

From: Kenneth and Jeanne Van Staalduinen <kjvan@gotricounty.com>
Sent: Tuesday, October 9, 2018 8:30 PM
To: Statements
Subject: EMP-93 Sub 0

Dear North Carolina Utilities Commission,

Please do not give approval to Wilkinson Solar to move forward on their project. Please consider the following article found in the Carolina Journal that confirms that toxic materials like GenX and related compounds (called PFAS) are used in solar panels. These compounds may pose serious risks to our environment and that of future generations. GenX is known to be in Teflon film that is used to coat and protect solar panels. EPA's Office of Ground Water and Drinking Water in Washington, DC indicates that GenX solar concerns are part of a much broader set of research challenges. This is a serious problem for the solar industry because there are thousands of these PFAS compounds and EPA has yet to develop methods to measure most of them.

This potential health problem is complicated by the fact that North Carolina doesn't have rules for the decommissioning of solar electric generating plants and for disposing of old used panels. Thus, we must add GenX to Cadmium Telluride as another potential solar panel toxic material to deal with. The list of potential health concerns related to the Solar Power Industry continues to grow. And coupled to the relatively short life span of solar power systems, our landfills will become filled with millions of pounds of toxic waste affecting the future of millions of North Carolinians. In a sense, it is analogous to the coal ash problem, except worse because we don't know how to measure the PFAS.

This issue is of particular concern to North Carolina because we have the second highest concentration of solar megawatts in the nation. Furthermore, it also creates potential liability problems for traditional power companies like Duke Energy and Dominion Power, since they own and operate their own solar power plants. Please don't approve solar electric power stations without knowing the toxic materials contained within them. Thank you so much for your time.

Jeanne Van Staalduinen

<https://www.carolinajournal.com/news-article/epa-confirms-genx-related-compounds-used-in-solar-panels/>
EPA confirms GenX-related compounds used in solar panels

FAYETTEVILLE — Although top national environmental regulators confirmed GenX and related chemical compounds are used to produce solar panel components, they say their research does not prioritize what risks that might pose to the environment and human health. Peter Grevatt, national director of the Environmental Protection Agency's Office of Ground Water and Drinking Water in Washington, D.C., recently told *Carolina Journal* the GenX solar concern "is one that's in a much broader set of challenges."

GenX is known to be used in making Teflon film that coats many solar panels. The chemical falls under the larger umbrella of compounds classified as PFAS chemicals.

"There's literally so many thousands of these compounds, and we don't have methods to measure most of them. So we are getting up on the research, and trying to figure out ways of

identifying what's out there," Andy Gillespie, associate director for ecology at EPA's National Exposure Research Laboratory in Research Triangle Park, told *CJ*.

Kristina Beasley said that lack of knowledge underscores her concerns. She is among opponents of an expansion plan for the industrial-scale Wilkinson Solar Plant in the Terra Ceia community of Beaufort County. Their opposition is believed to be the first in the state to raise the issue of potential GenX contamination in an N.C. Utility Commission regulatory hearing.

"I definitely think that it is an issue, and further research, I think, should be done," Beasley said. She said the public doesn't appreciate concerns about toxic chemicals, fluids, and substances leaking into the soil and groundwater as solar installations age and deteriorate, or suffer damage from windstorms or other disasters.

As *CJ* pointed out more than three years ago, North Carolina doesn't have rules for decommissioning solar facilities or a disposal plan for spent panels. Critics worry about potential pollution. Residents consistently have raised fears in town halls and solar plant permit hearings about contamination from compromised solar panels.

But community activists are not the only ones weighing in. Donald van der Vaart, former secretary of the N.C. Department of Environmental Quality, who holds a doctorate in chemical engineering, sees reason for concern given North Carolina's more than 7,500 solar installations.

"North Carolina's solar power capacity is now the second highest in the nation. EPA researchers recognize that solar panels may be a source of GenX compounds," said van der Vaart, a senior fellow at the John Locke Foundation. "I would expect Duke Energy and the Public Utilities Commission would want to see test results to protect them from future liability."

"One line of research that we are doing is looking at material management, end-of-life management, but we're not yet at the point where we're doing it product by product," Gillespie said when asked whether the EPA has concerns about GenX leaching from solar panels.

"Lots of things go to landfills, or go to incinerators, or other things. We're trying to understand the aggregate risk. We just haven't gotten to the stage of doing it by many of the thousand different products that these chemicals can be used in," he said.

"It's a fair question to ask" about potential environmental and human health impacts from GenX and other PFAS chemicals in solar panels, said U.S. Rep. Richard Hudson, R-8th Congressional District.

"Obviously I'm aware of the concern, and that's why I've been pushing to get the EPA to quickly get us as much science as possible so that we can determine how much of a concern we have," Hudson said. "There's not enough science, clearly."

Solar enthusiasts contend there is no threat from GenX or related chemicals, while critics fret the wealthy renewable energy industry and its host of lobbyists influence regulators and lawmakers to disregard potential GenX connections to solar panels.

"We've got to go where the science is," Hudson said. "If it's dangerous then we need to treat it. Prevention, and remediating the problem."

Hudson, Grevatt, and Gillespie were among EPA, N.C. Department of Environmental Quality, federal, state, and local government officials in Fayetteville on Aug. 14 for an all-day listening session Hudson facilitated. The event was designed to update residents on regulators' efforts to investigate and combat GenX in the groundwater, soil, and air surrounding the Chemours chemical plant here, and to hear their feedback.

“GenX, I know, has been a significant concern for folks in the state of North Carolina,” Grevatt said, “but we’re really focused right now most of all on understanding potential threats to human health, and making sure that communities have the tools they need to address those concerns.”

The EPA plans to issue a toxicity assessment outlining a first-of-its-kind health-risk profile for GenX and PFAS compounds next month. It’s scheduled to release a national management plan by the end of 2018.

The EPA is collaborating with states, academic researchers, industry scientists, and other federal agencies to develop methods and tools for states and local communities to find GenX and other PFAS compounds in the environment.

“Those tools are going to be equally applicable to [assessing solar electric plants] as they will be about looking for GenX in other parts of the environment,” Grevatt said. They won’t be tailored to each specific threat.

Linda Culpepper, interim director of DEQ’s Division of Water Resources, was a panelist at the Fayetteville event. Asked later if she was hearing concerns about GenX in solar panels, she responded: “Just what you’re seeing probably. The same thing in research that people are looking at — as these products degrade over time are there any kind of chemicals coming from that?”