

Hydrologist warns of long-term consequences of catastrophic US train derailment

Tom Hall
24 February 2023

On Friday night, environmental activist Erin Brockovich led a town hall meeting with experts and several attorneys involved in a potential class-action lawsuit against Norfolk Southern (NS) over the catastrophic train derailment in East Palestine, Ohio.

The most harrowing report in the town hall came from hydrology expert Bob Bowcock, who spoke on the dangers posed by vinyl chloride to the population. “You’re in a situation where you’re going to be dealing with this for the rest of your lives if you stay here,” Bowcock told the audience.

The town hall meeting followed the release of Thursday’s preliminary report on the East Palestine derailment by the National Transportation Safety Board (NTSB).

According to the report, the derailment was caused by a heat-related failure of an axle on the 23rd car in the train, which had more than 150 total. The report in particular cited readings from track-based monitors called hot bearing detectors, which were spaced at intervals of around 10 miles in the area where the train derailed. The last three readings showed elevated temperatures, first at 30 degrees above the ambient temperature, then 103, and finally 253 degrees.

Only this last reading triggered an audible alarm in the cabin to alert the crew, who responded by attempting to bring the train to a stop. By then, however, it was too late, and the 23rd car derailed due to the failure of the overheated axle, taking several cars with it. After coming to a stop, the crew could see fire and smoke coming from further back on the train, and they alerted dispatchers to a possible derailment.

This raises serious questions about the role of Norfolk Southern’s safety policies in creating the conditions for the disaster. According to the report, company policy is to stop a train and inspect it only if an axle is reading 115 degrees above ambient temperature. But eyewitness

footage from 20 miles before East Palestine, at approximately the point of the first reading, already showed flames shooting out from the axle.

There are two possible explanations for this. Either the train crew unknowingly traveled 20 miles with a fire on a tanker full of toxic chemicals before anyone in Norfolk Southern was alerted to the problem. The second is that the dispatcher knew of the elevated temperature readings but instructed the train crew to continue anyway, in accordance with company policy. In either case, policies designed to prioritize profit and minimize downtime must have played an immediate role in the lead-up to the disaster.

According to a report by ProPublica, Norfolk Southern also has an official policy in place allowing dispatchers to instruct crews to ignore potential mechanical problems indicated by track-based sensors. This played a direct role in a similar derailment in October in Sandusky, Ohio, involving an overheating wheel.

At the town hall meeting Friday, Texas-based attorney Mikal Watts raised many of these issues in his remarks, in particular questioning the temperature threshold for the alarm set by NS. The failure of the wheel bearing, he said, could have been caused by any number of problems which ought to have been picked up during routine inspections.

Mikal also pointed out the inadequate character of Obama-era regulations mandating pneumatic braking on trains carrying flammable liquids, which were later rolled back by the Trump administration. That rule only applied to trains with 20 cars or more carrying flammable liquids, while the East Palestine train had only three. This was a red herring raised by politicians “pointing sideways” to blame each other, he said.

Bowcock, the hydrologist, pointed a similar derailment which occurred in 1970 in La Roy, New York, where a single car containing a chemical similar to vinyl chloride

derailed and released 30,000 gallons (compared to more than 100,000 in East Palestine). However, the Environmental Protection Agency only declared the site of the derailment a superfund site in 1991, and cleanup began in 1999. He spoke of personally visiting the site in 2011, where he found that multiple barrels filled with chemicals removed from the soil had simply been left on-site to rust out, leaking the chemicals back out again. The railroads' groundwater plan is not due to the EPA until August 2024.

In spite of government promises to make NS pay for the accident, "don't expect things to happen fast," he warned.

Vinyl chloride, the principal contaminant released in the disaster via "controlled" release and burn, poses particular problems for cleanup. It is highly mobile in soil and water and is not readily absorbed by carbon, making removal from the soil more difficult. The water supply in East Palestine is particularly vulnerable, Bowcock said.

"Initially, I thought it would take six to 12 months for it to migrate" in the soil over to the city's wells, he said. "But the contamination has already spread."

An environmental protection plan for the East Palestine water system, he said, revealed that the state government determined that the groundwater protection from surface contamination is "zero."

"I have never read that line" in reviewing more than 2,300 similar groundwater protection plans, he said. The groundwater needs treatment "immediately," he concluded.

Essentially two separate types of disaster occurred in East Palestine, Bowcock concluded, the derailment that spilled chemicals which percolated down into the water table, as well as the release and burn which resulted in dioxins being released into the atmosphere. The potential for dioxin exposure would continue for years.

But the EPA is not even testing for dioxins, Dr. Steven Lester, science director for the Center for Health and Environmental Justice, told an earlier town hall. Dioxins are a broad category including dozens of different chemicals, he said, including one which is "the most toxic chemical ever tested in the United States." They were "almost pretending like it didn't exist" in their testing, he said.

Whatever information eventually comes to light, two things are already clear.

First, the disaster was made possible by relentless cost-cutting, which has driven up profits on the railroads to record highs and has been backed to the hilt by the government. This was hinted at in comments made by

Transportation Secretary Pete Buttigieg last week, when he sought to minimize the disaster by blandly citing the fact that more than 1,000 derailments occur every year in the US.

Since the East Palestine disaster on February 3, a number of serious accidents have already taken place. These include: the derailment Tuesday of more than 30 coal cars on a Union Pacific train in Nebraska; another derailment in the Detroit area last week involving 30 cars on a train which also carried toxic chemicals (which were not themselves involved in the derailment); and a fatal crash February 13 between a Union Pacific train and a truck at a rail crossing which led to the derailment of more than 20 cars and the release of hazardous chemicals.

Second, whatever claims are being made now, the official government response will be a whitewash aimed at shielding NS from responsibility. While the Biden administration claims now that NS will be made to pay for the cleanup, there is not even the suggestion that any NS executives could be held criminally responsible. At any rate, even the former claim is not true; residents will be made to foot the bill in one form or another.

A pattern has been set long ago in environmental disasters, such as the lead poisoning of Flint, Michigan and the BP oil spill, which is being repeated in East Palestine. First, government officials try to deny that any danger to the public exists. When that is no longer possible, they try to minimize it. Finally, those responsible are let off the hook with minimal consequences.

The class character of the government and the political system is exposed in this catastrophe. While both parties swiftly came together to ban a strike by railroaders last year—in which the issue of rail safety would have been front and center—claiming a strike would have "unthinkable" consequences, the same government creates the conditions where deadly accidents can take place, and then comes to the defense of the railroads in the aftermath.



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