VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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## Commonwealth of Virginia

**Registration No:** 60979
**AFS Plant ID:** 700-00071
**Plant Name:** Pier IX Terminal Company
**Classification:** Synthetic Minor
**Address:** Pier 9 Harbor Road
**Region:** TRO

# AIR INSPECTION REPORT

**Inspection Date:** 09/26/03
**Contact Name:** Robert Coffey
**Type:** FCE With Site Visit
**Contact Phone No:** (757)928-1520
**Inspector:** Daniel B Gaidos
**Air Program** SIP
**Subpart**
**Inspection Result:** In Compliance

**Reason:**
Complete FCE (Full Compliance Evaluation)

**Inspector Comments:**

Kinder Morgan Pier IX terminal has a November 1987 permit to operate a coal storage and export facility, and an August 1995 permit to operate a cement unloading, storage, and truck and railcar load out facility. Coal at this facility is received by railcar and is removed within an enclosed rotary railcar dumper. Numerous nozzles located on a single header that runs the length of the dumping area supply water to the coal as it is being dumped to control fugitive dust emissions. A small amount of surfactant is sometimes added per tandem dump to increase the effectiveness of the wet suppression system. A computer controls the coal transport system, but can be manually overridden if needed. The source indicated that 135 gallons of water is used for each railcar that is unloaded. During the inspection, the rail car dumper was in operation and no fugitive emissions were detected. After removal from the railcar, the coal is transported by a shielded conveyor belt, at a maximum rate of 1000 ft/min, up to the gantry and is dispersed into the storage piles by a retractable chute. This system can stack the coal into piles at a rate of 4800 tons per hour. The piles are compacted and truncated to reduce fugitive emissions by the use of a bulldozer. The coal is transported from the piles to cargo ships on shielded conveyor belts. Underneath the coal piles are hoppers covered by hatches that open, allowing the coal to drop onto a conveyor belt. From there, the coal travels to the ship. Portions of the conveyor belt are equipped with a wet suppression system, which is manually activated when necessary to reduce fugitive coal dust.

The source uses an automated wet suppression system that is based on the K-Factor system. The system takes into consideration weather conditions, such as temperature, relative humidity, wind speed, and wind direction. Based on the hourly readings of these parameters, the computer determines how often the rain birds must cycle. The yard is divided into four quadrants. During a wetting cycle, water is applied to each quadrant for six minutes at a rate of 1000 gallons per minute. The source estimates that approximately 24,000 gallons of water actually reaches the coal piles, which satisfies the permit condition. In addition, there are 22 rain birds located around the perimeter of the coal piles that are manually turned on when necessary and a newly constructed water truck to supply water to areas where the rain birds cannot adequately reach. DEQ staff observed a cycle during the inspection and did not detect a problem with the system.

The source also receives cement from ships. The cement travels on a covered conveyor belt to a bucket elevator which deposits it into three storage silos. Silos 1 and 3 have a rated capacity of 11,800 tons and Silo 2 has a rated capacity of 12,500 tons. All the silos appeared to be structurally sound. From the silos the cement is gravity fed into trucks or is pumped underground to the railcar load out and loaded into railcars. The cement load out area was in operation during the inspection. Fugitive emissions from the entire cement operation are controlled by a total of eight baghouses; five for the silo filling and offloading, one for the truck load out, and two for the railcar load out. The railcar system is rarely used and was not in operation during the inspection and no ships were being unloaded during the inspection. The truck loadout baghouse was operating with a differential pressure of 1.5

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inches of water and no visible emissions.

Daniel B Gaiber

**Inspector's Electronic Signature**
**Approval Date:** Oct 6, 2003

**Manager's Electronic Signature**
**Approval Date:** 10/7/03

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# INSPECTION CHECKLIST

| Permit Date or Basis | # | Requirement Narrative | Observation | Comp Status |
|---|---|---|---|---|
| 01-07-88 | 4 | The yearly throughput of coal shall not exceed 30 x 10^6 tons. | Based on records provided by the facility, the yearly throughput of coal from September of 2002 through August 2003 was 3,992,297 tons. | In |
| 01-07-88 | 5 | The maximum quantity of coal in storage at any time shall not exceed 1.0 x 10^6 tons. | Based on records provided by the facility, the maximum quantity of coal at any one time was 332,691 tons. | In |
| 01-07-88 | 6 | Fugitive coal dust emissions from the storage piles shall be controlled by a permanent wet suppression system capable of wetting the entire coal storage area. | The facility maintains a rainbird system which uses wet suppression to control fugitive emissions from the storage piles. | In |
| 01-07-88 | 7 | Coal dust emissions from the rotary dumper and transfer points shall be controlled by wet suppression which shall include the use of a surfactant. | The emissions from the rotary dumper and transfer points are controlled by wet suppression combined with a surfactant. | In |
| 01-07-88 | 9 | Opacity at all emission points shall be limited to less than 5 percent. | No visible emissions were detected during the inspection. | In |
| 01-07-88 | 11 | Each spray cycle shall attain 100 percent coverage of the coal storage area and shall consist of at least 20,000 gallons of water, except for assurance cycles. | The facility contact, Robert Coffey, stated that each spray cycle uses 24,000 gallons of water. | In |
| 01-07-88 | 12 | Whenever Pier IX Terminal Company is using a particular piece of coal handling equipment (e.g., a dumper, a conveyor, etc.), it shall utilize the wet suppression controls for that piece of equipment unless the use of the equipment would cause a safety hazard or damage to the equipment from freezing. | No visible emissions were detected from the operation of the coal handling equipment during the inspection. | In |
| 01-07-88 | 14 | The following actions are considered detrimental to the control of coal emissions, but are not limited to: a. Failure to stop any coal movement operation when it becomes known that installed air pollution control systems are inoperative and | None of these activities were observed during the inspection. | In |

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| | | would cause excess emissions.<br>b. Failure to stop a coal movement operation when it becomes known that pieces of coal handling equipment needed for that operation are malfunctioning or operating significantly below designed specifications.<br>c. Failure of equipment operators to take immediate precautions to preclude fugitive dust emissions from the operation of bulldozers, front-end loaders, automobiles or trucks through the use of water suppression to control the dust, or limiting the speed of movement to below 10 miles per hour.<br>d. Failure of personnel to give precedence to controlling fugitive dust emissions over routine coal operations to personnel designed with the responsibility of controlling fugitive emissions. | | |
| 01-07-88 | 16 | All coal storage piles shall be truncated and compacted so as to minimize fugitive coal dust emissions. | The coal storage piles were truncated and no visible emissions were detected during the inspection. | In |
| 08-08-95 | 3 | The annual throughput of cement shall not exceed 500,000 tons, calculated as the sum of each consecutive 12 month period. | Based on records provided by the facility, the throughtput of cement from September of 2002 through August 2003 was 245,639 tons. | In |
| 08-08-95 | 6 | Fugitive particulate emissions from each truck loadout system shall be controlled by automatically maintaining negative pressure in the retractable chute for not less than 15 seconds after truck loading is complete. | The truck load out system was in operation during the inspection. The negative pressure in the retractable chute was operating as designed. No fugitive emissions were detected. | In |
| 08-08-95 | 7 | Fugitive particulate emissions from truck traffic shall be controlled by industrial vacuum cleaners or by wet suppression. | No fugitive dust emissions were detected from the roadways at the facility. | In |
| 08-08-95 | 9 | Visible emissions from any baghouse exhaust or vent filter shall not exceed f[illegible] percent opacity as | No visible emissions were detected during the insp[illegible]ion. | In |

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| | | determined by EPA Method 9. | | |
| 08-08-95 | 11 | The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Tidewater Regional Office. These records shall include, but are not limited to, the yearly throughput of cement, calculated as the sum of each consecutive twelve month period. These records shall be available for inspection by DEQ and shall be current for the most recent five years. | The facility staff provided records for the throughput of cement and the preventative maintenance conducted at the facility. Training records for control equipment associated with the cement operations were made available for DEQ review. | In |

***OCR***

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

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Inspector's Electronic Signature Manager's Electronic Signature
Approval Date: Oct 6, 2003 Approval Date
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