OPERATIONS & MAINTENANCE MANUAL

DOMINION TERMINAL ASSOCIATES

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By

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CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Bob Deininger, Director of Reliability & Strategic Planning

8-16-2021
Date

1.0 INTRODUCTION

The purpose of this Operations & Maintenance (O&M) Manual is to meet the requirements of Dominion Terminal Associates' (DTA) Virginia Pollutant Discharge Elimination System (VPDES) Permit (Permit No. VA0057576). The permit went into effect January 1, 2017 and will expire December 31, 2021.

DTA is located within an industrial area of the southernmost portion of the City of Newport News (Figure 1). The property is roughly rectangular in shape and is bound by Pier IX Coal Terminal Company and Newport News Marine Terminal (Virginia Port Authority) to the west, CSX Transportation and I-664 to the east, I-664 and vacant property to the north, and the James River to the south (Figure 2).

DTA is a coal transshipping facility. Coal is offloaded from railcars in a tandem rotary dumper and is stored on-site until it is loaded onto colliers and barges for shipment to other ports. Two stacker/reclaimer units are used to stack the coal dumped from railcars and the two stacker/reclaimers and a reclaimer pick up coal and a single shiploader loads coal onto vessels. Conveyor systems and other equipment including: diesel locomotives, bulldozers, and front-end loaders assist with the loading and unloading of coal. Cranes, forklifts, and vehicles are used in maintenance activities.

The transportation of coal is accomplished by several operations. As railcars arrive on-site they are routed to the dumper where they are inverted and the contents emptied into large hoppers (in cold weather, railcars are first routed through a "thaw shed" where natural gas heaters thaw frozen coal before being routed to the dumper). From the hoppers, coal is moved using belt conveyors through transfer towers, surge silos, and stacker/reclaimer units, and is either loaded directly onto vessels, or moved into "soil cement" paved areas for storage. Coal is stacked in separate piles according to grade.

Coal is loaded onto vessels from ground storage by reversing the above processes. Blends of coal are created by using the blending silos while loading vessels. The load and empty yards are used to stage railcars prior to and after being emptied at the dumper. Empty cars are formed into a train that is transported off-site by CSX.

Wash down water and dust suppression water are the only sources of wastewater generated on-site which are not treated by Hampton Roads Sanitation District. Stormwater and the above described wastewater travel via sheet flow to on-site ditches. Uncontaminated groundwater and municipal water also may be discharged through the outfall. The ditches drain into stormwater management ponds prior to discharge through Outfall 001 to the James River.

A Stormwater Pollution Prevention Plan (SWPPP) has also been prepared for this facility. Best management practices are described in that document.

2.0 STORMWATER TREATMENT FACILITIES

2.1 Description and Operation

2.1.1 Ditches

The coal storage yard areas are surrounded by swales and large concrete ditches that discharge into two of the three on-site stormwater management ponds (Ponds 1 and 3). The coal yard is sloped to promote drainage toward the ditches. The northern and eastern portions of the ditch drain via a culvert into Pond 3, whereas the southern and western portions of the ditch drain into Pond 1. The high point of the ditch is in the northernmost portion of the site. Weirs have been constructed in the ditch to improve the sedimentation rate and to reduce the quantity of coal fines reaching the ponds. Designated points have been established in the ditch for pH monitoring and adjustment, as needed.

Stormwater from the southern portion of the facility (including the main entrance, personnel parking, administration and maintenance buildings, and surge silos) is directed to one of four stormwater pump stations, which direct water to the concrete ditch and/or stormwater ponds.

2.1.2 Stormwater Management Ponds

Three stormwater management ponds exist on-site. Stormwater flows from the ditches into Ponds 1 and 3 where sedimentation is allowed to occur. Weirs constructed in the ponds assist with sedimentation. Five on-site groundwater wells pump water into Pond 2 on an as needed basis. Water from Pond 2 used for dust suppression (in the Rainbirds). Hand operated sluice gates and transfer pumps between Ponds 1 and 2 and Ponds 2 and 3 allow water to be moved between ponds and to allow for neutralization of the pH. One foot, or more, of freeboard is maintained in pond 2; which is the pond that has the outfall. Outfall 001 is the only on-site outfall and it is a valved discharge from Pond 2 into the James River.

DTA personnel are constantly monitoring the water levels in the three ponds, and the interrelationship between them. In general, a greater amount of freeboard is kept in Ponds 1 and 3, than in Pond 2, so that runoff from the facility may reach the ponds, without backing up beyond the ditches. DTA monitors the weather and adjusts water levels in the ponds on a regular basis. When an inundating rain event is anticipated DTA tries to prepare by discharging prior to the rain event, if necessary. This way they are not forced to discharge during or after the event.

2.1.3 Process Chemicals

Material Safety Data Sheets (MSDS) for all chemicals, including process chemicals, are maintained current and readily accessible in the Administration Building. In addition, DTA has a link to 3E Company which provides immediate response to MSDS requests. All chemicals are stored and used according to the information on their MSDS.

pH is tested and neutralized at source areas in the coal storage yard identified during facility inspections, in designated spots in the on-site ditch, and in the ponds.

Table 1 lists the process chemicals used on-site.

Table 1: Process Chemicals and Uses.	
Chemical Name	**Use**
Caustic 50% (aka sodium hydroxide)	neutralize pH
Caustic 25% (aka sodium hydroxide)	neutralize pH
Muriatic Acid	reduces pH
Aluminum Sulfate	Flocculent to settle solids

2.1.4 Operating Issues

The main operating issue faced at the facility is maintaining the pH at an acceptable level (between 6 and 9 S.U.) within the three on-site ponds. This involves measuring the pH, adding caustic, re-measuring, adjusting, and balancing.

Emergency action is taken if an unexpected rain event threatens to flood the lower lying areas of the facility and create an unauthorized discharge. Emergency actions and reporting requirements are detailed in the VPDES Permit.

2.2 Maintenance

The following routine maintenance is performed on the system:

- Daily measuring of pH in each of the three stormwater ponds
- Daily inspection of the ponds and ditches
- Removal of silt from ditches as required and as equipment is available
- Cleaning of the stormwater ponds, as necessary

Materials that are removed from the ditches and ponds are placed back in one of the coal pile storage areas to be dried and made available to the facility's owners for blending with other coals.

The stormwater management system does not have any backup systems.

3.0 EFFLUENT SAMPLING AND REPORTING

This section only discusses sampling and reporting of discharges from Outfall 001. Other items, such as visual inspections and site inspections, are required by the facility's VPDES permit. Please refer to the SWPPP and the facility's permit for a discussion of these other items.

3.1 Sampling Procedures

When necessary (when an inundating rain event is anticipated or minimum freeboard is reached) a discharge from Pond 2, through Outfall 001, to the James River is scheduled. When a discharge is deemed necessary, the Director of Reliability & Strategic Planning, or his designee, contacts Universal Laboratories' field personnel. Universal Laboratories is given as much notice as possible prior to the scheduled discharge so that they can arrive on-site, check the pH, and collect samples from the discharge.

Each discharge from Outfall 001 is documented by DTA personnel on the Discharge Logs which are kept in the Administration Building downstairs in the hallway. Discharge logs are transferred to the Permit Book at the end of the year.

Samples are collected from the discharge water using pre-prepared jars provided by Universal Laboratories. Universal Laboratories' field personnel conduct the sampling. All personnel conducting or assisting with the sampling wear gloves. A decontaminated and properly calibrated pH meter is used in the field to measure the water's pH from an unpreserved sampling jar. The pH measurement is recorded so that it may be correctly reported on the Discharge Monitoring Report (DMR). All samples collected on-site are grab samples. Water from the discharge pipe is collected using an unpreserved jar and then transferred to sample containers. All containers are labeled with the analysis requested, sample date, and time. Samples are then transported on ice to Universal Laboratories in Hampton, Virginia for analysis. Universal Laboratories is responsible for ensuring that the sampling jars are properly prepared, and that the proper analytical and quality assurance/quality control measures are used. Once the laboratory analysis is complete Universal Laboratories sends laboratory report sheets to DTA. Flow is estimated by the name tag capacity of the pump and the length of discharge. Flow volume is recorded on the discharge log.

The sampling location is at such an elevation that it is not tidally influenced and is in a location where it is representative of the discharge.

Table 2: Effluent Sampling Requirements for Outfall 001.

Parameter	Discharge Limitations				Monitoring Requirements			
	Monthly Average	Weekly Average	Min	Max	Frequency	Sample Type	Field/Lab Analyzed	Sample Preservation
Flow (MGD)	NL	NA	NA	NL	1/3 month	Estimate	Field	NA
pH (S.U.)	NA	NA	6.0	9.0	1/3 month	Grab	Field	NA
TSS (mg/l)	NA	NA	NA	50	1/3 month	Grab	Lab SM 2540D (2011)	None
Total Phosphorous (mg/l)	2.0	NA	NA	NA	1/Year	Grab	Lab EPA 365.1	H_2SO_4
Total Nitrogen (mg/l)	NL	NA	NA	NA	1/Year	Calc	Lab EPA 351.2/EPA 353.2	H_2SO_4
Total Kjeldahl Nitrogen (mg/l)	NA	NA	NA	NL	1/Year	Grab	Lab EPA 351.2/EPA 353.2	H_2SO_4
Nitrite + Nitrate(mg/l)	NA	NA	NA	NL	1/Year	Grab	Lab EPA 351.2/EPA 353.2	H_2SO_4
TPH (mg/l)	NA	NA	NA	NL	1/Year	Grab	Lab DRO: EPA 8015C GRO: EPA 8260B	DRO: H_2SO_4 GRO: HCL
There will be no discharge of floating solids or visible foam, except in trace amounts.								

MGD = Million Gallons per Day, S.U. = Standard Units, TSS = Total Suspended Solids,
mg/l = milligrams per liter, TPH = Total Petroleum Hydrocarbons, NL = No Limit, NA = Not Applicable

A biennial (once every two years) acute toxicity test is completed in accordance with Part I, B, 8 of the VPDES Permit (Page 6 of 23). Please refer to this section of the permit for details on sampling and reporting procedures.

3.2 Reporting Procedures

DTA personnel utilize data from the laboratory report sheets and the data collected in the field to complete the eDMR online for Outfall 001. If laboratory data are below the Quantification Level (QL) they shall be reported as <QL on the Discharge Monitoring Reports. If the facility does not discharge then no sampling is conducted and the eDMR is submitted stating "No Discharge." The Director of Reliability & Strategic Planning, or his designee, completes the eDMRs.

Table 3: Submittal Requirements.

Item	Due Date
eDMR for Outfall 001	10th Day of the Month Following end of Qtr
Biennial acute toxicity screening and annual report	January 10th after sample was collected (1/10/18, 1/10/20, etc.)

All records (including calibration and maintenance records and copies of reports and data) are retained on-site for at least three years from the date of the sample, measurement, or report. Should any litigation regarding the regulated activity or regarding control standards applicable to DTA be unresolved all records shall be kept until the litigation is resolved. Records (except electronic records) should be kept with/in the SWPPP. Records are maintained electronically and can be accessed through DTA's network for review as required.

3.3 Contact Procedures

All submittals are made to:

Department of Environmental Quality
Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach, Virginia 23462

757-518-2000

Universal Laboratories is contacted prior to discharge to Outfall 001. Laboratory Analysis is completed by Universal Laboratories:

Universal Laboratories
20 Research Drive
Hampton, VA 23666

757-865-0880

4.0 EMERGENCY INFORMATION

4.1 Safety Hazards

The handling of caustic is the only safety hazard associated with the stormwater operations. An MSDS for this material is kept readily available on-site and a procedure for its use has been developed and is followed to ensure safe handling.

4.2 Emergency Contacts

Table 4: Emergency Contacts.	
Contact	**Phone Number**
DTA Contacts	
Bob Deninger, Director of Reliability & Strategic Planning	757-534-9172 (office) 757-810-9536 (cell)
Contractors	
Industrial Marine Services, Spill Contractor	757-436-3000
Bay Environmental, Spill Contractor	757-436-5900
Safety Kleen, Spill Contractor	757-543-5907
Local Contacts	
Newport News Fire Department	911
State Contacts	
Virginia Department of Environmental Quality	757-518-2000
Virginia Department of Emergency Management	804-674-2400
Federal Contacts	
National Response Center	800-424-8802
US Coast Guard	757-441-3299

4.3 Emergency Procedures

4.3.1 Notification Procedures

1. Individual discovering a spill must notify his immediate supervisor.

2. Supervisor notifies the Director of Reliability & Strategic Planning (or his authorized delegate) of the spill, giving all known details and initiates spill containment, investigates cause.

3. Director of Reliability & Strategic Planning will assess the spill size and hazards, order additional outside clean-up help as required, and notify appropriate authorities.

4. If discharge occurs from a vessel, the vessel will be notified, as well as the Director of Reliability & Strategic Planning, and the US Coast Guard.

4.3.2 Impervious Areas

All impervious areas drain towards the on-site ditches and all stormwater is directed toward the pond system. All aboveground tanks and containers are stored such that a leak or spill would be confined to a containment dike and a spill from an underground tank would drain to a storm water pump station. Therefore, the main concern in the pervious areas is a spill from a mobile source.

A spill in a pervious or impervious area would be contained and absorbed with booms and blankets which are stored in the warehouse and near the ponds. In the event of a large spill, an outside contractor would be called and on-site personnel would contain as much of the spill as possible while waiting for the contractor.

4.3.3 Drainage Ditches

A spill from all tanks, containers, and mobile equipment would flow toward the ditch. If a large spill occurs, any uncollected petroleum would drain into the ditch and eventually find its way into the storm water management ponds. The sluice gates between the ponds and between Pond 2 and the river would be shut and the spill would be contained in the ponds by the boom around each pond's outfall. A contractor would be notified and they would handle any necessary additional containment and cleanup. Prior to discharge of Pond 2 to the James River, water would be sampled and laboratory analyzed for appropriate constituents (depending on the nature of the spill) to ensure that sufficient cleanup measures had been taken and that concentrations exceeding the facility's permit limitations were not discharged to the river.

5.0 MATERIAL MANAGEMENT

5.1 Wastes, Fluids, and Pollutants Handling and Disposal Plan

All chemicals purchased are stored indoors, on an impervious surface whenever possible. All chemicals are used and fully consumed according to manufacturer instructions or properly disposed.

5.2 Chemicals List

Appendix C contains a representative Chemical List. DTA maintains their inventory and chemical lists in other systems. In addition, the figure in Appendix A, details the petroleum storage tank locations, sizes, and contents.

5.3 Solids Disposal Plan

Solids such as steel are sold as scrap. Old wood is disposed at a permitted landfill. Stone, concrete, and soils are maintained on-site.

Coal removed from the ditches and ponds are dried out, sold back to DTA's owners, and mixed with other coal for shipment.

6.0 STAFFING REQUIREMENTS

The facility is staffed seven days a week, 24 hours a day. The managers responsible for maintaining compliance are on call. pH treatment and discharges are routinely conducted during regular daytime hours; however, shift electricians are trained to perform functions necessary to begin and/or monitor an on-going discharge should the need arise.

Appendix A: Figures

Appendix B: Discharge Log

Appendix C: Chemicals List