



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-3256T
Plant ID No.: 053-00004
Applicant: Felman Production, Inc.
Facility Name: Letart Facility
Location: Mason County
NAICS Code: 331492
Application Type: Temporary
Received Date: June 22, 2015
Engineer Assigned: Steven R. Pursley, PE
Fee Amount: \$3,500
Date Received: June 23, 2015
Complete Date: June 30, 2015
Due Date: August 14, 2015
Applicant Ad Date: June 20, 2015
Newspaper: *Point Pleasant Register*
UTM's: Easting: 419.73 km Northing: 4,312.47 km Zone: 17
Description: Addition of a Trackpacktor 400R jaw crusher as a precrusher to the existing Trackpacktor 320R unit.

DESCRIPTION OF PROCESS

On June 5, 2013, Felman Production, Inc. (Felman) received permit R13-3073T. The permit addressed the installation of a portable crushing and screening system. This system was eventually made permanent and incorporated into permit R13-3217 which was issued on April 29, 2015. During this time Felman has experienced significant mechanical problems (specifically belt damage) to its unit. In an attempt to correct this problem, Felman is now proposing to add a precrusher to the unit. If this solves the problem, the new crusher will be added permanently to permit R13-3217. If not, the equipment will be removed before this permit expires.

An endloader will load the remelt, slag, or silicomanganese to the hopper/feeder. The feeder will then transfer material to the Trackpacktor 400R jaw crusher. The jaw crusher will discharge the material to a belt conveyor which will carry the material to the existing sizing system.

SITE INSPECTION

No site inspection was performed for this permit. However, the writer is familiar with the facility having visited it multiple times. The facility is located in New Haven, West Virginia, in an area that is a mix of residential, commercial and industrial. To get to the facility from Charleston take I-77 north to Ripley (exit 138). At the stop light at the bottom of the off ramp turn left on State Route 62 (old Route 33) and proceed approximately 8.8 miles to the intersection of State Route 2. Then, turn left and proceed on State Route 2/62 approximately 3.1 miles. At the top of the hill veer right on State Route 62. Proceed approximately 9.6 miles and the facility is on the left (offices and parking on the right).

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

All emissions are based on AP-42. Crushing and screening emissions are based on Table 11.24-2 (emission factors for metallic minerals processing) since no emission factors for crushing and screening are given in the ferroalloy section (12.4). Transfer point emissions are based on Equation (1) in section 13.2.4.3. Maximum hourly TP emissions are based on a worst case scenario of handling Silicomanganese while annual emissions are based on the throughput limits (for each type of material) that will be in the permit.

It should be noted that although emissions from the engines that power the crushers and drives the other trakpacktors at the facility were included in some previous permits issued to Felman, they are NOT included in this summary. This is because, in the writers opinion, the engines clearly meet the definition of non-road / mobile internal combustion engines in 40 CFR 60 Subpart IIII (which references 40 CFR 1068.30).

	PM		PM ₁₀		PM _{2.5}	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Crusher	40	7.15	18.92	3.38	5.95	1.06
Transfer Points	18.36	3.28	8.68	1.55	2.73	0.49
Total	58.36	10.43	27.6	4.93	8.68	1.55

REGULATORY APPLICABILITY

The following state and federal regulations apply to the facility:

STATE RULES

45CSR7 To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations

The main requirement of 45CSR7 is the process weight rate based PM stack emission rate in section 4 of the rule. As can be see in the table below the source meets this requirement.

	Permit Limit (lb/hr)	Rule 7 Limit (lb/hr)
Crusher	40	79

The facility is also subject to a twenty (20) percent opacity limit on all process source operations and must have a plan to minimize fugitive emissions. Felman proposes to meet these requirements through the use of water sprays and enclosures.

The facility is also subject to the fugitive particulate matter control systems requirement of section 5.1 of 45CSR7.

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).

Because uncontrolled PM emissions from the modification exceed 6 pounds per hour and 10 tons per year of PM the facility is required to submit a modification permit under 45CSR13. The applicant chose to apply for a temporary permit. Therefore, the applicant was required to place a class I legal ad per 45CSR§13-11.2.a. The affidavit of publication for said ad was received on June 30, 2015.

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

Felman is an existing major source as defined in 45CSR14. Therefore, if the facility's increase in potential to emit due to the modification exceeds the amount defined as "significant" in 45CSR14 the modification must undergo PSD review. Additionally, the emissions due to this modification should likely be considered in combination with those permitted in R13-3217 since they are part of the same process and were proposed less than two years apart.

Emissions due to R13-3217 (taken directly from that permit) are as follows:

	PM		PM ₁₀		PM _{2.5}	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Screen	20.00	3.58	9.46	1.69	2.98	0.54
Crusher	20.00	3.58	9.46	1.69	2.98	0.54
Transfer Points	0.82	0.15	0.39	0.07	0.12	0.02
Total	40.82	7.31	19.31	3.45	6.08	1.1

As can be seen above, emissions due to this modification are as follows:

	PM		PM ₁₀		PM _{2.5}	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Crusher	40	7.15	18.92	3.38	5.95	1.06
Transfer Points	18.36	3.28	8.68	1.55	2.73	0.49
Total	58.36	10.43	27.6	4.93	8.68	1.55

Therefore, the total increase is as follows (it should be noted that this is an extremely conservative estimate since some transfer points are double counted):

Pollutant	Potential-To-Emit (TPY)	Significance Level (TPY)	PSD (Y/N)
PM	17.74	25	N
PM ₁₀	8.38	15	N
PM _{2.5}	2.65	10	N

As can be seen by the above table, PSD review was not triggered for any new pollutant due to this application.

45CSR30 Requirements for Operating Permits

The facility is an existing major source under 45CSR30 with an existing Title V permit. Changes authorized by the permit must also be incorporated into the facility's Title V operating permit.

FEDERAL RULES

40 CFR 63 Subpart XXX National Emission Standards for Hazardous Air Pollutants for Ferroalloys Production: Ferromanganese and Silicomanganese

The crushing equipment and associated fugitive dust sources are subject to 40 CFR 63 Subpart XXX. The crusher is subject to a limitation of 0.022 gr/dscf. In order to determine compliance with the particulate matter concentration limit, the permittee must perform testing, as outlined in §63.1656.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The main pollutant covered by this permit is particulate matter. However, some portion of that particulate matter may consist of manganese compounds. Since the facility is already a major source of HAPs subject to 40 CFR 63 Subpart XXX requirements are already in place (as can be seen under the "Regulatory Applicability" section of this document) to limit emissions of these compounds.

AIR QUALITY IMPACT ANALYSIS

Because this is a minor modification as defined in 45CSR14 no modeling was performed.

MONITORING OF OPERATIONS

The permittee shall monitor and record the following:

- * The amount of remelt, slag, and silicomanganese through the crusher

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Felman Production, Inc.
Letart Facility

RECOMMENDATION TO DIRECTOR

Information supplied in the application indicates that compliance with all applicable regulations will be achieved. Therefore it is the recommendation of the writer that permit R13-3256T for the temporary modification of a ferro alloy facility near Letart, Mason County, be granted to Felman Production, Inc.



Steven R. Pursley, PE
Engineer

8-20-15

August 20, 2015

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