

## Past reports cite coal dust as recurring problem

By Aaron Applegate  
The Virginian-Pilot  
© May 31, 2014

### NORFOLK

The clouds of coal dust wafting off the Lamberts Point terminal were so obvious, the state inspector wrote, that he'd seen them from a tourist boat on the Elizabeth River.

The 2006 inspection report wasn't unusual. Like others over the years, it pointed out that the Norfolk Southern coal terminal - the largest in the northern hemisphere - sometimes has trouble controlling dust.

Most of the problems, reports and other documents show, come from one of the facility's most crucial pieces of equipment: the twin rotary rail car dumpers.

Standing about 40 feet high, the open-air dumpers empty rail cars filled with coal by rotating them, as water is sprayed for suppression, until the coal falls out. Coal dust can escape into the air during this process.

Last year, nearly 200,000 rail cars, each carrying up to 120 tons of coal, were flipped by the Lamberts Point dumpers. The state Department of Environmental Quality estimated 44.8 tons, or 89,600 pounds, of dust particles blew off the coal terminal last year. Most of it came from the dumpers.

"That's going to be the primary source of emissions - by a wide margin," said Troy Breathwaite, the department's regional air permits manager.

Residents and environmentalists have held two recent forums on the issue, arguing the company needs to do a better job controlling coal dust. They say it can cause health problems.

Norfolk Southern has invited residents to a private meeting in June to talk about their concerns. The company has declined to comment until after that meeting, a spokesman said.

Most of Lamberts Point, including the dumpers, operates without limits on particulate air pollution, called "fugitive dust," provided the facility doesn't handle more coal each year than allowed by the state. Norfolk Southern hasn't come close in years.

The terminal, built before the federal Clean Air Act of 1970, was grandfathered in before the days of air pollution regulations. State inspectors visit the site every few years to evaluate whether "reasonable precautions" are being taken to control dust.

Norfolk Southern has been aware of dust coming from the dumpers for years, documents show. The state environmental agency has asked the company multiple times to consider making improvements to the machinery. Norfolk Southern has made some, including enhancing the water spray system and adding wind guards.

Company officials have explored enclosing the dumpers to capture dust - the common modern practice - but the idea was never carried out.

The dumpers move coal largely the same way as when they were built more than 50 years ago.

After World War II, coal was booming. Ravaged countries, particularly Japan, imported shiploads of American coal for steelmaking that was crucial to rebuilding. Fine-grain coal from the mountains of Appalachia, the best for steelmaking, was in great demand.

So Norfolk and Western, the precursor to Norfolk Southern, embarked on an ambitious construction project.

Pier 6, completed in 1962, included a 1,800-foot pier, twin telescoping ship loaders and the coal dumpers. The dumpers each flip two full-size rail cars, rotating them 220 degrees in steel cylinders to eject coal onto hoppers. Conveyor belts then whisk it away to waiting ships.

Ten years after Pier 6 started operations, Norfolk and Western hired a consultant to do a confidential study - made public years later - of air pollution coming from the terminal and possible solutions.

The 1973 study found airborne dust concentrations at the terminal were 30 percent higher than at other regional locations. It said most of it came from the dumpers:

"Fugitive dust significant enough to substantially influence ambient air quality appears concentrated in the car dumping areas."

The report said wetting coal at Pier 6 was not effective because the coal particles were small, noting that fine coal has more surface area per pound:

"In order to wet the surface of fine coal particles at Pier 6, excessive amounts of water would be required."

The report recommended the dumpers be enclosed with a dust collection system. The estimated cost was between \$1.2 million and \$2 million dollars, about \$6.2 million to \$10.3 million today.

Railroad company officials decided not to build it.

As early as 1991, state inspectors noted problems with dust control at Pier 6. That year, the state environmental agency issued a notice of violation to the railroad company for failing to operate one of the dumpers "in a manner consistent with good air pollution control practice of minimizing emissions."

The inspection found a dumper emitting dark clouds of dust because its water suppression system was not working properly. A follow-up inspection found improvement, but the inspector asked the terminal foreman to find a better way to control dust:

"I stressed he is borderline compliance."

The next year, with coal booming again, Norfolk and Western was preparing to

expand Pier 6. As part of the project, the company explored enclosing the dumpers to better control coal dust. Officials passed out a conceptual drawing of a design but did not pursue the idea.

Inspectors found no problems in 1992. During the 1996 inspection, the water suppression system was malfunctioning again. Norfolk Southern made repairs.

In 1999, a state environmental agency inspector cited Norfolk Southern for "considerable coal dust" coming from the dumpers. The inspector asked the company to research better ways to control dust, including changing the spray pattern for wetting coal.

In 2000, an inspector characterized dust emission from the dumpers as "not good." Dark dust clouds were being emitted. The report said some of the spray nozzles on the dust suppression system were not working.

The next two inspections found no problems.

In 2006, an agency inspector found clouds of coal dust rising from the dumper every four or five dumps. The pump that applies a chemical to reduce dust was not working.

The inspector asked Norfolk Southern to research whether the company could better control the dust cloud rising from the dumper multiple times per hour.

"It seems appropriate to investigate whether a relatively inexpensive solution might be effective in reducing the amount of coal escaping during these dumps," the inspector wrote, offering several suggestions for improvements.

Norfolk Southern officials responded two months later that the company had concluded that "no additional reasonable precautions are available." The company's letter said it would be too expensive to enclose the dumpers.

The 2007 inspection found plumes of coal dust at a different part of the facility. Inspections in 2011 and this year found no problems.

At a tour of Lamberts Point earlier this month, faint puffs of dust mixed with sprayed water could be seen rising from the dumpers after the rail cars were flipped. Company officials called the mixture a "mist."

Breathwaite said there is little the agency can do to force Norfolk Southern to improve operations at the dumpers because the facility was built before air pollution regulations. Existing fugitive dust standards that require "reasonable precautions" can be hard to interpret, he said.

Part of the regulation says, "Open equipment for conveying or transporting materials likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion."

How that would apply to the dumpers, if at all, would be open to interpretation.

"It's a nebulous rule, and unfortunately, it does give us some issues in applying it," Breathwaite said. "Each source is treated on a case-by-case basis."

Less unclear is how a modern coal terminal would be treated.

"Were they a brand-new facility coming today, some sort of enclosure would be in the conversation for sure," he said. "As long as it's status quo, there's not a lot we can do."

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