

To: File  
From: John Legg  
Date: December 12, 2013

Subj: R13-2511K - Permit Modification  
Hamer Pellet Fuel Company, Elkins, WV  
Application No.: R13-2511K; Company ID: 083 - 00114

- August 29, 2013 - Hamer Pellet Fuel Company (Hamer) submits a permit modification to their Elkins, Randolph County facility's current air permit (R13-2511J).
- August 30, 2013 - Hamer's legal advertisement rans in *The Inter-Mountain Legals*.
- September 4, 2013 - The \$1,000 application fee was paid, and the application was assigned to the writer for review.
- November 22, 2013 - Met with Jim Dearing (Hamer) and Gene Coccari (DAQ Small Business Group) to discuss the application and to correct mistakes in the application's Emission Units Table (see Table 1 below).

The new maximum annual wood pellet production rate was discussed at the meeting and was increased to 210,000 ton/yr from the old permitted value of 72,000 ton/yr. The new annual production rate was calculated as follows:

$$\begin{aligned} \text{New Annual} \\ \text{Production Rate} &= \text{Old Permitted Annual Production Rate} \times \\ &\quad \text{New Hourly Production Rate} \div \text{Old Hourly} \\ &\quad \text{Production Rate} \\ &= 72,000 \text{ ton/yr} \times [(7 \text{ ton/hr} \times 5 \text{ Pellet Mills}) \\ &\quad \div (6 \text{ ton/hr} \times 2 \text{ Pellet Mills})] \\ &= 210,000 \text{ ton/yr} \end{aligned}$$

Note: Old Annual Production Rate based on an operating schedule of 6,000 hr/yr and running 2 pellet mills at 6 ton/hr each.

New Annual Production Rate purposely does not factor into account the increase in operating hours, i.e., it is still based on an operating schedule of 6,000 hr/yr. The 6,000 hr/yr was back calculated by taking 72,000 ton/yr and dividing by 12 ton/hr which is 2 pellet mills operating at a pellet production rate of 6 ton/hr each.

It is the permit writer's understanding that Hammer's current production rate is well under the 72,000 ton/yr rate allowed by the old permit, and that the new production rate may never be realized.

**Table 1: Corrections to Emission Units Table in Application R13-2511K .**

Emission Unit ID	Emission Point ID	Emission Unit Description	Date Installed	Design Capacity	Control Device
21S	<del>23E</del> 13E	Re-Introduced Bliss Pellet Mill	2013	7 TPH	<del>23E</del> 13C
22S	<del>23E</del> 13E	Re-Introduced Bliss Pellet Mill	2013	7 TPH	<del>23E</del> 13C
23S	<del>23E</del> 13E	Re-Introduced Bliss Pellet Mill	2013	7 TPH	<del>23E</del> 13C
24S	<del>2E</del> 4E	New Bliss Pellet Cooler	2013	1 0 TPH	4C - cyclone 2C2 baghouse
4S	<del>2E</del> 4E	Re-Introduced Bliss Pellet Cooler	2013	1 0 TPH	4C - cyclone 2C2 baghouse
SCR3	22E	New Gentle Roll Screen (Replaces Un-numbered Screen)	2013	32 T PH	22C - New Baghouse
SCR4	<del>24E</del> 4E	New Gentle Roll Screen 2	2013	3 2 TPH	4C - cyclone 2C2 - baghouse
4AS	<del>24E</del> 4E	Large Law-Marot-Milpro Cooler	<del>2013</del> 2012	15 TPH	<del>24E</del> 4C - cyclone 2C2 - baghouse

November 26, 2013 - Draft Permit sent to Jim Dearing and Gene Cocarri for their input.

December 9, 2013 - Jim Dearing has no comments on draft permit.

December 10, 2013 - Draft permit submitted to Air Director to go to legal notice.

### PM Increases

Hamer estimated the increase in potential-to-emit (PTE) particulate matter (PM and PM<sub>10</sub>) resulting from the proposed changes in R13-2511K at 2 ton/yr PM and 1 ton/yr PM<sub>10</sub> in their 8/30/13 legal ad.

The facility's PTE is under the 100 ton/yr PM<sub>10</sub> emission limit that would make this area source a major source. This statement is based on Hamer's facility-wide estimation of emissions which was included with this application and which is summarized below:

<b>Pollutant</b>	<b>TPY</b>
PM <sub>30</sub>	50.1
NO <sub>x</sub>	39.2
CO	48.0
SO <sub>2</sub>	2.0
VOC	53.6
HAP	2.7

Gene Coccari from the DAQ's Small Business Assistance Group assisted Hamer in preparation of this application and in estimating facility-wide emissions.

**Process Description**

Three (3) Re-introduced Bliss Pellet Mills (21S, 22S, 23S)

Under past applications (R13-2511B and R13-2511D), Hamer permitted a total of three Bliss Pellet mills, and then replaced all three Bliss pellet mills with two (2) Spout pellet mills.

Hamer now want to re-introduce the aforementioned three (3) Bliss pellet mills via permit application R13-2511K. These emissions were previously calculated and included in past permits.

<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Date Installed</b>	<b>Design Capacity</b>	<b>Control Device</b>
21S	13E	Re-Introduced Bliss Pellet Mill	2013	7 TPH	13C - Cyclone
22S	13E	Re-Introduced Bliss Pellet Mill	2013	7 TPH	13C - Cyclone
23S	13E	Re-Introduced Bliss Pellet Mill	2013	7 TPH	13C- Cyclone

**Table 4: Information on the Three (3) Re-introduced Bliss Model D3618-141 Pellet Mills (21S, 22S, and 23-S) to be Added Under R13-2511K.**

Manufacturer		Bliss
Model No.		Model D3618-141
Maximum Amount of Proposed Process Material	Charged	12,000 lb/hr (6 ton/hr)
	Produced	12,000 lb/hr (6 ton/hr)
Name of Process Material Produced		Hardwood Pellets
Proposed Operating Schedule		24 hr/day; 6 day/wk; 52 wk/yr
Emission Rate Before Controls	PM <sub>10</sub>	4.76 lb/hr
	PM	10 lb/hr
Controls		Cyclone Baghouse
Control Efficiency (%)		99.9 - Cyclone 99.9 - Baghouse

Re-introduced Cooler (4S) and New Cooler (24S),  
Both Coolers for Three (3) Re-introduced Bliss Pellet Mills

Under a past application (R13-2511D), Hamer permitted a larger cooler (4AS) and was to scrap the existing smaller cooler (4S originally installed in 2002). Through an apparent oversight, the scrapped cooler (4S) is still in permit R13-2511J.

Hamer wants to re-introduce the old cooler (4S) and add an identical second cooler for the three re-introduced Bliss pellet mills.

<b>Table 5: Re-Introduced Pellet Cooler (4S) and New Pellet Cooler (24S) To be Added Under Permit Application R13-2511K.</b>					
Emission Unit ID	Emission Point ID	Emission Unit Description	Date Installed	Design Capacity	Control Device
24S	4E	New Bliss Pellet Cooler	2013	10 TPH	4C - cyclone 2C2 - baghouse
4S	4E	Re-Introduced Bliss Pellet Cooler	2013	10 TPH	4C - cyclone 2C2 - baghouse

**Table 6: Information on the Re-introduced Bliss Pellet Cooler (4S) and New Bliss Pellet Cooler (24S) Proposed to be Added Under R13-2511K.**

Manufacturer		Bliss Pellet Cooler
Model No.		Not Specified
Maximum Amount of Proposed Process Material	Charged	20,000 lb/hr (10 ton/hr)
	Produced	20,000 lb/hr (10 ton/hr)
Name of Process Material Produced		Hardwood Pellets
Proposed Operating Schedule		24 hr/day; 6 day/wk; 52 wk/yr
Emission Rate Before Controls	PM <sub>10</sub>	21 lb/hr
	PM	43 lb/hr (161 TPY)
Controls		Cyclone Baghouse
Control Efficiency (%)		99.9 - Cyclone 99.9 - Baghouse

Replacement Screen (SCR-4) and New Screen (SCR-3)

The original screen from the very first permit (R13-2511) needs to be replaced to handle more load/capacity. The old screen had no designation. The new screen will be designated as SCR-4. The associated transfer points were already accounted for in the original application.

<b>Table 7: New Screens Added Under Permit Application R13-2511K.</b>					
<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Date Installed</b>	<b>Design Capacity</b>	<b>Control Device</b>
SCR3	22E	Gentle Roll Screen (Replaces Un-numbered Screen)	2013	32 TPH	22C - New Baghouse
SCR4	24E	New Gentle Roll Screen 2	2013	32 TPH	4C - cyclone 2C2 - baghouse

**Table 8: Information on the Replacement Screen (4S) and New Screen (24S) Proposed to be Added Under R13-2511K.**

Manufacturer		Gentle Roll Screener
Model No.		
Maximum Amount of Proposed Process Material	Charged	15 ton/hr
	Produced	15 ton/hr
Name of Process Material Produced		
Proposed Operating Schedule		24 hr/day; 6 day/wk; 52 wk/yr
Emission Rate Before Controls	PM <sub>10</sub>	0.07 lb/hr (0.261 TPY)
	PM	0.2 lb/hr (0.75 TPY)
Controls		Cyclone Baghouse
Control Efficiency (%)		99.9 - Cyclone 99.9 - Baghouse

New Screen's (SCR-3) Baghouse (22-C)

**Table 9: New Baghouse (22-C) to be Added Under R13-2511K.**

Manufacturer		Kice
Model No.		VR60-8
Total Number of Compartments		1
Baghouse Configuration		Closed Pressure
Filter Fabric Bag	Material	Polyester
	Bag Dimension	Diameter 4' 6" Length 8'
	Cloth Area	558 ft <sup>2</sup>
	Number of Bags	60
	Operating Air to Cloth Ratio:	5.73
Baghouse Operation (Continuous; Automatic; Intermittent)		Not Specified
Method Used to Clean Bags		Pulse Jet
Cleaning Initiated by:		Timer

**Table 9: New Baghouse (22-C) to be Added Under R13-2511K.**

Operation Hours	24 hr/day; 7488 hr/yr
Collection Efficiency	99.9 %
Gas Flow Rate into Collector	3200 ACFM
Gas Stream Temperature:	Not Given
Stabilized Static Press Loss Across Baghouse.	Pressure Drop: High 8 in. H <sub>2</sub> O; Low 3 in. H <sub>2</sub> O
Type of Pollutant	Hardwood Pellet Dust/PM
How is filter monitored for indications of deterioration (e.g. broken bags)?	Pressure Drop
Describe any recording device and frequency of log entries:	Pressure Drop - Manually - Daily
Describe the collection material disposal system:	Completely recycled to the pellet mill

Operating Schedule

The operating schedule for the three Bliss pellet mills and two coolers will be 7, 488 hr/yr (24 hr/day; 6 day/wk; and 52 wk/yr). The old operating schedule was 4,800 hr/yr (16 hr/day; 6 day/wk; 50 wk/yr), however, back calculating from the old permitted wood pellet production rate (72,000 ton/yr) by dividing by an hourly production rate of 12 ton/hr (based on 2 mills each running a 6 ton/hr) yields an operating schedule of 6,000 hr/yr. Note that the new permitted annual production rate (210,000 ton/yr) is not based on the new operating schedule (7,488 hr/yr). It is still based on operating 6,000 hr/yr.

Emission Calculations

<b>Table 10: Uncontrolled Emission Summary Table for Changes Proposed in R13-2511K, Hamer Pellet Fuel Company, Elkins, WV.</b>				
<b>PM Emission</b>			<b><sup>(1)</sup>PM &amp; (PM<sub>10</sub>) Uncontrolled Emissions</b>	
Emission Point	Unit/Source		(lb/hr)	(ton/yr)
	ID No.	Equipment Description		
13E	21S	Re-introduced Bliss Pellet Mill	10 (4.76)	24 (11.43)

<b>Table 10: Uncontrolled Emission Summary Table for Changes Proposed in R13-2511K, Hamer Pellet Fuel Company, Elkins, WV.</b>				
<b>PM Emission</b>			<b><sup>(1)</sup>PM &amp; (PM<sub>10</sub>) Uncontrolled Emissions</b>	
Emission Point	Unit/Source		(lb/hr)	(ton/yr)
	ID No.	Equipment Description		
13E	22S	Re-introduced Bliss Pellet Mill	10 (4.76)	24 (11.43)
13E	23S	Re-introduced Bliss Pellet Mill	10 (4.76)	24 (11.43)
4E	24S	New Bliss Cooler	43 (21)	161 (76.7)
4E	4S	Re-introduced Bliss Cooler	43 (21)	161 (76.7)
22E	SCR3	Gentle Roll Screen (Replaces Un-numbered Screen)	0.8 (0.3)	2.995 (1.042)
2E	SCR4	New Gentle Roll Screen 2	0.2 (0.07)	0.75 (0.261)
4E	4AS	Large Law-Marot-Milpro Cooler	65 (31)	24.3 (11.6)
TP 89 TP 117	Transfer Points		0.26 (0.12)	0.97 (0.46)
Total Emissions			182 (87.77)	423.015 (201.053)
(1) PM <sub>10</sub> emissions are calculated by dividing by 2.1 per EPA AP-42.				

<b>Table 11: Controlled Emission Summary Table for Changes Proposed in R13-2511K, Hamer Pellet Fuel Company, Elkins, WV.</b>						
<b>PM Emission</b>			<b>Control Device</b>		<b><sup>(1)</sup>PM &amp; (PM<sub>10</sub>) Controlled Emissions</b>	
Point	Unit/Source		ID	Description	(lb/hr)	(ton/yr)
	ID No.	Equipment Description				
13E	21S	Re-introduced Bliss Pellet Mill	23C	13C - baghouse	0.01 (0.005)	0.024 (0.01143)

**Table 11: Controlled Emission Summary Table for Changes Proposed in R13-2511K, Hamer Pellet Fuel Company, Elkins, WV.**

PM Emission			Control Device		<sup>(1)</sup> PM & (PM <sub>10</sub> ) Controlled Emissions	
Point	Unit/Source		ID	Description	(lb/hr)	(ton/yr)
	ID No.	Equipment Description				
13E	22S	Re-introduced Bliss Pellet Mill	23C	13C - baghouse	0.01 (0.005)	0.024 (0.01143)
13E	23S	Re-introduced Bliss Pellet Mill	23C	13C - baghouse	0.01 (0.005)	0.024 (0.01143)
4E	24S	New Bliss Cooler	4C	Cyclone	0.043 (0.021)	0.161 (0.0767)
			2C2	Baghouse		
4E	4S	Re-introduced Bliss Cooler	4C	Cyclone	0.043 (0.021)	0.161 (0.0767)
			2C2	Baghouse		
22E	SCR3	New Gentle Roll Screen (Replaces Un-numbered Screen)	22C	Baghouse	0.16 (0.056)	0.6 (0.208)
4E	SCR4	New Gentle Roll Screen 2	4C	Cyclone	0.04 (0.014)	0.15 (0.052)
			22C	Baghouse		
4E	4AS	Large Law-Marot-Milpro Cooler	24C	Baghouse	0.066 (0.031)	0.247 (0.118)
TP 89 TP 117	Transfer Points		Full Enclosure		0.05 (0.02)	0.19 (0.09)
Total Emissions					0.389 (0.178)	1.581 (0.656)

(1) PM<sub>10</sub> emissions are calculated by dividing by 2.1 per EPA AP-42.

The transfer point emissions associated with the addition of the three pellet mills and coolers were calculated via the DAQ's G-40 Material Handling General Permit spreadsheet. According to the application:

As sawdust has a much higher moisture content than stone, the calculated emissions should be much higher than actual emissions.

Three Re-introduced Bliss Pellet Mill Emissions

The following assumptions (originally used to add/permit the 2<sup>nd</sup> and 3<sup>rd</sup> Bliss pellet mills) are re-used here to re-introduce each of the three Bliss pellet mills:

- 48,000 TPY of hardwood sawdust per pellet mill will be processed into pellet fuel.
- Less than 0.1% of the 48,000 TPY of hardwood sawdust to be processed into pellet fuel per pellet mill will be “dust” (regulated pollutant/ PM) making its way to the cyclone/baghouse combination.

Given the above assumptions, the following PM emissions were calculation per each pellet mill:

$$\begin{aligned} \text{Uncontrolled PM Emissions} &= 24,000 \text{ TPY hardwood sawdust} \times 0.001 \text{ PM} \\ &= 24 \text{ TPY PM emissions} \end{aligned}$$

Controlled PM Emissions  
(Old operating schedule:

$$\begin{aligned} 16 \text{ hr/day; } 6 \text{ day/wk; } 50 \text{ wk/yr} &= 24 \text{ TPY (1 - 99.9\% control efficiency)} \\ &= 0.024 \text{ TPY} \times 2000 \text{ lb/ton} \\ &= 48 \text{ lb/yr} \div 50 \text{ wk/yr of operation} \\ &= 0.96 \text{ lb/wk} \div 6 \text{ day/wk of operation} \\ &= 0.16 \text{ lb/day} \div 16 \text{ hr/day of operation} \\ &= 0.01 \text{ lb/hr PM emissions} \end{aligned}$$

For the three re-introduced Bliss pellet mills, the annual emission rate will stay the same, but the new working hours will increase from 4,800 hr/yr (50 wk/yr; 6 day/wk; 16 hr/day) to 7,488 hr/yr (52 wk/yr; 6 day/wk; 24 hr/day). The new hourly emissions rate based on operating longer would be 0.0064 lb/hr which rounds back up to 0.01 lb/hr.

#### Re-introduced Cooler (4S) and New Cooler (24S) Emissions

Hamer wants to re-introduce the old cooler (4S) and add an identical second cooler for the three re-introduced Bliss Pellet mills. As background information:

Permit application R13-2511D added a new pellet mill (11S) to Hamer’s process which already had two existing pellet mills: (3S) and (3S2).

The new pellet mill (11S) increased pellet production from 20,000 lb/hr to 30,000 lb/hr. Because of the resulting increase in pellet production, the original cooler (4S) was too small for the increased production. The original cooler (4S) was to be replaced with a bigger cooler (4AS).

An early step in estimating PM emissions for the bigger cooler (4AS) was to estimate PM emissions for the original cooler (4S) which was done as follows:

The pellet mill lift system and the cooler vent system for the old cooler (4S) are outlined in Sections 3 and 4 of a letter written by Kice on September 3, 2002. This

letter was given in permit application R13-2511D, beginning on page 68. Kice manufactured cyclones and baghouse systems and was involved in the changes made to Hamer's process in 2002.

Adding the PM emissions from the two systems (2.5 lb/hr and 1.8 lb/hr) yields 4.3 lb/hr PM emissions resulting from the operation of the original cooler which had a handling capability of 20,000 lb/hr of wood pellet production.

Factoring in the new production schedule of 24 hr/day, 6 day/wk, 52 wk/yr yields 32,198.4 lb/yr or 16.1 ton/yr of PM emissions.

Since the cooler's emissions are controlled by a baghouse, they are estimated after controls as being:

$$\begin{aligned} \text{Controlled Hourly Emissions} &= 4.3 \text{ lb/hr} \times (1 - 0.99) = 0.043 \text{ lb/hr} \\ \text{Controlled Yearly Emissions} &= 16.1 \text{ ton/yr} \times (1 - 0.99) = 0.161 \text{ ton/yr} \end{aligned}$$

The above hourly and annual controlled emissions are for the old cooler (4S) operating at Hamer's new operating schedule. Hamer want to install an addition cooler (24S) in addition to the re-introduced cooler (4S).

Existing Cooler (4AS) Emission Increase  
(Resulting from New Operating Schedule)

Uncontrolled emissions from the larger cooler (4AS) associated with the two Sprout pellet mills was estimated in R13-2511D to be 6.6 lb/hr and 15.84 ton/yr (based on the old operating schedule of: 16 hr/day; 6 day/wk; 50 wk/yr). Hourly uncontrolled emissions will remain the same. Annual uncontrolled emissions based on the new operating schedule will be 24.7 ton/yr.

Controlled (99%) emissions will increase from 0.066 lb/hr and 0.159 ton/yr to 0.066 lb/hr (no change) and 0.247 ton/yr (24 hr/day; 6 day/wk; 52 wk/yr). The delta increase in controlled annual emissions is 0.089 ton/yr ((0.247 - 0.159) ton/yr).

**Table 12: Information on the Existing Large Law-Marot-Milpro Cooler (4AS); Annual Emissions to Increase Because of Expanded Operation (24 hr/day; 6 day/wk; 52 wk/yr) Under R13-2511K.**

Manufacturer		Law-Marot-Milpro
Model No.		
Maximum Amount of Proposed Process Material	Charged	30,000 lb/hr (15 ton/hr)
	Produced	30,000 lb/hr (15 ton/hr)

**Table 12: Information on the Existing Large Law-Marot-Milpro Cooler (4AS); Annual Emissions to Increase Because of Expanded Operation (24 hr/day; 6 day/wk; 52 wk/yr) Under R13-2511K.**

Name of Process Material Produced		
Proposed Operating Schedule		24 hr/day; 6 day/wk; 52 wk/yr
Emission Rate Before Controls	PM <sub>10</sub>	3.1 lb/hr (11.6 TPY)
	PM	6.6 lb/hr (24.7 TPY)
Controls		Cyclone Baghouse
Control Efficiency (%)		99.9 - Cyclone 99.9 - Baghouse

New Transfer Points Numbers 89-117

**Table 13: New Transfer Points (Shown in Red) Resulting from R13-2511K, Hamer Pellet Fuel Company, Elkins Randolph County, WV.**

Transfer Point ID No.	Transfer Point Description	Moisture Content %	Maximum Transfer Rate		Control Device ID Number	Control Efficiency %
			TPH	TPY		
TP-10	Truck Dump to Drag	70%	30	120,000	PE	50
TP-11	Drag 1 to Drag 2	70%	30	120,000	PE	50
TP-12	Drag 2 to Beltline	70%	30	120,000	PE	50
TP-13	Beltline to Concrete Pad	70%	30	120,000		
TP-14	Concrete Pad to Loader Bucket	70%	30	120,000		
TP-15	Loader Bucket to Storage Pile	70%	30	120,000		
TP-16	Storage Pile to Feed Hopper	70%	30	120,000	PE	50
TP-17	Feed Hopper to Hammermill	70%	30	120,000	FE	80
TP-18	Hammermill to Drum Dryer	70%	30	120,000	13C	99
TP-19	Drum Dryer to Multiclones	12%	15	60,000	MultiClones	75
TP-20	Multiclones to Burner Hammermill	12%	2	8,000	13C	99
TP-21	Hammermill Burner to Feed Bin for Burner	12%	2	8,000	13C	99
TP-22	Feed Bin to Burner	12%	2	8,000	FE	80
TP-23	Truck Dump to Drag	70%	30	120,000	PE	50
TP-24	Drag 1 to Drag 2	70%	30	120,000	PE	50
TP-25	Drag 2 to Belt Line	70%	30	120,000	PE	50

**Table 13: New Transfer Points (Shown in Red) Resulting from R13-2511K, Hamer Pellet Fuel Company, Elkins Randolph County, WV.**

Transfer Point ID No.	Transfer Point Description	Moisture Content %	Maximum Transfer Rate		Control Device ID Number	Control Efficiency %
			TPH	TPY		
TP-26	Beltline to Concrete Pad	70%	30	120,000		
TP-27	Concrete Pad to Loader Bucket	70%	30	120,000		
TP-28	Loader Bucket to Storage Pile	70%	30	120,000		
TP-29	Storage Pile to Bucket	70%	30	120,000		
TP-30	Bucket to Feed Hopper	70%	30	120,000	PE	50
TP-31	Feed Hopper to Drum Dryer	70%	30	120,000	PE	50
TP-33	Drum Dryer to Multiclones	12%	15	60,000	MultiClones	75
TP-34	Multiclones to Hammermill "Silo"	12%	15	60,000	BagHouse	99
TP-35	Hammermill "Silo" to Silo	12%	15	60,000	Baghouse	99
TP-36	Hammermill "Silo" to Dust Shed	12%	15		cyclone	75
TP-37	2s Hammer Mill to Feed Silo	12%	15		2C1	99
TP-38	Feed Silo to Auger	12%	15		FE	80
TP-39	Auger to Pellet Mill	12%	15		FE	80
TP-40	Pellet Mill to Bin under Pellet Mill	12%	15		PE	50
TP-41	Bin under Pellet Mill to Cooler	6%	15		4C	75
TP-42	Pneumatic Tube to Storage Bin (16S)	7%	15	60,000	13C	99
TP-43	Storage Bin (16S) to Pneumatic Tube	7%	15	60,000	13C	99
TP-44	Diverter Valve to Pneumatic Tube	7%	15	60,000	13C	99
TP-45	Pneumatic Tube to 100 Ton Storage Bin	7%	15	60,000	13C	99
TP-46	100 Ton Bin to New Auger	7%	15	60,000	13C	99
TP-47	New Auger to Existing Auger	7%	15	60,000	13C	99
TP-52	Dragline to Hammermill	7%	12	72,000	PE	50
TP-53	Hammermill to Pneumatic Tube	7%	12	72,000	8AC	99
TP-54	Pneumatic Tube to New Silo Cyclone	7%	12	72,000	8AC	99
TP-55	New Silo Cyclone to Silo	7%	12	72,000	8AC	99
TP-56	Silo to Auger	7%	21	108,000	19C	99
TP-57	Auger to beltline	7%	21	108,000	19C	99
TP-58	Beltline to Airlock	7%	21	108,000	19C	99
TP-59	Airlock to Pneumatic Tube	7%	21	108,000	19C	99

**Table 13: New Transfer Points (Shown in Red) Resulting from R13-2511K, Hamer Pellet Fuel Company, Elkins Randolph County, WV.**

Transfer Point ID No.	Transfer Point Description	Moisture Content %	Maximum Transfer Rate		Control Device ID Number	Control Efficiency %
			TPH	TPY		
TP-60	Pneumatic Tube to New Feeder Bin	7%	21	108,000	19C	99
TP-61	New Feeder Bin to Big Auger	7%	21	108,000	FE	80
TP-62	Big Auger to Small auger	7%	7	36,000	FE	80
TP-63	Big Auger to Small Auger	7%	7	36,000	FE	80
TP-64	Small Auger to Sprout Pellet Mill	7%	7	36,000	FE	80
TP-65	Small Auger to Sprout Pellet Mill	7%	7	36,000	FE	80
TP-66	Truck to Truck Dumper Drag Chain	8%	100	167,000	20C	99
TP-67	Drag Chain to Conveyor Belt	8%	100	167,000	FE	80
TP-68	Conveyor Belt to Screen SCR-2	8%	100	167,000	FE	80
TP-69	Screen SCR-2 to Screw	8%	97	161,990	FE	80
TP-70	Screen Overs to Ground	8%	3	5,010		
TP-71	Screw to Airlock	8%	97	161,990	FE	80
TP-72	Screw to Beltline	50%	97	161,990	FE	80
TP-73	Airlock to Pneumatic Pipe	8%	75	161,990	FE	80
TP-74	Baghouse Airlock to Pneumatic Pipe	8	1	25	FE	80
TP-75	Pneumatic Pipe to Silo	8	75	161,990	2C2	99
TP-76	Silo to Screw Conveyor	8	21	75,000	13C	99
TP-77	Screw to Hammermill 15S	8	21	75,000	13C	99
TP-78	Hammermill 15S to 13C BagHouse (process)	8	21	75,000	13C	99
TP-79	13C Baghouse to Airlock	8	21	75,000	13C	99
TP-80	Airlock to Pneumatic Pipe	8	21	75,000	13C	99
TP-81	Pneumatic Pipe to 19C BagHouse	8	21	75,000	13C	99
TP-82	19C BagHouse to Storage/Feeder Bin 19S	8	21	75,000	13C	99
TP-83	(after TP-72) Beltline to Ground	50	97	161,990		
TP-84	(Screen Addition) Multiclone to Auger	10	15	75,000	FE	80
TP-85	(Screen Addition) Auger to Shaker Screen SCR-1	10	15	75,000	FE	80
TP-86	(Screen Addition) Shaker Screen SCR-1 to Airlock	10	15	75,000	FE	80

**Table 13: New Transfer Points (Shown in Red) Resulting from R13-2511K, Hamer Pellet Fuel Company, Elkins Randolph County, WV.**

Transfer Point ID No.	Transfer Point Description	Moisture Content %	Maximum Transfer Rate		Control Device ID Number	Control Efficiency %
			TPH	TPY		
TP-87	(SCR add) Airlock to Pneumatic Tube	10	15	75,000	FE	80
TP-88	(SCR add) Pneumatic Tube to Silo	10	15	75,000	FE	80
TP-89	Pellet Mill to Catch Bin Under Pellet mill	6	7	52,416	FE	80
TP90	Catch Bin to Cyclone	6	7	52,416	FE	80
TP91	Cyclone to Airlock	6	7	52,416	FE	80
TP92	Airlock to Cooler	6	7	52,416	FE	80
TP93	Cooler to Airlock	6	7	52,416	FE	80
TP94	Airlock to Existing Pneumatic Tube	6	7	52,416	FE	80
TP95	13C Baghouse (new location) to Diverter Valve	6	7	52,416	FE	80
TP96	Diverter Valve to Feed Bin	6	7	52,416	FE	80
TP97	Feed Bin to Screw	6	7	52,416	FE	80
TP98	Feed Bin to Screw	6	7	52,416	FE	80
TP99	Screw to Screw	6	7	52,416	FE	80
TP100	Screw to Conditioner	6	7	52,416	FE	80
TP101	Conditioner to Pellet Mill	6	7	52,416	FE	80
TP102	Screw to Conditioner	6	7	52,416	FE	80
TP-103	Conditioner to Pellet Mill	6	7	52,416	FE	80
TP-104	Screw to Conditioner	6	7	52,416	FE	80
TP-105	Conditioner to Pellet Mill	6	7	52,416	FE	80
TP-106	Pellet Mill to Auger	6	7	52,416	FE	80
TP-107	Pellet Mill to Auger	6	7	52,416	FE	80
TP-108	Pellet Mill to Auger	6	7	52,416	FE	80
TP-109	Auger to Dragline	6	21	157,248	FE	80
TP-110	Draglone to Gentle Roll Screen	6	21	157,248	FE	80
TP-111	Gentle Roll Screen to Bucket Elevator	6	21	157,248	FE	80
TP-112	Bucket Elevator to Cooler	6	21	157,248	FE	80
TP-113	Cooler to Bucket Elevator	6	21	157,248	FE	80
TP-114	Bucket Elevator to Auger	6	21	157,248	FE	80

<b>Table 13: New Transfer Points (Shown in Red) Resulting from R13-2511K, Hamer Pellet Fuel Company, Elkins Randolph County, WV.</b>						
Transfer Point ID No.	Transfer Point Description	Moisture Content %	Maximum Transfer Rate		Control Device ID Number	Control Efficiency %
			TPH	TPY		
TP-115	Auger to 100 ton Storage Bin (existing moved)	6	21	157,248	FE	80
TP-116	Auger to New Aspirator *	6	21	157,248	FE	80
TP-117	New Aspirator to Existing Bagger	6	21	157,248	FE	80

<b>Table 14: Estimated Particulate Matter (PM) Emissions From Transfer Points Resulting from R13-2511K (Shown in Red), Hamer Pellet Fuel Company, Elkins, Randolph County, WV.</b>								
Transfer Point ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TP10	0.478	0.957	0.239	0.478	0.226	0.453	0.113	0.226
TP11	0.478	0.957	0.239	0.478	0.226	0.453	0.113	0.226
TP12	0.478	0.957	0.239	0.478	0.226	0.453	0.113	0.226
TP13	0.478	0.957	0.478	0.957	0.226	0.453	0.226	0.453
TP14	0.478	0.957	0.478	0.957	0.226	0.453	0.226	0.453
TP15	0.478	0.957	0.478	0.957	0.226	0.453	0.226	0.453
TP16	0.478	0.957	0.239	0.478	0.226	0.453	0.113	0.226
TP17	0.478	0.957	0.096	0.191	0.226	0.453	0.045	0.091
TP18	0.478	0.957	0.005	0.010	0.226	0.453	0.002	0.005
TP19	2.825	5.650	0.706	1.413	1.336	2.672	0.334	0.668
TP20	0.377	0.753	0.004	0.008	0.178	0.356	0.002	0.004
TP21	0.377	0.753	0.004	0.008	0.178	0.356	0.002	0.004
TP22	0.377	0.753	0.075	0.151	0.178	0.356	0.036	0.071
TP23	0.478	0.957	0.239	0.478	0.226	0.453	0.113	0.226
TP24	0.478	0.957	0.239	0.478	0.226	0.453	0.113	0.226
TP25	0.478	0.957	0.239	0.478	0.226	0.453	0.113	0.226
TP26	0.478	0.957	0.478	0.957	0.226	0.453	0.226	0.453
TP27	0.478	0.957	0.478	0.957	0.226	0.453	0.226	0.453

**Table 14: Estimated Particulate Matter (PM) Emissions From Transfer Points Resulting from R13-2511K (Shown in Red), Hamer Pellet Fuel Company, Elkins, Randolph County, WV.**

Transfer Point ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TP28	0.478	0.957	0.478	0.957	0.226	0.453	0.226	0.453
TP29	0.478	0.957	0.478	0.957	0.226	0.453	0.226	0.453
TP30	0.478	0.957	0.239	0.478	0.226	0.453	0.113	0.226
TP31	0.478	0.957	0.239	0.478	0.226	0.453	0.113	0.226
TP33	2.825	5.650	0.706	1.413	1.336	2.672	0.334	0.668
TP34	2.825	5.650	0.028	0.057	1.336	2.672	0.013	0.027
TP35	2.825	5.650	0.028	0.057	1.336	2.672	0.013	0.027
TP36	2.825	5.650	0.706	1.413	1.336	2.672	0.334	0.668
TP37	2.825	0.003	2.797	0.003	1.3361	0.001	1.323	0.001
TP38	2.825	0.003	0.565	0.001	1.3361	0.001	0.267	0.000
TP39	2.825	0.003	0.565	0.001	1.3361	0.001	0.267	0.000
TP40	2.825	0.003	1.413	0.001	1.3361	0.001	0.668	0.001
TP41	7.455	0.007	7.399	0.007	3.526	0.003	3.500	0.003
TP42	0.010	0.019	0.000	0.000	0.005	0.009	0.000	0.000
TP43	0.010	0.019	0.000	0.000	0.005	0.009	0.000	0.000
Sub-Total (TP1 thru TP43)	45.642	47.82	20.599	15.732	20.169	22.602	9.743	7.441
TP44	0.010	0.019	0.000	0.000	0.005	0.009	0.000	0.000
TP45	0.010	0.019	0.000	0.000	0.005	0.009	0.000	0.000
TP46	0.010	0.019	0.000	0.000	0.005	0.009	0.000	0.000
TP47	0.010	0.019	0.000	0.000	0.005	0.009	0.000	0.000
TP48	0.010	0.019	0.000	0.000	0.005	0.009	0.000	0.000
TP49	0.010	0.019	0.000	0.000	0.005	0.009	0.000	0.000
TP50	0.010	0.019	0.000	0.000	0.005	0.009	0.000	0.000
TP51	0.010	0.019	0.000	0.000	0.005	0.009	0.000	0.000
TP52	0.010	0.019	0.000	0.000	0.005	0.009	0.000	0.000
Sub-Total (TP44 thru TP52)	0.086	0.171	0.001	0.002	0.041	0.081	0.000	0.001
Total (TP1 thru TP52)	45.728	48.053	20.600	15.734	20.210	22.683	9.743	7.442

**Table 14: Estimated Particulate Matter (PM) Emissions From Transfer Points Resulting from R13-2511K (Shown in Red), Hamer Pellet Fuel Company, Elkins, Randolph County, WV.**

Transfer Point ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Emissions Related to Silo								
TP-52	0.008	0.023	0.004	0.011	0.004	0.011	0.002	0.005
TP-53	0.008	0.023	0.000	0.000	0.004	0.011	0.000	0.000
TP-54	0.008	0.023	0.000	0.000	0.004	0.011	0.000	0.000
TP-55	0.008	0.023	0.000	0.000	0.004	0.011	0.000	0.000
Emissions Before Storage Bin (18S)								
TP-56	0.013	0.034	0.000	0.000	0.006	0.016	0.000	0.000
TP-57	0.013	0.034	0.000	0.000	0.006	0.016	0.000	0.000
TP-58	0.013	0.034	0.000	0.000	0.006	0.016	0.000	0.000
TP-59	0.013	0.034	0.000	0.000	0.006	0.016	0.000	0.000
TP-60	0.013	0.034	0.000	0.000	0.006	0.016	0.000	0.000
Emissions After Storage Bin (18S)								
TP-61	0.013	0.034	0.003	0.007	0.006	0.016	0.001	0.003
TP-62	0.04	0.011	0.001	0.002	0.002	0.005	0.000	0.001
TP-63	0.04	0.011	0.001	0.002	0.002	0.005	0.000	0.001
TP-64	0.04	0.011	0.001	0.002	0.002	0.005	0.000	0.001
TP-65	0.04	0.011	0.001	0.002	0.002	0.005	0.000	0.001
Sub-Total (TP-52 thru TP-65)	0.126	0.340	0.011	0.26	0.061	0.150	0.003	0.012
Total (TP-1 thru TP-65)	45.854	48.393	20.611	15.994	20.271	22.833	9.746	7.454
Removed TPs (TP-48 thru TP-51)	0.04	0.076	0.000	0.000	0.02	0.036	0.000	0.000
Total (TP-1 thru TP-47 & TP-52 thru TP-65)	45.814	48.317	20.611	15.994	20.251	22.797	9.746	7.454
TP-66	0.053	0.044	0.001	0.000	0.025	0.021	0.000	0.000
TP-67	0.053	0.044	0.011	0.009	0.025	0.021	0.005	0.004
TP-68	0.053	0.044	0.011	0.009	0.025	0.021	0.005	0.004

**Table 14: Estimated Particulate Matter (PM) Emissions From Transfer Points Resulting from R13-2511K (Shown in Red), Hamer Pellet Fuel Company, Elkins, Randolph County, WV.**

Transfer Point ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TP-69	0.051	0.043	0.010	0.009	0.024	0.020	0.005	0.004
TP-70	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.001
TP-71	0.051	0.043	0.010	0.009	0.024	0.020	0.005	0.004
TP-72	0.004	0.003	0.001	0.001	0.002	0.002	0.000	0.000
TP-73	0.039	0.043	0.008	0.009	0.019	0.020	0.004	0.004
TP-74	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TP-75	0.039	0.043	0.000	0.000	0.019	0.020	0.000	0.000
TP-76	0.011	0.020	0.000	0.000	0.005	0.009	0.000	0.000
TP-77	0.011	0.020	0.000	0.000	0.005	0.009	0.000	0.000
TP-78	0.011	0.020	0.000	0.000	0.005	0.009	0.000	0.000
TP-79	0.011	0.020	0.000	0.000	0.005	0.009	0.000	0.000
TP-80	0.011	0.020	0.000	0.000	0.005	0.009	0.000	0.000
TP-81	0.011	0.020	0.000	0.000	0.005	0.009	0.000	0.000
TP-82	0.011	0.020	0.000	0.000	0.005	0.009	0.000	0.000
TP-83	0.004	0.003	0.004	0.003	0.002	0.002	0.002	0.002
TP-84	0.006	0.014	0.001	0.003	0.003	0.007	0.001	0.001
TP-85	0.006	0.014	0.001	0.003	0.003	0.007	0.001	0.001
TP-86	0.006	0.014	0.001	0.003	0.003	0.007	0.001	0.001
TP-87	0.006	0.014	0.001	0.003	0.003	0.007	0.001	0.001
TP-88	0.006	0.014	0.001	0.003	0.003	0.007	0.001	0.001
Sub-Total TP-66 thru TP-88	0.455	0.521	0.063	0.065	0.215	0.246	0.030	0.031
Total (TP-01 thru TP-88)	46.269	48.838	20.674	16.059	20.466	23.043	9.776	7.485
TP-89	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP90	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP91	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP92	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002

**Table 14: Estimated Particulate Matter (PM) Emissions From Transfer Points Resulting from R13-2511K (Shown in Red), Hamer Pellet Fuel Company, Elkins, Randolph County, WV.**

Transfer Point ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TP93	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP94	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP95	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP96	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP97	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP98	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP99	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP100	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP101	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP102	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP-103	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP-104	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP-105	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP-106	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP-107	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP-108	0.006	0.021	0.001	0.004	0.003	0.010	0.001	0.002
TP-109	0.017	0.062	0.003	0.012	0.008	0.029	0.002	0.006
TP-110	0.017	0.062	0.003	0.012	0.008	0.029	0.002	0.006
TP-111	0.017	0.062	0.003	0.012	0.008	0.029	0.002	0.006
TP-112	0.017	0.062	0.003	0.012	0.008	0.029	0.002	0.006
TP-113	0.017	0.062	0.003	0.012	0.008	0.029	0.002	0.006
TP-114	0.017	0.062	0.003	0.012	0.008	0.029	0.002	0.006
TP-115	0.017	0.062	0.003	0.012	0.008	0.029	0.002	0.006
TP-116	0.017	0.062	0.003	0.012	0.008	0.029	0.002	0.006
TP-117	0.017	0.062	0.003	0.012	0.008	0.029	0.002	0.006
Total (TP-89 thru TP-117)	0.259	0.970	0.052	0.194	0.123	0.459	0.025	0.092
Total (TP-01 thru TP-89)	46.269	48.838	20.674	16.059	20.466	23.043	9.776	7.485

**Table 14: Estimated Particulate Matter (PM) Emissions From Transfer Points Resulting from R13-2511K (Shown in Red), Hamer Pellet Fuel Company, Elkins, Randolph County, WV.**

Transfer Point ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Total (TP-01 thru TP-117)	46.528	49.808	20.726	16.253	23.589	23.502	9.801	7.577

**Table 15: PM10 Increase Resulting from Changes Made Under R13-2511K.**

Emission Point ID No.	Emission Unit Vented Through this Point		Air Pollution Control Device	Maximum PM <sub>10</sub>			
	ID No.	Source		Uncontrolled		Controlled	
				lb/hr	ton/yr	lb/hr	ton/yr
Process Equipment Listed in Table 10 and 11				87.77	201.06	0.187	0.656
17E	SCR-3	Gentle Roll Sifter/Screeners		0.278	1.042	0.056	0.208
18E	SCR-4	Gentle Roll 2 (original screen replacement)		0.070	0.261	0.014	0.052
Fugitive Screens - Sub-total				0.348	1.303	0.070	0.261
Fugitive	89 - 117	Transfer Points	See Table 14	0.123	0.459	0.025	0.092
Fugitive Screens (SCR-3 and SCR-4) plus Transfer Points (89 - 117)				0.471	1.762	0.095	0.353
Total - Process + Fugitive Emissions (Screens and Transfer Points)				88.241	202.822	0.282	1.009

**CHANGES MADE TO PERMIT**

See Attachment 1 to this evaluation to see the changes made to permit R13-2511J to become R13-2511K.

Attachment 1

**Changes Made to R13-2511J  
to Arrived at R13-2511K**