



# AGENDA REPORT

**Office of the Mayor**

**DATE:** May 22, 2018  
**TO:** Members of the City Council  
**FROM:** Mayor Tom Butt  
**SUBJECT:** CONTROL OF FUGITIVE DUST FROM COAL AND PETROLEUM COKE STORAGE AND TRANSFER

## **STATEMENT OF THE ISSUE:**

Open storage of coal and petroleum coke results in fugitive emissions of particulate matter that is hazardous to health. The City of Richmond has the right and the duty to regulate stationary sources of harmful particulate matter, including coal and petroleum coke.

## **RECOMMENDED ACTION:**

INTRODUCE an ordinance (first reading) amending Chapter 9.22 Public Nuisances of the Richmond Municipal Code to require enclosure of coal and petroleum coke storage and transfer facilities.

## **FINANCIAL IMPACT:**

There is no financial impact related to this item at this time.

## **DISCUSSION:**

Uncovered coal and petroleum coke stockpiles emit fine particulate pollution, PM2.5 or smaller, when exposed to wind. When coal and petroleum coke are unloaded from trucks or railroad cars and transported to storage piles or transported from storage piles into ships, fugitive particulate emissions also occur.<sup>1</sup>

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<sup>1</sup> [https://content.sierraclub.org/creative-archive/sites/content.sierraclub.org/creative-archive/files/pdfs/100\\_306\\_LouisianaExports\\_FactSht-03\\_lowres.pdf](https://content.sierraclub.org/creative-archive/sites/content.sierraclub.org/creative-archive/files/pdfs/100_306_LouisianaExports_FactSht-03_lowres.pdf)

Exposure to fine particulate pollution has been linked to increased deaths and illnesses due to cardiovascular and respiratory conditions. Economists often are asked to place a dollar value on this pollution-induced increase in mortality rates. To do this, the Environmental Protection Agency (EPA) assigns a monetary value to a "statistical life." The agency typically uses this "value of statistical life" approach to quantify the benefits of the environmental regulations that reduce local air pollution.

For example, in 1990, Congress amended the Clean Air Act to limit emissions of sulfur dioxide and nitrogen oxides, which are major sources of fine particulates. The EPA estimates that these limits will prevent roughly 230,000 adult deaths due to fine particles just in the year 2020. Using a value of US\$9.85 million per statistical life, this translates into \$2.3 trillion in total benefits in 2020 just from reduced mortality from particles. Overall, EPA calculates that the total benefits from the 1990 Clean Air Act Amendments from 1990 through 2020 exceed the costs of complying with the law by a factor of more than 30 to 1.

Using this same approach, Akshaya Jha of Carnegie Mellon University<sup>2</sup> found that, in addition to the social costs of particulate pollution from burning coal, storage and handling creates PM2.5 pollution that generates additional local health costs of about \$183 per ton of coal stored. For context, in 2017, 1,159,386 metric tons of coal was stored and transported via ship from Richmond. That's an adverse economic impact to Richmond residents valued at over \$212 million.

The coal industry is subject to many environmental regulations. There are laws and rules that address the impacts of current mining operations and abandoned mine sites; air pollution from coal combustion; and disposal of the ash left over after coal is burned.

In contrast, there is no federal legislation explicitly targeting fine particulate emissions from coal storage and handling. However, since this air pollution is quite local, cities and counties can take action to mitigate it instead of relying on state or federal policy. In California, the South Coast Air Quality Management District adopted Rule 1158 – "Storage, Handling, and Transport of Coke, Coal and Sulfur," in 1983, and it has been amended several time since.

The Richmond City Council has already banned coal and petroleum coke export from City-owned marine terminal facilities, but there currently no local regulations for coal and petroleum coke storage and handling at privately-owned Richmond terminals.

To protect the health of people who live and work in Richmond, particularly those in disadvantaged communities, an amendment to the Nuisance Ordinance that address

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<sup>2</sup> <http://www.chicagotribune.com/sns-even-when-its-sitting-in-storage-coal-threatens-human-health-80865-20170914-story.html>; <http://theconversation.com/even-when-its-sitting-in-storage-coal-threatens-human-health-80865>; <https://www.sciencedaily.com/releases/2017/07/170705133025.htm>

storage transfer of coal and petroleum coke is required. The recommended amendment incorporates pertinent portion of the South Coast Air Quality Management District adopted Rule 1158. A period of one year is provided for operations involving coal or petroleum coke to come into compliance.

**DOCUMENTS ATTACHED:**

Chapter 9.22 Public Nuisances Ordinance Amendments – MARK-UP

Chapter 9.22 Public Nuisances Ordinance Amendments – CLEAN

South Coast Air Quality Management District Rule #1158

