has said.

The County Commission last month approved a \$5.3 million contract with Crowder Construction Co. to design equipment upgrades.

The Vinings Village Homeowners Association, representing the neighborhood near R.L. Sutton, sent a letter to commissioners requesting the incinerators be designed to meet or exceed current Clean Air Act standards.

The group also requested an independent study of all emissions in the area, which includes a [Sterigenics plant](#) that discharges ethylene oxide; a waste transfer station; a hot mix asphalt plant; a Georgia Power plant that contains [coal ash ponds](#); and the biosolids incinerators in northwest Atlanta.

"A big concern is the potential for cumulative environmental and health impacts," Vinings Village Homeowners Association President Melissa Johnson said.

About the Author



Alia Pharr



Alia Pharr covers taxation and infrastructure in metro Atlanta.