

**LANE REGIONAL AIR PROTECTION AGENCY (LRAPA)
 CONSTRUCTION AIR CONTAMINANT PERMIT REVIEW REPORT**

**Kingsford Manufacturing Company
 3315 Marcola Road
 Springfield, OR 97478**

Source Information:

SIC	2861
NAICS	325191

Source Categories (Part and code)	B.18
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Compliance and Emissions Monitoring Requirements:

Unassigned emissions	X
Emission credits	N/A
Compliance schedule	N/A
Source test [date(s)]	Annual and by 12/31/15

COMS	N/A
CEMS	N/A
Ambient monitoring	N/A

Reporting Requirements

Annual report (due date)	March 1 st
Emission fee report (due date)	March 1 st
SACC (due date)	August 15 th
Quarterly report (due dates)	N/A

Monthly report (due dates)	N/A
Excess emissions report	X
Other reports	N/A

Air Programs

NSPS (list subparts)	N/A
NESHAP (list subparts)	A, ZZZZ
CAM	X
Regional Haze (RH)	N/A
Synthetic Minor (SM)	N/A
Part 68 Risk Management	N/A
CFC	N/A
RACT	N/A
TACT	X

Title V	X
ACDP (SIP)	X
Major HAP source	N/A
Federal major source	X
NSR	N/A
PSD	N/A
Acid Rain	N/A
Clean Air Mercury Rule (CAMR)	N/A

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LIST OF ABBREVIATIONS USED IN THIS REVIEW REPORT

AQMA	Air Quality Management Area	MM	million
ASTM	American Society of Testing and Materials	NA	not applicable
BDT	bone dry ton	NESHAP	National Emission Standard for Hazardous Air Pollutants
CAM	Compliance assurance monitoring	NO _x	oxides of nitrogen
CEMS	continuous emissions monitoring system	NSPS	New Source Performance Standard
CFR	Code of Federal Regulations	NSR	New Source Review
CMS	continuous monitoring system	O ₂	oxygen
CO	carbon monoxide	OAR	Oregon Administrative Rules
CO ₂	Carbon dioxide	ORS	Oregon Revised Statutes
CO _{2e}	Carbon dioxide equivalent	O&M	operation and maintenance
COMS	continuous opacity monitoring system	Pb	lead
DEQ	Oregon Department of Environmental Quality	PCD	pollution control device
dscf	dry standard cubic feet	PM	particulate matter
EF	emission factor	PM ₁₀	particulate matter less than 10 microns in size
EPA	United State Environmental Protection Agency	PM _{2.5}	Particulate matter less than 2.5 microns in size
EU	emissions unit	PSD	Prevention of Significant Deterioration
FCAA	Federal Clean Air Act	PSEL	Plant Site Emission Limit
GHG(s)	Greenhouse gas(es)	RICE	Reciprocating Internal Combustion Engine
gr/dscf	grains per dry standard cubic feet	SCEMP	Surrogate Compliance Emissions Monitoring Parameter
HAP	hazardous air pollutant as defined in LRAPA Title 44	SO ₂	sulfur dioxide
ID	identification code	ST	source test
I&M	inspection and maintenance	VE	visible emissions
MB	material balance	VMT	vehicle mile traveled
Mlb	1000 pounds	VOC	volatile organic compound

PERMITTEE IDENTIFICATION

1. Kingsford Manufacturing Company ('Kingsford' and/or 'the facility') operates a charcoal manufacturing facility at 3315 Marcola Road in Springfield, Oregon. Kingsford is owned by The Clorox Company.

PROPOSED CHANGE IN THE METHOD OF OPERATION UNDER CONSTRUCTION ACDP

2. The proposed Construction Air Contaminant Discharge Permit (Construction ACDP) allows for an approximate 2,140 hours per year increase in the hours of operation of the EU03 After Combustion Chamber (ACC) to accommodate an increased number of start-ups/shutdowns. The Construction ACDP also allows for an increase in the production for the charring and drying system (EU03) from 45,000 tons per year (tpy) to 48,000 tpy.

No physical modifications are required to achieve the increase in annual production as the 45,000 tpy was a voluntary production cap taken to limit potential air emissions from EU03 to comply with previous PSELs. The resultant increase in permitted VOC emission rates from EU03 will be offset by way of internal netting by decreasing the Solvent Treated Briquet (STB) Operation (EU11) production from 75,000 tpy to 73,160 tpy.

The Construction ACDP is required because the proposed modification will result in an increase in the PSELs for several pollutants. Due to internal netting from the use of unassigned emissions, the increase(s) is (are) not greater than the significant emission rate over the Netting Basis.

The Construction ACDP does not allow for operation of the proposed change in the method of operation, but may be rolled into the Title V permit as an Administrative Amendment as long as the appropriate notice procedures are followed in accordance with the Title V rules. The operation will need to be in compliance with the Title V permit that is in effect at the time of start-up.

The facility has requested that the Title V external review procedures be used in addition to the ACDP public notice procedures to allow for subsequent incorporation of the construction permit as an administrative amendment.

The review report items are mostly brought forward from the existing Title V permit to allow for a simpler amendment process in the future when the permit itself is changed to incorporate the new equipment. Review report item numbers 6, 10, 11, 32, 33, 34, 45, 46, and 47 have been modified to reflect the emission increases and changes in unassigned emissions and emission reduction credits (ERCs).

FACILITY DESCRIPTION

3. The facility manufactures and packages charcoal briquets. The charcoal manufacturing operation consists of two (2) separate production areas, char production and briquet manufacturing. The char production process uses a retort furnace to convert wood hogged fuel into char. The briquet manufacturing process is where the char is mixed with additives, and the charcoal briquets are formed, dried, and packaged.

EMISSIONS UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION

The emissions units at this facility are the following:

4. Wood Fuel Receipt and Storage (EU01)

The wet hog fuel to be converted into charcoal is delivered by truck and unloaded by a tilt-dump to form storage piles. The operation has the capacity to receive 80,000 tons of wet hog fuel per month. The storage measures 1000 feet by 1000 feet in plan and is about 50 feet high.

5. Hogfuel Sizing and Infeed System (EU02)

The wet hog fuel is moved on a series of conveyers across a belt scale to a screener. Material passing through the screener is sent to the hog fuel dryer. Material caught by the screener is sent to a hammer mill, and then to the hog fuel dryer. The sizing and infeed system has the capacity to process approximately 29,200 tons of wet hog fuel per month and 323,500 tons of wet hog fuel per year.

6. Charring and Drying System (EU03)

There are five (5) emission points in EU03:

- 6.a. ACC Stack
- 6.b. Dryer 1 Wet End Exhaust
- 6.c. Dryer 1 Dry End Exhaust
- 6.d. Dryer 2 Wet End Exhaust
- 6.e. Dryer 2 Dry End Exhaust

Charring

Wet wood hog fuel is dried in a drying system, which was installed in 1997 as a replacement for an existing drying system that was installed in 1982. LRAPA determined that the 1997 dryer system installation was a replacement in kind and a maintenance activity that did not require an Approval to Construct. LRAPA determined that the 1982 dryer system installation did not represent an actual increase in system capacity over the baseline level. The construction approval for this equipment was issued by LRAPA on April 22, 1982. Heated air from the drying system is conveyed to material recovery cyclones and sent to the after combustion chamber (ACC) on the retort furnace. After being dried, the wood hog fuel is conveyed to the retort furnace, which is a multi-hearth furnace, where the wood hog fuel pyrolyzes into charcoal and off-gas. The charcoal is cooled and conveyed to storage. The off-gas passes through hot cyclones for recovery of charcoal material before entering the after combustion chamber (ACC). Some of the heated air from the ACC is recovered and used in the briquet dryers. Material recovered from the cyclones is combined with dry wood hog fuel being conveyed to the retort. Heated air from the ACC is exhausted directly to the atmosphere.

The 2018 Construction ACDP allows for an increase in the PSELs associated with an increase in production for the charring and drying system (EU03) from 45,000 tons per year (tpy) to 48,000 tpy.

Drying

The wet briquets created in the briquetting process (see EU08) are dried in one (1) of two (2) briquet dryers. Briquet Dryer 2 was replaced in 1994. LRAPA issued an Approval to Construct for the replacement of Briquet Dryer 2 on July 13, 1994. There was no estimated increase in emissions due to the installation of the new dryer. Heated air from the briquet dryers is exhausted directly to the atmosphere.

Alternative Operating Scenarios

In addition to the base operating scenario defined above, the facility may also operate under two (2) alternative operating scenarios:

- ‘EU03-1 ACC Shutdown Briquet Dryer Emissions’ - When the retort furnace and wood dryer systems in EU03 are shut down and no char is being produced, the facility may operate an auxiliary natural gas burner to provide heat to the briquet dryers.
- ‘EU03-2 ACC Burner Startup Emissions’ - During retort furnace and wood dryer startups, when no char is being produced, the facility may operate natural gas burners in the ACC to maintain minimum ACC combustion temperatures. Prior to the “A13” Approval to Construct, the facility

used two (2) natural gas-fired burners rated at 15 MMBtu/hr each. The burners have been used to pre-heat the ACC to operating temperature and to maintain ACC operating temperature when process fluctuations cause the temperature to drop. With the “A13” Approval to Construct, the facility installed two (2) additional natural gas-fired burners rated at 20 MMBtu/hr each. The additional burners were installed in order to improve control of the ACC operating temperature. The total heat input from all four (4) natural gas-fired burners is rated at 70 MMBtu/hr.

The following table describes the equipment used in the charring and drying system:

Device Description	Device ID	Year Installed	Device Capacity	Pollution Control Device	PCD ID	PCD Design Parameters
Wood Fuel Drying System	NA	1997	72 wet tons/hour 336,000 wet tons/year	After Combustion Chamber	03-01C	1400° - 2000°F
Charcoal Manufacturing	03-01P	1974	9 tons/hour, 48,000 tons/year	After Combustion Chamber	03-01C	1400° - 2000°F
Briquet Dryers	03-02P	1977 for Dryer 1; 1994 for Dryer 2	21 tons/hour 150,000 tons/year	NA	NA	NA
ACC Natural Gas-Fired Burners for Startups (Alternative Operating Scenario Two)	NA	Two (2) low-NOx burners installed in 2013; two (2) installed previously (date unknown)	Four (4) natural gas fired burners rated at a total of 70 MMBtu/hr heat input	NA	NA	NA

7. Briquet Cooling (EU04)

The dried briquets are conveyed through the briquet coolers, and then to storage. In the briquet coolers, fans pull ambient air through the bed of briquets. The air from the briquet coolers is exhausted directly to the atmosphere. The briquet cooling system (Device ID 04-01P) was installed in 1977, and has the capacity to process 21 tons of briquets per hour (daily average) and 150,000 tons of briquets per year.

8. Briquet Handling System (EU08)

In briquetting, retort char is combined with other carbon material, limestone, and minor ingredients, any water needed to facilitate mixing, and then is mixed with cooked starch as a binder. The mixed material is conveyed to the briquet press which continuously forms the materials into wet briquets. The briquets are dried in one (1) of two (2) briquet driers (see EU03). Dried briquets are conveyed from the storage area to the Packaging Department, where they are filled into bags, palletized, warehoused, and shipped from the plant site. The briquet handling system has the capacity to process 21 tons of briquets per hour and 150,000 tons of briquets per year. The following table describes the equipment used in the briquet handling system.

Device Description	Device ID	Year Installed	Pollution Control Device	PCD ID	PCD Design Parameters
Briquetting	08-26D	1993	Wet Dust Collector (Wet Scrubber)	08-26C	5 gal/min design water flow rate 20 psig design water pressure 2500 acfm design inlet gas flow rate 2 in water design pressure drop
Briquet Conveying	08-27D 08-29D	1967 1967	West Dust Collector	08-29C	99.95% rated efficiency 23,000 acfm design inlet gas flow rate 8.8:1 air-to-cloth ratio 14-15 in water design pressure drop
			East Dust Collector	08-30C	
			Small Vokes Dust Collector	08-27C	99.95% rated efficiency 10,000 acfm design inlet gas flow rate 7.7:1 air-to-cloth ratio 12 in water design pressure drop
Briquet Packaging	08-41D 08-42D	1967 1967	North Package Bin Vent Dust Collector	08-41C	99.95% rated efficiency 1400 acfm design inlet gas flow rate 7:1 air-to-cloth ratio 2-4 in water design pressure drop
			South Package Bin Vent Dust Collector	08-42C	

9. Combustion Unit (EU10)

The facility operates a natural gas-fired boiler (Device ID 10-01P), which was installed in June of 1970, and is rated at 3.345 MM BTU/hour. The exhaust from this burner is vented directly to the atmosphere.

10. Solvent Treated Briquet Operation (EU11)

In the solvent-treated briquet (STB) operation some of the charcoal briquets are treated with Match Light® and BBQ Bag® solvent before packaging. The operating schedule for the source is 8,232 hours per year. Emissions from some of the solvent-handling equipment, i.e., equipment that is located inside the STB building, is collected by the solvent exhaust system and ducted to the existing ACC. In the event of ACC malfunction, the solvent exhaust system will be discharged to the atmosphere uncontrolled.

As part of the significant modification applied for on October 8, 2004, the facility requested that the annual STB production cap be changed from 77,000 tons per year to 76,000 tons per year. As part of the renewal including the minor modification applied for on May 6, 2013, the facility requested that the annual STB production cap be changed to 75,000 tons per year.

For the 2018 Construction ACDP proposal, the facility requested that the annual STB production cap listed in the table below be changed from 75,000 tons per year to 73,160 tons per year.

The following table describes the equipment used in the STB operation:

Device Description	Year Installed	Device Capacity	Pollution Control Device	PCD ID	PCD Design Parameters
Solvent Application and Fines Recycling	2000	25.0 tons/hour, 73,160 tons/year	After Combustion Chamber	03-01C	1400° – 2000 °F
Solvent Handling	2000	NA	After Combustion Chamber	03-01C	1400° - 2000 °F
Storage Tanks	2000	NA	NA	NA	NA

11. Aggregate Insignificant Activities (EUAIA)

AI is the emission unit for aggregate insignificant activities including revisions as part of the 2018 Construction ACDP issuance. For this facility, these include fugitive emissions from material handling. The sources include the following:

Emissions Source	Pollutant Emissions (ton/yr)		
	PM	PM ₁₀	PM _{2.5} *
Starch Silo Vent	0.001	0.001	0.001
Lime Silo Vent	0.004	0.004	0.004
Flavor Dust Blower Exhaust	0.001	0.001	0.001
Flavor Dust Tank Vent	0.005	0.005	0.005
Flavor Dust Truck Unloader	0.002	0.002	0.002
Starch use Bin Vent (exhaust into building)	0.003	0.003	0.003
Hammermill Blending Bin Vent (exhaust into building)	0.064	0.064	0.064
Briquet Press Dust Collector (exhaust into building)	0.006	0.006	0.006
Rerun Storage Dust Collector (exhaust into building)	0.064	0.064	0.064
Blend I/F Tramco Bin Vent	0.074	0.074	0.074
New Vacuum System Blower (to replace old vacuum system)	0.014	0.014	0.014
Fugitive Dust Sources (includes Railcar/Truck Unloading and Rerun Handling)	0.04	0.04	0.04
Total for All Sources	0.277	0.277	0.277

*Assume PM/PM₁₀ is 100% PM_{2.5}

12. Categorically insignificant activities include the following:

- Evaporative and tail pipe emissions from on-site motor vehicle operation
- Distillate oil, kerosene, gasoline, natural gas or propane burning equipment, provided the aggregate expected actual emissions of the equipment identified as categorically insignificant do not exceed the de minimis level for any regulated pollutant, based on the expected maximum annual operation of the equipment. If a source's expected emissions from all such equipment exceed the de minimis levels, then the source may identify a subgroup of such equipment as categorically insignificant with the remainder not categorically insignificant including:
 - Any individual distillate oil, kerosene or gasoline burning equipment with a rating greater than 0.4 million Btu/hour;
 - Natural gas and propane burning equipment rated at less than or equal to 2.0 million Btu/hr;
- Office activities
- Janitorial activities
- Personal care activities
- Groundskeeping activities including, but not limited to building painting and road and parking lot maintenance
- Instrument calibration
- Maintenance and repair shop
- Automotive repair shops or storage garages

- Air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment
- Refrigeration systems with less than 50 pounds of charge of ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems
- Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including associated vacuum producing devices but excluding research and development facilities
- Temporary construction activities
- Warehouse activities
- Accidental fires
- Air vents from air compressors
- Air purification systems
- Routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking
- Electric motors
- Storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids
- On-site storage tanks not subject to any New Source Performance Standards (NSPS), including underground storage tanks (UST), storing gasoline or diesel used exclusively for fueling of the facility's fleet of vehicles
- Natural gas, propane, and liquefied petroleum gas (LPG) storage tanks and transfer equipment
- Pressurized tanks containing gaseous compounds
- Storm water settling basins
- Paved roads and paved parking lots within an urban growth boundary
- Emergency generators and pumps used only during loss of primary equipment or utility service due to circumstances beyond the reasonable control of the owner or operator, or to address a power emergency, provided that the aggregate horsepower rating of all stationary emergency generator and pump engines is not more than 3,000 horsepower. If the aggregate horsepower rating of all stationary emergency generator and pump engines is more than 3,000 horsepower, then no emergency generators and pumps at the source may be considered categorically insignificant
- Non-contact steam vents and leaks and safety and relief valves for boiler steam distribution systems
- Non-contact steam condensate flash tanks
- Non-contact steam vents on condensate receivers, deaerators and similar equipment
- Boiler blowdown tanks

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING

Changes to ACDP Conditions

13. The following ACDP conditions were revised in the federal operating permit as part of the previous renewal because of the reasons given below:
 - 13.a. Condition 1 under "Performance Standards and Emission Limits" in the ACDP was revised to include emissions from all sources at the facility in the facility-wide PSELs for PM and PM₁₀. The ACDP explicitly excludes fugitive emissions, char storage emissions, and briquet making (excluding the dryers), from the PM and PM₁₀ PSELs.
 - 13.b. Condition 1 under "Performance Standards and Emission Limits" in the ACDP was revised to increase the 1-hour plant site emission limit for particulate matter emissions from 50 pounds per hour to 90 pounds per hour and 70 pounds per hour for PM₁₀. This revision was based on stack test results and was requested in order to allow the source greater operating flexibility. This was part of the modification requested on December 6, 2002. The hourly and monthly PSELs were removed from the draft Title V permit for the 2013 renewal.

- 13.c. Condition 13 under “Monitoring and Reporting” in the ACDP was revised to require the submissions of semi-annual reports rather than monthly reports. Semi-annual compliance reporting of daily record keeping is adequate to assure compliance with requirements of the Title V Operating Permit.

New Federal Operating Permit Conditions

14. All applicable requirements, not previously contained in the ACDP, were added to the permit during the renewal.

Emission Limits and Standards

15. The following federal and/or LRAPA enforceable rules have specific limits and standards that have been determined to be applicable to the facility.
- 15.a. LRAPA rules: 32-010, 32-015, 32-30, 32-045, 32-055, 32-090, 33-030, 33-065, 48-015, 50-020, 51-015 apply to the facility.
- 15.b. The facility may be, but is not currently, subject to the requirements of 40 CFR Part 68 - Chemical Accident Prevention Provisions.

Test Methods and Procedures

16. The permit requires specific testing to demonstrate compliance with the applicable emission limits and standards in LRAPA 33-065 (Charcoal Producing Plants) for EU03 and LRAPA 32-015(2) for EU04 and EU08. LRAPA has determined that monitoring and recordkeeping will be sufficient to assure compliance with all other applicable emission limits and standards.

Facility-Wide Monitoring and Recordkeeping

17. The facility is required to keep a log of complaints received pertaining to odors and particulate matter fallout. The facility is required to investigate each complaint and resolve it within, at most, 24 hours of receiving the complaint.
18. The facility is required to conduct facility-wide visual emissions monitoring and take corrective action when visible emissions are detected.
19. The facility is required to take appropriate action in the event an Air Pollution Alert, Warning, or Emergency Episode is declared in the Eugene-Springfield area by LRAPA.
20. The facility is required to submit a risk management plan should it become subject to the accidental release prevention regulations in 40 CFR Part 68.

Monitoring and Recordkeeping for Individual Emissions Units

21. The facility is required to conduct routine visual emissions inspections of individual emissions units in order to determine compliance with applicable LRAPA rules. These are not compliance tests, but the information will be used to initiate corrective action if visible emissions are observed from any source at the facility. Since corrective action is triggered by any visible emissions, an observer need not be Method 9 certified to determine if visible emissions are present. No visible emissions are assumed to indicate compliance with the applicable LRAPA rules. The facility is required to record in a log all visible emissions monitoring, visible emissions exceedances, and corrective actions taken. The following table contains the applicable rules and frequency of visual emissions monitoring for each emissions unit. The monitoring frequency for each emissions unit is based on projected PM emissions and is consistent with DEQ permitting guidance.

Emissions Unit	Applicable Requirement	Monitoring Frequency
EU01	20% Opacity	Monthly
EU02	20% Opacity	Quarterly
EU03	20% Opacity	Daily
EU04	20% Opacity	Monthly
	0.1 gr/dscf	
	Process Weight Limit	
EU08	20% Opacity	Monthly
EU10	20% Opacity	Quarterly
EU11	20% Opacity	Quarterly
	0.1 gr/dscf	

The facility is required to take corrective actions to minimize emissions if any visible emissions are identified from any emissions unit. If visible emissions are identified from EU03, EU04, EU08, EU10, or EU11, the facility must take corrective actions to minimize emissions or use Modified EPA Method 9 to determine the opacity of the visible emissions. Modified EPA Method 9 is not appropriate for fugitive emission sources such as EU01, EU02, and EU06, but can be used to measure the opacity of point sources such as EU03, EU04, EU08, EU10, and EU11.

22. The facility is allowed to demonstrate compliance with the visible emissions limit that applies to EU03 char production, and the visible emissions, grain loading, and process weight limits that apply to the EU03 alternative operating scenario by monitoring the ACC stack and one dryer exhaust stack. Dryer (1) Wet Exhaust stack was selected because this stack has had the greatest measured grain-loading values of all the dryer exhaust stacks. The facility is required to record when the daily monitoring performed on EU03 is being used to demonstrate compliance with the visible emissions, grain-loading, and process weight limits that apply to the two (2) EU03 alternative operating scenarios (EU03-1 ACC Shutdown Briquet Dryer Emissions and EU03-2 ACC Burner Startup Emissions).

23. In order to demonstrate continuous compliance with the grain loading limit and process weight limit in LRAPA's rules, the facility is required to inspect the baghouses in EU08 once per quarter for wear, plugging, abrasion, and integrity of mechanical and ancillary systems, and take corrective action when the inspections show that the baghouses are operating at less than an optimum level.

24. The facility is required to monitor parameter action levels for the baghouses used to control PM emissions for EU08. The parameter action levels are minimum and maximum compliance pressure drop ranges (inches of water column) that indicate that the grain-loading and process weight limits are not being exceeded. This range of values has been established based on the fact the LRAPA has in the past accepted these values as indicators of compliance with the grain-loading and process weight limits. The facility is required to perform weekly monitoring of pressure drop for each baghouse and take corrective action when any pressure drop reading is outside the range of the established parameter action levels.
25. The facility is required to implement a Surrogate Compliance Emissions Monitoring Parameter (SCEMP) plan. Formerly, this was required as part of the hourly PSEL compliance strategy but now it is used for Compliance Assurance Monitoring (CAM) requirements. The plan includes temperature and other physical monitoring and record keeping. The facility is required to maintain a temperature in the ACC at or above 1400°F during normal operations. If the temperature within the ACC falls below 1500°F, the facility is required to take corrective action. While the temperature within the ACC is normally around 1600°F, the value of 1400°F was proposed by the facility along with documentation and calculations showing that the temperature and residence time within the ACC is sufficient for oxidation of CO and VOC.
26. LRAPA 33-065 (Charcoal Producing Plants) exempts charcoal furnaces, after combustion chambers, and dyers using charcoal furnace off-gases as a heat source from the grain-loading and process weight limits in LRAPA Title 32. Therefore, the permit includes no compliance monitoring for these provisions for EU03.
27. The PM PSELs for the EU04 briquet cooling operation and the EU08 briquet handling system are based on the actual hours of operation and flow rate and actual hours of operation, respectively. Therefore, the facility is required to monitor the hours of operation rather than the amount of briquets processed through these emissions units.
28. To demonstrate compliance with the opacity limits in LRAPA's rules for EU11, the facility can satisfy the monitoring requirements for EU03 and EU08, since all of the PM emissions from EU11 are directed to the retort in EU03 or the baghouses on EU08.
29. To demonstrate compliance with the grain-loading and process weight limits in LRAPA's rules for EU11, the permittee can satisfy the monitoring requirements for EU08, since all of the PM emissions from EU11 are directed to the retort in EU03 or baghouses on EU08. Because the grain-loading and process weight limits do not apply to EU03, there are no specific monitoring or recordkeeping requirements for EU03. However, virtually all of the PM emissions from EU11 will be emitted from EU08 rather than EU03 because of the pyrolysis of PM in the retort.

Monitoring and Recordkeeping for Insignificant Activities

30. Section 70.6(a)(3) of the federal Title V permit rules, requires all monitoring and analysis procedures or test methods required under applicable requirements be contained in Title V permits. In addition, where the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the facility's compliance with the permit.

However, the requirements to include in a permit testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor with respect to all emissions units and applicable requirement situations. It does not require extensive testing or monitoring to assure compliance with the applicable requirements for emissions units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. Where compliance with the underlying applicable requirement for an insignificant emission unit is not threatened by a lack of a regular program of monitoring and where periodic testing or

monitoring is not otherwise required by the applicable requirement, then in this instance, the status quo (i.e., no monitoring) will meet section 70.6(a)(3). For this reason, this permit does not include any monitoring for insignificant emissions units and activities.

Compliance Assurance Monitoring

31. The facility is subject to the provisions of 40 CFR Part 64 -- Compliance Assurance Monitoring (CAM) because of its classification as a Title V facility, and because of control equipment, emission limitations and pre-control emissions at or above Title V major source levels at one (1) or more pollutant-specific emission units (PSEU). CAM applies to the EU08 large East and West fabric filter dust collectors for PM and PM₁₀, and the ACC afterburner (serving both EU03 and EU11) for PM, CO, and VOC. The permit includes CAM requirements for the cited pollutants at these PSEU control devices.

PLANT SITE EMISSION LIMITS

32. Provided below is a summary of the baseline emissions rate, netting basis, plant site emission limits, and emissions capacity.

Pollutant	Netting Basis	Existing PSEL	Proposed PSEL	PSEL increase over netting basis	Unassigned	SER
PM	298	273	284	(14)	14	25
PM ₁₀	208	192	204	(4)	4	15
PM _{2.5}	147	137	146	(1)	1	10
CO	80	99	99	19	-	100
NO _x	303	297	323	20	-	40
SO ₂	19	45	48	29	0	40
VOC	74	113	113	39	0	40
GHG anthro and bio	12,973	74,000	74,000	--	0	75,000

32.a. The netting basis for all pollutants were determined in previous permitting actions and there are no changes with the 2018 Construction ACDP issuance.

32.b. As part of the 2018 Construction ACDP issuance, the PSELs were increased for PM, PM₁₀, PM_{2.5}, NO_x, and SO₂.

33. The facility has Unassigned Emissions as shown below. Unassigned emissions were reduced to no more than a significant emission rate (SER) in accordance with LRAPA rule changes in 2008. As part of the 2018 Construction ACDP issuance, unassigned emissions were reduced by the amount the PSELs were increased for PM, PM₁₀, PM_{2.5}, and NO_x. The facility has zero (0) emission reduction credits.

Pollutant	Unassigned Emissions (tons/yr)
PM	14
PM ₁₀	4

Pollutant	Unassigned Emissions (tons/yr)
PM _{2.5}	1
CO	0
NO _x	0
SO ₂	0
VOC	0
GHG	0

SIGNIFICANT EMISSION RATE

34. The proposed PSEL is greater than the netting basis as shown below.

Pollutant	SER (tons/yr)	Requested Increase Over Netting Baseline (tons/year)	Increase Due To Utilizing Capacity That Existed In The Baseline Period	Increase Due To Physical Changes Or Changes In The Method Of Operation
PM	25	-14	0	-14
PM ₁₀	15	-4	0	-4
PM _{2.5}	10	-1	0	-1
CO	100	19	0	19
NO _x	40	20	0	20
SO ₂	40	29	0	29
VOC	40	39	0	39
GHG	75,000	61,027	0	0
Pb	0.6	0	0	0

34.a. The PSELs for PM, PM₁₀, PM_{2.5}, CO, NO_x, VOC, GHG and Pb are not greater than the netting basis by an SER or more, and there are no requirements that must be met for these PSELs to be approved.

HAZARDOUS AIR POLLUTANTS

35. The facility estimates that small quantities of methanol, a hazardous air pollutant (HAP), are present in the EU03 ACC exhaust. In the Title V renewal application received August 10, 2009 the facility estimates that the maximum annual emissions of methanol are 3.0 tons/year (the highest single HAP). The facility also estimates that total combined HAP emissions are less than 10 tons/year. Therefore, the facility is not a major source for HAPs.

Chemical Manufacturing NESHAP – Subpart VVVVV (‘6V’)

36. The facility is not subject to the Subpart 6V Chemical Manufacturing National Emission Standard for Hazardous Air Pollutants (NESHAP). Although the facility’s NAICS code for charcoal manufacturing (NAICS 325191) is listed in the NESHAP as one of those being potentially subject, the quantities of the

target HAPs present are less than the de minimis listed in the rule. Specifically, the lead (Pb) content in all products manufactured, etc are less than 0.1% by weight as indicated by the facility in their letter to LRAPA, received February 11, 2010.

Other NESHAPs

37. There are no other NESHAPs that have been determined to apply to the facility.

GENERAL BACKGROUND INFORMATION

38. The facility is located in an area that has been designated from non-attainment to attainment on June 10, 2013 for PM₁₀. The area is now classified as a maintenance area for PM₁₀.
39. The facility was issued an ACDP by LRAPA in 1989. The ACDP contained a PSEL of 50 pounds per hour and 206 tons per year for PM. The ACDP expired on August 21, 1999. A Title V permit was issued on August 11, 2000. A significant modification of the permit was issued on June 9, 2005. The permit was renewed on September 27, 2006 and again on August 6, 2013.
40. The facility is required to obtain a Federal Operating Permit because the facility's PTE for PM/PM₁₀, NO_x, and VOC is greater than 100 tons per year.

New Source Performance Standards (NSPSs)

41. The facility is not subject to the 40 CFR Part 60 Subpart CCCC and DDDD Standards of Performance for Commercial and Industrial Solid Waste Incineration Units. The standard is not applicable because units burning only wood feedstock for the production of charcoal are defined as a "chemical recovery units" in the rule and not incinerators, waste-burning kilns, ERUs or small remote incinerators under subparts CCCC or DDDD.
42. The facility is not subject to the 40 CFR Part 60 Dc Small Industrial- Commercial-Institutional Steam Generating Units. The EU10 boiler is rated at less than 10 MMBtu/hr heat input and is therefore less than the heat input threshold for applicability.

COMPLIANCE HISTORY

43. The following enforcement actions were taken against this facility during the prior permit term:
- 43.a. On October 8, 2010 LRAPA issued NON 08-3093 for operating charcoal producing facility sources such that the total PM limit of 90 pounds per hour was exceeded and such that the particulate matter (PM) limit of 10.0 pounds of PM per ton of char produced was exceeded. As a result, Kingsford Manufacturing Company was assessed civil penalties and an economic benefit penalty of a total of \$26,886 on December 22, 2008. The civil penalty was paid in full.
 - 43.b. On December 5, 2007 LRAPA issued NON 08-2973 for operating charcoal producing facility sources such that the particulate matter (PM) limit of 10.0 pounds of PM per ton of char produced was exceeded. As a result, Kingsford Manufacturing Company was assessed civil penalties and an economic benefit penalty of a total of \$1,700 on April 15, 2008. The civil penalty was paid in full.
44. LRAPA performed Full-Compliance Evaluations (FCE) on the facility during the period from October 1, 2009 through September 30, 2010. The facility was determined to be in compliance with the exception of the items discussed above.

SOURCE TEST RESULTS

45. The following is a summary of the compliance test results obtained from testing during the previous permit term and since the previous renewal:

EU03 Test Results

Date	lbs PM/ton Char	Notes:
October 26, 2015	4.53	
November 18-20, 2013	4.82	
July 19, 2010	5.28	
June 8, 2009	4.9	
March 9, 2009	5.15	
December 8, 2008	9.51	
August 2008	17.7	Issued NCP 3093
December 2007	10.1	Issued NCP 2973
December 2006	8.57	

PUBLIC NOTICE

46. This permit will be on public notice from May 29, 2018 to July 3, 2018. Comments may be submitted in writing during the comment period. LRAPA will hold a public hearing if requested by 10 or more individuals or one person representing a group of 10 or more individuals. After the comment period and hearing, if requested, LRAPA will review the comments and modify the permit as may be appropriate. A proposed permit will then be sent to EPA for a 45-day review period. LRAPA may request and EPA may agree to an expedited review of 5 days if there were no substantive or adverse comments during the comment period.

If the EPA does not object in writing, any person may petition the EPA within 60 days after the expiration of EPA's 45-day review period to make such objection. Any such petition must be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided for in OAR 340-218-0210, unless the petitioner demonstrates that it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period.

EPA REVIEW

47.

Max/cmw
5/25/18

Emission Details

PSEL Summary

Emission Unit	Name	Pollutant (tons/yr)							
		PM	PM ₁₀	PM _{2.5}	CO	NO _x	SO ₂	VOC	GHG*
EU01	Wood Receipt and Storage	8.0	3.8	0.6	--	--	--	--	--
EU02	Hogfuel Sizing and Infeed System	0.6	0.3	0.02	--	--	--	--	--
EU03	Charring and Drying System	180.9	165.1	122.1	70.9	313.5	48.0	24.1	--
EU03	total)	0.7	0.7	0.7	3.0	7.9	--	0.5	--
EU04	Briquet Cooling	82.5	22.5	11.3	6.0	--	--	--	--
EU08	Briquet Handling	10.6	10.6	10.6	--	--	--	--	--
EU10	Combustion Unit	0.1	0.1	0.1	1.2	1.4	0.0	0.1	--
EU11	Solvent Treated Briquet (STB) Operatio	--	--	--	--	--	--	88.4	--
EU-AIA	Aggregate Insignificant	1	1	1	--	--	--	--	--
TOTAL	PSEL	284	204	146	99	323	48	113	74,000

Pollutant	Netting Basis	Existing PSEL	Proposed PSEL	PSEL increase over netting basis	Unassigned	SER
PM	298	273	284	(14)	14	25
PM ₁₀	208	192	204	(4)	4	15
PM _{2.5}	147	137	146	(1)	1	10
CO	80	99	99	19	-	100
NO _x	303	297	323	20	-	40
SO ₂	19	45	48	29	0	40
VOC	74	113	113	39	0	40
GHG anthro and bio	12,973	74,000	74,000	61,027	0	75,000

The throughputs, emission factors (EFs) and references are mostly derived from the facility's Title V and Construction ACDP emission estimates for criteria pollutants.
 *GHG PSEL compliance monitoring based upon calendar year GHG annual reporting methodology as required by OAR Division 215
 GHG baseline established for anthropogenic only. EPA currently defers biogenic GHG from PSD.
 Maximum Unassigned Emissions are reduced to no more than an SER as per 42-0045-3.A
 Netting basis is reduced by the amount the unassigned emissions are reduced

								Pollutant (PM)	
EU ID:	EU Name	Device/Activity/Parameter	Annual rate	units	EF	units	Reference	tons/yr	
EU01	Wood Receipt and Storage	Max Annual Throughput Wet	320,000	tons/year	NA	NA	NA	--	
		Max Annual Throughput Dry	160,000	tons/year	0.10	lb/dry ton	Kingsford Estimate	8.00	
EU02	Hogfuel Sizing and Infeed	Screen In	8,088	hours/year	9.600E-2	lb/hr-opr	AP42	0.39	
		Screen Out	7,330	hours/year	1.920E-2	lb/hr-opr	AP42	0.07	
		Secondary Screen In	7,330	hours/year	1.920E-2	lb/hr-opr	AP42	0.07	
		Secondary Screen Out	7,330	hours/year	4.800E-3	lb/hr-opr	AP42	0.02	
		Reject Diverter	1,000	hours/year	1.920E-2	lb/hr-opr	AP42	0.01	
EU03	Charring and Drying Operation	Char Production	48,000	tons/year	7.41	lb/ton char	Average of test results	177.74	
		Char Production w Auxiliary Burner	12,600	tons/year	0.50	lb/ton char	Kingsford estimate	3.15	
	Charring and Drying Operation	ACC Natural Gas fired Burners (2) Existing	73,529	MMCF/yr	7.60	lb/MMCF	AP42	0.28	Construction ACDP: 2500 hr/yr, 15 MMBtu/hr each, 1,020 Btu/scf
		ACC Natural Gas fired Burners (2) New	98,039	MMCF/yr	7.60	lb/MMCF	AP42	0.37	Construction ACDP: 2500 hr/yr, 20 MMBtu/hr each, 1,020 Btu/scf
EU04	Briquet Cooling	Briquet Production	150,000	tons/year	1.10	lb/ ton briquets	Similar operations and Kingsford Testing	82.50	
EU08	Briquet Handling	Dust Collectors	8,088	hours/year	0.01	gr/dcsf	Kingsford estimate and testing	10.62	
			61,300	sofm					
EU10	Combustion Unit	Natural gas combustion and hours of operation	3.35E-03	MMCF/hr	7.60	lb/MMCF	AP42	0.10	
			8,230	hours/year					
EUAIA	Aggregate Insignificant	Hours of operation, flow rate, exhaust concentration	See Kingsford Application					1	
								POLLUTANT TOTAL	284

								Pollutant	(PM10)
EU ID:	EU Name	Device/Activity/ Parameter	Annual rate	units	EF	units	Reference	tons/yr	
EU01	Wood Receipt and Storage	Max Annual Throughput Wet	320,000	tons/year	NA	NA	NA	--	
		Max Annual Throughput Dry	160,000	tons/year	0.05	lb/dry ton	Kingsford Estimate	3.76	
EU02	Hogfuel Sizing and Infeed	Soeener In	8,088	hours/year	0.048	lb/hr-opr	AP42	0.194	
		Soeener Out	7,330	hours/year	0.010	lb/hr-opr	AP42	0.035	
		Secondary Screen In	7,330	hours/year	0.010	lb/hr-opr	AP42	0.035	
		Secondary Screen Out	7,330	hours/year	0.002	lb/hr-opr	AP42	0.0088	
		Reject Diverter	1,000	hours/year	0.010	lb/hr-opr	AP42	0.0048	
EU03	Charring and Drying Operation	Char Production	48,000	tons/year	6.80	lb/ton char	Similar operations and Kingsford Testing (BACT at other KMC plants = test plus 2 std dev.)	163.20	
		Char Production w Auxillary Burner	12,600	tons/year	0.30	lb/ton char	Kingsford estimate	1.89	
	Charring and Drying Operation	ACC Natural Gas-fired Burners (2) Existing	73,529	MMCF/yr	7.60	lb/MMCF	AP42	0.28	
		ACC Natural Gas-fired Burners (2) New	98,039	MMCF/yr	7.60	lb/MMCF	AP42	0.37	
EU04	Briquet Cooling	Briquet Production	160,000	tons/year	0.30	lb/ ton briquets	Similar operations and Kingsford Testing	22.50	
EU08	Briquet Handling	Dust Collectors	8,088	hours/year	0.01	gr/dscf	Kingsford estimate and testing	10.62	
			61,300	scfm					
EU10	Combustion Unit	Natural gas combustion and hours of operation	3.35E-03	MMCF/hr	7.60	lb/MMCF	AP42	0.10	
			8,230	hours/year					
EUAIA	Aggregate Insignificant	Hours of operation, flow rate, exhaust concentration	See Kingsford Application					100	
POLLUTANT TOTAL								204	

Construction ACDP: 2500 hr/yr, 15 MMBtu/hr each, 1,020 Btu/scf

Construction ACDP: 2500 hr/yr, 20 MMBtu/hr each, 1,020 Btu/scf

											Pollutant (PM2.5)	
EU ID:	EU Name	Device/Activity/Parameter	annual rate		PM10 EF units	Reference	PM2.5 Fraction	Reference Fraction	PM2.5 EF	PM10 tons/yr	PM2.5 tons/yr	
			units	units								
EU01	Wood Receipt and Storage	Max Annual Throughput Wet	320,000	tons/year		NA						
		Max Annual Throughput Dry	160,000	tons/year	0.05	lb/dry ton	Kingsford Estimate	0.15	DEQ EF-08 Storage Piles	0.01	3.76	0.56
EU02	Hogfuel Sizing and Infeed	Screener In	8,088	hours/year	0.048	lb/hr-opr	AP42	0.07	DEQ EF-08 Crushed Stone Screening	0.003	0.19	0.0156
		Screener Out	7,330	hours/year	0.010	lb/hr-opr	AP42			0.001	0.04	0.0025
		Secondary Screen In	7,330	hours/year	0.010	lb/hr-opr	AP42			0.001	0.04	0.0025
		Secondary Screen Out	7,330	hours/year	0.002	lb/hr-opr	AP42			0.0002	0.01	0.0006
		Reject Diverter	1,000	hours/year	0.010	lb/hr-opr	AP42			0.001	0.00	0.0003
EU03	Charring and Drying Operation	Char Production	48,000	tons/year	6.800	lb/ton char	Similar operations and Kingsford Testing (GACT at other KMC plants = test plus 2 std dev.)	0.74	Kingsford Estimate and testing at other Kingsford Facilities	5.03	163.20	120.77
		Char Production w Auxiliary Burner	12,600	tons/year	0.30	lb/ton char	Kingsford estimate	0.70	Kingsford Estimate and testing at other Kingsford Facilities	0.21	1.89	1.32
	Charring and Drying Operation	ACC Natural Gas-fired Burners (2) Existing	73,529	MMCF/yr	7.60	lb/MMCF	AP42	1.00	DEQ EF-08	7.60	0.28	0.28
		ACC Natural Gas-fired Burners (2) New	88,038	MMCF/yr	7.60	lb/MMCF	AP42	1.00	DEQ EF-08	7.60	0.37	0.37
EU04	Briquet Cooling	Briquet Production	150,000	tons/year	0.30	lb/ton briquets	Similar operations and Kingsford Testing	0.50	Kingsford Estimate and testing at other Kingsford Facilities	0.15	22.50	11.25
EU08	Briquet Handling	Dust Collectors	8,088	hours/year	0.01	grd/scf	Kingsford estimate and testing	1.00	DEQ EF-08 Baghouse	0.01	10.62	10.62
			61,300	scfm								
EU10	Combustion Unit	Natural gas combustion and hours of operation	3,35E-03	MMCF/hr	7.60	lb/MMCF	AP42	1.00	DEQ EF-08 Natural gas	7.60	0.10	0.10
EU01A	Aggregate Insignificant	Hours of operation, flow rate, exhaust concentration	8,230	hours/year			See Kingsford Application				1.00	
									Pollutant Total	203	146	
									PM10 PSEL		PM2.5 PSEL	

PM2.5 PSEL and Netting Basis Calculation

PM2.5/PM10 fraction (PM2.5 fraction)	0.72	=PM2.5 PSEL/PM10 PSEL
PM10 Netting Basis (NB)	218	=PM10 PSEL plus one SER of unassigned emissions
PM2.5 Netting Basis Calculated	157	=PM10 NB * PM2.5/PM10 fraction
PM10 Unassigned	15	LRAPA Title 42 Rule and Review report
PM2.5 Unassigned calculated	10.8	=15 x PM2.5 fraction
PM2.5 Unassigned Allowed	10	LRAPA Title 42 Rule also PM2.5 SER
PM2.5 Netting Basis Allowed	156	=PM2.5 PSEL plus 10

								Pollutant (CO)	
EU ID:	EU Name	Description	Annual rate	units	EF units	Reference	tons/yr	Comment/question	
EU03	Charring and Drying	Char Production - Normal Op Scenario	48,000	tons/yr	2.9	lb/ton	(EF REF) w assumed 99% efficiency based on testing	69.6	Limited CO test data at Springfield (two tests, 9 years apart). EF based on AP-42 for charcoal kilns and engineering judgment that ACC will control 99% of CO. Suggest using 3.0 lb/ton and revisiting after Springfield
	Charring and Drying Operation	ACC Natural Gas-fired Burners (2) Existing	73,529	MMCF/yr	84.00	lb/MMCF	AP42	3.1	
	Charring and Drying Operation	ACC Natural Gas-fired Burners (2) New	100,000	MMBtu/yr	0.059	lb/MMBtu	Vendor guarantee	3.0	
	Charring and Drying w/ Aux Burner	Char Production - Alt Op Scenario	0.05	MMCF/hr natural gas	84.00	lb/MMCF	AP42	1.26	
EU10	Combustion Unit (natural gas-fired boiler)	NA	0.00335	MMCF/hr natural gas	84.00	lb/MMCF	AP42	1.16	
			8,230	hours/year					
								POLLUTANT TOTAL	78

								Pollutant (NOx)	
EU ID:	EU Name	Description	Annual rate	units	EF units	Reference	tons/yr	Comment/question	
EU03	Charring and Drying	Char Production - Normal Op Scenario	48,000	tons/yr	13.0	lb/ton	Source Test Data	312.00	Limited NOx test data at Springfield (two tests, 9 years apart). BACT for NOx emissions has been established at 13 lb/ton char at other KMC plants in PSD permits. Suggest using 13 lb/ton and revisiting after Springfield
	Charring and Drying Operation	ACC Natural Gas-fired Burners (2) Existing	73,529	MMCF/yr	100.00	lb/MMCF	AP42	3.7	
	Charring and Drying Operation	ACC Natural Gas-fired Burners (2) New	100,000	MMBtu/yr	0.085	lb/MMBtu	Vendor guarantee	4.3	
	Charring and Drying w/ Aux Burner	Char Production - Alt Op Scenario	0.05	MMCF/hr natural gas	100.00	lb/MMCF	AP42 w assumed 99% efficiency	1.50	
EU10	Combustion Unit (natural gas-fired boiler)	NA	0.00335	MMCF/hr natural gas	100.00	lb/MMCF	AP42	1.38	
			8,230	hours/year					
								POLLUTANT TOTAL	323

								Pollutant (SO2)	
EU ID:	EU Name	Description	Annual rate	units	EF units	Reference	tons/yr	Comment	
EU03	Charring and Drying	Char Production - Normal Op Scenario	48,000	tons/yr	2.0	lb/ton	Source Test Data	48.00	Springfield - 0.61 lb/ton (1992), 1.06 lb/ton (2001); (2) Beryl, WV - 1.46 lb/ton (2008), 1.37 lb/ton (2003); (3) Belle, MO - 4.04 lb/ton (2011); (4) Summer Shade, KY - 1.27 lb/ton
	Charring and Drying w/ Aux Burner	Char Production - Alt Op Scenario	0.05	MMCF/hr natural gas	0.60	lb/MMCF	AP42 w assumed 99% efficiency	0.01	
EU10	Combustion Unit (natural gas-fired boiler)	NA	0.00335	MMCF/hr natural gas	0.60	lb/MMCF	AP42	0.01	
			8,230	hours/year					
								POLLUTANT TOTAL	48

						Pollutant	(VOC)		
EU ID:	EU Name	Description	Annual rate	units	EF	units	Reference	tons/yr	Comment
EU03	Charring and Drying	Char Production - Normal Op Scenario	48,000	tons/yr	1.0	lb/ton	Source Test Data	24.0	Limited VOC test data at Springfield (two tests, 9 years apart). EF based on testing at other KMC plants showing VOC concentrations in the ACC exhaust < 10 ppm. Suggest using 1.0 lb/ton and revisiting after Springfield conducts next stack test.
	Charring and Drying Operation	ACC Natural Gas-fired Burners (2) Existing	73,529	MMCF/yr	5.50	lb/MMCF	AP42	0.20	
	Charring and Drying Operation	ACC Natural Gas-fired Burners (2) New	98,039	MMCF/yr	5.50	lb/MMCF	AP42	0.27	
	Charring and Drying w/ Aux Burner	Char Production - Alt Op Scenario	0.05 600	MMCF/hr natural gas hours/year	5.50	lb/MMCF	AP42 w assumed 99%	0.08	
EU10	Combustion Unit (natural gas-fired boiler)	NA	0.00335	MMCF/hr natural gas	5.50	lb/MMCF	AP42	0.08	Construction ACDP: 2500 hr/yr, 15 MMBtu/hr each, 1,020 Btu/scf
			8,230	hours/year					
EU11	Solvent Treated Briquet Operations	ACC Control of VOC	67,160	tons/yr	0.14	lb/ton STB	Testing at similar facility w/ assumed 95% control	4.70	
		ACC Upset Operations	6,000	tons/yr	2.82	lb/ton STB	Testing at similar facility w/ 0% control	8.46	
		STB Fines	73,160	tons/yr	2.02	lb/ton STB	Wt % of total briquets as estimate from similar facility	73.9	
		Fixed VOC Emissions (Tank, fugitives)	8,760	hours/year	0.30	lb/hour	EPA TANKS3.1; EPA "1995 Equip Leak Est"	1.31	
EU11 TOTAL								88.4	
POLLUTANT TOTAL								113	

						Aggregate Inisgnificant
Source	Pollutant	Exhaust Flowrate (dcsfm)	Exhaust PM Ccentration ^a (gr/dscf)	Hours of Operation ^b (hr/yr)	Emission Rate (ton/yr)	
Starch Silo Vent	PM/PM ₁₀ /PM _{2.5}	300	0.001	480	0.001	
Lime Silo Vent	PM/PM ₁₀ /PM _{2.5}	1680	0.001	520	0.004	
Flavor Dust Blower Exhaust	PM/PM ₁₀ /PM _{2.5}	300	0.001	480	0.001	
Flavor Dust Tank Vent	PM/PM ₁₀ /PM _{2.5}	1680	0.001	726	0.005	
Flavor Dust Truck Unloader	PM/PM ₁₀ /PM _{2.5}	1100	0.001	500	0.002	
Starch Use Bin Vent ^c	PM/PM ₁₀ /PM _{2.5}	300	0.001	4116	0.003	
Hammermill Blending Bin Vent ^c	PM/PM ₁₀ /PM _{2.5}	4000	0.001	7500	0.064	
Briquet Press Dust Collector ^c	PM/PM ₁₀ /PM _{2.5}	2600	0.001	1000	0.006	
Rerun Storage Dust Collector ^c	PM/PM ₁₀ /PM _{2.5}	4000	0.001	7500	0.064	
Blend I/F Tramco Bin Vent	PM/PM ₁₀ /PM _{2.5}	2300	0.001	7500	0.074	
New Vacuum System Blower	PM/PM ₁₀ /PM _{2.5}	900	0.001	3650	0.014	
Fugitive Dust Sources (see facility application) ^d	PM/PM ₁₀ /PM _{2.5}	N/A	N/A	8760	0.040	
					TOTAL	0.277
^a Typical fabric filter exhaust PM concentrations						
^b Hours of operation based on maximum daily operating schedules						
^c Exhausts into building - 50% control efficiency assumed						
^d Fugitive dust sources includes emissions from Railcar/Truck Unloading and Rerun Handling						