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**west virginia department of environmental protection**

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## **ENGINEERING EVALUATION / FACT SHEET**

### **BACKGROUND INFORMATION**

Application No.: R13-1608H  
Plant ID No.: 093-00004  
Applicant: Kingsford Manufacturing Company  
Facility Name: Parsons Plant  
Location: Near Parsons, Tucker County  
SIC/NAICS Code: 2861/325191  
Application Type: Class II Administrative Update  
Received Date: July 13, 2016  
Engineer Assigned: Joe Kessler  
Fee Amount: \$300  
Date Received: July 14, 2016  
Complete Date: August 10, 2016  
Due Date: October 9, 2016  
Applicant's Ad Date: July 27, 2016  
Newspaper: *The Parsons Advocate*  
UTM's: 613.2 km Easting 4,326.2 km Northing Zone 17  
Latitude/Longitude: 39.07937/-79.69207  
Description: Class II Administrative Update (A/U) for the: replacement of one (1) existing screening operation (E-02-03) on their existing raw material handling system, (2) removal of the existing retort char surge bin (E-06-0G) and its associated fabric filter dust collector (C-33), (3) installation of a pneumatic conveyor to transfer lime from the existing bulk lime unloading operation (EU-02-0E) to the existing bulk lime tank (EU-06-06) and replace an existing fabric filter (C-15) on the lime use tank (EU-06-09).

Kingsford Manufacturing Company's (Kingsford) Parsons Plant was originally constructed in the 1950's. Starting with the issuance of R14-0001 on November 10, 1986, the facility has been the subject of many permitting actions, which are too complex to summarize here. However, it is important to note that, according to the most recent Title V Permit (R30-09300004-2014), three (3) permits are currently active and apply at the facility: R14-0001D, R13-1608G, and G60-C012A. The R14-0001D permit applies to the Solvent Treated Briquets (STB) operations. Permit Number R13-

1608G applies to the Charring System, Briquetting system and Minors Ingredients Batching system. Finally, the General Permit Number G60-C012A applies to a diesel fire pump at a fire protection pond to be used in emergency situations.

## **DESCRIPTION OF PROCESS/MODIFICATIONS**

### ***Existing Facility***

Kingsford's Parsons Plant is a charcoal manufacturing facility. It manufactures charcoal briquets from raw materials including wood/sawdust, char (produced on-site and received from the Beryl plant), coal, limestone, sodium nitrate, starch, borax, and solvent for briquets. It has a current production limit of 24 tons per hour (TPH) and 154,000 tons per year (TPY) of dry packaged briquets (excluding weight of the solvent and packaging material).

### ***Proposed Modifications***

Kingsford is now proposing to make the following modifications at the facility:

- Replacement of one (1) existing screening operation (E-02-03) on their existing raw material handling system;
- Removal of the existing retort char surge bin (E-06-0G) and its associated fabric filter dust collector (C-33); and
- Installation of a pneumatic conveyor to transfer lime from the existing bulk lime unloading operation (EU-02-0E) to the existing bulk lime tank (EU-06-06) and replace an existing fabric filter (C-15) on the lime use tank (EU-06-09).

## **SITE INSPECTION**

Due to the nature of the proposed modification, a site inspection by the writer was deemed as not necessary. On July 1, 2016, a site inspection of the Parsons Plant was conducted by Mr. Karl Dettinger of the DAQ Compliance/Enforcement (C/E) Section. This inspection found the facility be "Status 30 - In Compliance."

## **AIR EMISSIONS AND CALCULATION METHODOLOGIES**

Kingsford included in Attachment N updated post-modification facility-wide emissions calculations for the Parson Plant. The following will review and summarize those emission calculations only for the equipment added or modified as part of this permitting action: replacement screening operations, higher throughput in the lime use tank, and a small increase in truck traffic.

Calculations for the new screening operations and the increase in truck traffic were based on emission factors calculated from the appropriate sections of AP-42 (AP-42 is a database of emission

R13-1608H  
Kingsford Manufacturing Company  
Parsons Plant

factors maintained by USEPA). Variables were used in the calculations of these emission factors were based on an estimation of actual plant and material conditions. Emissions from the increased throughput in the lime use tank were based on an outlet grain loading limit on the dust collector of 0.01 gr/dscf. The volumetric flow of the air displaced when loading the tank was based on the increased throughput of lime.

***Emissions Summary***

The new post-modification potential-to-emit (PTE) of the Parsons Plant is given in Table N-1 of Attachment N of the permit application. The change in PTE as a result of the proposed modifications evaluated herein is given in the following table:

**Table 1: Change In Facility-Wide Annual PTE**

Pollutant	Pre-Modification <sup>(1)</sup>	Post-Modification	Change
	tons/year	tons/year	tons/year
CO	22.60	22.60	0.00
NO <sub>x</sub>	250.79	250.79	0.00
PM <sub>2.5</sub>	113.99	113.74	-0.25
PM <sub>10</sub>	190.54	190.70	0.16
PM	267.32	269.63	2.31
SO <sub>2</sub>	64.94	64.94	0.00
VOCs <sup>(2)</sup>	91.92	91.62	-0.30
HAPs	3.72	3.72	0.00

(1) Emissions taken from R30-09300004-2014 Fact Sheet.

(2) No VOC emissions changed as a result of the changes evaluated herein. This change is attributable to previous calculation error.

**REGULATORY APPLICABILITY**

The following will discuss only the regulatory applicability of general rules and specific rules to the emission units that have been proposed to be added or modified as part of this permitting action.

***45CSR7: To Prevent and Control Particulate Air Pollution from Manufacturing Process Operations***

45CSR7 has three substantive requirements potentially applicable to the char screening operation, the lime use tank, and the haulroad/mobile work areas at the plant. These are the opacity requirements under Section 3, the mass emission standards under Section 4, and the fugitive emission standards under Section 5. Each of these sections will be discussed below.

### 45CSR7 Opacity Standards - Section 3

Section 3.1 sets an opacity limit of 20% on the char screening operation and the lime use tank emission point. The pneumatic transfer of lime will be controlled by a dust filter. This should mitigate any substantive opacity problems from the lime silo. The char screened has a relatively high moisture content that should mitigate any from opacity issues from the screening operations.

### 45CSR7 Weight Emission Standards - Section 4

Section 4.1 of 45CSR7 requires that each manufacturing process source operation or duplicate source operation meet a particulate matter limit based on the weight of material processed through the source operation. The char screening operation and the lime use tank are each defined as a type 'a' source type operation under §45-7-2.38. Section 4.1 compliance is given in the following table:

**Table 2: 45CSR7 Section 4.1 Compliance**

Source Operation	Source Type	Process Weight Rate (lb/hr)	Table 45-7A Limit (lb/hr)	PTE (lb/hr)	% of Limit	Control Device
Lime Use Tank	A	10,000	10.00	0.05	0.50%	Dust Filter
New Screen	A	90,000	32.60	0.01	<0.01%	None

### 45CSR7 Fugitive Emissions - Section 5

The potential fugitive particulate emissions generated from the changes evaluated herein are limited to the small increase in haulroads traffic. Section 5.2 of Rule 7 states that "owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures." Kingsford's haulroads are paved and, therefore, shall meet this requirement.

### ***45CSR13: Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation***

The proposed changes to the Parsons Plant have the potential to increase a regulated pollutant (see Table 1 above). However, no regulated pollutant is increased is in excess of the thresholds that would define the changes as a "modification" under §45-13-2.17 and are, therefore, eligible to be reviewed as a Class II Administrative Update. Pursuant to §45-13-5.1, "[n]o person shall cause, suffer, allow or permit the construction, modification, relocation and operation of any stationary source to be commenced without . . . obtaining a permit to construct."

As required under §45-13-8.3 ("Notice Level A"), Kingsford placed a Class I legal advertisement in a "newspaper of general circulation in the area where the source is . . . located." The ad ran on July 27, 2016 in *The Parsons Advocate* and the affidavit of publication for this legal advertisement was submitted on August 12, 2016.

**45CSR14: Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration (NON-Applicability)**

The Parsons Plant is an existing major stationary source under 45CSR14 and the proposed changes herein are considered, pursuant to §45-14-2.40, a “*physical change* or a change in the method of operation.” Therefore, to determine if the project is defined as a “major modification,” pursuant to §45-14-3.4(a), the project is examined under a two-step applicability test: “[A] project is a major modification for a regulated NSR pollutant if it causes two types of emissions increases -- a significant emissions increase (as defined in subsection [§45-14-2.75]), and a significant net emissions increase (as defined in subsections [§45-14-2.46] and [§45-14-2.74]). The proposed project is not a major modification if it does not cause a significant emissions increase. If the proposed project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.”

Therefore, for the proposed changes to meet the definition of a major modification, the changes themselves must result in a significant emissions increase. The methodology for calculating the emissions increase under the first step is given under Sections §45-14-3.4(b), 3.4(c), 3.4(d) and 3.4(f). The substantive language relevant to the changes evaluated herein is given below:

[§45-14-3.4(b)]

The procedure for calculating (before beginning actual construction) whether a significant emissions increase (i.e., the first step of the process) will occur depends upon the type of emissions units being modified, according to subdivisions 3.4.c through 3.4.f.

[§45-14-3.4(c)]

Actual-to-projected-actual applicability test for projects that only involve existing emissions units. -- A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions (as defined in subsection 2.63) and the baseline actual emissions (as defined in subdivisions 2.8.a and 2.8.b), for each existing emissions unit, equals or exceeds the significant amount for that pollutant (as defined in subsection 2.74)

As the total PTE associated with the new char screening operation, the lime use tank, and the small increase in haulroad areas is equal to less than 1.0 TPY of PM, any actual increase in emissions associated with the proposed changes (not anticipated) is below the significant thresholds under 2.74 and, therefore, the proposed changes are not defined as a “major modification” under 45CSR14. It is important to note that Kingsford did identify any potential de-bottlenecking issues or aggregation issues associated with the proposed changes.

Additionally, due to the small increase in (potential) particulate matter emissions, and pursuant to §45-14-2.74(c), a modeling analysis was not requested to determine if the project would result in an impact on the Class I Area of Otter Creek Wilderness Area equal to or greater than 1  $\mu\text{g}/\text{m}^3$  (twenty-four (24) hour average). An impact over this threshold at a facility within ten (10) kilometers of any Class I area would define the project as “significant.”

### ***45CSR30: Requirements for Operating Permits***

45CSR30 provides for the establishment of a comprehensive air quality permitting system consistent with the requirements of Title V of the Clean Air Act. The Parsons Plant, defined under Title V as a “major source,” was last issued a Title V renewal permit on February 11, 2014 (R30-09300004-2014). Proposed changes evaluated herein must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

### **TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS**

There is no proposed increase in currently emitted non-criteria regulated pollutants or emissions of new non-criteria regulated pollutants as part of the changes evaluated herein.

### **AIR QUALITY IMPACT ANALYSIS**

The estimated maximum emissions of the modified facility are less than applicability thresholds that would define the proposed changes as a “major modification” under 45CSR14 and, therefore, no air quality impacts modeling analysis was required. Additionally, based on the nature and location of the modified source, an air quality impacts modeling analysis was not required under 45CSR13, Section 7.

### **MONITORING, COMPLIANCE DEMONSTRATIONS, REPORTING, AND RECORDING OF OPERATIONS**

There was no changes to the monitoring, compliance demonstration, reporting, and record-keeping requirements (MRR).

### **PERFORMANCE TESTING OF OPERATIONS**

There were no changes to the performance testing requirements made as a result of the changes evaluated herein.

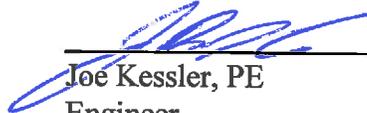
### **CHANGES TO PERMIT R13-1608G**

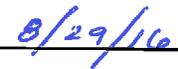
The substantive changes made changes to R13-1608G were limited to updating the Emission Units Table 1.0 of the draft permit with revised information based on the proposed modifications evaluated herein.

R13-1608H  
Kingsford Manufacturing Company  
Parsons Plant

**RECOMMENDATION TO DIRECTOR**

The information provided in the permit application indicates that compliance with all applicable state and federal air quality regulations will be achieved. Therefore, I recommend to the Director the issuance of a Permit Number R13-1608H to Kingsford Manufacturing Company for the proposed modification of the Parsons Plant located near Parsons, Tucker County, WV.

  
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Joe Kessler, PE  
Engineer

  
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Date

R13-1608H  
Kingsford Manufacturing Company  
Parsons Plant