MARYLAND DEPARTMENT OF ENVIRONMENT
AIR AND RADIATION ADMINISTRATION (ARA)

FACT SHEET
AIR QUALITY PERMIT TO CONSTRUCT
FOR
CSX TRANSPORTATION – CURTIS BAY PIERS

I. INTRODUCTION

The Maryland Department of the Environment (the "Department") received an application from received a permit-to-construct application from CSX Transportation on May 22, 2022 (with revisions received July 6, July 29, August 12, and August 25, 2022) for the installation of a replacement conveyor and additional wet suppression and tunnel modifications in the North Area of their Curtis Bay Piers facility located at 1910 Benhill Avenue, Curtis Bay, Maryland 21226.

The Department has reviewed the application and has made a determination that the proposed facility is expected to comply with all applicable air quality regulations.

II. BACKGROUND

On December 30, 2021, there was an explosion incident at CSX Transportation – Curtis Bay Piers (CSX) that resulted in irreparable damage to the North Reclaim Tunnel and associated equipment at the coal terminal. To continue operations on the north side of the facility, CSX submitted a request for a permit determination and permit to construct application on May 22, 2022 (and amended on July 6, 2022, July 26, 2022, July 29, 2022, August 12, 2022, and August 25, 2022 for the installation of the following equipment:

(1) A continuous conveyor belt (BC-7) to replace the damaged conveyor in the existing North Reclaim Tunnel.
(2) Associated equipment repairs to the tunnel roof, BC-7 head chute, the A/B drives, the BC-7 tensioner, replacement of the BC-7 truss, and installation of the steel support frame for the BC-2 tensioner.
(3) Improved tunnel airflow through the North Reclaim Tunnel beyond a level prior to the December 30, 2021 incident, which shall be maintained at a minimum of 300 feet per minute (fpm). In accordance with OSHA regulations, the Permittee shall also install and operate a fixed gas detection system inside the tunnel to monitor for methane. The Permittee will implement preventative measures, including metal skirting panels around the conveyor and water sprays within tunnel, which will be incorporated into the facility's Fugitive Dust Plan to ensure safe working conditions and minimize fugitive dust inside the tunnel.

III. PERMIT AND PUBLIC PARTICIPATION DETERMINATION

The replacement equipment and addition of new wet suppression systems and metal skirting are considered installations (and not routine maintenance or repair) and are modifications capable of generating, causing, or reducing emissions and could cause a change in the quantity, nature, or characteristics of emissions from the source. The wet suppression system additions and the skirting is being installed to control dust emissions within the tunnel system. Although doing so is linked to preventing a subsequent explosion, the fact is that these additions also constitute pollution control measures. On the basis of these considerations, ARA has concluded that a permit to construct is required.

Permit to construct applications for certain sources are subject to public participation requirements as specified in §2-404 of the Environment Article of the Annotated Code of Maryland and COMAR 26.11.02.11. Coal loading or unloading installations are listed State Permit to Operate sources per COMAR 26.11.02.13A(38). In accordance with COMAR 26.11.02.11A(1)(a), public participation is required for a permit to construct application for which a State Permit to Operate is required if the installation is a new source, reconstruction, or modification with a significant net increase in emissions.

The proposed replacement conveyor equipment and addition of new wet suppression systems and metal skirting are not new sources. The "source" is the existing permitted coal storage and transloading facility. In addition, the proposed installations do not constitute a reconstruction of the facility. The capital cost associated with the change is approximately $50,000,000 and will not exceed 50% of the cost of installing an entirely new coal storage and transloading facility (approximately $400,000,000), nor will it exceed 50% of the cost of replacing only the North Area of the coal storage and transloading facility (approximately $369,000,000). Overall coal storage and throughput will not change as a result of these installations. Emissions will likely decrease due to the addition of new wet suppression systems and metal skirting. The proposed installations are considered a modification to the existing source with no significant increase in emissions. Therefore, public participation under the Environment Article is not required for this permit to construct application.

IV. APPLICABLE REGULATIONS

CSX Transportation – Curtis Bay Piers is subject to the following federally enforceable State air quality emission standards: COMAR 26.11.06.02C(2) prohibiting visible emissions, COMAR 26.11.06.03B(2)(a) limiting particulate matter emissions from confined sources, COMAR 26.11.06.03D limiting fugitive particulate matter from materials handling, COMAR 26.11.06.08 and COMAR 26.11.06.09 prohibiting nuisance and odors, and COMAR 26.11.15.06 limiting emissions of toxic air pollutants. The facility uses a combination of wet suppression, telescoping chutes, partial enclosures and other dust control measures to comply with these requirements.

The facility is not subject to the federal NSPS for Coal Preparation and Processing Plants because the facility only stores and transloads coal and does not include any coal processing equipment.

V. EMISSIONS METHODOLOGY AND SUMMARY

Particulate matter emissions (as total PM, PM-10, and PM2.5) were estimated using EPA AP-42 and other industry-specific emissions factors for transfer points, drop points, and stockpile wind erosion for aggregate handling and storage piles. Control efficiencies for water sprays, telescoping chutes, and partial enclosures were factored into the emissions calculations wherever those methods would be used. With added wet suppression and other techniques, overall particulate matter emissions are expected to decrease slightly from past actual emissions from the facility.

Total premises wide potential particulate matter emissions based on a maximum annual throughput of 25 million tons of coal per year are summarized below:

Total PM (tons/year)	Total PM-10 (tons/year)	Total PM2.5 (tons/year)
6.6	3.5	0.8

CSX is a true minor source of particulate matter emissions, inherently limited by the design capacity of the plant (25 million tons/year). Actual throughput in 2021 was 8.65 million tons per year.

VI. AIR TOXICS COMPLIANCE DEMONSTRATION

CSX is an existing source of toxic air pollutant (TAP) emissions and the proposed modification does not affect the existing source status for the facility. Although overall particulate matter emissions are expected to remain unchanged, CSX was asked to quantify premises wide TAP emissions for potential TAP constituents in the coal handled by the facility and demonstrate compliance with current screening levels designed to protect public health. This was done to provide assurance to the public that emissions from toxic air pollutants were evaluated in a more rigorous manner than other sources regulated by the Department and the evaluation's conclusions (see text immediately below) show that public health is not threatened using the standard analytical methods available to the Department.

Emissions for chromium, cadmium, arsenic, mercury, nickel, copper, selenium, beryllium, cobalt, manganese, antimony, and barium were based on the weighted average composition from sample analytical data for coal referenced in a detailed study of trace metals in coal samples from various regions throughout the United States. Emissions for arsenic, beryllium, and total coal dust were based on the respirable fraction of estimated particulate matter emissions. Crystalline

silica emissions were based on the weighted average composition of silica in the ash percentage of actual coal samples from CSX. With the exception of coal dust and crystalline silica, emissions of all other TAP (chromium, cadmium, arsenic, mercury, nickel, copper, selenium, beryllium, cobalt, manganese, antimony and barium) did not exceed the allowable emission rate for each TAP based on its conservative screening level.

For coal dust and crystalline silica emissions, an additional TAP modeling analysis was conducted. CSX submitted a TAP Modeling Protocol to ARA for review and approval on July 26, 2022. The final modeling results report was received on August 12, 2022 and amended on August 25, 2022. The modeling results did show slightly elevated concentrations of coal dust and crystalline silica at the eastern edge of the dock on CSX's property. The elevated concentrations occurred only three times on one specific day during the winter where public access is restricted using worst-case emissions conditions. In addition, the screening levels for coal dust and crystalline silica include a 1 in 100 safety factor. Based on these conditions, the modeling results show that emissions of coal dust and crystalline silica emissions are at levels that are protective of public health for areas within the public domain.

Although not a regulated toxic air pollutant, methane emissions recently became known as a potential emissions source, and with respect to the explosion incident, was determined to be a potential causal factor. ARA defers to the federal Occupational Safety and Health Administration (OSHA) and other agencies with expertise and authority over workplace safety for addressing the methane build up in the tunnel. Nonetheless, ARA is using its authority to regulate air pollution to impose limited conditions on CSX through the permit to construct to help reduce the potential for future explosions. Methane off-gassing from coal storage piles and railcars and above-ground conveyors is not currently regulated by ARA but is under consideration for future action.

VII. ENHANCED FUGITIVE DUST PLAN AND FENCE LINE MONITORING PLAN

CSX currently operates under a State Permit to Operate issued on October 1, 2018 that expires on September 30, 2023. The State Permit to Operate includes a Fugitive Dust Plan to ensure that CSX complies with the requirements of COMAR 26.11.06.03D which require CSX to use reasonable precautions to prevent particulate matter from becoming airborne. There is longstanding evidence that shows fugitive dust is leaving the facility's site. Also, recent off-site monitoring data and visual observations give further indication that dust is leaving the facility site. In order to reduce the potential for fugitive dust emissions and to avoid another explosion or other events that would result in particulate matter leaving the facility, an enhanced fugitive dust plan will be required.

CSX will be required to submit a revised Fugitive Dust Plan to ARA for review and approval within 60 days of the issue date of the permit. At a minimum, the revised plan must include the following: (1) a detailed description of each potential source of emissions, the fugitive dust mitigation measures used, and the parameters monitored (e.g., wind speed set point, minimum pile heights, visible observations) that would trigger the use of water sprays; (2) a diagram showing the location of each water spray nozzle system at the premises labeled for quick identification; (3) a log of

actions implemented to mitigate fugitive dust for each source of fugitive emissions that includes the date, time, and action taken; and (4) an evaluation of measures that could be utilized to further ensure dust is controlled.

CSX will be required to submit a Fence Line Monitoring Plan to ARA for review and approval within 60 days of the issue date of the permit. The Fence Line Monitoring Plan must include equipment types designated by the Department to measure particulate pollution leaving the site and shall include equipment to measure applicable meteorological conditions.

This permit to construct authorizing the modification to CSX Transportation – Curtis Bay Piers incorporates all existing valid permit conditions for the facility and supersedes all previous permits to construct issued to ARA Premises No. 510-2263.