COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

5636 Southern Boulevard
Virginia Beach, VA 23462
www.deq.state.va.us

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Robert G. Burnley
Director

Francis L. Daniel
Tidewater Regional Director
(757) 518-2000

September 13, 2004

Mr. Daniel R. Wagoner
Superintendent Engineering/Maintenance
Dominion Terminal Associates
PO Box 967-A
Newport News, Virginia 23607

Location: Newport News
Registration No.: 60997
AFS Id. No.: 51-700-00074

Dear Mr. Wagoner:

Attached is a significant amendment to your new source review permit dated December 23, 2002 to operate a coal/petroleum coke/synfuel production, and export facility in accordance with the provisions of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. This amended permit supersedes your permit dated December 23, 2002.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and civil penalty. Please read all permit conditions carefully.

The Department of Environmental Quality (DEQ) deemed the application complete on July 13, 2004 and has determined that the application meets the requirements of 9 VAC 5-80-1290 A for a significant amendment to a new source review permit.

This permit amendment approval shall not relieve Dominion Terminal Associates of the responsibility to comply with all other local, state, and federal permit regulations.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code 5-170-200 provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this case decision notice was mailed or delivered to you. 9 VAC 5-170-180 provides that you may request direct consideration of the decision by the Board if the Director of the DEQ made the decision. Please consult the relevant regulations for additional requirements for such requests.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision (the date you actually received this decision or the date on which it was mailed to you, whichever occurred first), within which to initiate an appeal of this decision by filing a Notice of Appeal with:

Robert G. Burnley, Director
Department of Environmental Quality
PO Box 10009
Richmond, VA 23240-0009

In the event that this decision is served on you by mail, three days are added to the period in which to file an appeal. Please refer to Rule 2A of the Rules of the Supreme Court of Virginia for information on the required content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

If you have any questions concerning this permit, please call David A. Mashaw at (757) 518-2168.

Sincerely,

Harold J. Winer
Deputy Regional Director

HJW/DAM/dom term assoc amd 2004.doc

encl: Permit

cc: Director, OAPP (electronic file submission)

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STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE

This permit includes designated equipment subject to New Source Performance Standards (NSPS).

This permit supersedes the permit dated December 23, 2002

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Dominion Terminal Associates
PO Box 967-A
Newport News, Virginia 23607
Registration No.: 60997
AFS Id. No.: 51-700-00074

is authorized to construct and operate

a coal synfuel production, storage and export facility and a coal, petroleum coke and limestone storage and import facility

located at

Pier 11, Harbor Road
Newport News, Virginia

in accordance with the Conditions of this permit.

Approved on **September 13, 2004**.

(for)
Director, Department of Environmental Quality

Permit consists of 26 pages.
Permit Conditions 1 to 47, plus Appendix A.
Source Testing Report Format.

PERMIT CONDITIONS - the regulatory reference or authority for each condition is listed in parentheses ( ) after each condition.

APPLICATION

1. Except as specified in this permit, the permitted facility is to be constructed and operated as represented in the permit application dated August 17, 1981, October 15, 2002 and May 8, 2004, including amendment information dated August 25, 1981, October 19, 1989, April 22, 1992, December 11, 2002 and July 13, 2004. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.
(9 VAC 5-50-390 and 9 VAC 5-80-1210 D)

PROCESS REQUIREMENTS

2. **Equipment List -**

Unit No.	Description	Maximum capacity/rating	Applicable NSPS	Air pollution Control(s)
New Ship unloading equipment to be constructed:				
UL-1	Marine vessel grab unloader	2000 tons/hr		Enclosed Grab
UL-2	Marine vessel grab unloader	2000 tons/hr		Enclosed Grab
BH-1	Ship unload hopper	3400 tons/hr		Fabric Filter
BH-2	Ship unload hopper	3400 tons/hr		Fabric Filter
BC-45	Ship unload conveyor	6800 tons/hr		Fully enclosed
BC-46	Ship unload conveyor	6800 tons/hr		Fully dnclosed
BC-47	Ship unload conveyor	6800 tons/hr		Fully enclosed
BC-48	Ship unload conveyor	3400 tons/hr		Enclosed
BC-49	Ship unload conveyor	3400 tons/hr		Enclosed
Previously permitted equipment - Synfuel Plants #1 and #2:				
CR-1	Synfuel crusher	1000 tons/hr	Subpart Y	Enclosed
CR-2	Synfuel crusher	1000 tons/hr	Subpart Y	Enclosed
SS-1	Screen	700 tons/hr	Subpart Y	Enclosed double deck
SS-2	Screen	700 tons/hr	Subpart Y	Enclosed single deck
SS-3	Screen	700 tons/hr	Subpart Y	Enclosed double deck
SS-4	Screen	700 tons/hr	Subpart Y	Enclosed single deck
OS-1	Storage pile	350,000 tons		Water spray
OS-2	Storage pile	350,000 tons		Water spray
OS-3	Storage pile	350,000 tons		Water spray
OS-4	Storage pile	350,000 tons		Water spray

OS-5	Storage pile	40,000 tons		Water spray
OS-6	Storage pile	50 tons		Water spray
OS-7	Storage pile	20,000 tons		Water spray
BS-4	Synplant #1 feed bin	50 tons		Enclosed, water/ surfactant spray
BS-5	Synplant #1 pugmill bin	5 tons	Subpart Y	Enclosed bldg
BS-6	Synplant #1 pugmill feed bin	5 tons	Subpart Y	Enclosed bldg
BS-7	Synplant #2 feed bin	50 tons		Enclosed, water/surf spray
BS-8	Synplant #2 pugmill bin	5 tons	Subpart Y	Enclosed bldg
BS-9	Synplant #2 pugmill feed bin	5 tons	Subpart Y	Enclosed bldg
SB-1 - 3 and SB-4 - 6	Briquette makers (3 each for each synfuel plant)	233 tons/hr each		Wet suppression
BC-15 - 18, 28 - 32, and 42 - 44	Various Synplant conveyors	Largest belts: 6800 tons/hr	Subpart Y:	All fully enclosed
Previously permitted equipment - Non-Synfuel Plant:				
RD-1	Tandem rotary rail car dumper	5800 tons/hr		Enclosed bldg with water spray
BS-1	Surge Silo	1000 tons		Fabric Filter
BS-2	Surge Silo	3800 tons		Fabric Filter
BS-3	Surge Silo	4100 tons		Fabric Filter
BC-14, 19 - 27, and 33 - 41	Various Coal handling and storage conveyors	Largest belt 6800 tons/hr		All fully enclosed, except 4, 7 and 13 (yard belts)
S/R-1 & 2	2 - Rotary Stacker/Reclaimers	5900 tons/hr stacking, 6500 tons/hr reclaim		Wet suppression
S/R-3	Rotary reclaimer	6800 tons/hr reclaim only		Wet suppression
OS-1 - 7	Coal, coke and limestone storage piles	Up to 350,000 tons		Wet suppression system (computerized)
SL-1	Ship/barge loader	6800 tons/hr		Wet suppression, telescoping loading chutes

3. **Emission Controls** - Particulate emissions from each marine vessel grab unloader (UL-1 and UL-2) shall be controlled by using enclosed grab buckets. The grab buckets shall be completely closed during transfer of material from marine vessels to receiving hoppers.
(9 VAC 5-50-260)

4. **Emission Controls** - Particulate emissions from each marine vessel unloading hopper (BH-1 and BH-2) shall be controlled by a fabric filter. The fabric filters shall be provided with adequate access for inspection.
(9 VAC 5-50-260)

5. **Emission Controls** - Particulate emissions from the enclosed rotary rail car dumper (RD-1) shall be controlled by wet suppression, which, if necessary, shall include the use of a surfactant. The surfactant to water ratio shall be in accordance with the manufacturer's recommendations. The minimum amount of water applied shall be 130 gallons per tandem dump. Compliance shall be achieved if there are no visible emissions.
(9 VAC 5-50-260)

6. **Emission Controls** - Particulate emissions from the transfer points and stacker/reclaimers (S/R-1, 2 and 3) shall be controlled by wet suppression as necessary and by wet suppression with surfactant as necessary. Continuous wetting is not mandatory.
(9 VAC 5-50-260)

7. **Emission Controls** - Particulate emissions from the conveyor system shall be controlled by conveyor hoods and wind guards. Ground level reclaim conveyor belts shall be controlled by wet suppression as necessary.
(9 VAC 5-50-260)

8. **Emission Controls** - Particulate emissions from the conveyor belt system associated with the synfuel operations shall be controlled by enclosed conveyors and transfer points (also may include the use of building enclosures, where possible) and by wet suppression as necessary.
(9 VAC 5-50-260)

9. **Emission Controls** - Particulate emissions from the storage bins and pugmills associated with the synfuel operations shall be controlled by wet suppression as necessary.
(9 VAC 5-50-260)

10. **Emission Controls** - Particulate emissions from the crushers, screens, spreaders, and briquette makers associated with the synfuel operations shall be controlled by enclosing such operations within buildings and by wet suppression as necessary.
(9 VAC 5-50-260)

11. **Fugitive Dust Emission Controls** - Fugitive dust emissions from the storage piles shall be controlled by a wet suppression system capable of wetting the entire storage area. Wet suppression cycles shall be implemented in accordance with Appendix A. Each cycle shall consist of no less than 35,500 gallons of water and attain 100 percent coverage of the storage area. The wet suppression system shall be provided with adequate access for inspection.
(9 VAC 5-50-260 and 9 VAC 5-50-90)

12. **Fugitive Dust Emission Controls** - All storage piles shall be truncated, stacker/reclaimers used to build flat top piles, and the top compacted to minimize fugitive emissions.
(9 VAC 5-50-260 and 9 VAC 5-50-90)

13. **Emission Controls** - The permittee shall apply wet suppression as necessary to all incoming loaded railcars located within facility boundaries if they are not to be dumped within 24 hours.
(9 VAC 5-50-260)

14. **Emission Controls** - When the permittee is using a piece of auxiliary handling equipment (e.g., front end loader, bulldozer), the area to be worked shall be monitored and wet suppression shall be applied as necessary to control emissions.
(9 VAC 5-50-260)

15. **Emission Controls** - When the permittee is using a particular piece of 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 such equipment would cause a safety hazard or damage to the equipment from freezing.
(9 VAC 5-50-260)

16. **Emission Controls** - Particulate emissions from each surge silo shall be controlled by a fabric filter. The fabric filters shall be provided with adequate access for inspection.
(9 VAC 5-50-260)

17. **Monitoring Devices** - The fabric filters for the surge silos and marine vessel unloading hoppers shall be equipped with devices to continuously measure the differential pressure drop across each fabric filter. Each monitoring device shall be installed in a readily accessible location and shall be maintained by the permittee such that they are in proper working order at all times. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the fabric filter is operating.
(9 VAC 5-80-1180, 9 VAC 5-50-20 C and 9 VAC 5-50-260)

18. **Wet Suppression System** - The wet suppression system for the storage piles shall be implemented as specified in Appendix A or by any other procedure as may be approved by the DEQ prior to use. Such approval shall be contingent on adequate documentation that any alternative procedure shall achieve at least as high an efficiency as Appendix A. This applies to all other dust control measures required by this permit. Requests for changes in procedures shall be accompanied by an explanation of the proposed changes and the anticipated effect they shall have. These requests, if approved by the DEQ, shall be subject to a test and evaluation procedure prior to being accepted as permanent changes to the control procedures.
(9 VAC 5-50-260)

OPERATING/EMISSION LIMITATIONS

19. **Fuel** - The approved fuels for the crane engines are distillate oil and natural gas. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-1180)

20. **Fuel Throughput** - The crane engines shall consume no more than 325,000 gallons of distillate oil, or 55 x 10^6 cubic feet of natural gas per year, calculated monthly as the sum of each consecutive 12-month period.
(9 VAC 5-80-1180 and 9 VAC 5-50-260)

21. **Fuel** - The distillate oil and natural gas shall meet the specifications below:
DISTILLATE OIL which meets the ASTM specification for numbers 1 or 2 fuel oil:
NATURAL GAS: which meets ASTM specification D1835
(9 VAC 5-80-1180)

22. **Fuel Certification** - The permittee shall obtain a certification from the fuel supplier with each shipment of distillate oil. Each fuel supplier certification shall include the following:
    a. The name of the fuel supplier;

b. The date on which the distillate oil was received;

c. The volume of distillate oil delivered in the shipment;

d. A statement that the distillate oil complies with the American Society for Testing and Materials specifications for numbers 1 or 2 fuel oil,

e. The sulfur content of the distillate oil.

(9 VAC 5-170-160)

23. **Emission Limits - Crane Engines** - Emissions from the operation of the combined crane engines shall not exceed the limits specified below:

Particulate Matter/PM_{10}	7.0 tons/yr
Sulfur Dioxide	6.5 tons/yr
Nitrogen Oxides	98.9 tons/yr
Carbon Monoxide	98.5 tons/yr
Volatile Organic Compounds	8.1 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition number(s) 19, 20, 21 and 22.

(9 VAC 5-50-260)

24. **Storage** – On a daily average, the maximum quantity of coal, petroleum coke, synfuel and limestone (combined) in storage shall not exceed 975,000 tons.

(9 VAC 5-80-1180)

25. **Throughput** - The coal/petroleum coke/synfuel/limestone throughput (combined) for the ship/barge loading apparatus shall not exceed 24,000,000 tons per year, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-1180)

26. **Throughput** - The synfuel operations (plant #1 & #2) throughput (combined) shall not exceed 5,000,000 tons per year, calculated monthly as the sum of each consecutive 12-month period.
(9 VAC 5-80-1180)

27. **Emission Limits** - Particulate emissions from the operations of the coal/ petroleum coke/synfuel/limestone storage, production, import and export facility shall not exceed the limits specified below:

Particulate Matter	65.7 tons/yr
PM-10	11.8 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition numbers 3-18.
(9 VAC 5-50-260)

28. **Plantwide Emission Limits** - Total emissions from the coal/petroleum coke/synfuel/limestone storage, production, import and export facility shall not exceed the limits specified below:

Particulate Matter	72.7 tons/yr
PM-10	18.3 tons/yr
Sulfur Dioxide	6.5 tons/yr
Nitrogen Oxides	98.9 tons/yr
Carbon Monoxide	98.5 tons/yr
Volatile Organic Compounds	8.1 tons/yr

(9 VAC 5-50-260)

29. **Visible Emission Limit** - Visible emissions from the enclosed rotary rail car dumper (RD-1) shall not exceed 0 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-50-260)

30. **Visible Emission Limit** - Visible emissions from all fabric filters shall not exceed 0 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-50-260)

31. **Visible Emission Limit** - Visible emissions from the conveyor belt transfer points shall not exceed 5 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-50-260)

32. **Visible Emission Limit** - Visible emissions from each building containing the coal crusher/screen operations, briquette makers, or synfuel screen operations shall not exceed 5 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-50-260)

33. **Visible Emission Limit** - Visible emissions from each storage bin and pugmill, associated with the synfuel productions, shall not exceed 5 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-50-260)

34. **Monitoring PM_{10}** - Dominion Terminal Associates shall install and operate a PM10 monitor at the Newport News Housing Authority Maintenance Building (180-J) to ascertain the ambient air quality in the area surrounding the coal/petroleum coke/synfuel terminal. Operation shall be in accordance with Appendix J of 40 CFR Part 50.
(9 VAC 5-160-170)

35. **Control of Emissions** - The following actions are considered detrimental to the control of coal/petroleum coke/synfuel/limestone emissions:

a. Failure to stop any coal/petroleum coke/synfuel/limestone movement operation when it becomes known that installed air pollution control systems are inoperative and would cause excess emissions.

b. Failure to stop a coal/petroleum coke/synfuel/limestone movement operation when it becomes known that the coal/petroleum coke/synfuel/limestone handling equipment needed for that operation is malfunctioning or operating significantly below designated specifications.

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 (e.g., the use of water suppressant or limiting the speed of movement to below 10 miles per hour).

d. Failure of operational personnel to give precedence to designated personnel with the responsibility for controlling dust emissions.

(9 VAC 5-50-260)

RECORDS

36. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Tidewater Regional Office. These records shall include, but are not limited to:

a. Annual throughput of coal/petroleum coke/synfuel/limestone (combined) for the ship/barge loading apparatus calculated monthly as the sum of each consecutive 12-month period.

b. Annual throughput of synfuel production calculated monthly as the sum of each consecutive 12-month period.

c. Maximum daily quantity of coal/petroleum coke/synfuel/limestone (combined) in storage.

d. Annual throughput of distillate oil and natural gas used in the crane engines calculated monthly as the sum of each consecutive 12-month period.

e. All fuel supplier certifications.

f. Records of dust control measures as required by Appendix A.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-50-50)

INITIAL COMPLIANCE DETERMINATION

37. **Visible Emissions Evaluation** – Initial performance tests of Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall be conducted by the permittee on the following items: marine vessel unloading operations and each crusher/screen building. Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six minute average. The details of the tests are to be arranged with the TRO Air Compliance Manager. The evaluation shall be performed to demonstrate compliance within 60 days after achieving the maximum production rate but in no event later than 180 days after start-up of the permitted facility. One copy of the test result shall be submitted to the TRO Air Compliance Manager within 45 days after test completion and shall conform to the test report format enclosed with this permit.

(9 VAC 5-50-30, 9 VAC 5-80-1200, and 9 VAC 5-50-410)

NOTIFICATIONS

38. **Initial Notifications** - The permittee shall furnish written notification to the TRO Compliance Manager:

    a. The actual date on which construction of the marine unloading facilities and synfuel plants commenced, within 30 days after such date.

    b. The anticipated start-up date of the marine unloading facilities and synfuel plants, postmarked not more than 60 days nor less than 30 days prior to such date.

    c. The actual start-up dates of the marine unloading facilities and synfuel plants, respectively, within 15 days after such dates.

    d. The anticipated dates of the VEE performance tests for the marine unloading facilities and the crusher/screen buildings, postmarked at least 30 days prior to such date. Copies of the written notifications referenced in items a through d above are to be sent to:

        Office of Air Enforcement (3AP10)
        U.S. Environmental Protection Agency, Region III
        Attention: NSPS Subpart Y Coordinator
        1650 Arch Street
        Philadelphia, PA 19103-2029

(9 VAC 5-50-50)

GENERAL CONDITIONS

39. **Permit Invalidation** - The portions of this permit regarding construction of the marine unloading facilities and the synfuel plants shall become invalid, unless an extension is granted by the DEQ, if:

    a. A program of continuous construction is not commenced before the latest of the following:

        i. 18 months from the date of this permit;

        ii. Nine months from the date that the last permit or other authorization was issued from any other governmental agency;

iii. Nine months from the date of the last resolution of any litigation concerning any such permits or authorization; or

b. A program of construction is discontinued for a period of 18 months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of a phased construction project.

(9 VAC 5-80-1210)

40. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.

(9 VAC 5-170-130)

41. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Director, Tidewater Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or other electronic communication. Such notification shall be made as soon as practicable but not later than four daytime business hours of the malfunction. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within 14 days of the occurrence. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Director, Tidewater Regional Office in writing.
(9 VAC 5-20-180 C)

42. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-20-180 I)
43. **Maintenance/Operating Procedures** - During each shift, one designated person shall be responsible for compliance with the procedures of Appendix A. Actions required in support of these procedures shall take precedence over routine coal, petroleum coke and limestone handing procedures. The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment , monitoring devices, and process equipment which affect such emissions:
    a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
    b. Maintain an inventory of spare parts.
    c. Have available written operating procedures for equipment.

d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of 5 years and shall be made available to DEQ personnel upon request.

(9 VAC 5-50-20 E)

44. **Permit Suspension/Revocation** - This permit may be suspended or revoked if the permittee:

a. Knowingly makes material misstatements in the application for this permit or any amendments to it;

b. Fails to comply with the conditions of this permit;

c. Fails to comply with any emission standards applicable to the equipment listed in Condition 2;

d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;

e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect on the date that the application for this permit is submitted;

f. Fails to construct or operate this facility in accordance with the application for this permit or any amendments to it; or

g. Allows the permit to become invalid.

(9 VAC 5-80-1210)

45. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Tidewater Regional Office of the change of ownership within 30 days of the transfer.

(9 VAC 5-80-1240)

46. **Registration/Update** - Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact. The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.1-340 through 2.1-348 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.
(9 VAC 5-170-60 and 9 VAC 5-20-160)

47. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-170-160)

APPENDIX A

This appendix is to be considered a part of the Department of Environmental Quality permit to operate the Dominion Terminal Associates (Dominion) coal/petroleum coke/synfuel terminal. All procedures outlined in this appendix are enforceable as a condition of operating.

Dominion shall record the following parameters on an hourly basis:

Average hourly temperature (T) in degrees Fahrenheit

Average hourly relative humidity (RH)

Average hourly wind speed in miles per hour (WS)

Average hourly wind direction (DIR)

Hourly rain in inches

Hourly occurrence of fog (visibility of 4 miles or less)

Density of air ρ (lb/ft^3) from the equation $\rho = -0.0001478(T) + 0.0853$

Viscosity of air (1.68μ lb/ft-hr) from the following equations

$-24.88 < T \leq 32$	$1.68\mu = 0.0001207(T) + 0.0655479$
$32.00 < T \leq 64.40$	$1.68\mu = 0.0001493(T) + 0.0646353$
$64.40 < T \leq 104$	$1.68\mu = 0.0001344(T) + 0.0655899$

K as determined by the equation: $K = WS(T/RH)(\rho/\mu\ 1.68)$

Dominion shall use the data listed above for a computerized spreadsheet in a format as described below, maintaining the records to be submitted to the Board upon request.

The program outlined in Appendix A when properly programmed will provide for an hourly visual display (graph) which depicts the following:

a. CE_{unc} for the KT predicted: will change by the new hourly prediction of KT. At the end of the day will represent the potential uncontrolled coal and petroleum coke emissions experienced in the past 24 hours.

b. Slope of the uncontrolled intended movement with time for the PASS-1 system without controls: will change by the new hourly prediction of KT.

c. PASS-1 line, with hourly markings in proportion depicting the controlled to the hourly K, emission level attained when controls are applied. This line's slope and value will vary as suppression cycles are applied. The extension of this line depicts the near low end of the day value in $\mu g/m^3$, if no further cycles are applied and is the primary control medium. It generates from the uncontrolled slope line (b.).

d. PASS-0 line, depicting the controlled emissions level attained when controls are applied. This line's slope as in (c) will vary as suppression cycles are applied. The extension of this line depicts the near high end of the day value in $\mu g/m^3$, if no further cycles are applied. When, due to cycles, the PASS-0 line and the PASS-1 line are one and the same, their extension will be the end of the day value attained for coal and petroleum coke emissions in $\mu g/m^3$. It generates from the uncontrolled CE_{unc} line (a.).

e. PASS-0 (180) line, with hourly markings in proportions to the hourly K, depicting the controlled emission level when the wind direction is between 180° and 270°T. This line is activated by wind direction inputs and holds the last highest value during periods when the wind is out of quadrant. Its extension represents the near end of day value in $\mu g/m^3$ at station 180-J if no further cycles are applied. This line also generates from the uncontrolled CE_{unc} line (a.).

COLUMN 1

TM Records the hourly values for a 24 hour day, beginning with a 1 at 0100 hours and ending with a 24 at 2400 hours.

COLUMN 2

K Computes and records the hourly value of K as follows:

$$K = ((WS * TEMP) / RH) * (\rho/1.68\mu)$$

COLUMN 3

KD Computes and records the K factor adjusted for rain and freeze effects. KD is used to define the need for a cycle (C_i) administered by the computer controlled water suppression system. KD is computed as follows:

$$KD = K * F_{fr}$$

COLUMN 4

C_i Records the total number of cycles credited on the hour. A 20-minute suppression cycle (35,500 gallons of water) sprayed from the computer controlled water suppression system counts as one cycle as well as a rain event greater than or equal to 0.0225 inches. Rain greater than or equal to 0.01 inches but less than 0.0225 inches is counted as one C_i if the adjusted rain amount for the hour is less than the actual rain amount.

COLUMN 5

SYM Records the type of suppression cycle credited for the hour. Where:

A: represents an ASSURANCE CYCLE (one 20-minute spray cycle per hour from the computer controlled water suppression system).

F: represents a continuous cycle (three 20-minute spray cycles per hour) administered to recover from a freeze event.

R: represents a rain event credited as a cycle.

1: represents a DEMAND I cycle, where KD is greater than or equal to 10, but less than 15.

2: represents a DEMAND II cycle, where KD is greater than or equal to 15, but less than 30.

3: represents a DEMAND III cycle, where KD is greater than or equal to 30, but less than 45.

4: represents a DEMAND IV cycle, where KD is greater than or equal to 45.

COLUMN 6

$\sum C_i$ Records the total number of cycles credited since 0100 or the sum of COLUMN 4.

COLUMN 7

IR Records the amount of rain in inches for the hour as measured by the rain gauge.

Note: CIR, the total amount of rain credited for the hour is computed as follows:

CIR = IR if it is raining, but adds 0.0225 to IR if a DEMAND IV RBC is administered.

IRadj, the adjusted rain amount for the hour is also computed to include the effects of non-consecutive rains, where:

$IRadj = CIR_{n-1} / (HRS_{n-1} + 1)$ when IR > 0 and HRS > 0

$IRadj = SUMIR_{n-1} / (HRS_{n-1} + 1)$ when IR > 0, SUMIR ≥ 0.0225; and HRS = 0

IRadj = 0 when IR = 0, and SUMIR < 0.0225

COLUMN 8

HRS Records the number of hours following a rainfall. HRS increases by one each hour after the rain ends, and continues to do so until another rain begins or until the effects of the rain are over ($F_r \geq 0.9$ or HRS = 48)

Note: If a DEMAND IV cycle is administered in order to recover from a freeze, HRS is initially set to 0.5 instead of 1.

HRS = 0	when $C_i = 3$ and $FIR_{n-1} = 0$ **or** $F_{frn-1} < 1$
HRS = 0	when IR > 0 and SUMIR > 0.0225
HRS = 0.5	when $C_i = 3$; $FIR_{n-1} > 0$;and $F_{frn-1} \geq 1$
$HRS = HRS_{n-1} + 1$	when IR > 0 and SUMIR ≤ 0.0225
or	when IR = 0; SUMIR > 0.0225

Note: If TM = 24 and HRS < 48 and $F_r < 0.9$ then HRS and SUMIR are carried forward to the next day. If HRS = 48 or $F_r \geq 0.9$ the post rain effect has reached its limits. On the next hour, F_r = 1, HRS = 0, and SUMIR = 0.

COLUMN 9

SUMIR Computes and records the effective sum of the hourly rainfall as follows:

SUMIR = 0	when CIR = 0 and $SUMIR_{n-1} < 0.0225$
$SUMIR = SUMIR_{n-1}$	when CIR = 0 and $SUMIR_{n-1} \geq 0.0225$
SUMIR = CIR	when CIR > 0;$(IR + IR_{n-1}) < 0.0225$;and $F_{frn-1} = 1$
SUMIR = CIR	when CIR > 0; $(IR + IR_{n-1}) < 0.0225$ $F_{frn-1} < 1$; $CIR_{n-1} > 0$; and $C_i = 3$
$SUMIR = IR + SUMIR_{n-1}$	when CIR > 0'; $(IR + IR_{n-1}) < 0.0225$; $F_{frn-1} < 1$; $CIR_{n-1} > 0$; and $C_i < 3$
$SUMIR = IRadj_{n-1} + CIR$	when CIR > 0; $(IR + IR_{n-1}) < 0.0225$ $F_{frn-1} < 1$; $CIR_{n-1} = 0$;
$SUMIR = IRadj_{n-1} + CIR$	when CIR > 0; and $(IR + IR_{n-1}) \geq 0.0225$

Note: If $F_r = 1$ or HRS = 48 then SUMIR is set to zero the next hour.

COLUMN 10

F_r Computes and records the post rain recovery factor. F_r ranges from zero to one, with F_r set to zero during a rain. When $F_r \geq 0.9$, the effects of the rain are considered over, and F_r is set to one on the next hour. F_r is computed as follows:

$F_r = 0$	when CIR < 0.0225 and SUMIR ≥ 0.0225
$F_r = 1$	when CIR < 0.0225 and SUMIR < 0.0225
$F_r = 10^{(-215.66*24*SUMIR/(HRS*KT))}$	when CIR < 0.0225 and SUMIR < 0.0225

COLUMN 11

F_{fr} Computes and records the combined effects of rain and freeze, where $F_{fr} = F_r * F_f$.

F_f (the post freeze effect) is calculated as follows:

$F_f = ((SUMKF * FHRS)/(FIR * 106)) * 4.02917 + 0.305$	when FIR > 0 and SUMKF > 0
$F_f = 1$	when FIR = 0 or SUMKF = 0

SUMKF (the sum of the freeze shear) is calculated by summing the K values beginning when the temperature reaches 29°F until $F_r \leq 0.1$ or until continuous cycles are administered.

FIR (the potential freeze water) is calculated as follows:

$FIR = SUMKF/19200$		when $FIR_{n-1} = 0$;SUMIR = 0;FHRS = 8; and SUMKF > 0
$FIR = FIR_{n-1}$		when $FIR_{n-1} = 0$; SUMIR = 0; FHRS ≠ 8 and SUMKF > 0
	or	when $FIR_{n-1} > 10$; $F_r = 1$; and $SUMIR + SUMIR_{n-1} \leq FIR_{n-1}$
FIR = SUMIR		for all other conditions

FHRS (the potential freeze hours) is calculated as follows:

FHRS = 0	when SUMIR = 0 and SUMKF = 0
FHRS = HRS	when SUMIR > 0 and SUMKF = 0
FHRS = HRS	when SUMKF > 0; TEMP > 34°F; and $F_r < 0.1$
FHRS = FHRS + 1	when SUMKF > 0; and TEMP ≤ 34°F **or** $F_r \geq 0.1$

COLUMN 12

KT Computes and records the predicted sum of K at the end of the day as follows:

$KT_n = K_1 + K_2 + K_3 + \ldots K_n + K_n(24\text{-}TM)$

EXAMPLE:

TM	K
1	10
2	10
3	20

$KT_3 = 10 + 10 + 20 + 20(24\text{-}3) = 460$

COLUMN 13

H_{vi} Computes and records the estimated amount of dust entering the HVS during the hour as follows:

$H_{vi} = Ksum * Sl * F_{fr}$

where:

Ksum is the sum of the K values within the current cycle set.

Sl is the slope of the sumH_{vi} line for the current cycle set, and is computed as follows:

At TM = 1

$Sl = sb$ when $C_i = 0$

where sb(base slope) = CE_{unt}/KT

$Sl = sb * (1\text{-}eff)$ when $C_i > 0$

For all other times (n):

$Sl = Sl_{ci\text{-}1} * (1\text{-}eff)_n$

where $Sl_{ci\text{-}1}$ is the last value of Sl in the previous C_i sequence $Sl_{ci\text{-}1}$ = sb prior to any cycles.

(1-eff) term calculates the efficiency of the last cycle administered and is calculated as follows:

Equation A:

$(1\text{-}eff)_a = (1\text{-}(36.657299 * 10^{(-0.00189215 * Ksum)}/100))C_{seq}$

Equation B:

$(1\text{-}eff)_b = (1\text{-}((-0.0146913 * Ksum + 14.65059)/100))C_{seq}$

Equation A can be used to calculate the efficiencies when KT < 288 otherwise use Equation B until $slope_{n\text{-}1} * (1\text{-}eff)_b \leq$ sp(shift point)

where sp = 0.6256838 - 0.0008297 * KT

then switch to Equation A.

Note: At the beginning of the day, (1-eff) = 1 until a cycle occurs. If a cycle is credited at time 1 (cycle performed at TM 0000) then the equation for (1-eff) changes as follows: KT replaces Ksum, and the calculation is multiplied by C_{seq} instead of raised to its power. The slope then remains constant until another cycle/cycles are administered.

C_{seq} is the cycle sequence for the current cycle set.

where: $C_{seq} = 0$	when $C_i = 0$
$C_{seq} = C_{seqn-1}$	when $C_{in} = C_{in-1}$
$C_{seq} = 0.5$	when $C_{in} > C_{in-1}$; $F_{fr} > 1$; and $C_i = 1$
$C_{seq} = 1$	when $C_i = 1$ or 3
$C_{seq} = 2$	when $C_i = 2$

EXAMPLE: KT(at TM = 4) = 368.60 i.e. ≥ 288

sb = 0.40804

sp = 0.31986

TM	K	RBC	Ksum	(1-eff)	C_{seq}	Sl	F_{fr}	H_{vi}
1	20.10	0	20.10	1.0	0	0.408	1.0	8.2024
2	17.00	0	37.10	1.0	0	0.408	1.0	15.1398
3	16.50	1	16.50	0.85592	1	0.349	1.0	15.7631
4	15.00	1	31.50	0.85592	1	0.350	1.0	11.0307

COLUMN 14

$\sum H_{vi}$ Computes and records the sum of the coal and petroleum coke dust in the HVS (Hi Vol Sampler) to the hour as follows:

$$\sum H_{vi} = H_{vi} + \sum H_{vicin-1}$$

where $\sum H_{vicin-1}$ is the last value of $\sum H_{vi}$ in the previous cycle sequence.

EXAMPLE: Using the values from the previous example:

TM	$\sum H_{vicin-1}$	$\sum H_{vi}$
1	0.0	8.2024
2	0.0	15.1398
3	15.1398	20.9029
4	15.1398	26.1705

COLUMN 15

HVT Computes and records the projected amount of dust on the HVS filter at the end of the day if no further cycles were administered.

$$HVT = \sum H_{vi} + KL * Sl * (1\text{-}eff)$$

where $KL = KT - sum(K_1 + K_2 + \ldots K_n)$

(1-eff) is the same as COLUMN 14 except that KL is used in the expression instead of Ksum.

COLUMN 16

TEMP Records the temperature in degrees Fahrenheit.

COLUMN 17

RH Records the relative humidity (percent)

COLUMN 18

WD Records the wind direction (degrees)

COLUMN 19

WS Records the wind speed (mi/hr)

COLUMN 20

$\#C_c$ Records the number of suppression cycles credited for hour. The suppression cycles are only credited when the wind is blowing within the 180 to 270 degree quadrant.

COLUMN 21

$\sum$HVIc Computes and records the sum of the dust in the HiVol accumulated when the wind is blowing within the 180 to 270 degree quadrant.

SOURCE TESTING REPORT FORMAT

Cover
1. Plant name and location
2. Units tested at source (indicate Ref. No. used by source in permit or registration)
3. Tester; name, address and report date

Certification
1. Signed by team leader / certified observer (include certification date)
* 2. Signed by reviewer

Introduction
1. Test purpose
2. Test location, type of process
3. Test dates
* 4. Pollutants tested
5. Test methods used
6. Observers' names (industry and agency)
7. Any other important background information

Summary of Results
1. Pollutant emission results / visible emissions summary
2. Input during test vs. rated capacity
3. Allowable emissions
* 4. Description of collected samples, to include audits when applicable
5. Discussion of errors, both real and apparent

Source Operation
1. Description of process and control devices
2. Process and control equipment flow diagram
3. Process and control equipment data

* Sampling and Analysis Procedures
1. Sampling port location and dimensioned cross section
2. Sampling point description
3. Sampling train description
4. Brief description of sampling procedures with discussion of deviations from standard methods
5. Brief description of analytical procedures with discussion of deviation from standard methods

Appendix
* 1. Process data and emission results example calculations
2. Raw field data
* 3. Laboratory reports
4. Raw production data
* 5. Calibration procedures and results
6. Project participants and titles
7. Related correspondence
8. Standard procedures

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* Not applicable to visible emission evaluations.

OCR

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

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COMMONWEALTH of VIRGINIA

DEPAR T1ENT OF EArVIR ON1ENTA L Q UALITY
5636 Southem Boulevard
W. Tayloe Murphy, Jr. Virginia Beach, VA 23462 Robert G. Bumley
Secretary of Natural Resources www.deq.state.va.us Director
Francis L. Daniel
Tidewatei- Regional Director
(757) 518-2000

September 13, 2004

Mr. Daniel R. Wagoner
Superintendent Engineering/Maintenance
Dominion Terminal Associates
PO Box 967-A
Newport News, Virginia 23607
Location: Newport News
Registration No.: 60997
AFS Id. No.: 51-700-00074
Dear Mr. Wagoner:

Attached is a significant amendment to your new source review perinit dated De cember 23, 2002 to operate a coal/petroleum coke/synfuel production, and export facil ity in accordance with the provisions of the Commonwealth of Virginia Regulations for the Contro l and Abatement of Air Pollution. This amended permit supersedes your pennit dated December 23, 2002.

This pennit contains legally enforceable conditions. Failure to comply may re sult in a Notice of Violation and civil penalty. Please read all pen-nit conditions car efull .

The Department of Environmental Quality (DEQ) deemed the application complete on July 13, 2004 and has detennined that the application meets the requirements o f 9 VAC 5-80-1290 A for a significant amendment to a new source review permit.

This perrnit amendment approval shall not relieve Dominion Terminal Associates of the responsibility to comply with all other local, state, and federal permit regul ations.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code 5-170-200 provide that you may request a fon-nal hearing from this case decision by filing a petition with the Board within 30 days after this case decision notice was mai led or delivered to you. 9 VAC 5-170-180 provides that you may request direct consideration of the decision by the Board if the Director of the DEQ made the decision. Please consult the releva nt regulations for additional requirements for such requests.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days fr
om the
date of service of this decision (the date you actually received this decision
 or the date on which
it was mailed to you, whichever occurred first), within which to im'tiate an a
ppeal of this decision
by filing a Notice of Appeal with:

Robert G. Bumley, Director
Department of Enviromnental Quality
PO Box 10009
Richmond, VA 23240-0009

In the event that this decision is served on you by mail, three days are added
 to the period in
which to file an appeal. Please refer to Rule 2A of the Rules of the Supreme
Court of Virginia
for infonnation on the required content of the Notice of Appeal and for additi
onal requirements
goveming appeals from decisions of administrative agencies.

If you have any questions conceming this pennit, please call David A. Mashaw a
t (757)
518-2168.

Sincerely,

Harold J. Winer
Deputy Regional Director

HJW/DAM/dom terin assoc amd 2004.doc

encl: Permit

cc: Director, OAPP (electronic file submission)

COMMONWEALTH of VIRGINIA

DEPARTA@ENT OF EATVIRONMENTAL QUALITY
5636 Southem Boulevard
W. Tayloe Murphy, Jr. Virginia Beach, VA 23462 Robert G. Bumley
Secretary of Natural Resources www.deq.state.va.us Director
Francis L. Daniel
Tidewater Regional Director
(757) 518-2000

STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE
This permit includes designated equipment subject to
New Source Performance Standards (NSPS).

This pennit supersedes the pennit dated December 23, 2002

In compliance with the Federal Clean Air Act and the Conimonwealth of Virginia

Regulations for the Control and Abatement of Air Pollution,

Dominion Tenninal Associates
PO Box 967-A
Newport News, Virginia 23607
Registration No.: 60997
AFS Id. No.: 51-700-00074

is authorized to construct and operate

a coal synfuel production, storage and export facility and a
coal, petroleum coke and limestone storage and import facility
located at
Pier 1 1, Harbor Road
Newport News, Virginia

in accordance with the Conditions of this pennit.

Approved on.September 13, 2004.

(for)
Director, Department of Envirorumental Quality
Pen-nit consists of 26 pages.
Pen-nit Conditions I to 47, plus Appendix A.
Source Testing Report Format.

PERMIT CONDITIONS - the regulatory reference or authority for each condition i s listed in
parentheses ( ) after each condition.

APPLICATION

I . Except as specified in this pennit, the pennitted facility is to be constr ucted and operated as
represented in the per-mit application dated August 17, 198 1, October 15, 200 2 and May 8,
2004, including amendment information dated August 25, 198 1, October 19, 1989 , Apn'l 22,
1992, December 11, 2002 and July 13, 2004. Any changes in the permit applicat ion
specifications or any existing facilities which alter the impact of the facili ty on air quality
may require a permit. Failure to obtain such a permit prior to construction m ay result in
enforcement action.
(9 VAC 5-50-390 and 9 VAC 5-80-1210 D)

PROCESS REQUIREMENTS

2. Equipment List -

Unit No.	Description	Maximum capacity/rating	Applicable NSPS	Air pollution Control(s)
New Shi unloading equipment to be constructed:				
UL-1	Marine vessel grab unloader	2000 tons/hr		Enclosed Grab
LJL-2	Marine vessel grab unloader	2000 tons/hr		Enclosed Grab
BH-1	Ship unload hopper	3400 tons/hr		Fabric Filter
BH-2	Ship unload hopper	3400 tons/hr		Fabric Filter
BC-45	Ship unload conveyor	6800 tons/hr		Fully enclosed
BC-46	Ship unload conveyor	6800 tons/hr		Fully dnclosed
BC-47	Ship unload conveyor	6800 tons/hr		Fully enclosed
BC-48	Ship unload conveyor	3400 tons/hr		Enclosed
BC-49	Ship unload conveyor	3400 tons/hr		Enclosed
Previous permitted equipment - Synfuel Plants #1 and #2:				
CR-1	Synfuel crusher I 000	tons/hr	Subpart Y	Enclosed
CR-2	Synfuel crusher I 000	tons/hr	Subpart Y	Enclosed
ss- 1	Screen 700	tons/hr	Subpart Y	Enclosed double deck
SS-2	Screen 700	tons/hr	Subpart Y	Enclosed single deck
SS-3	Screen 700	tons/hr	Subpart Y	Enclosed double deck
SS-4	Screen 700	tons/hr	Subpart Y	Enclosed single deck
OS-1	Storage pile 350,000	tons		Water spray
OS-2	Storage pile 3501,000	tons		Water spray
OS-3	Storage pile 350,000	tons		Water spray
I OS-4 I	Storage pile 350,000	tons I		Water spray

OS-5 Storage pile 40,000 tons Water spray
OS-6 Storage pile 50 tons Water spray
OS-7 Storage pile 20,000 tons Water spray
BS-4 Synplant #1 feed bin 50 tons Enclosed, water/
surfactant spray
BS-5 Synplant #1 pugmill 5 tons Subpart Y Enclosed bldg
bin
BS-6 Synplant #1 pugmill 5 tons Subpart Y Enclosed bldg
feed bin
BS-7 Synplant #2 feed bin 50 tons Enclosed, water/surf
spray
BS-8 Synplant #2 pugmill 5 tons Subpart Y Enclosed bldg
bin
BS-9 Synplant #2 pugmill 5 tons Subpart Y Enclosed bldg
feed bin
SB-1 - 3 Briquette makers (3 233 tons/hr each Wet suppression
and each for each synfuel
SB-4 - 6 plant)
BC-15 - Various Synplant Largest belts: Subpart Y: All fully enclosed
18, 28 - conveyors 6800 tons/hr
32, and
42 - 44
Previous permitted equipment - Non-Synfuel Plant:
RD-1 Tandem rotary rail car 5800 tons/hr Enclosed bldg with
dumper water spray
BS-1 Surge Silo I 000 tons Fabric Filter
BS-2 Surge Silo 3800 tons Fabn'c Filter
BS-3 Surge Silo 41 00 tons Fabric Filter
BC- 14, Various Coal handling Largest belt 6800 All fully enclosed,
19 - 27, and storaRe conveyors tons/hr except 4, 7 and 13
and 33 - (yard belts)
41
S/R- I & 2 - Rotary 5900 tons/hr Wet suppression
2 Stacker/Reclaimers stacking, 6500
tons/hr reclaim
S/R-3 Rotary reclaimer 6800 tons/hr Wet suppression
reclaim only..
OS-1 - 7 Coal, coke and Up to 350,000 Wet suppression
limestone storage piles tons system
(computerized)
SL- I Ship/barge loader 6800 tons/hr Wet suppression,
telescoping loading
chutes

3. Emission Controls - Particulate emissions from each marine vessel gab unloader (UL- I and UL-2) shall be controlled by using enclosed gTab buckets. The gTab buckets shall be completely closed during transfer of maten'al from marine vessels to receiving hoppers.

(9 VAC 5-50-260)

4. Emission Controls - Particulate emissions ftom each marine vessel unloading hopper (BH- I and BH-2) shall be controlled by a fabric filter. The fabric filters shall be provided with adequate access for inspection.

(9 VAC 5-50-260)

5. Emission Controls - Particulate emissions from the enclosed rotary rail car dumper (RD-1) shall be controlled by wet suppression, which, if necessary, shall include the use of a surfactant. The surfactant to water ratio shall be in accordance with the manufacturees recommendati ons. The minimum amount of water applied shall be 130 gallons per tandem dump. Compliance shall be achieved if there are no visible emissions.

(9 VAC 5-50-260)

6. Emission Controls - Particulate emissions from the transfer points and stacker/reclaimers (S/R- 1, 2 and 3) shall be controlled by wet suppression as necessary and by wet suppression with surfactant as necessary. Continuous wetting is not mandatory.

(9 VAC 5-50-260)

7. Emission Controls - Particulate emissions from the conveyor system shall be controlled by conveyor hoods and wind guards. Ground level reclaim conveyor belts shall be controlled by wet suppression as necessary.

(9 VAC 5-50-260)

8. Emission Controls - Particulate emissions from the conveyor belt system associated with the

synfuel operations shall be controlled by enclosed conveyors and transfer points (also may

include the use of building enclosures, where possible) and by wet suppression as necessary.

(9 VAC 5-50-260)

9. Emission Controls - Particulate emissions from the storage bins and pugmills associated

with the synfuel operations shall be controlled by wet suppression as necessary.

(9 VAC 5-50-260)

1 0. Emission Controls - Particulate emissions from the crushers, screens, spreaders, and

briquette makers associated with the synfuel operations shall be controlled by enclosing such

operations within buildings and by wet suppression as necessary.

(9 VAC 5-50-260)

1 1. Fugitive Dust Emission Controls - Fugitive dust emissions from the storage piles shall be

controlled by a wet suppression system capable of wetting the entire storage area. Wet

suppression cycles shall be implemented in accordance with Appendix A. Each cycle shall

consist of no less than 35,500 gallons of water and attain 100 percent coverage of the storage

area. The wet suppression system shall be provided with adequate access for inspection.

(9 VAC 5-50-260 and 9 VAC 5-50-90)

12. Fugitive Dust Emission Controls - All storage piles shall be truncated, stacker/reclaimers

used to build flat top piles, and the top compacted to minimize fugitive emissions.

(9 VAC 5-50-260 and 9 VAC 5-50-90)

13. Emission Controls - The pennittee shall apply wet suppression as necessary to all incoming

loaded railcars located within facility boundaries if they are not to be dumped within 24

hours.

(9 VAC 5-50-260)

14. Emission Controls - When the perrnittee is using a piece of auxiliary hand ling equipment

(e.g., front end loader, bulldozer), the area to be worked shall be monitored and wet

suppression shall be applied as necessary to control emissions.

(9 VAC 5-50-260)

15. Emission Controls - When the permittee is using a particular piece of hand ling equipment

(e.g., a dumper, a conveyor, etc.), it shall utilize the wet suppression contr ols for that piece of

equipment unless the use of such equipment would cause a safety hazard or dama ge to the

equipment from freezing.

(9 VAC 5-50-260)

16. Emission Controls - Particulate emissions from each surge silo shall be co ntrolled by a

fabric filter. The fabric filters shall be provided with adequate access for inspection.

(9 VAC 5-50-260)

17. Monitoring Devices - The fabric filters for the surge silos and marine ves sel unloading

hoppers shall be equipped with devices to continuously measure the differentia l pressure

drop across each fabric filter. Each monitoring device shall be installed in a readily

accessible location and shall be maintained by the permittee such that they ar e in proper

working order at all times. Each monitoring device shall be provided with ade quate access

for inspection and shall be in operation when the fabric filter is operating.

(9 VAC 5-80-1180,9 VAC 5-50-20 C and 9 VAC 5-50-260)

18. Wet Suppression System - The wet suppression system for the storage piles shall be

implemented as specified in Appendix A or by any other procedure as may be app roved by

the DEQ pn'or to use. Such approval shall be contingent on adequate documenta tion that any

altemative procedure shall achieve at least as high an efficiency as Appendix A. This applies

to all other dust control measures required by this pennit. Requests for chan ges in

procedures shall be accompanied by an explanation of the proposed changes and the

anticipated effect they shall have. These requests, if approved by the DEQ, s hall be subj'ect

to a test and evaluation procedure prior to being accepted as perrnanent chang es to the

control procedures.

(9 VAC 5-50-260)

OPERATING/EMISSION LIMITATIONS

19. Fuel - The approved fuels for the crane engines are distillate oil and nat ural gas. A change in

the fuel may require a perrnit to modify and operate.

(9 VAC 5-80-1180)

20. Fuel Throughput - The crane engines shall consume no more than 325,000 gal lons of

distillate oil, or 55 x106 cubic feet of natural gas per year, calculated mont hly as the sum of

each consecutive 12-month period.

(9 VAC 5-80-1180 and 9 VAC 5-50-260)

2 1. Fuel - The distillate oil and natural gas shall meet the specifications b elow:

DISTILLATE OIL which meets the ASTM specification for numbers I or 2 fuel oil:

NATURAL GAS: which meets ASTM specification D 1 83 5

(9 VAC 5-80-1180)

22. Fuel Certifleation - The pennittee shall obtain a certification from the fuel supplier with

each shipment of distillate oil. Each fuel supplier certification shall include the following:

a. The name of the fuel supplier;

b. The date on which the distillate oil was received;

c. The volume of distillate oil delivered in the shipment;

d. A statement that the distillate oil complies with the American Society for Testing and

Materials specifications for numbers I or 2 fuel oil,

e. The sulfur content of the distillate oil.

(9 VAC 5-170-160)

23. Emission Limits - Crane Engines - Emissions from the operation of the comb ined crane

engines shall not exceed the limits specified below:

Particulate Matter/PM10 7.0 tons/yr

Sulfur Dioxide 6.5 tons/yr

Nitrogen Oxides 98.9 tons/yr

Carbon Monoxide 98.5 tons/yr

Volatile Organic Compounds 8. 1 tons/yr

These emissions are derived from the estimated overall emission contribution f rom operating

limits. Exceedance of the operating limits shall be considered credible evide nce of the

exceedance of emission limits. Compliance with these emission limits may be d etermined as

stated in Condition number(s) 19, 20, 21 and 22.

(9 VAC 5-50-260)

24. Storage - On a daily average, the maximum quantity of coal, petroleum coke , synfuel and

limestone (combined) in storage shall not exceed 975,000 tons.

(9 VAC 5-80-1180)

25. Throughput - The coal/petroleum coke/synfuel/limestone throughput (combine d) for the

ship/barge loading apparatus shall not exceed 24,000,000 tons per year, calcul ated monthly

as the sum of each consecutive 12-month period.

(9 VAC 5-80-1180)

26. Throughput - The synfuel operations (plant #1 & #2) throughput (combined) shall not

exceed 5,000,000 tons per year, calculated monthly as the sum of each consecut ive 12-month

period.

(9 VAC 5-80-1180)

27. Emission Limits - Particulate emissions from the operations of the coal/ p etroleum

coke/synfuel/limestone storage, production, import and export facility shall n ot exceed the

limits specified below:

Particulate Matter 65.7 tons/yr

PM-10 I 1. 8 tons/yr

These emissions are derived from the estimated overall emission contribution f rom operating

limits. Exceedance of the operating limits shall be considered credible evide nce of the

exceedance of emission limits. Compliance with these emission limits may be d etennined as

stated in Condition numbers 3-18.

(9 VAC 5-50-260)

28. Plantwide Emission Limits - Total emissions from the coal/petroleum

coke/synfuel/limestone storage, production, import and export facility shall n ot exceed the

limits specified below:

Particulate Matter 72.7 tons/yr

PM-10 18.3 tons/yr

Sulfur Dioxide 6.5 tons/yr

Nitrogen Oxides 98.9 tons/yr

Carbon Monoxide 98.5 tons/yr

Volatile Organic Compounds 8. 1 tons/yr

(9 VAC 5-50-260)

29. Visible Emission Limit - Visible emissions from the enclosed rotary rail c ar dumper (RD-1)

shall not exceed 0 percent opacity as detennined by the EPA Method 9 (referenc e 40 CFR

60, Appendix A).

(9 VAC 5-50-260)

30. Visible Emission Limit - Visible emissions from all fabn'c filters shall n ot exceed 0 percent

opacity as detennined by the EPA Method 9 (reference 40 CFR 60, Appendix A).

(9 VAC 5-50-260)

3 1. Visible Emission Limit - Visible emissions from the conveyor belt transfe r points shall not

exceed 5 percent opacity as determined by the EPA Method 9 (reference 40 CFR 6 0,

Appendix A).

(9 VAC 5-50-260)

32. Visible Emission Limit - Visible emissions from each building containing t he coal

crusher/screen operations, briquette makers, or synfuel screen operations shal l not exceed 5

percent opacity as deter-mined by the EPA Method 9 (reference 40 CFR 60, Appen dix A).

(9 VAC 5-50-260)

33. Visible Emission Limit - Visible emissions from each storage bin and pugmi ll, associated

with the synfuel productions, shall not exceed 5 percent opacity as detennined by the EPA

Method 9 (reference 40 CFR 60, Appendix A).

(9 VAC 5-50-260)

34. Monitoring PM, 0 - Dominion Tenninal Associates shall install and operate a PM I 0 monitor

at the Newport News Housing Authority Maintenance Building (I 80-J) to ascerta in the

ambient air quality in the area surrounding the coal/petroleum coke/synfuel te rminal.

Operation shall be in accordance with Appendix J of 40 CFR Part 50.

(9 VAC 5-160-170)

35. Control of Emissions - The following actions are considered detrimental to the control of

coal/petroleum coke/synfuel/limestone emissions:

a. Failure to stop any coal/petroleum coke/synfuel/limestone movement operation when it

becomes known that installed air pollution control systems are inoperative and would

cause excess emissions.

b. Failure to stop a coal/petroleum coke/synfuel/limestone movement operation when it

becomes known that the coal/petroleum coke/synfuel/limestone handling equipment

needed for that operation is malfunctioning or operating significantly below designated

specifications.

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

(e.g., the use of water suppressant or limiting the speed of movement to below 10 miles

per hour).

d. Failure of operational personnel to give precedence to designated personnel with the

responsibility for controlling dust emissions.

(9 VAC 5-50-260)

RECORDS

36. On Site Records - The permittee shall maintain records of emission data and operating

parameters as necessary to demonstrate compliance with this permit. The content and format

of such records shall be arranged with the Director, Tidewater Regional Office. These

records shall include, but are not limited to:

a. Annual throughput of coal/petroleum coke/synfuel/limestone (combined) for the

ship/barge loading apparatus calculated monthly as the sum of each consecutive 12-

month period.

b. Annual throughput of synfuel production calculated monthly as the sum of ea
ch

consecutive 12-month pen'od.

c. Maximum daily quantity of coal/petroleum coke/synfuel/limestone (combined)
in

storage.

d. Annual throughput of distillate oil and natural gas used in the crane engin es calculated

monthly as the sum of each consecutive 12-month period.

e. All fael supplier certifications.

f Records of dust control measures as required by Appendix A.

These records shall be available for inspection by the DEQ and shall be curren t for the most

recent five years.

(9 VAC 5-50-50)

INITIAL COMPLIANCE DETERMINATION

37. Visible Emissions Evaluation - Initial performance tests of Visible Emissi on Evaluations

(VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall be conduc ted by the

permittee on the following items: marine vessel unloading operations and each

crusher/screen building. Each test shall consist of 30 sets of 24 consecutive observations (at

15 second intervals) to yield a six minute average. The details of the tests are to be arranged

with the TRO Air Compliance Manager. The evaluation shall be perforined to de monstrate

compliance within 60 days after achieving the maximum production rate but in n o event later

than 180 days after start-up of the pennitted facility. One copy of the test result shall be

submitted to the TRO Air Compliance Manager within 45 days after test completi on and

shall confor-rn to the test report format enclosed with this permit.

(9 VAC 5-50-30,9 VAC 5-80-1200, and 9 VAC 5-50-410)

NOTIFICATIONS

38. Initial Notiflcations - The pennittee shall fumish written notification to the TRO

Compliance Manager:

a. The actual date on which construction of the marine unloading facilities an d synfuel

plants commenced, within 30 days after such date.

b. The anticipated start-up date of the man'ne unloading facilities and synfue l plants,

postmarked not more than 60 days nor less than 30 days prior to such date.

c. The actual start-up dates of the marine unloading facilities and synfuel pl ants,

respectively, within 15 days after such dates.

d. The anticipated dates of the VEE perforrnance tests for the marine unloadin g facilities

and the crusher/screen buildings, postmarked at least 30 days pn'or to such da te. Copies

of the written notifications referenced in items a through d above are to be s ent to:

Office of Air Enforcement (3AP IO)

U.S. Enviromnental Protection Agency, Region IJ-1

Attention: NSPS Subpart Y Coordinator

1650 Arch Street

Philadelphia, PA 19103-2029

(9 VAC 5-50-50)

GENERAL CONDITIONS

39. Permit Invalidation - The portions of this pennit regarding construction o f the marine

unloading facilities and the synfuel plants shall become invalid, unless an ex tension is

granted by the DEQ, if:

a. A program of continuous construction is not commenced before the latest of the

following:

i. I 9 months from the date of this permit;

ii. Nine months from the date that the last permit or other authorization was issued from

any other govenunental agency;

iii. Nine months from the date of the last resolution of any litigation conce rning any such

permits or authorization; or

b. A program of construction is discontinued for a pen'od of 18 months or more , or is not

completed within a reasonable time, except for a DEQ approved period between p hases

of a phased construction project.

(9 VAC 5-80-1210)

40. Right of Entry - The perinittee shall allow authon'zed local, state, and f ederal

representatives, upon the presentation of credentials:

a. To enter upon the pennittee's premises on which the facility is located or in which any

records are required to be kept under the tenns and conditions of this permit;

b. To have access to and copy at reasonable times any records required to be k ept under the

tenns and conditions of this pen-nit or the State Air Pollution Control Board Regulations;

c. To inspect at reasonable times any facility, equipment, or process subject to the terins and

conditions of this permit or the State Air Pollution Control Board Regulations ; and

d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reason able during

regular business hours or whenever the facility is in operation. Nothing cont ained herein

shall make an inspection time unreasonable during an emergency.

(9 VAC 5-170-130)

41. Notification for Facility or Control Equipment Malfunction - The perinitte e shall fumish

notification to the Director, Tidewater Regional Office of malfunctions of the affected

facility or related air pollution control equipment that may cause excess emis sions for more

than one hour, by facsimile transmission, telephone or other electronic cornmu nication. Such

notification shall be made as soon as practicable but not later than four dayt ime business

hours of the malfunction. The pennittee shall provide a written statement giv ing all pertinent

facts, including the estimated duration of the breakdown, within 14 days of th e occurrence.

When the condition causing the failure or malfunction has been corrected and t he equipment

is again in operation, the perinittee shall notify the Director, Tidewater Reg ional Office in

writing.

(9 VAC 5-20-180 C)

42. Violation of Ambient Air Quality Standard - The permittee shall, upon requ est of the

DEQ, reduce the level of operation or shut down a facility, as necessary to av oid violating

any primary ambient air quality standard and shall not return to normal operat ion until such

time as the ambient air quality standard will not be violated.

(9 VAC 5-20-180 I)

43. Maintenance/Operating Procedures - During each shift, one designated perso n shall be

responsible for compliance with the procedures of Appendix A. Actions required in support

of these procedures shall take precedence over routine coal, petroleum coke an d limestone

handing procedures. The pennittee shall take the following measures in order to minimize

the duration and frequency of excess emissions, with respect to air pollution control

equipment, monitoring devices, and process equipment which affect such emissio ns:

a. Develop a maintenance schedule and maintain records of all scheduled and no
n-

scheduled maintenance.

b. Maintain an inventory of spare parts.

c. Have available written operating procedures for equipment.

d. Train operators in the proper operation of all such equipment and familiari ze the

operators with the written operating procedures. The permittee shall maintain records of

the training provided including the names of trainees, the date of training an d the nature

of the training.

Records of maintenance and training shall be maintained on site for a pen'od o f 5 years and

shall be made available to DEQ personnel upon request.

(9 VAC 5-50-20 E)

44. Permit Suspension/Revocation - This pen-nit may be suspended or revoked if the perTnittee:

a. Knowingly makes material misstatements in the application for this pennit o r any

arnendments to it;

b. Fails to comply with the conditions of this pennit;

c. Fails to comply with any emission standards applicable to the equipment lis ted in

Condition 2;

d. Causes emissions from this facility which result in violations of, or inter feres with the

attaimnent and maintenance of, any ambient air quality standard;

e. Fails to operate this facility in confonnance with any applicable control s trategy,

including any emission standards or emission limitations, in the State Impleme ntation

Plan in effect on the date that the application for this permit is submitted;

f. Fails to construct or operate this facility in accordance with the applicat ion for tMs permit

or any amendments to it; or

g. Allows the perrnit to become invalid.

(9 VAC 5-80-1210)

45. Change of Ownership - In the case of a transfer of ownership of a stationa ry source, the new

owner shall abide by any current permit issued to the previous owner. The new owner shall

'f I
noti y the Tidewater Regional Office of the change of ownership w'thin 30 days
 of the

transfer.

(9 VAC 5-80-1240)

46. Registration/Update - Annual requirements to fulfill legal obligations to maintain current

stationary source emissions data will necessitate a prompt response by the pen nittee to

requests by the DEQ or the Board for infonnation to include, as appropriate: p rocess and

production data; changes in control equipment; and operating schedules. Such requests for

inforrnation from the DEQ will either be in writing or by personal contact. T he availability

of infor-rnation submitted to the DEQ or the Board will be govemed by applicab le provisions

of the Freedom of Infonnation Act, 2.1-340 through 2.1-348 of the Code of V irginia,

10. 1- 1 314 (addressing inforrnation provided to the Board) of the Code of Vi rginia, and 9

VAC 5-170-60 of the State Air Pollution Control Board Regulations. Informatio n provided

to federal officials is subject to appropriate federal law and regulations gov eming

confidentiality of such information.

(9 VAC 5-170-60 and 9 VAC 5-20-160)

47. Permit Copy - The permittee shall keep a copy of this pennit on the premis es of the facility

to which it applies.

(9 VAC 5-170-160)

APPENDIX A

This appendix is to be considered a part of the Department of Enviromnental Quality permit to operate the Dominion Tenninal Associates (Dominion) coal/petroleum coke/synfuel tenninal. All procedures outlined in this appendix are enforceable as a condition of operating.

Dominion shall record the following parameters on an hourly basis:

Average hourly temperature (T) in degrees Fahrenheit

Average hourly relative humidity (RH)

Average hourly wind speed in miles per hour (WS)

Average hourly wind direction (DIR)

Hourly rain in inches

Hourly occurrence of fog (visibility of 4 miles or less)

/ft)
Density of air p (lb from the equation p = -0.0001478(T) + 0.0853

Viscosity of air (1.68@t lb/ft-hr) from the following equations

-24.88 < T < 32 1.68@t = 0.0001207(T) + 0.0655479
32.00 < T < 64.40 1.68@t = 0.0001493(T) + 0.0646353
64.40 < T < 104 1.68@t = 0.0001344(T) + 0.0655899

K as detennined by the equation: K = WS(T/RH) (p/@t 1.68)

Dominion shall use the data listed above for a computerized spreadsheet in a fonnat as described below, maintaining the records to be submitted to the Board upon request.

The program outlined in Appendix A when properly programmed will provide for an hourly visual display (graph) which depicts the following:

a. CE,,n, fortheKTpredicted: willchangebythenewhourlypredictionofKT. Attheend oftheday

will represent the potential uncontrolled coal and petroleum coke emissions experienced in the past

24 hours.

b. Slope of the uncontrolled intended movement with time for the PASS- I system without controls:

will change by the new hourly prediction of KT.

c. PASS-Iline,withhourlymarkingsinpro-portiondepictingthecontrolledtothehourly K,emission

level attained when controls are gp-plied. This line's slope and value will v ary as suppression cycles

are applied. The extension of this line depicts the near low end of the day va lue in @tg/M3, if no

further cycles are applied and is the primary control medium. It generates fr om the uncontrolled

slope line (b.).

d. PASS-0 line, depicting the controlled emissions level attained when control s are applie - This line's

slope as in (c) will vary as suppression cycles are applied. The extension of this line depicts the near
3
high en of the day value in @tg/m if no further cycles are appl'ed. When, due to cycles, the PASS

0 line and the PASS- I line are one and the same, their extension will be the end of the day value
3
attained for coal and petroleum coke emissions in @tg/m . It generates from th e uncontrolled CE,,,,

line (a.).

e. PASS-0 (I 80) line, with hourly markings in proportions to the hourly K, dg picting the controlled

emission level when the wind direction is between 180' and 270'T. This line i s activated by wind

direction inputs and holds the last highest value during periods when the wind is out of quadrant. Its

extension represents the near end of day value in @tg/m3at station 180-J if no further cycles are

applied. This line also generates from the uncontrolled CEu,c line (a.).

COLUMN1
TM Records the hourly values for a 24 hour day, beginning with a I at 0 1 00 h ours and ending with a

24 at 2400 hours.

COLUMN2
K Computes and records the hourly value of K as follows:

K = ((WS * TEMP) / RH) * (p/1.68[t)

COLUMN3
KD Computes and records the K factor adjusted for rain and freeze effects. KD is used to define the

need for a cycle (Ci) administered by the computer controlled water suppressio
n system. KD is

computed as follows:

KD = K * Fft

COLUMN4
ci Records the total number of cycles credited on the hour. A 20-minute suppre ssion cycle (35,500

gallons of water) sprayed from the computer controlled water suppression syste m counts as one

cycle as well as a rain event greater than or equal to 0.0225 inches. Rain gr eater than or equal to

0.01 inches but less than 0.0225 inches is counted as one Q if the adjusted ra in amount for the

hour is less than the actual rain amount.

COLUMN 5

SYM Records the type of suppression cycle credited for the hour. Where:

A: represents an ASSLTRANCE CYCLE (one 20-minute spray cycle per hour from the computer

controlled water suppression system).

F: represents a continuous cycle (three 20-minute spray cycles per hour) admin istered to recover

from a freeze event.

R: represents a rain event credited as a cycle.

I : represents a DEMAND I cycle, where KD is greater than or equal to 10, but less than 15.

2: represents a DEMAND II cycle, where KD is greater than or equal to 15, but less than 30.

3: represents a DEMAND HI cycle, where KD is greater than or equal to 30, but less than 45.

4: represents a DEMAND IV cycle, where KD is greater than or equal to 45.

COLUMN 6
Y-Ci Records the total number of cycles credited since 0 1 00 or the sum of CO LUMN 4.

COLUMN 7
IR Records the amount of rain in inches for the hour as measured by the rain g auge.

Note: CIR, the total amount of rain credited for the hour is computed as follo ws:

CIR = IR if it is raim'ng, but adds 0.0225 to IR if a DEMAND TV RBC is adminis tered.

IRadj, the adjusted rain amount for the hour is also computed to include the e ffects of non-

consecutive rains, where:

IRadj = CIRI / (HRSI-I + 1) when IR > 0 and HRS > 0

IRadj = SLTMIR,,-, / (HRS,,-, + 1) when IR > 0, SUMIR > 0.0225; and HRS = 0

IRadj = 0 when IR = 0, and SLTMIR < 0.0225

COLUMN 8

HRS Records the number of hours following a rainfall. HRS increases by one eac h hour after the rain

e.nds, and continues to do so until another rain begins or until the effects o f the rain are over (F, >

0.9 or HRS = 48)

Note: If a DENIAND IV cycle is administered in order to recover from a freeze, HRS is initially

set to 0.5 instead of 1.

HRS = 0 when Ci = 3 and FIR,, = 0 or Ff,,,-, < I

HRS = 0 when IR > 0 and SLJ1\4IR > 0.0225

HRS = 0.5 when Ci = 3; FIR,, > 0;and Ff,,-, > I

HRS = HRSI-I + I when IR > 0 and SUMIR < 0.0225

or when IR = 0; SUMIR > 0.0225

Note: If TM = 24 and HRS < 48 and F, < 0.9 then HRS and'SLTMIR are carried for ward to the

next day. If HRS = 48 or F, > 0.9 the post rain effect has reached its limits . On the next hour, F,

= 1, HRS = 0, and SUMIR = 0.

COLUMN 9
SUMIR Computes and records the effective sum of the hourly rainfall as follows :

SUMIR = 0 when CIR = 0 and SUMIRn-I < 0.0225

SUMIR = SUMIR,_1 when CIR = 0 and SUMIR,,-, > 0.0225

SUMIR = CIR when CIR > 0;(IR + IR,_j) < 0.0225;and Ffn,-, = I

SUMIR = CIR when CIR > 0; (IR + IRj) < 0.0225 Ffm-i < 1;

CIR,_1 > 0; and Ci = 3

SUMIR = IR + SUMIR,_1 when CIR > 0'; (IR + IRj) < 0.0225;

Ffj,_j < 1; CIRn-I > 0; and Ci < 3

SLTMIR = IRadj,_1 + CIR when CIR > 0; (IR + IRn-1) < 0.0225 Ff,,-, < 1;

CIR,j = 0;

SUMIR = IRadin-I + CIR when CIR > 0; and (IR + IRj) > 0.0225

Note: If F, = I or HRS = 48 then SUMIR is set to zero the next hour.

COLUMN10

F, Computes and records the post rain recovery factor. F, ranges from zero to one, with F, set to

zero during a rain. When F, > 0.9, the effects of the rain are considered ove r, and F, is set to one

on the next hour. F, is computed as follows:

Fr =0 when CIR < 0.0225 and StTMIR > 0.0225

Fr= I when CIR < 0.0225 and SUMM < 0.0225

Fr= 10 (-215.66*24*SUMIR/(HRS*KT)) when CIR < 0.0225 and SUMIR < 0.0225

COLUMN11
Ff@ Computes and records the combined effects of rain and freeze, where Ffr = Fr * Ff.

Ff (the post freeze effect) is calculated as follows:
Ff = ((SUMKF * FHRS)/(FIR * 106)) * 4.02917 + 0.305 when FIR > 0 and SUMKF > 0

Ff = I when FIR = 0 or SUMKF = 0

SUMKF (the sum of the freeze shear) is calculated by summing the K values begi nning when the

temperature reaches 29'F until Fr < 0. 1 or until continuous cycles are admini stered.

FIR (the potential freeze water) is calculated as follows:

FIR = SUNIKF/19200 when FIR,, = O;SUMIR = O;FHRS = 8; and SUMKF > 0

FIR = FIR,-i when FIR,, = 0; SUMIR = 0; FHRS # 8 and SUNIKF > 0

or when FIR,-, > 10; Fr = 1; and StTMIR + SLTN41R,,-, < FIR,,

FIR = SUMIR for all other conditions

FHRS (the potential freeze hours) is calculated as follows:

FHRS = 0 when SUMIR = 0 and SUMKF = 0

FHRS = HRS when SUMIR > 0 and SUMKF = 0

FHRS = HRS when SUMKF > 0; TENT > 34'F; and Fr < 0. I

FHRS = FHRS + I when SUMKF > 0; and TEMP < 34'F or Fr > 0. I

COLUMN 12

KT Computes and records the predicted sum of K at the end of the day as follow s:

KT, = K, + K2 + K3 + - .. K,, + K,,(24-TM)

EXAMPLE: TM K

I 10

2 10

3 20

KT3 = 10 + 10 + 20 + 20(24-3) = 460

COLUMN 13
H,j Computes and records the estimated amount of dust entering the HVS during the hour as

follows:

H,j = Ksum * SI * Ff,

where:

Ksum is the sum of the K values within the current cycle set.

SI is the slope of the sunlHvi line for the current cycle set, and is computed as follows:

At TM= 1

SI = sb when Ci = 0

where sb(base slope) = CE,,nt/KT

SI = sb * (I -eff) when Ci > 0

For all other times (n):

SI = Sl,i,-i * (1-eff),,

where Slci-l is the last value of SI in the previous Ci sequence Slci-l = sb p rior to any

cycles.

(1-eff) term calculates the efficiency of the last cycle administered and is c alculated as

follows:

Equation A:

(I-eff)a = (1-(36.657299 *Io(-0.00119211 * Ksum)/I00))Cseq

Equation B:

(I-eff)b = (1-((-0.0146913 * Ksum + 14.65059)/100))Cseq

Equation A can be used to calculate the efficiencies when KT < 288 otherwise use Equation

B until slope,-, * (1-eff)b < sp(shift point)

where sp = 0.6256838 - 0.0008297 * KT

then switch to Equation A.

Note: At the beginning of the day, (I -eff) = I until a cycle occurs. If a cy cle is cred'ted at

time I (cycle perfonned at TM 0000) then the equation for (I -eff) changes as follows: KT

replaces Ksum, and the calculation is multiplied by Cs,q instead of raised to its power. The

slope then remains constant until another cycle/cycles are administered.

Cseq is the cycle sequence for the current cycle set.

where: C,eq = 0 when C, = 0

Cseq = Cseqn-I when Cin = Cin-I

Cseq = 0.5 when Cin > Cin-1; Fft > 1; and Ci I

Cseq = 1 when Ci = I or 3

Cseq = 2 when Ci = 2

EXAMTLE: KT(at TM = 4) = 368.60 i.e. > 288

sb = 0.40804

sp = 0.31986

TM	K RBC	Ksum	(I -eff)	Cseq	Si	Fft	Hj
1	20.10	0	20.10	1.0	0	0.408	1.0 8.2024
2	17.00	0	37.10	1.0	0	0.408	1.0 15.1398
3	16.50	1	16.50	0.85592	1	0.349	1.0 15.7631
4	15.00	1	31.50	0.85592	1	0.350	1.0 11.0307

COLUMN 14

JH,j Computes and records the sum of the coal and petroleum coke dust in the H VS (Hi Vol Sampler)

to the hour as follows:

Y-Hvi = Hvi + Y-Hvicin-I

where Y_Hvj,:in-1 is the last value of Y-Hvi in the previous cycle sequence.

EXAMPLE: Using the values from the previous example:

TM	EHvicin-I	Y-Hvi
I	0.0	8.2024
2	0.0	15.1398
3	15.1398	20.9029

4 15.1398 26.1705

COLUMN 15
HVT Computes and records the projected amount of dust on the HVS filter at the end of the day if no

further cycles were administered.

HVT = YHVI + KL * SI * (I -eff)

where KL =: KT - sum(KI + K2 + - .. K,)

(I -eff) is the same as COLUMN 14 except that KL is used in the expression instead of Ksum.

COLUMN16
TEMP Records the temperature in degrees Fahrenheit.

COLUMN17
RH Records the relative humidity (percent)

COLUMN18
V@D Records the wind direction (degrees)

COLUMN19
WS Records the wind speed (mi/hr)

COLUMN 20
#Cc Records the number of suppression cycles credited for hour. The suppression cycles are only

credited when the wind is blowing within the 180 to 270 degree quadrant.

COLUMN 21
YHVIc Computes and records the sum of the dust in the HiVol accumulated when the wind is

blowing within the 180 to 270 degree quadrant.

SOURCE TESTING REPORT FORMAT

Cover
I . Plant name and location
2. Units tested at source (indicate Ref No. used by source in permit or regist ration)
3. Tester; name, address and report date

Certification
I . Signed by team leader / certified observer (include certification date)
2. Signed by reviewer

Introduction
1. Test purpose
2. Test location, type of process
3 . Test dates
4. Pollutants tested
5. Test methods used
6. Observers'names (industry and agency)
7. Any other important background information

Summary of Results
I . Pollutant emission results / visible emissions summary
2. Input during test vs. rated capacity
3. Allowable emissions
4. Description of collected samples, to include audits when applicable
5. Discussion of errors, both real and apparent

Source Operation
I . Description of process and control devices
2. Process and control equipment flow diagram
3. Process and control equipment data

Sampling and Analysis Procedures
I . Sampling port location and dimensioned cross section
2. Sampling point description
3. Sampling train description
4. Brief description of sampling procedures with discussion of deviations from standard methods
5. Brief description of analytical procedures with discussion of deviation from standard methods

Appendix
* 1. Process data and emission results example calculations
2. Raw field data
* 3. Laboratory reports
4. Raw production data
* 5. Calibration procedures and results
6. Project participants and titles
7. Related correspondence
8. Standard procedures

* Not applicable to visible emission evaluations.