LANE REGIONAL AIR PROTECTION AGENCY (LRAPA)
TITLE V OPERATING PERMIT REVIEW REPORT

ADDENDUM 2
(MINOR PERMIT MODIFICATION)

Kingsford Manufacturing Company **Permit No. 204402**
3315 Marcola Road
Springfield, Oregon 97478
Website: http://www.kingsford.com

Source Information:

Primary SIC	2861
Secondary SIC	--
Primary NAICS	325191
Secondary NAICS	--

Source Categories (LRAPA Title 37, Table 1)	B:18. Charcoal manufacturing C:5. PTE>100 ton/yr criteria pollutant, except GHG
Public Notice Category	I

Compliance and Emissions Monitoring Requirements:

Unassigned Emissions	Y
Emission Credits	N
Compliance Schedule	N
Source Test Date(s)	See Permit

COMS	N
CEMS	N
Ambient monitoring	N

Reporting Requirements

Annual Report (due date)	March 1
SACC (due date)	August 15
Greenhouse Gas Report (due date)	March 1
Monthly Report (due date)	N

Quarterly Report (due date)	N
Excess Emissions Report	Y
Other Reports (due date)	Semi-annual

Air Programs

NSPS (list subparts)	N
NESHAP (list subparts)	ZZZZ
CAM	Y
Regional Haze (RH)	N
Synthetic Minor (SM)	N
SM-80	N
Title V	Y
Part 68 Risk Management	N
ACDP (SIP)	N

Major FHAP source	N
Federal major source	N
NA New Source Review (NSR)	N
Prevention of Significant Deterioration (PSD)	Y
Acid Rain	N
Clean Air Mercury Rule (CAMR)	N
TACT	Y
>20 Megawatts	N

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LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS REVIEW REPORT

ACDP	Air Contaminant Discharge Permit
AQMA	Air Quality Management Area
Act	Federal Clean Air Act
ASTM	American Society of Testing and Materials
Btu	British thermal unit
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CI	Compression Ignition
CMS	Continuous Monitoring System
CO	Carbon Monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
COMS	Continuous Opacity Monitoring System
CPDS	Certified Product Data Sheet
CPMS	Continuous parameter monitoring system
DEQ	Department of Environmental Quality
dscf	Dry standard cubic feet
EF	Emission factor
EPA	US Environmental Protection Agency
EU	Emissions Unit
FCAA	Federal Clean Air Act
FHAP	Federal Hazardous Air Pollutant as defined by LRAPA Title 12
ft^2	Square foot
FSA	Fuel sampling and analysis
GHG	Greenhouse Gas
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)
HCFC	Halogenated Chloro-Fluoro-Carbons
ID	Identification number or label
I&M	Inspection and maintenance
LAER	Lowest Achievable Emission Rate
LRAPA	Lane Regional Air Protection Agency
MACT	Maximum Achievable Control Technology
MM	Million
MMBtu	Million British thermal units
NA	Not applicable
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen oxides
NSPS	New Source Performance Standards
NSR	New Source Review
O_2	Oxygen
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
ORS	Oregon Revised Statutes
O&M	Operation and maintenance
Pb	Lead
PCD	Pollution Control Device
PM	Particulate matter
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PM_{10}	Particulate matter less than 10 microns in size
ppm	Parts per million
PSEL	Plant Site Emission Limit
psia	pounds per square inch, actual
PTE	Potential to Emit
RATA	Relative Accuracy Testing Audit
RICE	Reciprocating Internal Combustion Engine
SACC	Semi-Annual Compliance Certification
SCEMP	Surrogate Compliance Emissions Monitoring Parameter
Scf	Standard cubic foot
SER	Significant emission rate
SERP	Source emissions reduction plan
SI	Spark Ignition
SIC	Standard Industrial Code
SIP	State Implementation Plan
SO_2	Sulfur dioxide
ST	Source test
TAC	Toxic air contaminant as defined by OAR 340-245-0020(56)
TACT	Typically Achievable Control Technology
TPY	Tons per year
VE	Visible emissions
VMT	Vehicle miles traveled
VOC	Volatile organic compounds
VHAP	Volatile hazardous air pollutant
Year	A period consisting of any 12 consecutive calendar months

INTRODUCTION

1. Kingsford Manufacturing Company (KMC) is an existing facility applying for a minor permit modification of an existing Title V federal operating permit.

2. In accordance with OAR 340-218-0120(1)(f), this review report is intended to provide the legal and factual basis for the draft permit conditions. In most cases, the legal basis for a permit condition is included in the permit by citing the applicable regulation. In addition, the factual basis for the requirement may be the same as the legal basis. However, when the regulation is not specific and only provides general requirements, this review report is used to provide a more thorough explanation of the factual basis for the draft permit conditions.

REASON FOR PERMIT ACTION

3. KMC submitted a request for a minor permit modification to their existing Title V federal operating permit on September 15, 2021 and October 11, 2021 for the replacement of the existing solvent treated briquet (STB) dip tank and curtain coater with an enclosed spray application system. Except for the method of applying the solvent to the briquets, the rest of the STB system will remain unchanged.

FACILITY DESCRIPTION

4. KMC 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.

5. The facility is located in an area that is generally flat. To the north of the facility is a governmental office building and a mobile home park. To the east of the facility is a light commercial area and the McKenzie River. To the south of the facility is a mixed industrial and commercial area and a residential area. To the west of the facility is a residential area.

GENERAL BACKGROUND INFORMATION

6. KMC is a Title V major source because potential PM, PM_{10}, and NOx emissions exceed 100 tons per year. The facility is considered a PSD federal major source because charcoal production plants are a listed source category and the potential emissions of at least one criteria pollutant exceed the listed source emission threshold of 100 tons per year. The facility is an area source of federal HAPs

7. The facility is located inside the Eugene Springfield Air Quality Management Area. The facility is located in an area that has been designated an attainment area for $PM_{2.5}$, ozone, NO_2, SO_2 and Pb and a maintenance area for CO and PM_{10}. The facility is located within 100 kilometers of two (2) Class I air quality protection areas: Diamond Peak Wilderness and Three Sisters Wilderness area.

8. LRAPA has reviewed and issued the following permitting actions to this facility prior to the request for this permit action:

Date Approved	Permit Action Type	Description
01/18/1980	ACDP	--
04/22/1982	Approval to Construct	Wood dryer replacement.
09/01/1984	ACDP	--

Date Approved	Permit Action Type	Description
09/01/1989	ACDP	--
09/01/1994	ACDP	--
11/20/1997	ACDP	Name change.
05/15/2000	ACDP	Add the STB operation as a new process. Establish PSELs for VOCs.
09/12/2001	Minor permit modification	--
07/16/2002	Approval to Construct NC-204402-B02	Installation of 2nd briquette press. Paving of roads.
07/23/2002	Administrative Amendment – Addendum No. 1	Incorporate NC-204402-B02.
12/16/2002	Administrative Amendment – Addendum No. 2	Change responsible official.
08/28/2003	Initial Title V	--
06/09/2005	Title V	Increased production and PSELs. Revised emission factors.
09/27/2006	Title V	--
08/02/2007	Off Permit Change	Modify furnace for side charing.
02/20/2007	Off Permit Change	Installation of mesquite truck dump with enclosed receiving hopper.
05/08/2013	Approval to Construct NC-204402-A13	Installation of two additional natural gas-fired burners in the existing After Combustion Chamber (ACC). Revise PSEL levels
08/06/2013	Title V Operation Permit	--
08/27/2014	Off Permit Change – A14, B14, C14	Replacement of portions of the furnace cyclones. Replacement of the hogfuel dryers. Replacement of the dryer cyclones' inlet scrolls and outlet plenum.
07/16/2015	Off Permit Change – A15	Replacement in kind of both furnace cyclones
08/03/2016	Approval to Construct NC-204402-A16	Modification to the dry wood furnace in-feed conveyor system.
08/00/2016	Minor permit modification – Addendum No. 1	Modify the PM emission factor for EU08 from 5.25 lb/hr to 2.63 lb/hr. Reduce PM testing frequency for EU03 from annual to once per permit term based upon a specific testing deadline.
08/22/2016	Off Permit Change – A16	Modification to the dry wood furnace in-feed convey system.
01/12/2018	Off Permit Change – A18	Modification to the hogfuel wet bin and addition of a new conveyor.
07/12/2018	Construction ACDP	Increase in hours of operation of the EU03 After Combustion Chamber (ACC) to accommodate an increased number of start-ups/shutdowns. Increase in the production for EU03 from 45,000 TPY to 48,000 TPY. Increase in VOC yearly emission rate for EU03 offset by internal netting by decreasing EU11 production from 75,000 TPY to 73,160 TPY.
07/12/2018	Significant Modification – Addendum No. 2	Incorporates the Construction ACDP issued on July 12, 2018.
01/16/2019	Approval to Construct NC-204402-A19	Replacement of an existing 27 MMBtu per hour natural gas-fired wood dryer burner with two 20 MMBtu per hour

Date Approved	Permit Action Type	Description
		natural gas-fired wood dryer burners in the existing wood drying and charring operations (EU03).
01/16/2019	Off Permit Change – A19	Replacement of an existing 27 MMBtu per hour natural gas-fired wood dryer burner with two 20 MMBtu per hour natural gas-fired wood dryer burners in the existing wood drying and charring operations (EU03).
08/26/2019	Title V Renewal	--
01/30/2020	Approval to Construct NC-204402-A20	Installation of a biochar loading station.
01/30/2020	Off Permit Change – A20	Installation of a biochar loading station.
09/14/2020	Minor Modification – Addendum No. 1	Add a limitation related to the Regional Haze program, and update the permit to reflect the use of propane as a backup fuel for natural gas.
09/17/2021	Approval to Construct NC-204402-B21	Replacement of the centerfinder in the ACC and the replacement of the retort furnace induced draft fan variable frequency drive.
09/24/2021	Approval to Construct NC-204402-A21	Replacement of the dip tank and curtain coater on the existing solvent treated briquet (STB) operation with a spray application system.

EMISSION UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION

9. The following significant emissions units are affected by this minor permit modification to the existing Title V federal operating permit:

EU ID	Emission Unit Description	Pollution Control Device Description	PCD ID
EU11	Solvent-Treated Briquet (STB) Operation	ACC West Dust Collector	03-01C 08-29C

AGGREGATE INSIGNIFICANT EMISSIONS

10. There are no changes to the aggregate insignificant emissions at the facility as a result of this minor permit modification to the existing Title V federal operating permit.

CATEGORICALLY INSIGNIFICANT ACTIVITIES

11. There are no changes to the categorically insignificant activities as a result of this minor permit modification to the existing Title V federal operating permit.

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING

12. There are no changes to the emission limits and standards, testing, and recordkeeping for significant emission units at the facility as a result of this minor permit modification to the existing Title V federal operating permit. The minor changes to monitoring requirements included changing references from “dip tank” and/or “curtain coater system” to “spray application system”, removing a monitoring requirement that was only applicable to dip tank application, and clarifying that a requirement for submerged filling applies to all tanks containing the STB solvent rather than just the surge tank.

EMISSION LIMITS FOR INSIGNIFICANT ACTIVITIES

13. There are no changes to the emission limits for insignificant activities at the facility as a result of this minor permit modification to the existing Title V federal operating permit.

FEDERAL REQUIREMENTS

Chemical Accident Prevention Provisions

14. There are no changes to the applicability of this regulation to this facility as a result of this minor permit modification to the existing Title V federal operating permit.

Stratospheric Ozone-Depleting Substances

15. There are no changes to the applicability of this regulation to this facility as a result of this minor permit modification to the existing Title V federal operating permit.

National Emission Standards for Hazardous Air Pollutants

16. There are no changes to the applicability of any NESHAPs to this facility as a result of this minor permit modification to the existing Title V federal operating permit. This facility will remain an area source of FHAPs upon completion of this minor permit modification.

New Source Performance Standards

17. This facility is not subject to any NSPS at this time. There are no changes to the applicability of any NSPS to emission units at the facility as a result of this minor permit modification to the existing Title V federal operating permit.

COMPLIANCE ASSURANCE MONITORING

18. There are no changes to the applicability of CAM as a result of this minor permit modification to the existing Title V federal operating permit.

PLANT SITE EMISSIONS LIMITS, BASELINE EMISSION RATE AND SIGNIFICANT EMISSION RATE

19. There are no changes to the Plant Site Emission Limits, Baseline Emission Rate or Netting Basis as a result of this minor permit modification to the existing Title V federal operating permit. Provided below is a summary of the current baseline emissions rate, netting basis, and plant site emission limits as of the preparation of this review report:

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis (tons/yr)	Plant Site Emission Limit (PSEL) (tons/yr)	SER (tons/yr)
PM	312	298	164	25
PM_{10}	180	180	103	15
$PM_{2.5}$	NA	147	96	10
CO	80	80	99	100

NO_x	330	330	103	40
SO_2	19	19	39	40
VOC	74	74	96	40
GHGs	140,233	140,233	214,233	75,000

UNASSIGNED EMISSIONS AND EMISSION REDUCTION CREDITS

20. There are no changes to the Unassigned Emissions or Emission Reduction Credits as a result of this minor permit modification to the existing Title V federal operating permit. Unassigned emissions are equal to the netting basis minus the source's current PTE, minus any banked emission reduction credits. In accordance with LRAPA 42-0055, unassigned emissions will be reduced to less than the applicable SER at the next Title V operation permit renewal if the unassigned emissions are not used for internal netting prior to that date. The facility has zero tons of emission reduction credits. Provided below is a summary of the current Unassigned Emission and Emission Reduction Credits as of the preparation of this review report

Pollutant	Unassigned Emissions (tons/yr)	Emission Reduction Credits (tons/yr)	SER (tons/yr)
PM	134	0	25
PM_{10}	46	0	15
$PM_{2.5}$	51	0	10
CO	0	0	100
NO_x	39	0	40
SO_2	0	0	40
VOC	0	0	40
GHGs	0	0	75,000

SIGNIFICANT EMISSION RATE (SER)

21. This minor permit modification to the existing Title V federal operating permit does not result in an increase above the SER for any regulated pollutant with an SER.

HAZARDOUS AIR POLLUTANTS (HAPs)

22. There are no significant changes to the emissions of federal HAPs as a result of this minor permit modification to the existing Title V federal operating permit.

TITLE V PERMIT CHANGE LOG

23. The following is a list of condition-by-condition changes resulting from this minor permit modification:

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
52.a.	52.a.	Removed the word "surge" and made "tank" plural.	Facility has two tanks in the railcar unloading facility. Condition applies to both tanks.

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
52.b.	52.b.	Replaced reference to "dip tank" with "spray application system".	Change in application equipment.
Removed	52.c.	Removed condition.	Only applicable to the dip tank which has been removed.
52.c.	52.d.	Renumbered condition.	Renumbered condition.
52.d.	52.e.	Renumbered condition.	Renumbered condition.
52.e.	52.f.	Renumbered condition.	Renumbered condition.
52.f.	52.g.	Renumbered condition.	Renumbered condition.
52.g.	52.h.	Replaced reference to the "dip tank" and "curtain coater system" with "spray application system".	Change in application equipment.
54.	54.	Replaced reference to the "dip tank" with "spray application system".	Change in application equipment.
54.a.	54.a.	Replaced reference to the "dip tank" with "spray application system".	Change in application equipment.

COMPLIANCE HISTORY

24. This facility is regularly inspected by LRAPA. The following table indicates the compliance history of this facility since the beginning of the Title V permit program.

Type of Inspection	Period	Results
Full Compliance Evaluation	11/12/1992	In compliance
Full Compliance Evaluation	09/09/1993	In compliance
Full Compliance Evaluation	01/17/1995	In compliance
Full Compliance Evaluation	08/27/1996	In compliance
Full Compliance Evaluation	07/15/1998	In compliance
Full Compliance Evaluation	11/30/1999	In compliance
Full Compliance Evaluation	07/17/2001	In compliance
Full Compliance Evaluation	09/30/2002	In compliance
Full Compliance Evaluation	10/01/2003-09/30/2004	In compliance
Full Compliance Evaluation	10/01/2005-09/30/2006	In compliance
Full Compliance Evaluation	10/01/2007-09/30/2008	Not in Compliance
Full Compliance Evaluation	10/01/2011-09/30/2012	In Compliance
Full Compliance Evaluation	10/01/2013-09/30/2014	In compliance
Full Compliance Evaluation	10/01/2015-09/30/2016	In compliance
Full Compliance Evaluation	10/01/2017-09/30/2018	In compliance
Full Compliance Evaluation	10/01/2018-09/30/2020	In compliance
Full Compliance Evaluation	10/01/2020-09/30/2022	In compliance

25. The facility was issued the following Notices of Non-Compliance (NON), Notices of Civil Penalty (NCP), and Stipulated and Final Orders (SFO) since the beginning of the Title V permit program:

    25.a. The facility was issued NON 1529 on March 20, 1998, for visible emissions that exceeded 20% opacity from the ACC. The facility conducted corrective action. No ($0) civil penalty was assessed.
    25.b. The facility was issued NON 1831 on September 9, 1999, for self-reporting visible emission violations. The facility conducted corrective action. No ($0) civil penalty was assessed.

25.c. The facility was issued NON 2119 on October 17, 2000 and NCP 00-2119 on January 5, 2001 for failure to take precautions related to fugitive emissions. The facility paid a civil penalty in the amount of $1,200.

25.d. The facility was issued NON 2239 on April 26, 2001 and SFO 01-2239 for non-compliance related to PM emissions in excess of 10 pounds per ton of char and PM and PM_{10} emissions in excess of the short term PSELs of 60 pounds per hour and 47 pounds per hour, respectively. The facility paid a civil penalty of $6,600.

25.e. The facility was issued NON 2468 on November 8, 2002, and NCP 03-2468 for non-compliance related to PM and PM_{10} emissions in excess of the short term PSELs of 60 pounds per hour and 47 pounds per hour, respectively. The facility paid a civil penalty of $2400.

25.f. The facility was issued NON 2573 on August 7, 2003 and NCP 03-2573 on September 11, 2003 for failure to take precautions related to fugitive emissions. The facility paid a civil penalty in the amount of $1,500.

25.g. The facility was issued NON 2973 on February 15, 2008 and NCP 08-2973 on April 15, 20008 for non-compliance related to PM emissions in excess of 10 pounds per ton of char. The facility paid a civil penalty of $1,700.

25.h. The facility was issued NON 3093 on October 8, 2008 and NCP 08-3093 on December 22, 2008 for non-compliance related to PM emissions in excess of 10 pounds per ton of char and PM emissions in excess of the PSEL of 90 pounds per hour. The facility paid a civil penalty of $26, 886.

PUBLIC NOTICE

26. This modification may be undertaken in accordance with OAR 340-218-0170 and does not require public notice as allowed under OAR 340-218-0210.

EPA REVIEW

27. This proposed permit was sent to EPA on November 10, 2021, for a 45-day review period. LRAPA requested and EPA agreed to expedited review of the proposed permit. The public will have 60 days from the end of the 45-day review period to petition the EPA to object to the issuance of the permit if EPA has not already done so during the 45-day review period.

JJW/cmw
11/10/2021

EMISSION DETAIL SHEETS

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Facility Emission Summary

		Pollutant (TPY)							
EU ID	**Emission Unit Description**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**NO_X**	**SO_2**	**VOC**	**GHG**
EU01	Wood Fuel Receipt and Storage	8.00	3.76	0.56	--	--	--	--	--
EU02	Hogfuel Sizing and Infeed System	0.56	0.28	0.02	--	--	--	--	--
EU03	Charring and Drying System (inc. AOS)	126	84.3	83.7	21.4	94.1	11.8	7.40	127,260
EU03	ACC Burners (4 total)	0.67	0.67	0.67	7.19	12.43	0.61	0.77	12,973
EU04	Briquet Cooling	21.8	7.50	3.75	--	--	--	--	--
EU08	Briquet Handling System	5.90	5.90	5.90	--	--	--	--	--
EU10	3.345 MMBtu/hr Boiler	0.11	0.11	0.11	1.13	1.96	0.23	0.12	**
EU11	Solvent Treated Briquet (STB) Operation	--	--	--	--	--	--	88.4	--
EU-AIE	Total Aggregate Insignificant Emissions	1.00	1.00	1.00	--	--	--	--	--
	Total =	**164**	**103**	**96**	**30**	**108**	**13**	**97**	**140,233**

Notes:

GHGs from EU10 included with EU03

Based upon worst emitting fuel for a given pollutant

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Pollutant - Particulate Matter

EU ID	EU Name	Device/Activity/Parameter	Annual Rate	Units	EF	Unit	Reference	TPY	Notes
EU01	Wood Fuel Receipt and Storage	Max Annual Throughput Wet	320,000	TPY	NA	NA	NA	--	
		Max Annual Throughput Dry	160,000	TPY	0.10	lb/dry ton	KMC Estimate	8.00	
EU02	Hogfuel Sizing and Infeed System	Sceener In	8,088	Hr/Yr	9.600E-2	lb/hr-opr	AP42	0.39	
		Sceener Out	7,330	Hr/Yr	1.920E-2	lb/hr-opr	AP42	0.07	
		Secondary Screen In	7,330	Hr/Yr	1.920E-2	lb/hr-opr	AP42	0.07	
		Secondary Screen Out	7,330	Hr/Yr	4.800E-3	lb/hr-opr	AP42	0.02	
		Reject Diverter	1,000	Hr/Yr	1.920E-2	lb/hr-opr	AP42	0.01	
EU03	Charring and Drying System	Char Production	48,000	TPY	5.12	lb/ton char	Based on average of last ten years of stack tests since 12/2018.	122.93	
	Charring and Drying System	Char Production w Auxilliary Burner	12,600	TPY	0.50	lb/ton char	KMC estimate	3.15	
	Charring and Drying System	ACC Burners (4) - Natural Gas	0.069	MMCF/hr	7.60	lb/MMCF	AP42	0.65	Construction ACDP: 70 MMBtu/hr tota
			2,500	Hr/Yr					
	Charring and Drying System	ACC Burners (4) - Propane	0.765	MMCF/hr	0.70	lb/10^3 gal	AP42	0.67	Construction ACDP: 70 MMBtu/hr tota
			2,500	Hr/Yr					
EU04	Briquet Cooling	Briquet Production	150,000	tons/year	0.29	lb/ton briquets	Based on average of two stack tests	21.75	
EU08	Briquet Handling System	Dust Collectors	8,088	Hr/Yr	1.46	lbs/hr	Stack test & Calculation	5.90	
			61,300	SCFM					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	7.60	lb/MMCF	AP42	0.10	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	MMCF/hr	0.70	lb/10^3 gal	AP42	0.11	
			8,230	Hr/Yr					
EU-AIE	Aggregate Insignificant Emissions	NA	See the AIE Emission Detail Sheet					1	
							Total =	164	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Pollutant - PM_{10}

EU ID	EU Name	Device/Activity/Parameter	Annual Rate	Units	EF	Unit	Reference	TPY	Notes
EU01	Wood Fuel Receipt and Storage	Max Annual Throughput Wet	320,000	TPY	NA	NA	NA	--	
		Max Annual Throughput Dry	160,000	TPY	0.05	lb/dry ton	KMC Estimate	3.76	
EU02	Hogfuel Sizing and Infeed System	Sceener In	8,088	Hr/Yr	0.048	lb/hr-opr	AP42	0.194	
		Sceener Out	7,330	Hr/Yr	0.010	lb/hr-opr	AP42	0.035	
		Secondary Screen In	7,330	Hr/Yr	0.010	lb/hr-opr	AP42	0.035	
		Secondary Screen Out	7,330	Hr/Yr	0.002	lb/hr-opr	AP42	0.0088	
		Reject Diverter	1,000	Hr/Yr	0.010	lb/hr-opr	AP42	0.0048	
EU03	Charring and Drying System	Char Production	48,000	TPY	3.43	lb/ton char	Ratio of PM10/PM from October 26, 2015 stack test was 3.02/4.53=0.67	82.36	
	Charring and Drying System	Char Production w Auxilliary Burner	12,600	TPY	0.30	lb/ton char	KMC estimate	1.89	
	Charring and Drying System	ACC Burners (4) - Natural Gas	0.069	MMCF/hr	7.60	lb/MMCF	AP42	0.65	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr					
	Charring and Drying System	ACC Burners (4) - Propane	0.765	10^3 gal/hr	0.70	lb/10^3 gal	AP42	0.67	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr					
EU04	Briquet Cooling	Briquet Production	150,000	TPY	0.10	lb/ton briquets	Based on average of two stack tests	7.50	
EU08	Briquet Handling System	Dust Collectors	8,088	Hr/Yr	1.46	lbs/hr	KMC estimate and testing	5.90	
			61,300	SCFM					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	7.60	lb/MMCF	AP42	0.10	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	0.70	lb/10^3 gal	AP42	0.11	
			8,230	Hr/Yr					
EU-AIE	Aggregate Insignificant Emissions	NA	See the AIE Emission Detail Sheet					1.00	
							Total =	103	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Pollutant - PM2.5

EU ID	EU Name	Device/Activity/Parameter	Annual Rate	Units	EF	Unit	Reference	$PM_{2.5}$ Fraction	Reference Fraction	$PM_{2.5}$ EF	PM_{10} TPY	$PM_{2.5}$ TPY	Notes
EU01	Wood Fuel Receipt and Storage	Max Annual Throughput Wet	320,000	TPY	NA	NA	NA	NA	NA	NA	--	--	
		Max Annual Throughput Dry	160,000	TPY	0.05	lb/dry ton	KMC Estimate	0.15	DEQ AQ-EF08 (Storage Piles)	0.01	3.76	0.56	
EU02	Hogfuel Sizing and Infeed System	Sceener In	8,088	Hr/Yr	0.048	lb/hr-opr	AP42	0.07	DEQ AQ-EF08 (Crushed Stone Screening)	0.003	0.194	1.4E-02	
		Sceener Out	7,330	Hr/Yr	0.010	lb/hr-opr	AP42			0.001	0.035	2.5E-03	
		Secondary Screen In	7,330	Hr/Yr	0.010	lb/hr-opr	AP42			0.001	0.035	2.5E-03	
		Secondary Screen Out	7,330	Hr/Yr	0.002	lb/hr-opr	AP42			0.0002	0.0088	6.2E-04	
		Reject Diverter	1,000	Hr/Yr	0.010	lb/hr-opr	AP42			0.001	0.0048	3.4E-04	
EU03	Charring and Drying System	Char Production	48,000	TPY	3.43	lb/ton char	Ratio of PM10/PM from 10/26/2015 stack test was 3.02/4.53=0.67	1.00	Stack test; PM_{10}=$PM_{2.5}$	3.43	82.36	82.36	
	Charring and Drying System	Char Production w Auxilliary Burner	12,600	TPY	0.30	lb/ton char	KMC estimate	0.70	KMC estimate and testing at other KMC facilities	0.21	1.89	1.32	KMC uses 0.2 lb/ton briquets to estimate PM2.5 emissions from briquet dryers at other plants based on limited stack test data and engineering estimates
	Charring and Drying System	ACC Burners (4) - Natural Gas	0.069	MMCF/hr	7.60	lb/MMCF	AP42	1.00	DEQ AQ-EF08	7.60	0.65	0.65	
			2,500	Hr/Yr									
	Charring and Drying System	ACC Burners (4) - Propane	0.765	10^3 gal/hr	0.70	lb/10^3 gal	AP42	1.00	DEQ AQ-EF08	0.70	0.67	0.67	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr									
EU04	Briquet Cooling	Briquet Production	150,000	TPY	0.10	lb/ton briquets	Based on average of two stack tests	0.50	Stack test; PM_{10}=$PM_{2.5}$	0.050	7.50	3.75	
EU08	Briquet Handling System	Dust Collectors	8,088	Hr/Yr	1.46	lbs/hr	KMC estimate and testing	1.00	DEQ AQ-EF08 (Baghouse)	1.46	5.90	5.90	
			61,300	SCFM									
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	7.60	lb/MMCF	AP42	1.00	DEQ AQ-EF08	7.60	0.10	0.10	
			8,230	Hr/Yr									
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	0.70	lb/10^3 gal	AP42	1.00	DEQ AQ-EF08	0.70	0.11	0.11	
			8,230	Hr/Yr									
EU-AIE	Aggregate Insignificant Emissions	NA	See the AIE Emission Detail Sheet								1.00	1.00	
										Total =	103	96	

Notes:
Natural gas heat content: 1020 MMBtu/MMCF
Propane heat content: 91.5 MMBtu/10^3 gal
Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Pollutant - Carbon Monoxide

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	Notes
EU03	Charring and Drying	Char Production - Normal Op	48,000	TPY	0.85	lb/ton	Source Test Data	20.4	Based upon 2 tests 8 years apart (1.1, 0.6)
	Charring and Drying Operation	Existing ACC Burners (2) - Natural Gas	0.029	MMCF/hr	84	lb/MMCF	AP42	3.09	Construction ACDP: 15 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	Existing ACC Burners (2) - Propane	0.328	10^3 gal/hr	7.5	lb/10^3 gal	AP42	3.07	Construction ACDP: 15 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	New ACC Burners (2) - Natural Gas	0.039	MMCF/hr	0.059	lb/MMBtu	Vendor Guarantee	2.95	Construction ACDP: 20 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	New ACC Burners (2) - Propane	0.437	10^3 gal/hr	7.5	lb/10^3 gal	AP42	4.10	Construction ACDP: 20 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying w/ Aux Burner - Natural Gas	Char Production - AOS	0.039	MMCF/hr	84	lb/MMCF	AP42	0.99	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
	Charring and Drying w/ Aux Burner - Propane	Char Production - AOS	0.437	10^3 gal/hr	7.5	lb/10^3 gal	AP42	0.98	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	84	lb/MMCF	AP42	1.13	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	7.5	lb/10^3 gal	AP42	1.13	
			8,230	Hr/Yr					
							Total =	30	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Pollutant - Nitrogen Oxides

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	Notes
EU03	Charring and Drying	Char Production - Normal Op Scenario	48,000	TPY	3.9	lb/ton	Source Test Data	92.40	Based on two tests 8 years apart (2.1, 5.6)
	Charring and Drying Operation	Existing ACC Burners (2) - Natural Gas	0.029	MMCF/hr	100	lb/MMCF	AP42	3.68	Construction ACDP: 15 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	Existing ACC Burners (2) - Propane	0.328	10^3 gal/hr	13	lb/10^3 gal	AP42	5.33	Construction ACDP: 15 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	New ACC Burners (2) - Natural Gas	0.039	MMCF/hr	0.085	lb/MMBtu	Vendor Guarantee	4.25	Construction ACDP: 20 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	New ACC Burners (2) - Propane	0.437	10^3 gal/hr	13	lb/10^3 gal	AP42	7.10	Construction ACDP: 20 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying w/ Aux Burner - Natural Gas	Char Production - AOS	0.039	MMCF/hr	100	lb/MMCF	AP42	1.18	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
	Charring and Drying w/ Aux Burner - Propane	Char Production - AOS	0.437	10^3 gal/hr	13	lb/10^3 gal	AP42	1.70	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	100	lb/MMCF	AP42	1.35	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	13	lb/10^3 gal	AP42	1.96	
			8,230	Hr/Yr					
							Total =	108	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Pollutant - Sulfur Dioxide

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	Notes
EU03	Charring and Drying	Char Production - Normal Op Scenario	48,000	TPY	0.5	lb/ton	Source Test Data	11.64	Based upon 2 tests 8 years apart (0.8, 0.17)
	Charring and Drying Operation	ACC Burners (4) - Natural Gas	0.029	MMCF/hr	0.60	lb/MMCF	AP42	0.02	Construction ACDP: 70 MMBtu/hr total
			2500	Hr/Yr					
	Charring and Drying Operation	ACC Burners (4) - Propane	0.328	10^3 gal/hr	1.50	lb/10^3 gal	AP42	0.61	Construction ACDP: 70 MMBtu/hr total
			2500	Hr/Yr					
	Charring and Drying w/ Aux Burner - Natural Gas	Char Production - AOS	0.039	MMCF/hr	0.60	lb/MMCF	AP42	0.01	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
	Charring and Drying w/ Aux Burner - Propane	Char Production - AOS	0.437	10^3 gal/hr	1.50	lb/10^3 gal	AP42	0.20	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	0.60	lb/MMCF	AP42	0.01	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	1.50	lb/10^3 gal	AP42	0.23	
			8,230	Hr/Yr					
							Total =	13	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Pollutant - Volatile Organic Compounds

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	Notes
EU03	Charring and Drying	Char Production - Normal Op	48,000	TPY	0.3	lb/ton	Source Test Data	7.20	Based upon 2 tests 8 years apart (0.4, 0.2)
	Charring and Drying Opreration	ACC Burners (4) - Natural Gas	0.069	MMCF/hr	5.50	lb/MMCF	AP42	0.47	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr					
	Charring and Drying Opreration	ACC Burners (4) - Propane	0.765	10^3 gal/hr	0.80	lb/10^3 gal	AP42	0.77	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr					
	Charring and Drying w/ Aux Burner - Natural Gas	Char Production - AOS	0.039	MMCF/hr NG	5.50	lb/MMCF	AP42 w/ 99% efficiency	0.06	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
	Charring and Drying w/ Aux Burner - Propane	Char Production - AOS	0.437	10^3 gal/hr	5.50	lb/10^3 gal	AP42 w/ 99% efficiency	0.72	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr NG	5.50	lb/MMCF	AP42	0.07	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	0.80	lb/10^3 gal	AP42	0.12	
			8,230	Hr/Yr					
EU11	Solvent Treated Briquet Operations	ACC Control of VOC	67,160	TPY	0.14	lb/ton STB	Testing at similar facility w/ 95% control	4.70	
		ACC Upset Operations	6,000	TPY	2.82	lb/ton STB	Testing at similar facility w/ 0% control	8.46	
		STB Fines	73,160	TPY	2.02	lb/ton STB	Wt. % of total briquets as estimate from similar facility	73.9	
		Fixed VOC Emissions (Tanks, Fugitives)	8,760	Hr/Yr	0.30	lb/hour	EPA TANKS 3.1, EPA 1995 Equip Leak Est.	1.31	
							Total =	97	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Aggregate Inisgnificant Emissions

Source	Pollutant	Exhaust Flowrate (dcsfm)	Exhaust PM[a] (gr/dscf)	Hours of Operation[b] (hr/yr)	Emission Rate (TPY)
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

Notes

[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

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Federal HAPs

Natural Gas HAP Emission Calculations

Maximum Heat Input Rate	113.35	mmBtu/hr
Fuel Heating Value[1]	1020	Btu/scf
Potential Hours of Operation	8760	hours/year

Pollutant (CAS); sf*	Emission ($lb/10^6$ scf)	Control %	PTE (lb/hr)	PTE (lb/yr)	PTE (ton/yr)
Benz(a)anthracene (56-55-3); s	1.8E-06	0.00	2.0E-07	1.8E-03	8.8E-07
Benzene (71-43-2); s,f	2.1E-03	0.00	2.3E-04	2.04	1.0E-03
Benzo(a)pyrene (50-32-8); s	1.2E-06	0.00	1.3E-07	1.2E-03	5.8E-07
Benzo(b)fluoranthene (205-99-2); s	1.8E-06	0.00	2.0E-07	1.8E-03	8.8E-07
Benzo(k)fluoranthene (207-08-9); s	1.8E-06	0.00	2.0E-07	1.8E-03	8.8E-07
Dibenzo(a,h)anthracene (53-70-3); s	1.2E-06	0.00	1.3E-07	1.2E-03	5.8E-07
Formaldehyde (50-00-0); sf	7.5E-02	0.00	8.3E-03	73.0	3.7E-02
Hexane (110-54-0); sf	1.8E+00	0.00	0.20	1,752	0.88
Indeno(1,2,3-cd)pyrene (193-39-5); s	1.8E-06	0.00	2.0E-07	1.8E-03	8.8E-07
Naphthalene (91-20-3); sf	6.1E-04	0.00	6.8E-05	0.59	3.0E-04
Polycylic Organic Matter[2] (POM); f	7.0E-04	0.00	7.8E-05	0.68	3.4E-04
Toluene (108-88-3); sf	3.4E-03	0.00	3.8E-04	3.31	1.7E-03
Arsenic (7440-38-2); sf	2.0E-04	0.00	2.2E-05	0.19	9.7E-05
Barium (7440-39-3); s	4.4E-03	0.00	4.9E-04	4.28	2.1E-03
Beryllium (7440-41-7); sf	1.2E-05	0.00	1.3E-06	1.2E-02	5.8E-06
Cadmium (7440-43-9); sf	1.1E-03	0.00	1.2E-04	1.07	5.4E-04
Chromium (7440-47-3); sf	1.4E-03	0.00	1.6E-04	1.36	6.8E-04
Cobalt (7440-48-4); sf	8.4E-05	0.00	9.3E-06	8.2E-02	4.1E-05
Copper (7440-50-8); s	8.5E-04	0.00	9.4E-05	0.83	4.1E-04
Manganese (7439-96-5); sf	3.8E-04	0.00	4.2E-05	0.37	1.8E-04
Mercury (7439-97-6); sf	2.6E-04	0.00	2.9E-05	0.25	1.3E-04
Molybdenum (7439-98-7); s	1.1E-03	0.00	1.2E-04	1.07	5.4E-04
Nickel (7440-02-0); sf	2.1E-03	0.00	2.3E-04	2.04	1.0E-03
Selenium (7782-49-2); s	2.4E-05	0.00	2.7E-06	2.3E-02	1.2E-05
Total s. 112(b) Federal HAP	--	--	--	--	0.92

* s=NR 445 State HAP, f=s. 112(b) Federal HAP

Notes:

- Default emission factors are from AP-42, Chapter 1.4 (Supplement D - 7/98), Tables 1.4-1. to -4.

[1] Default heating value for natural gas is 1020 Btu/scf from AP-42, Section 1.4.1.

[2] POM emission factor is the sum of factors for 2-Methylnaphthalene, 3-Methylchloranthrene, 7,12-Dimethylbenz(a)anthracne, Acenaphthene, Acenaphthylene, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Phenanathrene, and Pyrene

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Federal HAPs

ACC Methanol Emission Calculations

Methanol Emission Factor =	68.7	pounds of methanol per ton of char
ACC Methanol Destruction Efficiency =	99.99%	
Maximum Char Production Rate =	48,000	tons of char per year
Potential Methanol Emissions =	0.16	tons of methanol per year

LANE REGIONAL AIR PROTECTION AGENCY (LRAPA)
TITLE V OPERATING PERMIT REVIEW REPORT

ADDENDUM 1
(MINOR PERMIT MODIFICATION)

Kingsford Manufacturing Company **Permit No. 204402**
3315 Marcola Road
Springfield, Oregon 97478
Website: http://www.kingsford.com

Source Information:

SIC	2861
NAICS	325191

Source Categories (LRAPA Title 37, Table 1)	B:18. Charcoal manufacturing C:5. PTE>100 ton/yr criteria pollutant, except GHG
Public Notice Category	I

Compliance and Emissions Monitoring Requirements:

Unassigned Emissions	Y	COMS	N
Emission Credits	N	CEMS	N
Compliance Schedule	N	Ambient monitoring	N
Source Test Date(s)	See Permit		

Reporting Requirements

Annual Report (due date)	March 1	Quarterly Report (due dates)	N
Emission Fee Report (due date)	March 1	Monthly Report (due dates)	N
Greenhouse Gas Report (due date)	March 1	Excess Emissions Report	Y
SACC (due date)	August 15	Other Reports	N

Air Programs

NSPS (list subparts)	N	Major FHAP source	N
NESHAP (list subparts)	A, ZZZZ	Federal major source	N
CAM	Y	NA New Source Review (NSR)	N
Regional Haze (RH)	N	Prevention of Significant Deterioration (PSD)	Y
Synthetic Minor (SM)	N		
SM-80	N	Acid Rain	N
Title V	Y	Clean Air Mercury Rule (CAMR)	N
Part 68 Risk Management	N	TACT	Y
ACDP (SIP)	N		

TABLE OF CONTENTS

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS REVIEW REPORT

ACDP	Air Contaminant Discharge Permit
AQMA	Air Quality Management Area
Act	Federal Clean Air Act
ASTM	American Society of Testing and Materials
Btu	British thermal unit
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CI	Compression Ignition
CMS	Continuous Monitoring System
CO	Carbon Monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
COMS	Continuous Opacity Monitoring System
CPDS	Certified Product Data Sheet
CPMS	Continuous parameter monitoring system
DEQ	Department of Environmental Quality
dscf	Dry standard cubic feet
EF	Emission factor
EPA	US Environmental Protection Agency
EU	Emissions Unit
FCAA	Federal Clean Air Act
FHAP	Federal Hazardous Air Pollutant as defined by LRAPA Title 12
ft^2	Square foot
FSA	Fuel sampling and analysis
GHG	Greenhouse Gas
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)
HCFC	Halogenated Chloro-Fluoro-Carbons
ID	Identification number or label
I&M	Inspection and maintenance
LAER	Lowest Achievable Emission Rate
LRAPA	Lane Regional Air Protection Agency
MACT	Maximum Achievable Control Technology
MM	Million
MMBtu	Million British thermal units
NA	Not applicable
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen oxides
NSPS	New Source Performance Standards
NSR	New Source Review
O_2	Oxygen
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
ORS	Oregon Revised Statutes
O&M	Operation and maintenance
Pb	Lead
PCD	Pollution Control Device
PM	Particulate matter
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PM_{10}	Particulate matter less than 10 microns in size
ppm	Parts per million
PSEL	Plant Site Emission Limit
psia	pounds per square inch, actual
PTE	Potential to Emit
RATA	Relative Accuracy Testing Audit
RICE	Reciprocating Internal Combustion Engine
SACC	Semi-Annual Compliance Certification
SCEMP	Surrogate Compliance Emissions Monitoring Parameter
Scf	Standard cubic foot
SER	Significant emission rate
SERP	Source emissions reduction plan
SI	Spark Ignition
SIC	Standard Industrial Code
SIP	State Implementation Plan
SO_2	Sulfur dioxide
ST	Source test
TAC	Toxic air contaminant as defined by OAR 340-245-0020(56)
TACT	Typically Achievable Control Technology
TPY	Tons per year
VE	Visible emissions
VMT	Vehicle miles traveled
VOC	Volatile organic compounds
VHAP	Volatile hazardous air pollutant
Year	A period consisting of any 12 consecutive calendar months

INTRODUCTION

1. Kingsford Manufacturing Company (KMC) is an existing facility applying for a minor permit modification of an existing Title V federal operating permit.

2. In accordance with OAR 340-218-0120(1)(f), this review report is intended to provide the legal and factual basis for the draft permit conditions. In most cases, the legal basis for a permit condition is included in the permit by citing the applicable regulation. In addition, the factual basis for the requirement may be the same as the legal basis. However, when the regulation is not specific and only provides general requirements, this review report is used to provide a more thorough explanation of the factual basis for the draft permit conditions.

REASON FOR PERMIT ACTION

3. KMC requested a minor permit modification to their existing Title V federal operating permit for the following reasons:
   3.a. To reduce the unassigned emissions available to the facility for certain criteria pollutants to avoid conducting a four-factor analysis for Oregon DEQ under the authority of the federal Regional Haze Rule (40 CFR 51.308).
   3.b. To insert emission factors for the combustion of propane as a backup fuel for natural gas.

4. On December 24, 2019, DEQ sent KMC a letter requesting the facility conduct a four-factor analysis for Regional Haze precursor pollutants as part of the requirements related to Round 2 of the Regional Haze program for the period 2021 to 2028. The Regional Haze pollutants evaluated by DEQ include PM_{10}, NO_x and SO_2. KMC subsequently sent DEQ a letter on January 24, 2020 requesting that DEQ reevaluate the applicability of Round 2 of the Regional Haze program based on the PSELs contained in the Title V federal operating permit issued in August 2019. In subsequent conversations with KMC and LRAPA, DEQ stated that KMC could be excluded from conducting a four-factor analysis if the facility was willing to accept a combined limitation on Regional Haze precursor PSELs and unassigned emissions such that a Q/d analysis based on the combined limitation resulted in a value of less than 5 at all Class I areas in the state of Oregon under the authority of 40 CFR 51.308(d)(3)(v)(C). In this Q/d analysis, the *Q* represents the combined total of the PSEL and unassigned emissions of all the Regional Haze precursor pollutants evaluated by DEQ and the *d* represents the distance to each Class I area. KMC agreed in a letter to DEQ on April 16, 2020 to accept this limitation. KMC subsequently sent LRAPA an application for a minor permit modification to their existing Title V federal operating permit on July 15, 2020 to incorporate this change.

5. LRAPA recently became aware of the KMC's ability to use propane as a backup fuel for natural gas. To the best of KMC's knowledge propane has only been used as a backup fuel once in approximately 20 years due to natural gas curtailment. As part of the minor permit modification request to their existing Title V federal operating permit, KMC has requested emission factors related to the combustion of propane be added to the permit for determining compliance with the PSELs. In addition, emission units have been renamed to remove natural gas from the naming convention and permit language has been modified where necessary to indicate the ability to use propane as a backup fuel.

FACILITY DESCRIPTION

6. KMC 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.

7. The facility is located in an area that is generally flat. To the north of the facility is a governmental office building and a mobile home park. To the east of the facility is a light commercial area and the McKenzie River. To the south of the facility is a mixed industrial and commercial area and a residential area. To the west of the facility is a residential area.

GENERAL BACKGROUND INFORMATION

8. KMC is a Title V major source because potential PM, PM_{10}, and NOx emissions exceed 100 tons per year. The facility is considered a federal major source for PSD purposes because charcoal production plants are a listed source category and the potential emissions of at least one criteria pollutant are more than the listed source emission threshold of 100 tons per year. The facility is an area source of federal HAPs

9. The facility is located inside the Eugene Springfield Air Quality Management Area. The facility is located in an area that has been designated an attainment area for $PM_{2.5}$, ozone, NO_2, SO_2 and Pb and a maintenance area for CO and PM_{10}. The facility is located within 100 kilometers of two (2) Class I air quality protection areas: Diamond Peak Wilderness and Three Sisters Wilderness area.

10. LRAPA has reviewed and issued the following permitting actions to this facility prior to the request for this permit action:

Date Approved	Permit Action Type	Description
01/18/1980	ACDP	--
04/22/1982	Approval to Construct	Wood dryer replacement.
09/01/1984	ACDP	--
09/01/1989	ACDP	--
09/01/1994	ACDP	--
11/20/1997	ACDP	Name change.
05/15/2000	ACDP	Add the STB operation as a new process. Establish PSELs for VOCs.
09/12/2001	Minor permit modification	--
07/16/2002	Approval to Construct NC-204402-B02	Installation of 2nd briquette press. Paving of roads.
07/23/2002	Administrative Amendment – Addendum No. 1	Incorporate NC-204402-B02.
12/16/2002	Administrative Amendment – Addendum No. 2	Change responsible official.
08/28/2003	Title V	--
06/09/2005	Title V	Increased production and PSELs. Revised emission factors.
09/27/2006	Title V	--
08/02/2007	Off Permit Change	Modify furnace for side charing.
02/20/2007	Off Permit Change	Installation of mesquite truck dump with enclosed receiving hopper.
05/08/2013	Approval to Construct NC-204402-A13	Installation of two additional natural gas-fired burners in the existing After Combustion Chamber (ACC). Revise PSEL levels
08/06/2013	Title V Operation Permit	--
08/27/2014	Off Permit Change – A14, B14, C14	Replacement of portions of the furnace cyclones. Replacement of the hogfuel dryers.

Date Approved	Permit Action Type	Description
		Replacement of the dryer cyclones' inlet scrolls and outlet plenum.
07/16/2015	Off Permit Change – A15	Replacement in kind of both furnace cyclones
08/03/2016	Approval to Construct NC-204402-A16	Modification to the dry wood furnace in-feed conveyor system.
08/00/2016	Minor permit modification – Addendum No. 1	Modify the PM emission factor for EU08 from 5.25 lb/hr to 2.63 lb/hr. Reduce PM testing frequency for EU03 from annual to once per permit term based upon a specific testing deadline.
08/22/2016	Off Permit Change – A16	Modification to the dry wood furnace in-feed convey system.
01/12/2018	Off Permit Change – A18	Modification to the hogfuel wet bin and addition of a new conveyor.
07/12/2018	Construction ACDP	Increase in hours of operation of the EU03 After Combustion Chamber (ACC) to accommodate an increased number of start-ups/shutdowns. Increase in the production for EU03 from 45,000 TPY to 48,000 TPY. Increase in VOC yearly emission rate for EU03 offset by internal netting by decreasing EU11 production from 75,000 TPY to 73,160 TPY.
07/12/2018	Significant Modification – Addendum No. 2	Incorporates the Construction ACDP issued on July 12, 2018.
01/16/2019	Approval to Construct NC-204402-A19	Replacement of an existing 27 MMBtu per hour natural gas-fired wood dryer burner with two 20 MMBtu per hour natural gas-fired wood dryer burners in the existing wood drying and charring operations (EU03).
01/16/2019	Off Permit Change – A19	Replacement of an existing 27 MMBtu per hour natural gas-fired wood dryer burner with two 20 MMBtu per hour natural gas-fired wood dryer burners in the existing wood drying and charring operations (EU03).
01/30/2020	Approval to Construct NC-204402-A20	Installation of a biochar loading station
01/30/2020	Off Permit Change – A20	Installation of a biochar loading station

EMISSION UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION

11. The following significant emissions units affected by this minor permit modification to include propane combustion have been renamed to remove fuel specific wording:

EU ID	Emission Unit Description	Pollution Control Device Description	PCD ID
EU03	Charring and Drying System:		
	Briquet Dryers	NA	NA
	ACC Burners for Startups	NA	NA
EU10	3.345 MMBtu/hr Boiler	NA	NA

AGGREGATE INSIGNIFICANT EMISSIONS

12. There are no changes to the aggregate insignificant emissions at the facility as a result of this minor permit modification to the existing Title V federal operating permit..

CATEGORICALLY INSIGNIFICANT ACTIVITIES

13. There are no changes to the categorically insignificant activities as a result of this minor permit modification to the existing Title V federal operating permit. The name of the existing emergency generator has been changed from “274 kW Natural Gas-Fired Emergency RICE” to “274 kW Gas-Fired Emergency RICE” so that the emission unit name is not fuel specific.

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING

14. There are no changes to the emission limits and standards, testing, monitoring, and recordkeeping for significant emission units at the facility as a result of this minor permit modification to the existing Title V federal operating permit.

EMISSION LIMITS FOR INSIGNIFICANT ACTIVITIES

15. There are no changes to the emission limits for insignificant activities at the facility as a result of this minor permit modification to the existing Title V federal operating permit.

FEDERAL REQUIREMENTS

Chemical Accident Prevention Provisions

16. There are no changes to the applicability of this regulation to this facility as a result of this minor permit modification to the existing Title V federal operating permit.

Stratospheric Ozone-Depleting Substances

17. There are no changes to the applicability of this regulation to this facility as a result of this minor permit modification to the existing Title V federal operating permit.

National Emission Standards for Hazardous Air Pollutants

18. There are no changes to the applicability of any NESHAPs to this facility as a result of this minor permit modification to the existing Title V federal operating permit. This facility will remain an area source of FHAPs upon completion of this minor permit modification.

New Source Performance Standards

19. This facility is not subject to any NSPS at this time. There are no changes to the applicability of any NSPS to emission units at the facility as a result of this minor permit modification to the existing Title V federal operating permit.

COMPLIANCE ASSURANCE MONITORING

20. There are no changes to the applicability of CAM as a result of this minor permit modification to the existing Title V federal operating permit.

PLANT SITE EMISSIONS LIMITS, BASELINE EMISSION RATE AND SIGNIFICANT EMISSION RATE

21. Provided below is a summary of the baseline emissions rate, netting basis, and plant site emission limits from the August 2019 renewal of the Title V federal operating permit renewal:

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis (tons/yr)	Plant Site Emission Limit (PSEL) (tons/yr)	PSEL Increase (tons/yr)	SER (tons/yr)
PM	312	298	164	(134)	25
PM_{10}	180	180	103	(77)	15
$PM_{2.5}$	NA	147	96	(51)	10
CO	80	80	99	19	100
NO_x	330	330	103	(227)	40
SO_2	19	19	39	20	40
VOC	74	74	96	22	40
GHGs	140,233	140,233	214,233	74,000	75,000

22. KMC has requested a combined limitation on Regional Haze precursor PSELs and unassigned emissions of no more than 304 tons per year. In addition, they have requested the netting basis and unassigned emissions for PM_{10} and NO_x be reduced to the values listed in the table below. The netting basis is reduced on a 1:1 basis for every reduction in unassigned emissions as required under paragraph 42-0555(3)(b).

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)		Unassigned Emissions (tons/yr)
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	
PM_{10}	180	180	149	103	103	46
NO_x	330	330	142	103	103	39
SO_2	19	19	19	39	39	0

23. The facility also requested that the PSEL for SO_2 be reduced from 39 TPY to 21 TPY. However, under subsection 42-0041(1), a source will be assigned the applicable generic PSEL for a pollutant if the facility PTE for that pollutant is less than the applicable SER and the facility requests a source specific PSEL. In the case of SO_2, the generic PSEL is 39 TPY and the facility PTE for SO_2 is 13 TPY after accounting for the use of propane. In discussions with KMC, DEQ and LRAPA acknowledged that the facility should not be penalized for having a facility SO_2 PTE below the generic PSEL limit. LRAPA is proposing to use the following equation to determine compliance with the Regional Haze limitation of 304 TPY:

$$PM_{10}\ PSEL + PM_{10}\ UE + NO_x\ PSEL + NO_x\ UE + SO_2\ PSEL + SO_2\ UE\ - (SO_2\ PSEL - SO_2\ PTE) \leq 304\ TPY$$

Where:
PM_{10} PSEL is the PM_{10} Plant Site Emission Limit, in tons per year;

PM_{10} UE are the PM_{10} unassigned emissions, in tons per year;
NO_X PSEL is the NO_x Plant Site Emission Limit, in tons per year;
NO_X UE are the NO_x unassigned emissions, in tons per year;
SO_2 PSEL is the SO_2 Plant Site Emission Limit, in in tons per year;
SO_2 UE are the SO_2 unassigned emissions, in tons per year; and
SO_2 PTE is the facility potential to emit for SO_2, in tons per year.

The minor permit modification will include recordkeeping and monitoring under the authority of 40 CFR 51.308(d)(3)(v)(F) to determine compliance with this limitation based on existing requirements.

UNASSIGNED EMISSIONS AND EMISSION REDUCTION CREDITS

24. After the issuance of this minor permit modification to the Title V operating permit, the facility will have the unassigned emissions as shown in the table below. Unassigned emissions are equal to the netting basis minus the source's current PTE, minus any banked emission reduction credits. In accordance with LRAPA 42-0055, unassigned emissions will be reduced to less than the applicable SER at the next Title V operation permit renewal if the unassigned emissions are not used for internal netting prior to that date. The facility has zero tons of emission reduction credits.

Pollutant	Unassigned Emissions (tons/yr)	Emission Reduction Credits (tons/yr)	SER (tons/yr)
PM	134	0	25
PM_{10}	46	0	15
$PM_{2.5}$	51	0	10
CO	0	0	100
NO_x	39	0	40
SO_2	0	0	40
VOC	0	0	40
GHGs	0	0	75,000

SIGNIFICANT EMISSION RATE (SER)

25. This minor permit modification to the existing Title V federal operating permit does not result in an increase above the SER for any regulated pollutant with an SER.

Pollutant	Requested Increase Over Previous Netting Basis (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	Increase Due to Use of Generic PSEL Level	SER (tons/year)
PM	(134)	0	0	0	25
PM_{10}	(46)	0	0	0	15
$PM_{2.5}$	(51)	0	0	0	10
CO	19	0	0	0	100
NO_X	(39)	0	0	0	40
SO_X	20	0	0	0	40
VOC	22	0	0	0	40
GHG (CO_2e)	74,000	0	0	0	75,000

HAZARDOUS AIR POLLUTANTS (HAPs)

26. There are no significant changes to the emissions of federal HAPs as a result of this minor permit modification to the existing Title V federal operating permit. The combustion of propane is assumed to emit similar FHAPs and a similar mass of FHAPs as the combustion of natural gas such that the status of the facility as an area source of FHAPs will not change upon completion of this minor permit modification.

TITLE V PERMIT CHANGE LOG

27. The following is a list of condition-by-condition changes resulting from this minor permit modification:

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
3	3	Rename emission units in the table related to Condition 3 to remove fuel specific wording	Facility uses propane as a backup fuel for natural gas
4.a.	4.a.	Add the words “or propane-fired”	Facility uses propane as a backup fuel for natural gas
4.b.	4.b.	Add the words “or propane-fired”	Facility uses propane as a backup fuel for natural gas
26.a.	26.a.	Add the words “or propane-fired”	Facility uses propane as a backup fuel for natural gas
60	60	Rename the CIA emission unit to remove fuel specific wording	Facility uses propane as a backup fuel for natural gas
71	71	Reduce the unassigned emissions for PM_{10} from 77 TPY to 46 TPY. Reduce the unassigned emissions for NO_x from 277 TPY to 39 TPY.	Facility request related to DEQ’s implementation of the Regional Haze program
71.a.	--	New condition to add a limit related to DEQ’s implementation of the Regional Haze program.	Facility request related to DEQ’s implementation of the Regional Haze program.
72	72	Update list of emission factors for PSEL calculations to include emission factors for propane	Facility uses propane as a backup fuel for natural gas

COMPLIANCE HISTORY

28. This facility is regularly inspected by LRAPA. The following table indicates the compliance history of this facility since the beginning of the Title V permit program.

Type of Inspection	Period	Results
Full Compliance Evaluation	11/12/1992	In compliance
Full Compliance Evaluation	09/09/1993	In compliance
Full Compliance Evaluation	01/17/1995	In compliance
Full Compliance Evaluation	08/27/1996	In compliance
Full Compliance Evaluation	07/15/1998	In compliance
Full Compliance Evaluation	11/30/1999	In compliance
Full Compliance Evaluation	07/17/2001	In compliance
Full Compliance Evaluation	09/30/2002	In compliance
Full Compliance Evaluation	10/1/2003-09/30/2004	In compliance
Full Compliance Evaluation	10/01/2005-09/30/2006	In compliance
Full Compliance Evaluation	10/01/2007-09/30/2008	Not in compliance
Full Compliance Evaluation	10/1/2011-09/30/2012	In compliance
Full Compliance Evaluation	10/1/2013-09/30/2014	In compliance
Full Compliance Evaluation	10/1/2015-09/30/2016	In compliance
Full Compliance Evaluation	10/1/2017-09/30/2018	In compliance

29. The facility was issued the following Notices of Non-Compliance (NON), Notices of Civil Penalty (NCP), and Stipulated and Final Orders (SFO) since the beginning of the Title V permit program:

29.a. The facility was issued NON 1529 on March 20, 1998, for visible emissions that exceeded 20% opacity from the ACC. The facility conducted corrective action. No ($0) civil penalty was assessed.

29.b. The facility was issued NON 1831 on September 9, 1999, for self-reporting visible emission violations. The facility conducted corrective action. No ($0) civil penalty was assessed.

29.c. The facility was issued NON 2119 on October 17, 2000 and NCP 00-2119 on January 5, 2001 for failure to take precautions related to fugitive emissions. The facility paid a civil penalty in the amount of $1,200.

29.d. The facility was issued NON 2239 on April 26, 2001 and SFO 01-2239 for non-compliance related to PM emissions in excess of 10 pounds per ton of char and PM and PM_{10} emissions in excess of the short term PSELs of 60 pounds per hour and 47 pounds per hour, respectively. The facility paid a civil penalty of $6,600.

29.e. The facility was issued NON 2468 on November 8, 2002, and NCP 03-2468 for non-compliance related to PM and PM_{10} emissions in excess of the short term PSELs of 60 pounds per hour and 47 pounds per hour, respectively. The facility paid a civil penalty of $2400.

29.f. The facility was issued NON 2573 on August 7, 2003 and NCP 03-2573 on September 11, 2003 for failure to take precautions related to fugitive emissions. The facility paid a civil penalty in the amount of $1,500.

29.g. The facility was issued NON 2973 on February 15, 2008 and NCP 08-2973 on April 15, 20008 for non-compliance related to PM emissions in excess of 10 pounds per ton of char. The facility paid a civil penalty of $1,700.

29.h. The facility was issued NON 3093 on October 8, 2008 and NCP 08-3093 on December 22, 2008 for non-compliance related to PM emissions in excess of 10 pounds per ton of char and PM emissions in excess of the PSEL of 90 pounds per hour. The facility paid a civil penalty of $26, 886.

PUBLIC NOTICE

30. This modification can be undertaken in accordance with OAR 340-218-0170 and does not require public notice.

EPA REVIEW

31. Will be updated after EPA's Review.

JJW/cmw
09/14/2020

EMISSION DETAIL SHEETS

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Plant Site Emission Limits

Pollutant	Baseline (TPY)	Existing Netting Basis (TPY)	Proposed Netting Basis (TPY)	Existing PSEL (TPY)	Proposed PSEL (TPY)	Unassigned (TPY)	PSEL Increase Over Netting Basis (TPY)	SER (TPY)
PM	312	298	298	164	164	134	(134)	25
PM_{10}	180	180	149	103	103	46	(46)	15
$PM_{2.5}$	NA	147	147	96	96	51	(51)	10
CO	80	80	80	99	99	0	19	100
NO_X	330	330	142	103	103	39	(39)	40
SO_2	19	19	19	39	39	0	20	40
VOC	74	74	74	96	96	0	22	40
GHG	140,233	140,233	140,233	214,233	214,233	0	74,000	75,000

The throughputs, emission factors (EFs) and references are mostly derived from the facility's Title V, Construction ACDP emission estimates, and recent stack testing for criteria pollutants.

GHG baseline includes include biogenic emissions.

Unassigned Emissions were established with the 2019 renewal and will be reduced to no more than an SER as per 42-0055(3)(a) upon the following renewal as per 42-055(5).

At the request of the facility, the unassigned emissions and related netting basis have been reduced for PM_{10}, NOx and SO_2 to avoid Regional Haze requirements.

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Facility Emission Summary

		Pollutant (TPY)							
EU ID	**Emission Unit Description**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**NO_X**	**SO_2**	**VOC**	**GHG**
EU01	Wood Fuel Receipt and Storage	8.00	3.76	0.56	--	--	--	--	--
EU02	Hogfuel Sizing and Infeed System	0.56	0.28	0.02	--	--	--	--	--
EU03	Charring and Drying System (inc. AOS)	126	84.3	83.7	21.4	94.1	11.8	7.40	127,260
EU03	ACC Burners (4 total)	0.67	0.67	0.67	7.19	12.43	0.61	0.77	12,973
EU04	Briquet Cooling	21.8	7.50	3.75	--	--	--	--	--
EU08	Briquet Handling System	5.90	5.90	5.90	--	--	--	--	--
EU10	3.345 MMBtu/hr Boiler	0.11	0.11	0.11	1.13	1.96	0.23	0.12	**
EU11	Solvent Treated Briquet (STB) Operation	--	--	--	--	--	--	88.4	--
EU-AIE	Total Aggregate Insignificant Emissions	1.00	1.00	1.00	--	--	--	--	--
	Total =	**164**	**103**	**96**	**30**	**108**	**13**	**97**	**140,233**

Notes:

GHGs from EU10 included with EU03

Based upon worst emitting fuel for a given pollutant

The potential emissions from NOx and VOC are above the PSEL limitations for those pollutants

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Pollutant - Particulate Matter

EU ID	EU Name	Device/Activity/Parameter	Annual Rate	Units	EF	Unit	Reference	TPY	Notes
EU01	Wood Fuel Receipt and Storage	Max Annual Throughput Wet	320,000	TPY	NA	NA	NA	--	
		Max Annual Throughput Dry	160,000	TPY	0.10	lb/dry ton	KMC Estimate	8.00	
EU02	Hogfuel Sizing and Infeed System	Sceener In	8,088	Hr/Yr	9.600E-2	lb/hr-opr	AP42	0.39	
		Sceener Out	7,330	Hr/Yr	1.920E-2	lb/hr-opr	AP42	0.07	
		Secondary Screen In	7,330	Hr/Yr	1.920E-2	lb/hr-opr	AP42	0.07	
		Secondary Screen Out	7,330	Hr/Yr	4.800E-3	lb/hr-opr	AP42	0.02	
		Reject Diverter	1,000	Hr/Yr	1.920E-2	lb/hr-opr	AP42	0.01	
EU03	Charring and Drying System	Char Production	48,000	TPY	5.12	lb/ton char	Based on average of last ten years of stack tests since 12/2018.	122.93	
	Charring and Drying System	Char Production w Auxilliary Burner	12,600	TPY	0.50	lb/ton char	KMC estimate	3.15	
	Charring and Drying System	ACC Burners (4) - Natural Gas	0.069	MMCF/hr	7.60	lb/MMCF	AP42	0.65	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr					
	Charring and Drying System	ACC Burners (4) - Propane	0.765	MMCF/hr	0.70	lb/10^3 gal	AP42	0.67	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr					
EU04	Briquet Cooling	Briquet Production	150,000	tons/year	0.29	lb/ton briquets	Based on average of two stack tests	21.75	
EU08	Briquet Handling System	Dust Collectors	8,088	Hr/Yr	1.46	lbs/hr	Stack test & Calculation	5.90	
			61,300	SCFM					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	7.60	lb/MMCF	AP42	0.10	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	MMCF/hr	0.70	lb/10^3 gal	AP42	0.11	
			8,230	Hr/Yr					
EU-AIE	Aggregate Insignificant Emissions	NA	See KMC Application					1	
							Total =	164	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Pollutant - PM_{10}

EU ID	EU Name	Device/Activity/Parameter	Annual Rate	Units	EF	Unit	Reference	TPY	Notes
EU01	Wood Fuel Receipt and Storage	Max Annual Throughput Wet	320,000	TPY	NA	NA	NA	--	
		Max Annual Throughput Dry	160,000	TPY	0.05	lb/dry ton	KMC Estimate	3.76	
EU02	Hogfuel Sizing and Infeed System	Sceener In	8,088	Hr/Yr	0.048	lb/hr-opr	AP42	0.194	
		Sceener Out	7,330	Hr/Yr	0.010	lb/hr-opr	AP42	0.035	
		Secondary Screen In	7,330	Hr/Yr	0.010	lb/hr-opr	AP42	0.035	
		Secondary Screen Out	7,330	Hr/Yr	0.002	lb/hr-opr	AP42	0.0088	
		Reject Diverter	1,000	Hr/Yr	0.010	lb/hr-opr	AP42	0.0048	
EU03	Charring and Drying System	Char Production	48,000	TPY	3.43	lb/ton char	Ratio of PM10/PM from October 26, 2015 stack test was 3.02/4.53=0.67	82.36	
	Charring and Drying System	Char Production w Auxilliary Burner	12,600	TPY	0.30	lb/ton char	KMC estimate	1.89	
	Charring and Drying System	ACC Burners (4) - Natural Gas	0.069	MMCF/hr	7.60	lb/MMCF	AP42	0.65	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr					
	Charring and Drying System	ACC Burners (4) - Propane	0.765	10^3 gal/hr	0.70	lb/10^3 gal	AP42	0.67	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr					
EU04	Briquet Cooling	Briquet Production	150,000	TPY	0.10	lb/ton briquets	Based on average of two stack tests	7.50	
EU08	Briquet Handling System	Dust Collectors	8,088	Hr/Yr	1.46	lbs/hr	KMC estimate and testing	5.90	
			61,300	SCFM					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	7.60	lb/MMCF	AP42	0.10	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	0.70	lb/10^3 gal	AP42	0.11	
			8,230	Hr/Yr					
EU-AIE	Aggregate Insignificant Emissions	NA	See KMC Application					1.00	
							Total =	103	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Pollutant - PM2.5

EU ID	EU Name	Device/Activity/Parameter	Annual Rate	Units	EF	Unit	Reference	$PM_{2.5}$	Reference Fraction	$PM_{2.5}$ EF	PM_{10} TPY	$PM_{2.5}$ TPY	Notes
EU01	Wood Fuel Receipt and Storage	Max Annual Throughput Wet	320,000	TPY	NA	NA	NA	NA	NA	NA	--	--	
		Max Annual Throughput Dry	160,000	TPY	0.05	lb/dry ton	KMC Estimate	0.15	DEQ AQ-EF08 (Storage Piles)	0.01	3.76	0.56	
EU02	Hogfuel Sizing and Infeed System	Sceener In	8,088	Hr/Yr	0.048	lb/hr-opr	AP42	0.07	DEQ AQ-EF08 (Crushed Stone Screening)	0.003	0.194	1.4E-02	
		Sceener Out	7,330	Hr/Yr	0.010	lb/hr-opr	AP42			0.001	0.035	2.5E-03	
		Secondary Screen In	7,330	Hr/Yr	0.010	lb/hr-opr	AP42			0.001	0.035	2.5E-03	
		Secondary Screen Out	7,330	Hr/Yr	0.002	lb/hr-opr	AP42			0.0002	0.0088	6.2E-04	
		Reject Diverter	1,000	Hr/Yr	0.010	lb/hr-opr	AP42			0.001	0.0048	3.4E-04	
EU03	Charring and Drying System	Char Production	48,000	TPY	3.43	lb/ton char	Ratio of PM10/PM from 10/26/2015 stack test was 3.02/4.53=0.67	1.00	Stack test; PM_{10}=$PM_{2.5}$	3.43	82.36	82.36	
	Charring and Drying System	Char Production w Auxilliary Burner	12,600	TPY	0.30	lb/ton char	KMC estimate	0.70	KMC estimate and testing at other KMC facilities	0.21	1.89	1.32	KMC uses 0.2 lb/ton briquets to estimate PM2.5 emissions from briquet dryers at other plants based on limited stack test data and engineering estimates.
	Charring and Drying System	ACC Burners (4) - Natural Gas	0.069	MMCF/hr	7.60	lb/MMCF	AP42	1.00	DEQ AQ-EF08	7.60	0.65	0.65	
			2,500	Hr/Yr									
	Charring and Drying System	ACC Burners (4) - Propane	0.765	10^3 gal/hr	0.70	lb/10^3 gal	AP42	1.00	DEQ AQ-EF08	0.70	0.67	0.67	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr									
EU04	Briquet Cooling	Briquet Production	150,000	TPY	0.10	lb/ton briquets	Based on average of two stack tests	0.50	Stack test; PM_{10}=$PM_{2.5}$	0.050	7.50	3.75	
EU08	Briquet Handling System	Dust Collectors	8,088	Hr/Yr	1.46	lbs/hr	KMC estimate and testing	1.00	DEQ AQ-EF08 (Baghouse)	1.46	5.90	5.90	
			61,300	SCFM									
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	7.60	lb/MMCF	AP42	1.00	DEQ AQ-EF08	7.60	0.10	0.10	
			8,230	Hr/Yr									
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	0.70	lb/10^3 gal	AP42	1.00	DEQ AQ-EF08	0.70	0.11	0.11	
			8,230	Hr/Yr									
EU-AIE	Aggregate Insignificant Emissions	NA	See KMC Application								1.00	1.00	
										Total =	103	96	

Notes:
Natural gas heat content: 1020 MMBtu/MMCF
Propane heat content: 91.5 MMBtu/10^3 gal
Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Pollutant - Carbon Monoxide

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	Notes
EU03	Charring and Drying	Char Production - Normal Op	48,000	TPY	0.85	lb/ton	Source Test Data	20.4	Based upon 2 tests 8 years apart (1.1, 0.6)
	Charring and Drying Operation	Existing ACC Burners (2) - Natural Gas	0.029	MMCF/hr	84	lb/MMCF	AP42	3.09	Construction ACDP: 15 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	Existing ACC Burners (2) - Propane	0.328	10^3 gal/hr	7.5	lb/10^3 gal	AP42	3.07	Construction ACDP: 15 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	New ACC Burners (2) - Natural Gas	0.039	MMCF/hr	0.059	lb/MMBtu	Vendor Guarantee	2.95	Construction ACDP: 20 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	New ACC Burners (2) - Propane	0.437	10^3 gal/hr	7.5	lb/10^3 gal	AP42	4.10	Construction ACDP: 20 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying w/ Aux Burner - Natural Gas	Char Production - AOS	0.039	MMCF/hr	84	lb/MMCF	AP42	0.99	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
	Charring and Drying w/ Aux Burner - Propane	Char Production - AOS	0.437	10^3 gal/hr	7.5	lb/10^3 gal	AP42	0.98	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	84	lb/MMCF	AP42	1.13	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	7.5	lb/10^3 gal	AP42	1.13	
			8,230	Hr/Yr					
							Total =	30	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Pollutant - Nitrogen Oxides

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	Notes
EU03	Charring and Drying	Char Production - Normal Op Scenario	48,000	TPY	3.9	lb/ton	Source Test Data	92.40	Based on two tests 8 years apart (2.1, 5.6)
	Charring and Drying Operation	Existing ACC Burners (2) - Natural Gas	0.029	MMCF/hr	100	lb/MMCF	AP42	3.68	Construction ACDP: 15 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	Existing ACC Burners (2) - Propane	0.328	10^3 gal/hr	13	lb/10^3 gal	AP42	5.33	Construction ACDP: 15 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	New ACC Burners (2) - Natural Gas	0.039	MMCF/hr	0.085	lb/MMBtu	Vendor Guarantee	4.25	Construction ACDP: 20 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying Operation	New ACC Burners (2) - Propane	0.437	10^3 gal/hr	13	lb/10^3 gal	AP42	7.10	Construction ACDP: 20 MMBtu/hr each
			2500	Hr/Yr					
	Charring and Drying w/ Aux Burner - Natural Gas	Char Production - AOS	0.039	MMCF/hr	100	lb/MMCF	AP42	1.18	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
	Charring and Drying w/ Aux Burner - Propane	Char Production - AOS	0.437	10^3 gal/hr	13	lb/10^3 gal	AP42	1.70	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	100	lb/MMCF	AP42	1.35	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	13	lb/10^3 gal	AP42	1.96	
			8,230	Hr/Yr					
							Total =	108	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Pollutant - Sulfur Dioxide

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	Notes
EU03	Charring and Drying	Char Production - Normal Op Scenario	48,000	TPY	0.5	lb/ton	Source Test Data	11.64	Based upon 2 tests 8 years apart (0.8, 0.17)
	Charring and Drying Operation	ACC Burners (4) - Natural Gas	0.029	MMCF/hr	0.60	lb/MMCF	AP42	0.02	Construction ACDP: 70 MMBtu/hr total
			2500	Hr/Yr					
	Charring and Drying Operation	ACC Burners (4) - Propane	0.328	10^3 gal/hr	1.50	lb/10^3 gal	AP42	0.61	Construction ACDP: 70 MMBtu/hr total
			2500	Hr/Yr					
	Charring and Drying w/ Aux Burner - Natural Gas	Char Production - AOS	0.039	MMCF/hr	0.60	lb/MMCF	AP42	0.01	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
	Charring and Drying w/ Aux Burner - Propane	Char Production - AOS	0.437	10^3 gal/hr	1.50	lb/10^3 gal	AP42	0.20	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr	0.60	lb/MMCF	AP42	0.01	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	1.50	lb/10^3 gal	AP42	0.23	
			8,230	Hr/Yr					
							Total =	13	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Pollutant - Volatile Organic Compounds

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	Notes
EU03	Charring and Drying	Char Production - Normal Op	48,000	TPY	0.3	lb/ton	Source Test Data	7.20	Based upon 2 tests 8 years apart (0.4, 0.2)
	Charring and Drying Opreration	ACC Burners (4) - Natural Gas	0.069	MMCF/hr	5.50	lb/MMCF	AP42	0.47	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr					
	Charring and Drying Opreration	ACC Burners (4) - Propane	0.765	10^3 gal/hr	0.80	lb/10^3 gal	AP42	0.77	Construction ACDP: 70 MMBtu/hr total
			2,500	Hr/Yr					
	Charring and Drying w/ Aux Burner - Natural Gas	Char Production - AOS	0.039	MMCF/hr NG	5.50	lb/MMCF	AP42 w/ 99% efficiency	0.06	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
	Charring and Drying w/ Aux Burner - Propane	Char Production - AOS	0.437	10^3 gal/hr	5.50	lb/10^3 gal	AP42 w/ 99% efficiency	0.72	2 Burners, 20 MMBtu/hr each
			600	Hr/Yr					
EU10	3.345 MMBtu/hr Boiler - Natural Gas	NA	3.28E-03	MMCF/hr NG	5.50	lb/MMCF	AP42	0.07	
			8,230	Hr/Yr					
	3.345 MMBtu/hr Boiler - Propane	NA	3.66E-02	10^3 gal/hr	0.80	lb/10^3 gal	AP42	0.12	
			8,230	Hr/Yr					
EU11	Solvent Treated Briquet Operations	ACC Control of VOC	67,160	TPY	0.14	lb/ton STB	Testing at similar facility w/ 95% control	4.70	
		ACC Upset Operations	6,000	TPY	2.82	lb/ton STB	Testing at similar facility w/ 0% control	8.46	
		STB Fines	73,160	TPY	2.02	lb/ton STB	Wt. % of total briquets as estimate from similar facility	73.9	
		Fixed VOC Emissions (Tanks, Fugitives)	8,760	Hr/Yr	0.30	lb/hour	EPA TANKS 3.1, EPA 1995 Equip Leak Est.	1.31	
							Total =	97	

Notes:

Natural gas heat content: 1020 MMBtu/MMCF

Propane heat content: 91.5 MMBtu/10^3 gal

Total emissions based on highest emitting fuel for this pollutant

LANE REGIONAL AIR PROTECTION AGENCY (LRAPA)
TITLE V OPERATING PERMIT REVIEW REPORT

REVIEW REPORT

Kingsford Manufacturing Company **Permit No. 204402**
3315 Marcola Road
Springfield, Oregon 97478
Website: http://www.kingsford.com

Source Information:

SIC	2861 – Gum and wood chemicals
NAICS	325191

Source Categories (LRAPA Title 37, Table 1)	B:18. Charcoal manufacturing C:5. PTE>100 ton/yr criteria pollutant, except GHG
Public Notice Category	III

Compliance and Emissions Monitoring Requirements:

Unassigned emissions	Y
Emission credits	N
Compliance schedule	N
Source test date	See Permit

COMS	N
CEMS	N
Ambient monitoring	N

Reporting Requirements:

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

Monthly report (due dates)	N
Excess emissions report	Immediately
Other reports	Semi-annual

Air Programs:

NSPS (list subparts)	N
NESHAP (list subparts)	A, ZZZZ
CAM	Y
Regional Haze (RH)	N
Synthetic Minor (SM)	N
Part 68 Risk Management	N
Title V	Y
ACDP (SIP)	N
Major HAP Source	N
Federal Major Source	Y
New Source Review (NSR)	N
Prevention of Significant Deterioration (PSD)	Y

Acid Rain	N
Clean Air Mercury Rule (CAMR)	N
TACT	Y

TABLE OF CONTENTS

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS REVIEW REPORT

ACDP	Air Contaminant Discharge Permit
AQMA	Air Quality Management Area
Act	Federal Clean Air Act
ASTM	American Society of Testing and Materials
Btu	British thermal unit
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CI	Compression Ignition
CMS	Continuous Monitoring System
CO	Carbon Monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
COMS	Continuous Opacity Monitoring System
CPDS	Certified Product Data Sheet
CPMS	Continuous parameter monitoring system
DEQ	Department of Environmental Quality
dscf	Dry standard cubic feet
EF	Emission factor
EPA	US Environmental Protection Agency
EU	Emissions Unit
FCAA	Federal Clean Air Act
ft^2	Square foot
FSA	Fuel sampling and analysis
GHG	Greenhouse Gas
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)
HAP	Hazardous Air Pollutant as defined by LRAPA Title 12
HCFC	Halogenated Chloro-Fluoro-Carbons
ID	Identification number or label
I&M	Inspection and maintenance
LRAPA	Lane Regional Air Protection Agency
MACT	Maximum Achievable Control Technology
MM	Million
MMBtu	Million British thermal units
NA	Not applicable
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen oxides
NSPS	New Source Performance Standards
NSR	New Source Review
O_2	Oxygen
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
ORS	Oregon Revised Statutes
O&M	Operation and maintenance
Pb	Lead
PCD	Pollution Control Device
PM	Particulate matter
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PM_{10}	Particulate matter less than 10 microns in size
ppm	Parts per million
PSEL	Plant Site Emission Limit
psia	pounds per square inch, actual
PTE	Potential to Emit
RICE	Reciprocating Internal Combustion Engine
SACC	Semi-Annual Compliance Certification
SCEMP	Surrogate Compliance Emissions Monitoring Parameter
Scf	Standard cubic foot
SER	Significant emission rate
SERP	Source emissions reduction plan
SI	Spark Ignition
SIC	Standard Industrial Code
SIP	State Implementation Plan
SO_2	Sulfur dioxide
ST	Source test
TACT	Typically Achievable Control Technology
VE	Visible emissions
VMT	Vehicle miles traveled
VOC	Volatile organic compounds
VHAP	Volatile hazardous air pollutant
Year	A period consisting of any 12-consecutive calendar month

INTRODUCTION

1. This is an existing facility applying for renewal of an existing Title V federal operating permit.

2. In accordance with OAR 340-218-0120-(1)(f), this review report is intended to provide the legal and factual basis for the draft permit conditions. In most cases, the legal basis for a permit condition is included in the permit by citing the applicable regulation. In addition, the factual basis for the requirement may be the same as the legal basis. However, when the regulation is not specific and only provides general requirements, this review report is used to provide a more thorough explanation of the factual basis for the draft permit conditions

FACILITY DESCRIPTION

3. Kingsford Manufacturing Company (KMC) 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.

4. The facility is located in an area that is generally flat. To the north of the facility is a governmental office building and a mobile home park. To the east of the facility is a light commercial area and the McKenzie River. To the south of the facility is a mixed industrial and commercial area and a residential area. To the west of the facility is a residential area.

GENERAL BACKGROUND INFORMATION

5. KMC is a Title V major source because potential PM, PM_{10}, $PM_{2.5}$, NOx and VOC emissions exceed 100 tons per year. The facility is considered a federal major source for PSD purposes because charcoal production plants are a listed source category and the potential emissions of at least one criteria pollutant are more than the listed source emission threshold of 100 tons per year. The facility is an area source of federal HAPs

6. The facility is located inside the Eugene Springfield Air Quality Management Area. The facility is located in an area that has been designated an attainment area for $PM_{2.5}$, O_3, NOx, SO_2 and Pb and a maintenance area for CO and PM_{10}. The facility is located within 100 kilometers of two (2) Class I air quality protection areas: Diamond Peak Wilderness and Three Sisters Wilderness area.

7. LRAPA has reviewed and issued the following permitting actions to this facility:

Date Approved	Permit Action Type	Description
01/18/1980	ACDP	--
04/22/1982	Approval to Construct	Wood dryer replacement.
09/01/1984	ACDP	--
09/01/1989	ACDP	--
09/01/1994	ACDP	--
11/20/1997	ACDP	Name change.
05/15/2000	ACDP	Add the STB operation as a new process. Establish PSELs for VOCs.
09/12/2001	Minor Modification	--

Date Approved	Permit Action Type	Description
07/16/2002	Approval to Construct NC-204402-B02	Installation of 2nd briquette press. Paving of roads.
07/23/2002	Administrative Amendment – Addendum No. 1	Incorporate NC-204402-B02.
12/16/2002	Administrative Amendment – Addendum No. 2	Change responsible official.
08/28/2003	Title V	--
06/09/2005	Title V	Increased production and PSELs. Revised emission factors.
09/27/2006	Title V	--
08/02/2007	Off Permit Change	Modify furnace for side charing.
02/20/2007	Off Permit Change	Installation of mesquite truck dump with enclosed receiving hopper.
05/08/2013	Approval to Construct NC-204402-A13	Installation of two additional natural gas-fired burners in the existing After Combustion Chamber (ACC). Revise PSEL levels
08/06/2013	Title V Operation Permit	--
08/27/2014	Off Permit Change – A14, B14, C14	Replacement of portions of the furnace cyclones. Replacement of the hogfuel dryers. Replacement of the dryer cyclones' inlet scrolls and outlet plenum.
07/16/2015	Off Permit Change – A15	Replacement in kind of both furnace cyclones
08/03/2016	Approval to Construct NC-204402-A16	Modification to the dry wood furnace in-feed conveyor system.
08/00/2016	Minor Modification – Addendum No. 1	Modify the PM emission factor for EU08 from 5.25 lb/hr to 2.63 lb/hr. Reduce PM testing frequency for EU03 from annual to once per permit term based upon a specific testing deadline.
08/22/2016	Off Permit Change – A16	Modification to the dry wood furnace in-feed convey system.
01/12/2018	Off Permit Change – A18	Modification to the hogfuel wet bin and addition of a new conveyor.
07/12/2018	Construction ACDP	Increase in hours of operation of the EU03 After Combustion Chamber (ACC) to accommodate an increased number of start-ups/shutdowns. Increase in the production for EU03 from 45,000 TPY to 48,000 TPY. Increase in VOC yearly emission rate for EU03 offset by internal netting by decreasing EU11 production from 75,000 TPY to 73,160 TPY.
07/12/2018	Significant Modification – Addendum No. 2	Incorporates the Construction ACDP issued on July 12, 2018.
01/16/2019	Approval to Construct NC-204402-A19	Replacement of an existing 27 MMBtu per hour natural gas-fired wood dryer burner with two 20 MMBtu per hour natural gas-fired wood dryer burners in the existing wood drying and charring operations (EU03).
01/16/2019	Off Permit Change – A19	Replacement of an existing 27 MMBtu per hour natural gas-fired wood dryer burner with two 20 MMBtu per hour

Date Approved	Permit Action Type	Description
		natural gas-fired wood dryer burners in the existing wood drying and charring operations (EU03).

EMISSION UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION

8. The emissions units regulated by this permit are the following:

EU ID	Emission Unit Description	Pollution Control Device Description	PCD ID
EU01	Wood Fuel Receipt and Storage	Tilt-Dump Controls • Partial Enclosure with Negative Air • Baghouse • Water Spray	NA
EU02	Hogfuel Sizing and Infeed System	NA	NA
EU03	Charring and Drying System:		
	Wood Fuel Drying System	After Combustion Chamber	03-01C
	Charcoal Manufacturing	After Combustion Chamber	03-01C
	Briquet Dryers	NA	NA
	ACC Natural Gas-Fired Burners for Startups	NA	NA
EU04	Briquet Cooling	NA	NA
EU08	Briquet Handling System:		
	Briquetting	Wet Scrubber	08-26C
	Briquet Conveying	Small Vokes Dust Collector West Dust Collector East Dust Collector	08-27C 08-29C 08-30C
	Briquet Packaging	North Package Bin Vent Dust Collector South Package Bin Vent Dust Collector	08-41C 08-42C
EU10	3.345 MMBtu Natural Gas-Fired Boiler	NA	NA
EU11	Solvent-Treated Briquet (STB) Operation	ACC West Dust Collector	03-01C 08-29C

9. 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 a maximum annual throughput of 320,000 tons of wet hog fuel per year. The storage measures 1000 feet by 1000 feet in plan and is about 50 feet high. The tilt-dump is partially enclosed and under negative air. A baghouse is used to control any captured particulate matter. A water spray is used to wet incoming material before it is transferred to the storage piles.

10. 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.

11. Charring and Drying System (EU03)
There are five (5) emission points in EU03:

- ACC Stack
- Dryer 1 Wet End Exhaust
- Dryer 1 Dry End Exhaust
- Dryer 2 Wet End Exhaust
- 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. On January 16, 2019, the facility was issued a notice to construct to replace the existing 27 MMBtu per hour natural gas-fired burner in the existing drying system with two (2) 20 MMBtu per hour natural gas-fired burners. This modification was also considered an off-permit change to the existing Title V operation permit. 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 allowed for an increase in production for EU03 from 45,000 tons per year to 48,000 tons per year.

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.

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 Burner replaced 2019	72 wet tons/hour 336,000 wet tons/year	After Combustion Chamber	03-01C	1400-2000ºF
Charcoal Manufacturing	03-01P	1974	9 tons/hour, 48,000 tons/year	After Combustion Chamber	03-01C	1400-2000ºF
Briquet Dryers	03-02P	1977 for Dryer 1;	21 tons/hour 150,000 tons/year	NA	NA	NA

Device Description	Device ID	Year Installed	Device Capacity	Pollution Control Device	PCD ID	PCD Design Parameters
		1994 for Dryer 2				
ACC Natural Gas-Fired Burners for Startups (Alternative Operating Scenario Two)	NA	Two (2) low-NOx burners installed in 2013; two (2) burners installed previously (date unknown)	Four (4) natural gas-fired burners rated at a total of 70 MMBtu/hr heat input	NA	NA	NA

12. 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.

13. 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

Device Description	Device ID	Year Installed	Pollution Control Device	PCD ID	PCD Design Parameters
			South Package Bin Vent Dust Collector	08-42C	

14. 3.345 MMBtu Natural Gas-Fired Boiler (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 MMBtu/hour. The exhaust from this burner is vented directly to the atmosphere.

15. Solvent-Treated Briquet (STB) 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 an 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 a minor modification applied for on May 8, 2013 and incorporated in the renewal issued on August 6, 2013, the facility requested that the annual STB production cap be lowered to 75,000 tons per year. For the Construction ACDP issued on July 12, 2018, the facility requested that the annual STB production cap be lowered 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

OPERATING SCENARIO

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

- Alternative Operating Scenario 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.
- Alternative Operating Scenario 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. These 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.

AGGREGATE INSIGNIFICANT EMISSIONS

17. The emission estimates from the activities included in the aggregate insignificant emissions unit (EU-AIE) are as follows:

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**

*Assumes PM/PM_{10} is 100% $PM_{2.5}$

CATEGORICALLY INSIGNIFICANT ACTIVITIES

18. The facility has the following categorically insignificant activities on site:

- 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. The following equipment may never be included as categorically insignificant:
  - Any individual distillate oil, kerosene or gasoline burning equipment with a rating greater than 0.4 million Btu/hour;
  - Any individual natural gas or propane burning equipment with a rating greater than 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
- 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

19. 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.

20. The Title V permit does include monitoring for all requirements that apply to significant emissions units in addition to the testing requirements in the permit. Periodic visible emissions observations are required for all particulate emissions sources. In addition, the permit includes monitoring of operating parameters for the processes and pollution control devices. It is assumed that as long as these processes and controls are properly operated, the particulate emissions levels will be below the emissions limits specified in the permit.

21. The facility is required to conduct routine visual emissions inspections of individual emissions units in order to determine compliance with applicable LRAPA rules. 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	Fugitive Emissions - No VE off the property	Quarterly
	20% Opacity	Monthly
	0.14 gr/dscf	
	Process Weight Limit	
EU02	Fugitive Emissions - No VE off the property	Quarterly
EU03	20% Opacity	Daily
EU04	20% Opacity	Monthly
	0.10 gr/dscf	
	Process Weight Limit	
EU08	20% Opacity	Quarterly
	0.10 gr/dscf	
	Process Weight Limit	
EU10	20% Opacity	Quarterly
	0.14 gr/dscf	
EU11	20% Opacity	Quarterly
	0.14 gr/dscf	

Wood Fuel Receipt and Storage (EU01)

22. The fugitive emissions from EU01 are subject to the visible emissions limitations under LRAPA 48-015. The permittee must not have VE that leave the property of a source for a period or periods totaling more than 18 seconds in a six (6) minute period. The permittee will demonstrate compliance through a visual survey performed at least quarterly using EPA Method 22. If VE is observed leaving the property, the permittee shall immediately take corrective action. The permittee shall keep records of all visual surveys, and the results of corrective actions, as applicable. LRAPA may require the facility to develop a fugitive emission control plan.

23. The direct source emissions from the tilt dump baghouse control on EU01 are subject to the visible emission limitations under LRAPA 32-010(3). This emission unit may not have visible emissions equal to or greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. Compliance is demonstrated through a survey of visible emissions of the non-fugitive emissions from EU01 to be completed at least once a month using Modified EPA Method 9 and/or EPA Method 22. In addition, the permittee must inspect the baghouse at least semiannually.

24. The direct source emissions from the tilt dump baghouse control on EU01 are subject to particulate matter emission limitations under LRAPA 32-015(2)(b)(B). For sources installed, constructed or modified on or after June 1, 1970 but prior to April 16, 2015 for which there are no representative compliance source test results, the particulate matter emission limit is 0.14 grains per dry standard cubic foot. Compliance is demonstrated through a survey of visible emissions of the non-fugitive emissions from EU01 to be completed at least once a month using Modified EPA Method 9 and/or EPA Method 22. In addition, the permittee is required to verify compliance with the particulate matter emission limit at least once per permit term. In addition, the permittee must inspect the baghouse at least semiannually.

25. EU01 is subject to the process weight rate emission limitation under LRAPA 32-045. Particulate matter emissions in any one (1) hour may not exceed the amount shown in LRAPA 32-8010 for the process weight allocated to the process. Compliance is demonstrated through a survey of visible emissions of the non-fugitive emissions from EU01 to be completed at least once a month using Modified EPA Method 9 and/or EPA Method

22. In addition, the permittee must inspect the baghouse at least semiannually.

Hogfuel Sizing and Infeed System (EU02)

26. The fugitive emissions from EU02 are subject to the visible emissions limitations under LRAPA 48-015. The permittee must not have VE that leave the property of a source for a period or periods totaling more than 18 seconds in a six (6) minute period. The permittee will demonstrate compliance through a visual survey performed at least quarterly using Method 22. If VE is observed leaving the property, the permittee shall immediately take corrective action. The permittee shall keep records of all quarterly visual surveys, and the results of corrective actions, as applicable. LRAPA may require the facility to develop a fugitive emission control plan

Charring and Drying System (EU03)

27. 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 Scenarios EU03-1 and EU03-2 by monitoring the ACC stack and one dryer exhaust stack. The Dryer (1) Wet Exhaust stack was selected by the facility and LRAPA because this stack has had historically 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) Alternative Operating Scenarios EU03-1 and EU03-2.

28. EU03 is subject to the visible emission limitations under LRAPA 32-010(3). This emission unit may not have visible emissions equal to or greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. Compliance is demonstrated through a survey of visible emissions from EU03 to be completed at least daily using Modified EPA Method 9 and/or EPA Method 22.

29. EU03 is subject to the particulate matter emission limitation under LRAPA 33-065(1). The particulate matter from charcoal producing plant sources, including, but not limited to, charcoal furnaces (retorts), heat recovery boilers, after combustion chambers, and wood dryers using any portion of the charcoal furnace off-gases as a heat source, may not be in excess of a total from all sources within the plant site of 10.0 pounds per ton of charcoal produced (as determined from the retort process) as an annual average. Compliance is demonstrated through a survey of visible emissions from EU03 to be completed at least daily using Modified EPA Method 9 and/or EPA Method 22. Under 33-065(5), the permittee must make or have made tests once every year to the determine the type, quantity, quality and duration of particulate matter emissions from EU03. As allowed under 33-065(5)(b), LRAPA has determined that based on multiple years of testing that the facility is consistently operating at the lowest practicable levels. As such, LRAPA has authorized the permittee to perform this source testing at least once per permit term.

30. Under LRAPA 33-065(3), charcoal producing plant sources are exempt from the limitations of LRAPA 32-030 related to particulate matter emission concentrations.

31. Under Alternative Operating Scenarios EU03-1 and EU03-2, the natural-gas fired briquet dryers associated with EU03 and the natural-gas burners associated with the ACC in startup mode are not subject to LRAPA 33-065(3) because the facility is not using any portion of the charcoal furnace off-gases as a heat source. For sources installed, constructed or modified on or after June 1, 1970 but prior to April 16, 2015 for which there are no representative compliance source tests during this period, the particulate matter emission limit is 0.14 grains per dry standard cubic foot. For sources installed, constructed or modified after April 16, 2015, the particulate matter emission limit is 0.10 grains per dry standard cubic foot. Compliance is demonstrated through a survey of visible emissions from EU03 to be completed at least daily using Modified EPA Method 9 and/or EPA Method 22.

32. Under Alternative Operating Scenarios EU03-1 and EU03-2, the briquet dryers are subject to LRAPA 32-045 because the facility is not using any portion of the charcoal furnace off-gases as a heat source. Particulate matter emissions in any one (1) hour may not exceed the amount shown in LRAPA 32-8010 for the process weight allocated to the process. Compliance is demonstrated through a survey of visible emissions from EU03 to be completed at least daily using Modified EPA Method 9 and/or EPA Method 22.

33. The facility is required to implement a Surrogate Compliance Emissions Monitoring Parameter Plan (SCEMP) as part of the 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.

Briquet Cooling (EU04)

34. EU04 is subject to the visible emission limitations under LRAPA 32-010(3). This emission unit may not have visible emissions equal to or greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. Compliance is demonstrated through a survey of visible emissions from EU04 to be completed at least monthly using Modified EPA Method 9 and/or EPA Method 22.

35. EU04 is subject to particulate matter emission limitations under LRAPA 32-015(2)(b). For sources installed, constructed or modified on or after June 1, 1970 but prior to April 16, 2015 for which all representative compliance source test results prior to April 16, 2015 demonstrate emissions no greater than 0.080 grains per dry standard cubic foot, the particulate matter emission limit is 0.10 grains per dry standard cubic foot. Compliance is demonstrated through a survey of visible emissions from EU04 to be completed at least monthly using Modified EPA Method 9 and/or EPA Method 22. In addition, the permittee is required to verify compliance with the particulate matter emission limit at least once per permit term.

36. EU04 is subject to the process weight rate emission limitation under LRAPA 32-045. Particulate matter emissions in any one (1) hour may not exceed the amount shown in LRAPA 32-8010 for the process weight allocated to the process. Compliance is demonstrated through a survey of visible emissions from EU04 to be completed at least monthly using Modified EPA Method 9 and/or EPA Method 22.

Briquet Handling System (EU08)

37. EU08 is subject to the visible emission limitations under LRAPA 32-010(3). This emission unit may not have visible emissions equal to or greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. Compliance is demonstrated through a survey of visible emissions from EU08 to be completed at least monthly using Modified EPA Method 9 and/or EPA Method 22.

38. EU08 is subject to particulate matter emission limitations under LRAPA 32-015(2)(b). For sources installed, constructed or modified on or after June 1, 1970 but prior to April 16, 2015 for which all representative compliance source test results prior to April 16, 2015 demonstrate emissions no greater than 0.080 grains per dry standard cubic foot, the particulate matter emission limit is 0.10 grains per dry standard cubic foot. Compliance is demonstrated through the use of CAM. CAM for this emission unit is the use of a baghouse control device, monitoring parametric monitoring parameters, and quarterly inspections of the control device.

39. EU08 is subject to the process weight rate emission limitation under LRAPA 32-045. Particulate matter emissions in any one (1) hour may not exceed the amount shown in LRAPA 32-8010 for the process weight allocated to the process. Compliance is demonstrated through the use of CAM. CAM for this emission unit is the use of a baghouse control device, monitoring parametric monitoring parameters, and quarterly inspections of the control device.

40. As part of the CAM requirements, the facility is required to monitor parametric monitoring parameters related to proper baghouse operation, including minimum and maximum pressure drop ranges, expressed in inches of water column. Operation of the baghouse within this pressure drop range is an indication that the grain-loading and process weight limits are not being exceeded. This pressure drop range has been established based on the fact that 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 daily 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.

3.345 MMBtu Natural Gas-Fired Boiler (EU10)

41. EU10 is subject to the visible emission limitations under LRAPA 32-010(3). This emission unit may not have visible emissions equal to or greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. Compliance is demonstrated through a survey of visible emissions from EU10 to be completed at least quarterly using Modified EPA Method 9 and/or EPA Method 22.

42. EU10 is subject to particulate matter emission limitations under LRAPA 32-015(2)(b). For sources installed, constructed or modified on or after June 1, 1970 but prior to April 16, 2015 for which there are no representative compliance source tests during this period, the particulate matter emission limit is 0.14 grains per dry standard cubic foot. Compliance is demonstrated through a survey of visible emissions from EU10 to be completed at least quarterly using Modified EPA Method 9 and/or EPA Method 22.

Solvent-Treated Briquet (STB) Operation (EU11)

43. EU11 is subject to the visible emission limitations under LRAPA 32-010(3). This emission unit may not have visible emissions equal to or greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. Compliance is demonstrated through a plant survey of visible emissions to be completed according to the frequencies for EU03 and EU08. The monitoring requirements for EU03 and EU08 are appropriate for EU11 because all particulate matter emissions from EU11 are directed to the retort in EU03 or the baghouses associated with EU08.

44. EU11 is subject to particulate matter emission limitations under LRAPA 32-015(2)(b). For sources installed, constructed or modified on or after June 1, 1970 but prior to April 16, 2015 for which there are no representative compliance source tests during this period, the particulate matter emission limit is 0.14 grains per dry standard cubic foot. Compliance is demonstrated by following the monitoring requirements for EU03 and EU08. The monitoring requirements for EU03 and EU08 are appropriate for EU11 because all particulate matter emissions from EU11 are directed to the retort in EU03 or the baghouses associated with EU08.

45. EU11 is subject to the process weight rate emission limitation under LRAPA 32-045. Particulate matter emissions in any one (1) hour may not exceed the amount shown in LRAPA 32-8010 for the process weight allocated to the process. Compliance is demonstrated by following the monitoring requirements for EU03 and EU08. The monitoring requirements for EU03 and EU08 are appropriate for EU11 because all particulate matter emissions from EU11 are directed to the retort in EU03 or the baghouses associated with EU08.

46. EU11 is subject to Typically Achievable Control Technology (TACT) under LRAPA 32-008. TACT was determined to be operating EU11 according to the following procedures:
    - 46.a. Solvent must be transferred to the surge tank in the railcar unloading building only by submerged filling.
    - 46.b. All solvent used during briquet treatment operation must be cooled to below 50°F, as a daily average value, before being pumped into the dip tank.
    - 46.c. Solvent must be added to the dip tank only by submerged filling.
    - 46.d. The permittee must perform prescreening of briquets prior to solvent application in order to minimize the production of solvent-coated fines.
    - 46.e. During solvent treated briquet operation, the permittee must collect the solvent vapors generated in the

briquet treatment area and must exhaust the collected solvent vapors to the ACC serving the charcoal retort furnace. The collection of the solvent vapors must satisfy the following enclosure requirements:

46.e.1. The total area of all natural draft openings must not exceed 5% of the total surface area of the total enclosure's walls, floor, and ceiling.

46.e.2. The air passing through all natural draft openings must flow into the enclosure continuously.

46.f. The temperature within the combustion zone of the ACC must be maintained at 1400°F and must achieve at least 95% destruction of the VOC generated by the solvent treated briquet operation.

46.g. In the event that the ACC is not available, solvent vapors collected from the briquet treatment area may be discharged uncontrolled to the atmosphere. Uncontrolled atmospheric discharge of solvent vapors must not exceed 8 hours in one (1) calendar day nor 280 hours in one (1) calendar year.

46.h. Solvent may be applied to briquets using the dip tank and/or a curtain coater system.

47. EU11 is subject to CAM for VOCs. In addition to the monitoring required for the ACC, CAM for this emission unit is daily monitoring of the temperature on the line to the EU11 dip tank while EU11 is operating and for each month calculate the daily average temperature and once per permit term determine the average inward face velocity for all natural draft openings on the process to verify the velocity is greater than 500 feet per minute.

EMISSION LIMITS FOR INSIGNIFICANT ACTIVITIES

48. As identified earlier in this Review Report, this facility has insignificant emissions units (IEUs) that include categorically insignificant activities and aggregate insignificant emissions, as defined in LRAPA Title 12 and/or OAR 340-200-0020. For the most part, the standards that apply to IEUs are for opacity and particulate matter. 40 CFR 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.

Categorically Insignificant Activity – 274 kW Natural Gas-Fired Emergency RICE

49. The facility has one (1) 274 kW natural gas-fired emergency RICE installed before June 12, 2006, which is subject to the requirements under 40 CFR Part 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The emergency generator is considered to be an existing emission unit at an area source of federal HAPs. See the Federal Requirements section of this review report for more information.

FEDERAL REQUIREMENTS

Chemical Accident Prevention Provisions

50. The Title V permit includes standard language related to 40 CFR Part 68 – Chemical Accident Prevention

Provisions. Should the material storage rates at this facility subject this facility to 40 CFR Part 68, the facility must satisfy all the applicable risk management requirements, including the development of a risk management plan.

Stratospheric Ozone-Depleting Substances

51. The facility does not manufacture, sell, distribute, or use in the manufacturing of a product any stratospheric ozone-depleting substances and the EPA 1990 Clean Air Act as amended, Sections 601-618, does not apply to the facility except that air conditioning units and fire extinguishers containing Class I or Class II substances must be serviced by certified repairmen to ensure that the substances are recycled or destroyed appropriately.

National Emission Standards for Hazardous Air Pollutants

52. A facility that has potential emissions of federal HAP less than the major source thresholds of 10 tons per year of an individual federal HAP or 25 tons per year of the aggregate or is has obtained federally-enforceable permit limits to restrict HAP emissions below the major source thresholds prior to a major NESHAP compliance date can be classified as an area source. This facility is considered an area source of FHAPs.

40 CFR 63 Subpart VVVVVV – National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

53. The facility is not subject to 40 CFR 63 subpart VVVVVV – National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources. Although the facility's NAICS code for charcoal manufacturing (NAICS 325191) is listed in the NESHAP as being potentially subject to this regulation, the facility does not expect any of the target FHAPs listed in 40 CFR 63 subpart VVVVVV, Table 1 to be present above the de minimis. Specifically, the metals content in the feedstocks used or the products produced by the facility are less than 1.0% and 0.1% by weight, as applicable, for the target FHAPs as indicated by the facility in their letter to LRAPA received on February 11, 2010. The facility does not expect any feedstocks, byproducts, or products produced by the facility to contain hydrazine or any 40 CFR 63 subpart VVVVVV, Table 1 organic FHAP above 1.0% and 0.1% by weight, as applicable.

40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

54. The facility has one (1) 274-kW natural gas-fired emergency generator installed prior to June 12, 2006, which is considered a categorically insignificant activity as defined under LRAPA Title 12. This emergency generator is subject to the requirements under 40 CFR Part 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. Based upon the definition of an emergency generator under Title 12 Subpart UU, this emission unit is not allowed to operate for non-emergency situations. Non-emergency situations do not include maintenance and testing.

55. The 40 CFR Part 63 Subpart ZZZZ requirements that are applicable to the 274-kW natural gas-fired emergency generator are identified in the following table:

40 CFR Part 63, Subpart ZZZZ citation	Description	Applicable to source (yes/no)	Comments	Permit condition
63.6580	Purpose	Yes	None	NA
63.6585	Applicability	Yes	None	NA
63.6590	Applicability	Yes	None	NA

40 CFR Part 63, Subpart ZZZZ citation	Description	Applicable to source (yes/no)	Comments	Permit condition
63.6600	Emission limitations	No	None	NA
63.6601	Emission limitations	No	None	NA
63.6602	Emission limitations	No	None	NA
63.6603	Emission limitations	Yes	None	64, 66
63.6604	Fuel requirements	No	None	NA
63.6605	General requirements	Yes	None	58
63.6610	Initial compliance	No	None	NA
63.6611	Initial performance test	No	None	NA
63.6612	Initial performance test	No	None	NA
63.6615	Subsequent performance tests	No	None	NA
63.6620	Performance test procedures	No	None	NA
63.6625	Monitoring and maintenance requirements	Yes	None	65, 67
63.6630	Initial compliance	No	None	NA
63.6635	Continuous compliance	No	None	NA
63.6640	Continuous compliance	Yes	None	69
63.6645	Notifications	No	None	NA
63.6650	Reports	Yes	None	NA
63.6655	Records	Yes	None	70-73
63.6660	Record retention	Yes	None	74
63.6665	General provisions	Yes	None	NA
63.6670	Implementation and enforcement	Yes	None	NA
63.6675	Definitions	Yes	None	NA

New Source Performance Standards

56. This facility is not subject to any NSPS at this time.

COMPLIANCE ASSURANCE MONITORING

57. Title 40, Part 64 of the Code of Federal Regulations (CFR) contains Compliance Assurance Monitoring (CAM) requirements. CAM requirements apply to any Pollutant Specific Emissions Unit (PSEU) at a Part 70 source that meets the following criteria:
    - 57.a. The unit is subject to an emission limitation or standard for a regulated air pollutant;
    - 57.b. The unit uses a control device to achieve compliance with that emission limitation or standard;
    - 57.c. The unit, by itself, has potential pre-control emissions of the regulated air pollutant that would make it a major source (i.e. greater than 100 tons per year for criteria pollutants; greater than 10 tons per year for individual Federal HAPs); and
    - 57.d. The exemptions in 40 CFR §64.2(b) do not apply.

58. 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. The

permit includes CAM requirements for the applicable units and/or control devices. The following table evaluates CAM applicability for all emission units with control devices:

Emission Unit	Uses a Control Device for a Regulated Pollutant	Regulated Pollutant	Uncontrolled Potential Emissions Exceed Major Source Threshold	Is there an Emission Limitation or Standard for this Pollutant	Subject to CAM for the Pollutant	Monitoring Frequency
EU01	Yes*	PM	No	Yes	No	--
EU01	Yes*	PM_{10}	No	No	No	--
EU01	Yes*	$PM_{2.5}$	No	No	No	--
EU02	No	--	--	--	--	--
EU03	Yes	PM	Yes	Yes	Yes	4x/hr
EU03	Yes	PM_{10}	Yes	No	No	--
EU03	Yes	$PM_{2.5}$	Yes	No	No	--
EU03	Yes	VOC	Yes	No	No	1x/24-hr
EU03	Yes	CO	Yes	No	No	1x/24-hr
EU04	No	--	--	--	--	--
EU08	Yes	PM	Yes	Yes	Yes	1x/24-hr
EU08	Yes	PM_{10}	Yes	No	No	--
EU08	Yes	$PM_{2.5}$	Yes	No	No	--
EU10	No	--	--	--	--	--
EU11	Yes	VOC	Yes	Yes	Yes	1x/24-hr

*A portion of EU01 particulate matter emissions are controlled.

PLANT SITE EMISSIONS LIMITS, BASELINE EMISSION RATE AND SIGNIFICANT EMISSION RATE

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

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)			SER (tons/yr)
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)	
PM	312	298	298	273	164	(134)	25
PM_{10}	180	207	180	192	103	(77)	15
$PM_{2.5}$	NA	147	147	137	96	(51)	10
CO	80	80	80	99	99	19	100
NO_x	330	303	330	297	103	(227)	40
SO_2	19	19	19	45	39	20	40
VOC	74	74	74	113	96	22	40
GHGs	140,233	12,973	140,233	74,000	214,233	74,000	75,000

60. The baseline emission rates were established based upon the following:
    - 60.a. The baseline emission rates for all regulated pollutants excluding $PM_{2.5}$ and GHGs were determined in previous permitting actions and there are no changes.
    - 60.b. A baseline emission rate is not required for $PM_{2.5}$ in accordance with LRAPA 42-0048(3).
    - 60.c. The baseline emission rate for greenhouse gases (GHG) is based on the natural gas and steam production during the consecutive 12-month period of January 2010 through December 2010. The

previous baseline emission rate did not include biogenic CO_2 emissions because EPA had deferred regulation of CO_2 from biomass. As the EPA deferral has ended and courts have ruled the deferral was improper, the baseline emission rate for GHGs is composed of both anthropogenic and biogenic GHGs. The anthropogenic GHGs, expressed as CO_2 equivalents, for the baseline period were calculated to be 12,973 tons per year.

61. The netting basis was established based upon the following:
    61.a. The netting basis has not been revised for any regulated pollutant as part of this renewal, except for PM_{10}, NOx and GHGs.
    61.b. The netting basis for PM_{10} has been reset back to the baseline emission rate. The netting basis for PM_{10} was inadvertently raised as part of the review for the construction ACDP issued on July 10, 2018. The permittee has not undergone an increase approved through LRAPA Title 38 for this pollutant.
    61.c. The netting basis for NOx has been changed from 303 TPY to 330 TPY. The previous netting basis for the construction ACDP permit issued on July 10, 2018, is assumed to have contained a transcription error as there have been no required emission reductions as listed in LRAPA Title 42-0046(3).
    61.d. The netting basis for GHGs has been reset based on the discussion related to the baseline emission rate.

62. The PSELs were established based upon the following:
    62.a. The PSELs for PM, PM_{10}, and $PM_{2.5}$ were reduced based upon the most recent stack testing results and related changes to emission factors for EU03, EU04, and EU08.
    62.b. The PSELs for NOx and VOC were reduced based upon the most recent stack testing results and related changes to emission factors for EU03.
    62.c. The PSELs for CO and SO_2 were reset to the generic PSEL level as required under LRAPA 42-0041(1) because the potential emissions of these pollutants are less than the applicable SER.
    62.d. The PSEL for GHGs is based upon the new netting basis plus the generic PSEL for GHGs of 74,000 tons per year.

UNASSIGNED EMISSIONS AND EMISSION REDUCTION CREDITS

63. The facility has unassigned emissions as shown in the table below. Unassigned emissions are equal to the netting basis minus the source's current PTE, minus any banked emission reduction credits. In accordance with LRAPA 42-0055, unassigned emissions will be reduced to less than the applicable SER at the next Title V operation permit renewal if the unassigned emissions are not used for internal netting prior to that date. The facility has zero tons of emission reduction credits.

Pollutant	Unassigned Emissions (tons/yr)	Emission Reduction Credits (tons/yr)	SER (tons/yr)
PM	134	0	25
PM_{10}	77	0	15
$PM_{2.5}$	51	0	10
CO	0	0	100
NO_x	227	0	40
SO_2	0	0	40
VOC	0	0	40
GHGs	0	0	75,000

SIGNIFICANT EMISSION RATE (SER)

64. The PSEL increase over the netting basis is less than the Significant Emission Rate (SER) as defined in LRAPA Title 12 for all of the pollutants and is shown below. As such, no further analysis is required for these pollutants.

Pollutant	Requested Increase Over Previous Netting Basis (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	Increase Due to Use of Generic PSEL Level	SER (tons/year)
PM	(134)	0	0	0	25
PM_{10}	(77)	0	0	0	15
$PM_{2.5}$	(51)	0	0	0	10
CO	19	0	0	0	100
NO_X	(227)	0	0	0	40
SO_X	20	0	0	0	40
VOC	22	0	0	0	40
GHG (CO_2e)	74,000	0	0	0	75,000

HAZARDOUS AIR POLLUTANTS (HAPs)

65. The significant sources of federal hazardous air pollutant (FHAP) at the facility are from the retort furnace associated with EU03 and from the combustion of natural gas.

    65.a. In the retort furnace, which is a multi-hearth furnace, wood hog fuel pyrolyzes into charcoal and off-gases. The off-gases consist primarily of carbon monoxide, carbon dioxide, hydrogen gas, methane, unsaturated hydrocarbons, methanol, acetic acid and water. The ACC acts as a control device to reduce the emissions of organic compounds, carbon monoxide and hydrogen gas. Methanol is considered the most significant and highest emitted single FHAP from the pyrolysis of wood. To determine methanol emissions, the facility uses a methanol emission factor of 68.70 pounds of methanol per ton of char produced (Kirk-Othmer (vol. 11, 1980), W.G. Nelson (1930)). The facility assumes a 99.99% control efficiency of the resulting emission rate based upon the use of the ACC and the relative ease of oxidizing methanol. At a maximum production rate of 48,000 tons of char per year, the potential yearly emissions of methanol after control are 0.16 tons.

    65.b. Natural gas is combusted in the two 20 MMBtu per hour burners associated with the wood dryers, the 70 MMBtu per hour (total) assist burners associated with the ACC, and EU10 – 3.345 MMBtu per hour natural gas boiler. The potential FHAP emissions from natural gas combustion were estimated based on the maximum natural gas heat input capacity for the facility, emission factors in US EPA AP-42, Section 1.4 – Natural Gas Combustion (7/1998), and the assumption of 8,760 hours of operation per year. Hexane is the highest emitted single FHAP resulting from the combustion of natural gas at 0.88 tons per year. It should be noted that the potential FHAP emissions from natural gas combustion are extremely conservative because none of these natural gas burners would be operated at max heat input capacity for 8,760 hours per year.

    65.c. The total aggregate potential FHAP emissions from the facility are 1.08 tons per year. As the potential emission of any single federal HAP are less than 10 tons per year, and the aggregate of all FHAP are less than 25 tons per year, the facility is not a major source for FHAP.

TITLE V PERMIT CHANGE LOG

66. The following is a list of condition-by-condition changes between the previous permit and the current permit:

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
Cover Page	Cover Page	NA	NA
List of Abbreviations	List of Abbreviations	Updated to general list. Revised definition of Modified EPA Method 9.	Standardization.
1	1	NA	NA
2	2	Condition 5 and G6 were removed from list of state and/or LRAPA-only enforceable conditions as they are part of the SIP. Added designation for 32-055 since it is not part of the SIP.	Update/correction.
3	3	Clarified emission unit descriptions. Updated the name and the maximum heat input capacity listed for EU10. Clarified pollution control device descriptions on EU01 and EU08.	Update/correction.
4	4	Added citation authority for the alternative operating scenarios. Removed intro sentence.	Add citation authority.
Facility Wide Table	Facility Wide Table	Update citations and add applicable requirement.	Clarification of applicable requirements.
5	5	Updated to reflect current regulation. Removed “only enforceable by LRAPA” designation.	Rule update/revision. Fugitive dust condition is included in the SIP.
6	6	Updated to reflect current regulation. 6.c. moved to primary number.	Rule update/revision.
7	6.c.	Removed reference to Method 9.	Rule update/revision.
8	7	NA	NA
9	8	Updated to reflect current regulation.	Rule update/revision.
10	--	Added applicable requirement.	Title V permit includes all applicable requirements.
11	9	9.a. moved to primary number.	Clarification.
12	9.a.	NA	NA
13	--	Added requirement for I&M Plan under 32-007	Title V permit includes all applicable requirements.
14	10	NA	NA
EU01 Emission Limits Table	EU01 Emission Limits Table	EU01 updated to include fugitive emission regulations. Separated EU01, EU02, and EU10.	Rule update/revision. Clarification of applicable requirements.
15	12	NA	NA
16	13	Updated to reflect current regulation.	Rule update/revision.
17	--	Added applicable requirement.	Title V permit includes all applicable requirements.
18	14	Revised requirements related to taking corrective action.	Improved compliance with applicable requirement.
19	15	NA	NA

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
20	--	Added additional compliance demonstration for baghouse.	Additional requirements to demonstrate continuous compliance.
21	--	Added additional recordkeeping for baghouse.	Additional requirements to demonstrate continuous compliance.
EU02 Emission Limits Table	EU02 Emission Limits Table	New table for EU02.	Clarification of applicable requirements.
EU03 Emission Limits Table	EU03 Emission Limits Table	CAM reference removed. Clarification of applicable requirements.	Clarification of applicable requirements.
22	16	Update to reflect current regulation.	Rule update/revision.
23	19	Revised VE monitoring requirements.	Improved compliance with applicable requirement.
24	20	Revised recordkeeping requirements.	Align recordkeeping.
25	21	Revised to more closely reflect regulatory language.	Clarity and consistency.
25.a.	21.a.	Testing date range updated.	Rule update/revision.
26	22	Minor language changes.	Clarity and consistency.
27	23	Updated language to reflect definition of clean cellulosic biomass in 40 CFR 241.2	Align limitations with actual rule language.
28	--	Added monitoring and recordkeeping requirement	Improved compliance with applicable requirement.
29	17	Update to reflect current regulation.	Rule update/revision.
30	18	Minor citation and language changes	Clarity and consistency.
EU04 Emission Limits Table	EU04 Emission Limits Table	Updated grain loading standard.	Rule update/revision.
31	24	Updated to reflect current regulation.	Rule update/revision.
32	25	Update grain loading standard.	Rule update/revision.
33	26	Revised to more closely reflect regulatory language.	Clarity and consistency.
34	27	Revised VE monitoring requirements. 27.c. moved to primary number.	Improved compliance with applicable requirement. Clarification
35	27.c.	Revised recordkeeping requirements.	Align recordkeeping.
EU08 Emission Limits Table	EU08 Emission Limits Table	Updated grain loading standard.	Rule update/revision.
36	28	Updated to reflect current regulation.	Rule update/revision.
37	29	Revised VE monitoring requirements. 29.c. moved to primary number.	Improved compliance with applicable requirement. Clarification
38	29.c.	Revised recordkeeping requirements.	Align recordkeeping.
39	30	Update grain loading standard.	Rule update/revision.
40	31	Revised to more closely reflect regulatory language.	Clarity and consistency.

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
41	32	Updated pressure drop range. Removed seasoning pressure drop range. 32.e. moved to primary number.	Improved compliance with applicable requirement. Clarification.
42	32.e.	NA	NA
EU10 Emission Limits Table	EU10 Emission Limits Table	Updated grain loading standard.	Rule update/revision.
43	12	Updated to reflect current regulation.	Rule update/revision.
44	13	Update grain loading standard.	Rule update/revision.
45	14	Revised VE monitoring requirements.	Improved compliance with applicable requirement.
46	15	Revised recordkeeping requirements.	Align recordkeeping.
EU11 Emission Limits Table	EU11 Emission Limits Table	Updated grain loading standard.	Rule update/revision. Removed monitoring reference.
47	33	Updated to reflect current regulation.	Rule update/revision.
48	34	Updated references.	NA
49	35	Update grain loading standard.	Rule update/revision.
50	36	Revised to more closely reflect regulatory language.	Clarity and consistency.
51	37	Updated references.	NA
52	38	NA	NA
53-55	39-40	Updated references.	NA
55	41	41.e. moved to primary number.	Clarification.
56	41.e.	NA	NA
57	42	NA	NA
--	Table 8	Removed.	Clarity and consistency.
58	43	Expanded requirements that apply to insignificant activities.	Rule update/revision.
59	44	NA	NA
60-70	45	Expanded requirements applicable to emergency RICE.	Title V permits must include all applicable requirements.
71	46	NA	NA
PSEL Emission Factor Table	PSEL Emission Factor Table	Updated PSEL table based on latest testing.	PSELs are reevaluated at every renewal.
72	47	NA	NA
73	48	Minor language updates.	Clarity and consistency.
74	49	Emission table removed.	NA
75	50	Revised to more closely reflect regulatory language.	Clarity and consistency.
76-78	51-53	Updated next test date requirement for the permit term. Inserted applicable test methods.	Expired requirement. Title V permits must include applicable test methods.
79-92	54-67	NA	NA
General Conditions	General Conditions	NA	NA

GENERAL RECORDKEEPING REQUIREMENTS

67. The permit includes requirements for maintaining records of all testing, monitoring, and production information necessary for assuring compliance with the standards and calculating plant site emissions. The records of all monitoring specified in the Title V permit must be kept at the plant site for at least 5 years.

GENERAL REPORTING REQUIREMENTS

68. The permit includes a requirement for submitting semi-annual and annual monitoring reports that include semi-annual compliance certifications. Excess emissions are required to be reported to LRAPA immediately as well as in a logbook attached to the annual report. Emissions fees reports are required annually.

COMPLIANCE HISTORY

69. This facility is regularly inspected by LRAPA. The following table indicates the compliance history of this facility since the beginning of the Title V permit program.

Type of Inspection	Period	Results
Full Compliance Evaluation	11/12/1992	In compliance
Full Compliance Evaluation	09/09/1993	In compliance
Full Compliance Evaluation	01/17/1995	In compliance
Full Compliance Evaluation	08/27/1996	In compliance
Full Compliance Evaluation	07/15/1998	In compliance
Full Compliance Evaluation	11/30/1999	In compliance
Full Compliance Evaluation	07/17/2001	
Full Compliance Evaluation	09/30/2002	In compliance
Full Compliance Evaluation	10/1/2003-09/30/2004	In compliance
Full Compliance Evaluation	10/01/2005-09/30/2006	In compliance
Full Compliance Evaluation	10/01/2007-09/30/2008	Not in Compliance
Full Compliance Evaluation	10/1/2011-09/30/2012	In Compliance
Full Compliance Evaluation	10/1/2013-09/30/2014	In compliance
Full Compliance Evaluation	10/1/2015-09/30/2016	In compliance
Full Compliance Evaluation	10/1/2017-09/30/2018	In compliance

70. The facility was issued the following Notices of Non-Compliance (NON), Notices of Civil Penalty (NCP), and Stipulated and Final Orders (SFO) since the beginning of the Title V permit program:

    70.a. The facility was issued NON 1529 on March 20, 1998, for visible emissions that exceeded 20% opacity from the ACC. The facility conducted corrective action. No ($0) civil penalty was assessed.
    70.b. The facility was issued NON 1831 on September 9, 1999, for self-reporting visible emission violations. The facility conducted corrective action. No ($0) civil penalty was assessed.
    70.c. The facility was issued NON 2119 on October 17, 2000 and NCP 00-2119 on January 5, 2001 for failure to take precautions related to fugitive emissions. The facility paid a civil penalty in the amount of $1,200.
    70.d. The facility was issued NON 2239 on April 26, 2001 and SFO 01-2239 for non-compliance related to PM emissions in excess of 10 pounds per ton of char and PM and PM_{10} emissions in excess of the short term PSELs of 60 pounds per hour and 47 pounds per hour, respectively. The facility paid a civil penalty of $6,600.

70.e. The facility was issued NON 2468 on November 8, 2002, and NCP 03-2468 for non-compliance related to PM and PM_{10} emissions in excess of the short term PSELs of 60 pounds per hour and 47 pounds per hour, respectively. The facility paid a civil penalty of $2400.

70.f. The facility was issued NON 2573 on August 7, 2003 and NCP 03-2573 on September 11, 2003 for failure to take precautions related to fugitive emissions. The facility paid a civil penalty in the amount of $1,500.

70.g. The facility was issued NON 2973 on February 15, 2008 and NCP 08-2973 on April 15, 20008 for non-compliance related to PM emissions in excess of 10 pounds per ton of char. The facility paid a civil penalty of $1,700.

70.h. The facility was issued NON 3093 on October 8, 2008 and NCP 08-3093 on December 22, 2008 for non-compliance related to PM emissions in excess of 10 pounds per ton of char and PM emissions in excess of the PSEL of 90 pounds per hour. The facility paid a civil penalty of $26, 886.

SOURCE TEST RESULTS

71. The following table provides a summary of emission factor verification testing conducted at the facility and used in the preparation of this Title V renewal.

Emission Unit EU03				
Pollutant	Test Date	Result	Units	Comment
PM	03/09/2009 - 03/11/2009	5.15	lb PM/ton char	--
PM	06/08/2009 - 06/11/2009	4.9	lb PM/ton char	--
PM	07/19/2010	5.28	lb PM/ton char	--
PM	07/19/2010	5.28	lb PM/ton char	--
PM	10/26/2015	4.53	lb PM/ton char	--
PM	09/18/2018 - 09/19/2018	5.75	lb PM/ton char	--
NOx	06/01/2009	2.1	lb NOx/ton char	--
NOx	10/26/2015	5.6	lb NOx/ton char	--
CO	06/01/2009	1.1	lb CO/ton char	--
CO	10/26/2015	0.6	lb CO/ton char	--
VOC	06/01/2009	0.4	lb VOC/ton char	--
VOC	10/26/2015	0.2	lb VOC/ton char	--
SO_2	06/01/2009	0.17	lb SO_2/ton char	--
SO_2	10/26/2015	0.8	lb SO_2/ton char	--
Emission Unit EU04				
Pollutant	Test Date	Result	Units	Comment
PM	06/08-11-2019	0.25	lb PM/ton char	--
PM	10/26/2015	0.33	lb PM/ton char	--
PM_{10}	06/08-11-2019	0.11	lb PM_{10}/ton char	--
PM_{10}	10/26/2015	0.09	lb PM_{10}/ton char	--
Emission Unit EU08				
Pollutant	Test Date	Result	Units	Comment
PM/PM_{10}	07/20/2010	0.11	Lbs/hr	Scrubber
PM/PM_{10}	06/09-11/2009	0.21	Lbs/hr	Baghouse
PM/PM_{10}	06/09-11/2009	0.60	Lbs/hr	Baghouse
PM/PM_{10}	06/09-11/2009	0.49	Lbs/hr	Baghouse
PM/PM_{10}	10/26-29/2015	0.05	Lbs/hr	Scrubber
PM/PM_{10}	10/26-29/2015	0.61	Lbs/hr	Baghouse
PM/PM_{10}	10/26-29/2015	0.25	Lbs/hr	Baghouse
PM/PM_{10}	10/26-29/2015	0.12	Lbs/hr	Baghouse

PUBLIC NOTICE AND COMMENT

72. This draft permit was on public notice from June 6, 2019 to July 10, 2019. During this period, LRAPA received one comment from the general public. The commenter expressed concern about GHG emissions from Kingsford and requested that LRAPA not allow any increases in GHG emissions. The commenter also stated that biogenic and anthropogenic sources of CO_2 have the same impact on climate change. As discussed in the Plant Site Emission Limits, Baseline Emission Rate and Significant Emission Rate section of this Review Report (see Sections 60.c., 61.d., and 62.d), the GHG emissions from Kingsford are not increasing. The baseline emission rate in previous permitting actions did not include biogenic CO_2 emissions from Kingsford because US EPA had deferred regulation of CO_2 resulting from biomass. As the D.C. Circuit court vacated the deferral for biogenic sources, the baseline emission rate for GHGs has been revised to include both anthropogenic and biogenic CO_2 emissions. The baseline emission rate and the netting basis are based on actual GHG emissions that occurred during the baseline period of January 2010 through December 2010. The PSEL for GHG emissions is established at a level that is below the SER. At this time, there is no regulatory difference between anthropogenic and biogenic CO_2 emissions for the purposes of this air permit.

73. 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

74. This proposed permit was sent to EPA on July 12, 2019, for a 45-day review period. Because no adverse comments were received and there were no substantive changes to the permit after the public comment period, LRAPA requested an EPA expedited review of the proposed permit on July 12, 2019. EPA did not approve the expedited review because there was a comment received. The public will have 105 days (45-day EPA review period plus 60 days) from the date the proposed permit was sent to EPA to appeal the permit with EPA.

JJW/CMW
08/26/2019

EMISSION DETAIL SHEETS

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Facility Emission Summary

		Pollutant (TPY)							
EU ID	**Emission Unit Description**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**NO_X**	**SO_2**	**VOC**	**GHG***
EU01	Wood Fuel 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	126.1	84.3	83.7	21.4	93.6	11.6	7.3	127,260
EU03	ACC Natural Gas-fired Burners (4 total)	0.7	0.7	0.7	6.0	7.9	--	0.5	12,973
EU04	Briquet Cooling	21.8	7.5	3.8	--	--	--	--	--
EU08	Briquet Handling System	5.9	5.9	5.9	--	--	--	--	--
EU10	3.345 MMBtu Natural Gas-Fired Boiler	0.1	0.1	0.1	1.1	1.3	8.1E-03	0.1	**
EU11	Solvent Treated Briquet (STB) Operation	--	--	--	--	--	--	88.4	--
EUAIA	Total Aggregate Insignificant Emissions	1.0	1.0	1.0	--	--	--	--	--
	Total =	**164**	**103**	**96**	**29**	**103**	**12**	**96**	**140,233**

** GHGs from EU10 included with EU03

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Plant Site Emission Limits

Pollutant	Baseline (TPY)	Existing Netting Basis (TPY)	Proposed Netting Basis (TPY)	Existing PSEL (TPY)	Proposed PSEL (TPY)	Unassigned (TPY)	PSEL Increase Over Netting Basis (TPY)	SER (TPY)	
PM	312	298	298	273	164	134	(134)	25	
PM_{10}	180	207	180	192	103	77	(77)	15	Fixed netting basis
$PM_{2.5}$	NA	147	147	137	96	51	(51)	10	
CO	80	80	80	99	99	0	19	100	Generic PSEL level
NO_X	330	330	330	297	103	227	(227)	40	
SO_2	19	19	19	45	39	0	20	40	Generic PSEL level
VOC	74	74	74	113	96	0	22	40	
GHG	140,233	12,973	140,233	74,000	214,233	0	74,000	75,000	

The throughputs, emission factors (EFs) and references are mostly derived from the facility's Title V, Construction ACDP emission estimates, and recent stack testing for criteria pollut

GHG baseline redone to include biogenic emissions.

Unassigned Emissions are established with the 2019 renewal and will be reduced to no more than an SER as per 42-0055(3)(a) upon the following renewal as per 42-055(5)

CO and SO2 are set at the generic PSEL level

PM10 netting basis is revised to the previous (2013) amount to correct it. The rules do not allow the netting basis to increase as the calculaitons had done.

The NOX netting basis was corrected from 303 tons/year to 330 tons/year to revise a typographical error

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Pollutant - Particulate Matter

EU ID	EU Name	Device/Activity/Parameter	Annual Rate	Units	EF	Unit	Reference	TPY	
EU01	Wood Fuel Receipt and Storage	Max Annual Throughput Wet	320,000	TPY	NA	NA	NA	--	
		Max Annual Throughput Dry	160,000	TPY	0.10	lb/dry ton	Kingsford Estimate	8.00	
EU02	Hogfuel Sizing and Infeed System	Sceener In	8,088	Hr/Yr	9.600E-2	lb/hr-opr	AP42	0.39	
		Sceener Out	7,330	Hr/Yr	1.920E-2	lb/hr-opr	AP42	0.07	
		Secondary Screen In	7,330	Hr/Yr	1.920E-2	lb/hr-opr	AP42	0.07	
		Secondary Screen Out	7,330	Hr/Yr	4.800E-3	lb/hr-opr	AP42	0.02	
		Reject Diverter	1,000	Hr/Yr	1.920E-2	lb/hr-opr	AP42	0.01	
EU03	Charring and Drying System	Char Production	48,000	TPY	5.12	lb/ton char	Based on average of last ten years of stack tests since 12/2018.	122.93	
	Charring and Drying System	Char Production w Auxilliary Burner	12,600	TPY	0.50	lb/ton char	Kingsford estimate	3.15	
	Charring and Drying System	ACC Natural Gas-fired Burners (4)	171.568	MMCf/yr	7.60	lb/MMCF	AP42	0.65	Construction ACDP: 2500 hr/yr, 70 MMBtu/hr total, 1,020 Btu/scf
EU04	Briquet Cooling	Briquet Production	150,000	tons/year	0.29	lb/ton briquets	Based on average of two stack tests	21.75	
EU08	Briquet Handling System	Dust Collectors	8,088	Hr/Yr	1.46	lbs/hr	Stack test & Calculation	5.90	
			61,300	SCFM					
EU10	3.345 MMBtu Natural Gas-Fired Boiler	Natural gas combustion and hours of operation	3.28E-03	MMCF/hr	7.60	lb/MMCF	AP42	0.10	1,020 Btu/scf
			8,230	Hr/Yr					
EUAIA	Aggregate Insignificant Emissions	Hours of operation, flow rate, exhaust concentration	See Kingsford Application					1	
							Total =	164	

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Pollutant - PM10

EU ID	EU Name	Device/Activity/Parameter	Annual Rate	Units	EF	Unit	Reference	TPY	
EU01	Wood Fuel Receipt and Storage	Max Annual Throughput Wet	320,000	TPY	NA	NA	NA	--	
		Max Annual Throughput Dry	160,000	TPY	0.05	lb/dry ton	Kingsford Estimate	3.76	
EU02	Hogfuel Sizing and Infeed System	Sceener In	8,088	Hr/Yr	0.048	lb/hr-opr	AP42	0.194	
		Sceener Out	7,330	Hr/Yr	0.010	lb/hr-opr	AP42	0.035	
		Secondary Screen In	7,330	Hr/Yr	0.010	lb/hr-opr	AP42	0.035	
		Secondary Screen Out	7,330	Hr/Yr	0.002	lb/hr-opr	AP42	0.0088	
		Reject Diverter	1,000	Hr/Yr	0.010	lb/hr-opr	AP42	0.0048	
EU03	Charring and Drying System	Char Production	48,000	TPY	3.43	lb/ton char	Ratio of PM10/PM from October 26, 2015 stack test was 3.02/4.53=0.67	82.36	
	Charring and Drying System	Char Production w Auxilliary Burner	12,600	TPY	0.30	lb/ton char	Kingsford estimate	1.89	
	Charring and Drying System	ACC Natural Gas-fired Burners (4)	171.568	MMCF/yr	7.60	lb/MMCF	AP42	0.65	Construction ACDP: 2500 hr/yr, 70 MMBtu/hr total, 1,020 Btu/scf
EU04	Briquet Cooling	Briquet Production	150,000	TPY	0.10	lb/ton briquets	Based on average of two stack tests	7.50	
EU08	Briquet Handling System	Dust Collectors	8,088	Hr/Yr	1.46	lbs/hr	Kingsford estimate and testing	5.90	
			61,300	SCFM					
EU10	3.345 MMBtu Natural Gas-Fired Boiler	Natural gas combustion and hours of operation	3.28E-03	MMCF/hr	7.60	lb/MMCF	AP42	0.10	1,020 Btu/scf
			8,230	Hr/Yr					
EUAIA	Aggregate Insignificant Emissions	Hours of operation, flow rate, exhaust concentration	See Kingsford Application					1.00	
							Total =	103	

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Pollutant - PM10

EU ID	EU Name	Device/Activity/Parameter	Annual Rate	Units	EF	Unit	Reference	TPY	
EU01	Wood Fuel Receipt and Storage	Max Annual Throughput Wet	320,000	TPY	NA	NA	NA	--	
		Max Annual Throughput Dry	160,000	TPY	0.05	lb/dry ton	Kingsford Estimate	3.76	
EU02	Hogfuel Sizing and Infeed System	Sceener In	8,088	Hr/Yr	0.048	lb/hr-opr	AP42	0.194	
		Sceener Out	7,330	Hr/Yr	0.010	lb/hr-opr	AP42	0.035	
		Secondary Screen In	7,330	Hr/Yr	0.010	lb/hr-opr	AP42	0.035	
		Secondary Screen Out	7,330	Hr/Yr	0.002	lb/hr-opr	AP42	0.0088	
		Reject Diverter	1,000	Hr/Yr	0.010	lb/hr-opr	AP42	0.0048	
EU03	Charring and Drying System	Char Production	48,000	TPY	3.43	lb/ton char	Ratio of PM10/PM from October 26, 2015 stack test was 3.02/4.53=0.67	82.36	
	Charring and Drying System	Char Production w Auxilliary Burner	12,600	TPY	0.30	lb/ton char	Kingsford estimate	1.89	
	Charring and Drying System	ACC Natural Gas-fired Burners (4)	171.568	MMCF/yr	7.60	lb/MMCF	AP42	0.65	Construction ACDP: 2500 hr/yr, 70 MMBtu/hr total, 1,020 Btu/scf
EU04	Briquet Cooling	Briquet Production	150,000	TPY	0.10	lb/ton briquets	Based on average of two stack tests	7.50	
EU08	Briquet Handling System	Dust Collectors	8,088	Hr/Yr	1.46	lbs/hr	Kingsford estimate and testing	5.90	
			61,300	SCFM					
EU10	3.345 MMBtu Natural Gas-Fired Boiler	Natural gas combustion and hours of operation	3.28E-03	MMCF/hr	7.60	lb/MMCF	AP42	0.10	1,020 Btu/scf
			8,230	Hr/Yr					
EUAIA	Aggregate Insignificant Emissions	Hours of operation, flow rate, exhaust concentration	See Kingsford Application					1.00	
							Total =	103	

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Pollutant - Carbon Monoxide

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	
EU03	Charring and Drying	Char Production - Normal Op	48,000	TPY	0.85	lb/ton	Source Test Data	20.4	Based upon 2 tests 8 years apart (1.1, 0.6)
	Charring and Drying Opreration	ACC NG-Fired Burners (2) Existing	73.529	MMCf/yr	84.00	lb/MMCF	AP42	3.1	Construction ACDP: 2500 hr/yr, 15 MMBtu/hr each, 1,020 Btu/scf
	Charring and Drying Opreration	ACC NG-Fired Burners (2) New	100,000	MMBtu/yr	0.059	lb/MMBtu	Vendor garuntee	3.0	Construction ACDP: 2500 hr/yr, 20 MMBtu/hr each
	Charring and Drying w/ Aux Burner	Char Production - AOS	0.039	MMCF/hr NG	84.00	lb/MMCF	AP42	0.98	2 (Two) Natural Gas-fired Burners, 20 MMBtu/hr each, 1,020 Btu/scf
			600	Hr/Yr					
EU10	3.345 MMBtu Natural Gas-Fired Boiler	NA	3.28E-03	MMCF/hr NG	84.00	lb/MMCF	AP42	1.13	1,020 Btu/scf
			8,230	Hr/Yr					
							Total =	29	

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Pollutant - Nitrogen Oxides

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	
EU03	Charring and Drying	Char Production - Normal Op	48,000	TPY	3.9	lb/ton	Source Test Data	92.40	Based on two tests 8 years apart (2.1, 5.6)
	Charring and Drying Opreration	ACC Natural Gas-fired Burners (2)	73.529	MMCF/yr	100.00	lb/MMCF	AP42	3.68	Construction ACDP: 2500 hr/yr, 15 MMBtu/hr each, 1,020 Btu/scf
	Charring and Drying Opreration	ACC Natural Gas-fired Burners (2)	100,000	MMBtu/yr	0.085	lb/MMBtu	Vendor gaurantee	4.25	Construction ACDP: 2500 hr/yr, 20 MMBtu/hr each
	Charring and Drying w/ Aux Burner	Char Production - Alt Op Scenario	0.039	MMCF/hr	100.00	lb/MMCF	AP42	1.17	2 (Two) Natural Gas-fired Burners, 20 MMBtu/hr each, 1,020 Btu/scf
			600	Hr/Yr					
EU10	3.345 MMBtu Natural Gas-Fired Boiler	NA	3.28E-03	MMCF/hr	100.00	lb/MMCF	AP42	1.35	1,020 Btu/scf
			8,230	Hr/Yr					
							Total =	103	

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Pollutant - Sulfur Dioxide

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	
EU03	Charring and Drying	Char Production - Normal Op	48,000	TPY	0.5	lb/ton	Source Test Data	11.64	Based upon 2 tests 8 years apart (0.8, 0.17)
	Charring and Drying Operation	ACC Natural Gas-fired Burners (4)	171.6	MMCF/yr	0.60	lb/MMCF	AP42	0.05	Construction ACDP: 2500 hr/yr, 70 MMBtu/hr total, 1,020 Btu/scf
	Charring and Drying w/ Aux Burner	Char Production - AOS	0.039	MMCF/hr	0.60	lb/MMCF	AP42	0.01	2 (Two) Natural Gas-fired Burners, 20 MMBtu/hr each, 1,020 Btu/scf
			600	Hr/Yr					
EU10	3.345 MMBtu Natural Gas-Fired Boiler	NA	3.28E-03	MMCF/hr	0.60	lb/MMCF	AP42	0.01	1,020 Btu/scf
			8,230	Hr/Yr					
							Total =	12	

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Pollutant - Volatile Organic Compounds

EU ID	EU Name	Description	Annual Rate	Units	EF	Units	Reference	TPY	
EU03	Charring and Drying	Char Production - Normal Op	48,000	TPY	0.3	lb/ton	Source Test Data	7.20	Based upon 2 tests 8 years apart (0.4, 0.2)
	Charring and Drying Opreration	ACC NG-Fired Burners (2) Existing	73.529	MMCF/yr	5.50	lb/MMCF	AP42	0.20	Construction ACDP: 2500 hr/yr, 15 MMBtu/hr each, 1,020 Btu/scf
	Charring and Drying Opreration	ACC NG-Fired Burners (2) New	98.039	MMCF/yr	5.50	lb/MMCF	AP42	0.27	Construction ACDP: 2500 hr/yr, 20 MMBtu/hr each
	Charring and Drying w/ Aux Burner	Char Production - AOS	0.039	MMCF/hr	5.50	lb/MMCF	AP42 w/ 99% efficiency	0.06	2 (Two) Natural Gas-fired Burners, 20 MMBtu/hr each, 1,020 Btu/scf
			600	Hr/Yr					
EU10	3.345 MMBtu Natural Gas-Fired Boiler	NA	3.28E-03	MMCF/hr	5.50	lb/MMCF	AP42	0.07	1,020 Btu/scf
			8,230	Hr/Yr					
EU11	Solvent Treated Briquet Operations	ACC Control of VOC	67,160	TPY	0.14	lb/ton STB	Testing at similar facility	4.70	
		ACC Upset Operations	6,000	TPY	2.82	lb/ton STB	Testing at similar facility	8.46	
		STB Fines	73,160	TPY	2.02	lb/ton STB	Wt. % of total briquets	73.9	
		Fixed VOC Emissions (Tanks, Fugitives)	8,760	Hr/Yr	0.30	lb/hour	EPA TANKS 3.1, EPA 1995 Equip Leak Est.	1.31	
							Total =	96	

Kingsford Manufacturing Co. - 204402
Emission Detail Sheets
Federal HAPs

Natural Gas HAP Emission Calculations

Maximum Heat Input Rate	113.35	mmBtu/hr
Fuel Heating Value[1]	1020	Btu/scf
Potential Hours of Operation	8760	hours/year

Pollutant (CAS); sf*	Emission ($lb/10^6$ scf)	Control %	PTE (lb/hr)	PTE (lb/yr)	PTE (ton/yr)
Benz(a)anthracene (56-55-3); s	1.8E-06	0.00	2.0E-07	1.8E-03	8.8E-07
Benzene (71-43-2); s,f	2.1E-03	0.00	2.3E-04	2.04	1.0E-03
Benzo(a)pyrene (50-32-8); s	1.2E-06	0.00	1.3E-07	1.2E-03	5.8E-07
Benzo(b)fluoranthene (205-99-2); s	1.8E-06	0.00	2.0E-07	1.8E-03	8.8E-07
Benzo(k)fluoranthene (207-08-9); s	1.8E-06	0.00	2.0E-07	1.8E-03	8.8E-07
Dibenzo(a,h)anthracene (53-70-3); s	1.2E-06	0.00	1.3E-07	1.2E-03	5.8E-07
Formaldehyde (50-00-0); sf	7.5E-02	0.00	8.3E-03	73.0	3.7E-02
Hexane (110-54-0); sf	1.8E+00	0.00	0.20	1,752	0.88
Indeno(1,2,3-cd)pyrene (193-39-5); s	1.8E-06	0.00	2.0E-07	1.8E-03	8.8E-07
Naphthalene (91-20-3); sf	6.1E-04	0.00	6.8E-05	0.59	3.0E-04
Polycylic Organic Matter[2] (POM); f	7.0E-04	0.00	7.8E-05	0.68	3.4E-04
Toluene (108-88-3); sf	3.4E-03	0.00	3.8E-04	3.31	1.7E-03
Arsenic (7440-38-2); sf	2.0E-04	0.00	2.2E-05	0.19	9.7E-05
Barium (7440-39-3); s	4.4E-03	0.00	4.9E-04	4.28	2.1E-03
Beryllium (7440-41-7); sf	1.2E-05	0.00	1.3E-06	1.2E-02	5.8E-06
Cadmium (7440-43-9); sf	1.1E-03	0.00	1.2E-04	1.07	5.4E-04
Chromium (7440-47-3); sf	1.4E-03	0.00	1.6E-04	1.36	6.8E-04
Cobalt (7440-48-4); sf	8.4E-05	0.00	9.3E-06	8.2E-02	4.1E-05
Copper (7440-50-8); s	8.5E-04	0.00	9.4E-05	0.83	4.1E-04
Manganese (7439-96-5); sf	3.8E-04	0.00	4.2E-05	0.37	1.8E-04
Mercury (7439-97-6); sf	2.6E-04	0.00	2.9E-05	0.25	1.3E-04
Molybdenum (7439-98-7); s	1.1E-03	0.00	1.2E-04	1.07	5.4E-04
Nickel (7440-02-0); sf	2.1E-03	0.00	2.3E-04	2.04	1.0E-03
Selenium (7782-49-2); s	2.4E-05	0.00	2.7E-06	2.3E-02	1.2E-05
Total s. 112(b) Federal HAP	--	--	--	--	0.92

* s=NR 445 State HAP, f=s. 112(b) Federal HAP

Notes:
- Default emission factors are from AP-42, Chapter 1.4 (Supplement D - 7/98), Tables 1.4-1. to -4.
[1] Default heating value for natural gas is 1020 Btu/scf from AP-42, Section 1.4.1.
[2] POM emission factor is the sum of factors for 2-Methylnaphthalene, 3-Methylchloranthrene, 7,12-Dimethylbenz(a)anthracne, Acenaphthene, Acenaphthylene, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Phenanathrene, and Pyrene

Kingsford Manufacturing Co. - 204402					
Emission Detail Sheets					
Federal HAPs					
ACC Methanol Emission Calculations					
Methanol Emission Factor =	68.7	pounds of methanol per ton of char			
ACC Methanol Destruction Efficiency =	99.99%				
Maximum Char Production Rate =	48,000	tons of char per year			
Potential Methanol Emissions =	0.16	tons of methanol per year			

Kingsford Manufacturing Co. - 204402

Emission Detail Sheets

Aggregate Inisgnificant Emissions

Source	Pollutant	Exhaust Flowrate (dcsfm)	Exhaust PM[a] (gr/dscf)	Hours of Operation[b] (hr/yr)	Emission Rate (TPY)
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