CIE 388

NORFOLK SOUTHERN

Norfolk Southern Corporation
Environmental Protection
110 Franklin Road, S.E.
Roanoke, Virginia 24042-0013
540 981-4456



**C. R. McDaniel**
System Director

February [illegible]
File: 1-9-2-10-5-Coal Committee (VA)

Ms. Jane Workman
Virginia Department of Env. Quality
Tidewater Regional Office
5636 Southern Blvd.
Virginia Beach, VA 23462

Dear Ms. Workman,

Enclosed please find Norfolk Southern's "1998 Annual Report to the Joint Subcommittee Studying Measures to Reduce Emissions from Coal-Carrying Railroad Cars." The report is submitted as required by Virginia Senate Joint Resolution No. 257.

The report outlines Norfolk Southern's coal dust control initiatives performed in 1998, and our proposed actions to continue the dust monitoring in 1999 as committed to the Senate Joint Committee.

If you have any comments or questions after reviewing the report, please contact my office at (540) 981-4456 or Mr. Bruce Wingo at (804) 649-2485.

Sincerely,

C. Russell McDaniel
System Director Environmental Protection

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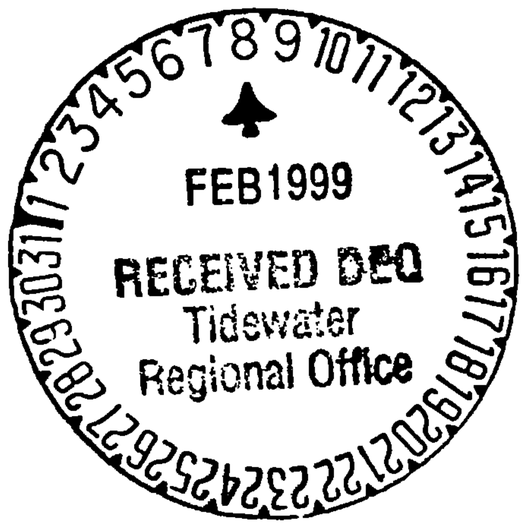
enclosure

cc: W. Bruce Wingo - NS Office of Public Affairs, Richmond

# Annual Report to the Joint Subcommittee Studying Measures to Reduce Emissions from Coal-Carrying Railroad Cars per Senate Joint Resolution No. 257




Submitted by
Norfolk Southern Corporation
Environmental Protection Department
Roanoke, Virginia

January 1999

## Summary of Key Accomplishments

- ***The Performance Monitoring Plan has been fully implemented.***

- ***The Track Side Monitor near Windsor, VA continues to monitor trains headed for the Tidewater area. With the newly added Automated Equipment Identification system, this monitor provides timely and valuable feedback to the mines participating in Norfolk Southern's coal dust reduction program.***

- ***Construction of a Mobile Track Side Monitor has been completed. It is currently deployed in Altavista, VA. This mobile unit enables Norfolk Southern to acquire information on dusting trains in close proximity to the areas associated with repeated 1-800 Line reports of dusting.***

- ***1-800 Dusting Report Line continues to be available to record any complaints from persons and businesses located in the rail corridors through which Norfolk Southern transports coal.***

- ***Monitoring of total suspended particulate and particulate less then ten microns ($PM_{10}$ ) near Lamberts Point in Norfolk, VA continues to demonstrate compliance with Department of Environmental Quality ambient air quality standards.***

- ***The continued collection of dustfall data in the vicinity of the Lamberts Point facility is providing Norfolk Southern with a baseline set of observations for use in prioritizing dust control upgrade options and demonstrating their effectiveness.***

- ***An Integrated Dust Monitoring System is being developed at Lamberts Point to minimize the potential emissions of dust into surrounding communities by informing personnel of the fugitive dust potential using a combination of new software and dust monitoring instrumentation.***

- ***Norfolk Southern enhanced communications with and efforts to encourage participation by mines through its retention of an additional consultant, Marshall Miller and Associates, to coordinate and communicate data from monitors.***

# Annual Report to the Joint Subcommittee Studying Measures to Reduce Emissions from Coal-Carrying Railroad Cars per Senate Joint Resolution No. 257

In accordance with the 1996 Senate Joint Resolution No. 257, Norfolk Southern summarizes the efforts of the company and its consultants, Simpson Weather Associates and Marshall Miller and Associates, to identify and mitigate fugitive coal dust emissions from its rail corridors and facilities in the Commonwealth during the calendar year 1998. This report illustrates Norfolk Southern's specific compliance with the resolution and our commitment to the environment.

## 1998 Review

### Performance Monitoring Program

The Performance Monitoring Program is NS' strategy for determining the effectiveness of coal treatments by participating mines and for identifying additional mines that may be encouraged to participate in the dust control program. The major components of the PMP as it is currently implemented are:

- Track Side Monitor – Isle of Wight County
- Mobile Track Side Monitor
- 1-800 Dusting Report Line
- Rail Transport Emissions Profiling System (RTEPS)
- Seasonally Adjusted Rail Transport Dustiness Index (SARTDX)

The multi-component approach established by NS is designed to provide continuous and unbiased feedback on the performance of its dust control program with the track side monitors and 1-800 Line. The RTEPS and SARTDX are employed to generate additional, quantitative data needed by Norfolk Southern and its customers to decide on the proper course of action to reduce emissions that have been detected. While the fixed monitor near Windsor, VA observes trains as they near the end of their trip to port, the mobile monitor allows targeting of specific sites anywhere within the rail corridors.

Norfolk Southern will continue the program in 1999 including additional random RTEPS trips. Norfolk Southern will work to expand mine participation should RTEPS, Ilse of Wight monitor, mobile monitor, SARTDX, or the 1-800 Dusting Report Line identify new sources. Norfolk Southern will also continue to participate in the evaluation of advanced dust control agents for use in the coal dust treatment program.

**Track Side Monitor – Isle of Wight County**

The Track Side Monitor near Windsor, VA in the county of Isle of Wight is designed to detect coal dust emissions from trains destined for Lamberts Point. The Isle of Wight location was chosen since it permits monitoring of treated coal shipments after their exposure to more than 300 miles of transport and at track speeds of greater than 30 miles per hour. NS designed the Ilse of Wight monitor for two primary purposes:

1) To provide continuous monitoring of the effectiveness of dust mitigation treatments being performed by participating load-out facilities; and
2) To identify additional coals to be considered for inclusion in the coal car treatment program.

Currently the Isle of Wight track side monitor is collecting data from both the northern and southern sides of the track. A new tower on the north side holds a laser sensor that is aligned with a detector mounted on the south-side tower. The laser data provide redundancy in the dust detection system and are valuable in discriminating between dusting and non-dusting coal shipments within the same train.

The automated equipment identification system installed in November 1997 has helped identify individual coal shipments, and coupled with the NS Thoroughbred Quickfo system, which matches car information, the mines are now identified with increased confidence. When the time to trace trains is reduced, NS can better provide both positive and corrective feedback to the mines.

A video with frame grabber system is functioning at the site (daytime only) and takes 10 to 20 pictures of each passing train. These digitized images are downloaded daily by SWA and examined for load top conditions. A light has been added to the south-side tower that will allow nighttime photographs.

The objective dust emission classification developed by SWA continues to be a reliable means of identifying dusty shipments.

**Mobile Track Side Monitor**

The mobile version of the track side monitor located in Isle of Wight is now deployed in Altavista, VA. In response to complaints from that area, NS met with citizens to discuss their concerns and promised to deploy the monitoring system so that it could identify mines that are candidates for the NS emissions reduction program. The mobile monitor is designed for deployment along the railroad lines to address specific complaints.

## 1-800 Dusting Report Line

In the early part of 1998, the 1-800 Dusting Report Line recorded fewer complaints from the Altavista, VA area than in 1997. Because of this, focus was shifted to the Roanoke, VA/Hagerstown, MD rail corridor. With the exception of a dusting event with one mine in July, no other reports of dusting events through that corridor were recorded in 1998. However, as the year progressed the focus of complaints shifted back to the Altavist area, and in response the mobile track side monitor was deployed near downtown Altavista.

## Lamberts Point Community Air Quality Monitoring

The Lamberts Point Community Monitoring Program monitors airborne particulate in the area surrounding the Lamberts Point coal pier in Norfolk. It consists of three total suspended particulate monitors and one particulate matter monitor for particles having a diameter of less then 10 microns, commonly referred to as $PM_{10}$, in the neighborhood surrounding Lamberts Point. Total suspended particulate monitors are located at the Virginia Initiative Project's waste water treatment facility adjacent to the pier, Taylor Elementary School in the West Ghent neighborhood, and the Health Sciences building on Old Dominion University's campus. The $PM_{10}$ monitor is located at the ODU site. No $PM_{10}$ exceedances of the Department of Environmental Quality ambient air quality standards have been recorded in 1998.

Dustfall data provides additional air quality information in and around the Lamberts Point yard. The primary benefit of these data has been to establish a consistent baseline of relative dust levels around the facility that can be used to focus and evaluate mitigation efforts.

Two real-time aerosol monitors that were installed at the Lamberts Point rotary dumper have been taken down to be calibrated. However, these two monitors will be reinstalled and incorporated into the proposed Lamberts Point Integrated Dust Mitigation System described below.

## Integrated Dust Monitoring System

SWA is designing this system to combine weather forecasts, local weather data, and preplanned tasking options to assist facility operators in scheduling their jobs in a manner that will minimize the emissions of dust into surrounding communities.

Videos of the rotary dumper in operation have been studied and a set of recommendations regarding spraying are being developed by SWA. These will be considered in 1999 and used to configure an opacity meter inside the dumper as part of the IDMS project.

**Norfolk Southern Rail Emissions Study**

NS continues to use the Rail Transport Emissions Profiling System (RTEPS) developed during the Rail Corridor Study. The RTEPS monitor is attached to the rear sill of a loaded coal car and records numerous parameters including wind speed, rainfall, coal temperature, and dust emissions during transit. RTEPS is primarily used to:

1. Gather data during coal transport to demonstrate to individual mines that it is in their economic interests to reduce material loss from their coal shipments; and
2. Periodically test the effectiveness or diagnose detected failures of dust mitigation techniques being used on coal in transit.

An RTEPS trip was conducted in 1998 in May focusing on a mine that had come to NS's attention through the "1-800" complaint line and track side monitor data. RTEPS trips will continue in 1999 to monitor "problem" mines that have been revealed by other Performance Monitoring Program components.

## 1999 Plans

Norfolk Southern will continue the full Performance Monitoring Program in 1999, including RTEPS trips when needed. The complete development and implementation of the IDMS is a top priority for 1999 as is the continued operation and enhancement of the various program components. New software will be put in place to facilitate the tracking of coal shipments that are successfully treated in addition to just those that are detected as dusting. NS will continue to work to expand mine participation in the dust control efforts. When appropriate, NS will evaluate new dust control strategies and products.

***OCR***

The following pages contain the Optical Character Recognition text of the preceding scanned images.

NORFOLK
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Norfolk Southern Corporation C. R. McDaniel
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Operating Subsidiary: Norfolk Southern Railway Company

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