Malfunction Abatement Plan
And
Control Equipment Monitoring Plan

Louisiana-Pacific Corporation
Newberry, Michigan

June 2015

Malfunction Abatement Plan

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SECTION 1
Introduction
Malfunction Prevention and Abatement Plan
Control Equipment Monitoring Plan

This plan has been written to comply with Rule 201(1)(a) for permit number MI-ROP-N0780-2011, issued by the State of Michigan on January 1, 2011. It is to be used as a method to detect and correct malfunctions or equipment failures, which may cause any applicable emission limitation to be violated.

A Process map depicting the Control Equipment Monitoring process is included to provide a simplified description of the steps that need to be taken to ensure that the plant operation is operated in compliance with permit and regulatory requirements.

To provide employees with more specific instructions on how to complete the duties they are responsible for, applicable Standard Operating Procedures (SOPs) are a part of the Louisiana-Pacific Corporation's Environmental Management System (EMS) and used for employee reference.

The items or conditions which are to be inspected, and the frequency of inspections are identified on various reports attached as appendices to this plan. A summary of these items and conditions is presented in the **"Control Equipment Inspection and Maintenance Summary", located on pages 11- 13 of this plan.**

Operating parameters which are monitored and normal ranges are identified within the various reports attached as appendices to this plan. A summary of these items and conditions is presented in a table format entitled **"Emission Control Equipment Operating Parameter Limits" located on page 10 of this plan.**

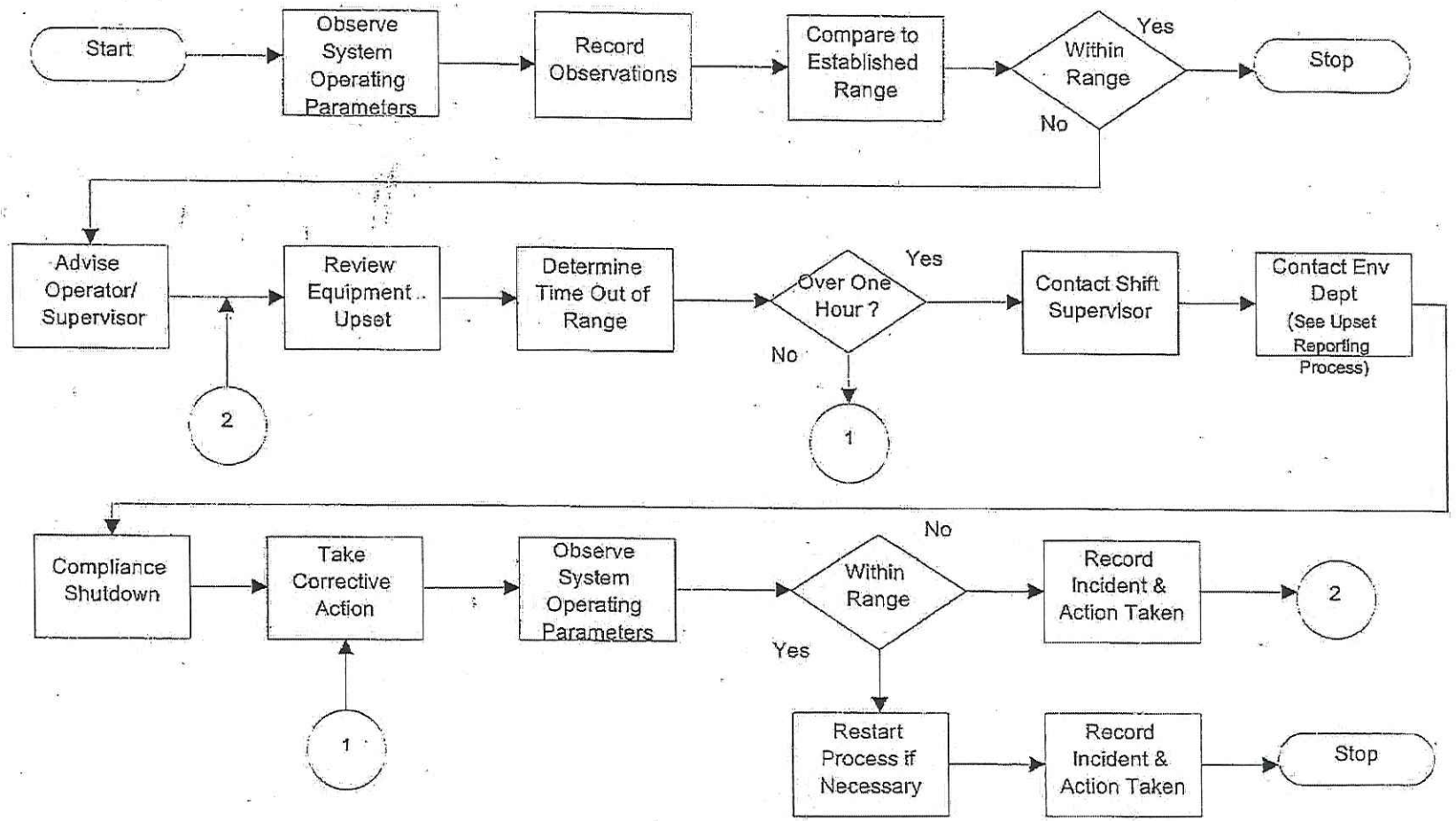
Operation and Maintenance Manuals for equipment are referenced when needed. At times, variation from the manuals will occur. Both manufactures of our equipment reminded us that equipment operation and maintenance is site specific.

Signed				
Position	Plant Manager	Maint. Mgr.	Env. Mgr.	
Date	22 JUN 2015	6/22/2015	6/22/2015	

Emission Control Equipment Monitoring Plan
Process Map

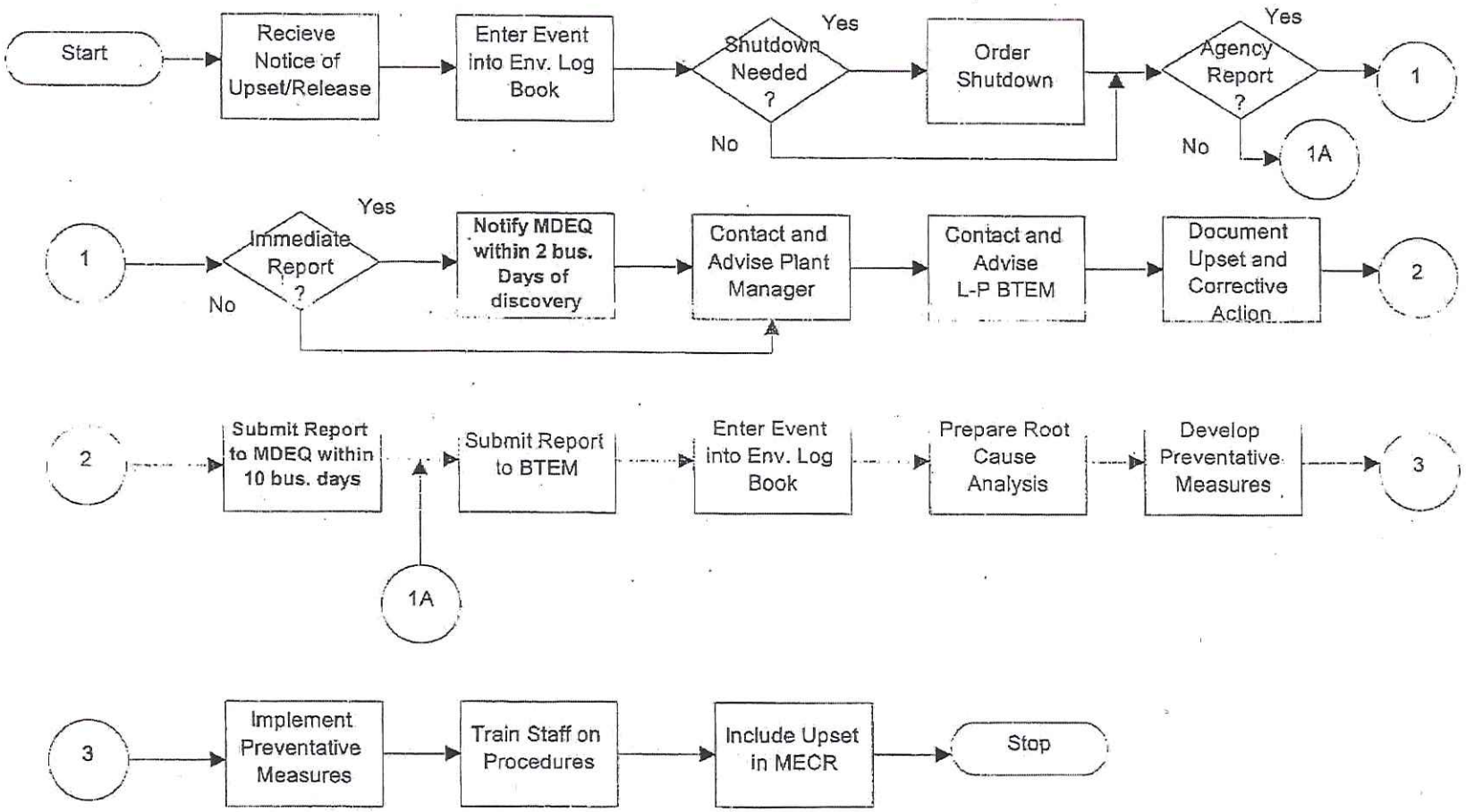
Louisiana-Pacific Corporation
Newberry Siding Plant

Emission Control Equipment Monitoring Corrective Action Process



Louisiana-Pacific Corporation
Newberry Siding Plant

Upset Reporting Process



MDEQ means the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality
MECR means L-P Monthly Environmental Compliance Report
BTEM means L-P Business Team Environmental Manager

8/13/99

EMERGENCY PHONE NUMBERS

Louisiana-Pacific

Kurt Chamberlain	Plant Manager	(906) 293-4512
Matt Hieshetter	Environmental Manager	(906) 293-4503
John Duflo	Production Supervisor	(906) 293-4507
Kerry Brown	Maintenance Superintendent	(906) 293-3059
Joe Pigeon	Safety Supervisor	(906) 293-4502

Western Pneumatics Environmental Services (RTO and WESP services)

Office	8a.m. - 5 p.m. Pacific Time	(909) 291-8500
		Fax: (909) 291-8505
Ronnie Reynolds	Office	(909) 291-8500
	Home Office	(972) 552-9646
	Cell	(214) 632-2341

A.H. Lundberg Associates (Geoenergy and Huntington)

Main Office		(425) 283-5070
		(425) 283-5081 (Fax)
Robert Smith	Home Office	(210) 509-2498
	Cell	(425) 894-1870

SECTION 2
MAP and CEM plans

2.1 Konus thermal oil heater

EUKONUS system includes two 19.9 million BTU per hour heaters with two 1.31 million BTU per hour economizers and utilizes a cyclone dust collector and exhausted into Baghouse #4 to control particulate emissions. Details of the MAP and CAM plans for these emission units are included in Sections 3.

2.2 Flake Drying system

EUDRYERRC system consisting of a triple pass dryer drum utilizing a Wet electrostatic precipitator (WESP) unit and a regenerative thermal oxidizer (RTO) to control emissions. Details of the MAP and CAM plans for these emission units are included in Sections 4.

2.3 Paint Booth system

EUCOATING system consisting of a paint booth for painting grooved areas of product and an edge seal paint booth utilizing dry exhaust filters to control particulate emissions. Details of the MAP and CAM plans for these emission units are included in Section 5.

2.4 Baghouses for Particulate Control

Baghouses 1, 2, 3, 4, 5, 6, 8, and 9 control particulate emissions from mill processes. Details of the MAP and CAM plans for these emission units are included in Sections 6-13.

Section 3: EUKONUS Thermal Oil Heater

Emission Limits

PM/PM-10: 0.081 lb per 1000 lbs of exhaust gases to 50% excess air, 4.3 pph (R336.1205(3))

NOx: 0.4 lb/MMBTU heat input, 15.5 pph (R336.1205(3))

CO: 0.87 lb/MMBTU heat input, 26.0 pph, 93.4 tpy (R336.1205(3))

VOC: 0.77 pph(R336.1205(3))

Material Limits

Wood Fuel: 24,000 tons/year

Control Technology

Reference Baghouses 3 and 4 for air treatment control in Section 6.3 and 6.4 of this plan.

Responsibilities

Konus Operators- Routine inspection, maintenance, and recording data.

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers

Environmental Technician- Routine maintenance and inspections and review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment. Documentation of specific maintenance activities through electronic work order systems

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities to environmentally permitted equipment.

Maximum Intervals

Inspection- The equipment can be inspected externally each day during operation and internally inspected as needed during scheduled down days.

Operating Parameters- Each shift the operating parameters shall be observed and recorded as indicated in the Konus operating log sheet attached in Appendix B.

Maintenance- Maintenance shall be based on the manufacturer's suggested maintenance schedule. However, maintenance schedule and operation are subject to change based on equipment operation and function.

Spare Parts

A recommended spare parts list is included in Appendix A.

Corrective Procedures*

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the Konus system shutdown.

*This section refers to major failures, such as loss of power or loss of emission control systems.

Normal shutdown or start up.

Normal shutdown or start up of the TOH system is not expected to result in excess emissions being generated. Shutdown of the thermal oil heater system follows a standard process that shuts down the thermal oil heater system fuel prior to taking emission control equipment off line. The Baghouse #4 bypass is opened and the combustion air fan is shut off or lowered to standby level once the fuel source is shut off. The emissions are uncontrolled after shut down.

The Konus systems (Konus 1 and Konus 2) are not fueled simultaneously with wood fuel. Except for transition periods not longer than six hours Konus 1 and Konus 2 will not operate simultaneously on wood fuel.

Procedures for operation of the Baghouse #4 require that a flue gas temperature of 550°F be maintained prior to routing exhaust to Baghouse #4. During shutdown of Konus or upset condition require the flue gas to reach 500°F prior to bypass of Baghouse #4 when shutting down.

The Konus will not be operated, when fired with wood, unless the cyclone and Baghouse #4 are operated properly

Section 4: EUDRYER
4.1 Wet Electrostatic Precipitator (WESP or E-Tube)

Emission Limits (After WESP and RTO treatment)

PM/PM-10: 0.020gr/dscf, 7.9 pph (R336.1205(3))

SO2: 0.4 pph (R336.1205(3))

NOx: 14.8 pph (R336.1205(3))

CO: 23.98 pph, 78.34 tpy (R336.1205(3))

VOC: 5.12 pph, 14.07 tpy (R336.1205(3)) (R 336.1702(c))

Acetaldehyde: 1.17 pph (R336.1225)

Acrolein: 0.195 pph (R336.1225)

Formaldehyde: 0.67 pph (R336.1225)

Manganese: 0.03 pph (R336.1225)

Material Limits

Wood Chips: 107,800 ODT/year
Coniferous Wood: 30% by volume

Responsibilities

Press Utility and Dryer/Press Operators- Routine inspection, recording data, and keeping chart recorders functional.

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers

Environmental Technician- Routine maintenance and inspections, inventory control for chemicals, review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment. Documentation of specific maintenance activities through electronic work order systems

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities to environmentally permitted equipment.

Maximum Intervals

Inspection- The equipment can be inspected externally each day during operation and internally inspected as needed during scheduled down days.

Operating Parameters- Each hour the operating parameters shall be observed, recorded and compared against the Operating Parameter Limits as indicated in the E-tube Operating Report. A copy of the E-tube Operating Report is attached as Appendix C.

Maintenance- Maintenance shall be based on the manufacturer's suggested maintenance schedule. However, maintenance schedule and operation are subject to change based on equipment operation and function.

Spare Parts

A recommended spare parts list is included in Appendix A.

Corrective Procedures*

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the dryer and WESP shutdown.

*This section refers to major failures, such as loss of power to WESP or loss of all water flow.

The dryer shall not be operated unless the cyclone, WESP, and RTO are installed, maintained and operated in a satisfactory manner. The RTO is required to maintain an hourly combustion chamber temperature of 1525°F. No wash liquor from the WESP shall be introduced into the RTO. Also, a record of the date, time, and length of each RTO bakeout is to be kept.

EUDRYER
4.2 Regenerative Thermal Oxidizer (RTO)

Emission Limits

PM/PM-10: 0.020gr/dscf, 7.9 pph (R336.1205(3))

SO2: 0.4 pph (R336.1205(3))

NOx: 14.8 pph (R336.1205(3))

CO: 23.98 pph, 78.34 tpy (R336.1205(3))

VOC: 5.12 pph, 14.07 tpy (R336.1205(3)) (R 336.1702(c))

Acetaldehyde: 1.17 pph (R336.1225)

Acrolein: 0.195 pph (R336.1225)

Formaldehyde: 0.67 pph (R336.1225)

Manganese: 0.03 pph (R336.1225)

Opacity: A 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27 percent opacity (R336.1301(1))

Material Limits

Wood Chips: 107,800 ODT/year
Coniferous Wood: 30% by volume

Responsibilities

Press Utility and Dryer/Press Operators- Routine inspection, recording data, and keeping chart recorders functional.

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers

Environmental Technician- Routine maintenance and inspections, inventory control for chemicals, review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment.

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities.

Maximum Intervals

Inspection- The equipment shall be externally inspected once per shift during operation and internally inspected during scheduled down days.

Operating Parameters- Every two hours the operating parameters shall be observed, recorded and compared against the Operating Parameter Limits as indicated in the RTO Operating Report. A copy of the RTO Operating Report is attached as Appendix D.

Maintenance- Maintenance shall be based on the manufacturer's suggested maintenance schedule. However, maintenance schedule and operation are subject to change based on equipment operation and function.

Spare Parts

A recommended spare parts list has been included in Appendix A.

Corrective Procedures*

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the dryer system shutdown.

This section refers to major failures, such as loss of power to RTO, loss of heat, or if the RTO is bypassed during operations.

The dryer shall not be operated unless the cyclone, WESP, and RTO are installed, maintained and operated in a satisfactory manner. The RTO is required to maintain an hourly combustion chamber temperature of 1525°F. No wash liquor from the WESP shall be introduced into the RTO. Also, a record of the date, time, and length of each RTO bakeout is to be kept.

SECTION 5:
EUCOATING

Emission Limits

Visible Emissions: No visible emissions except due to uncombined water vapor (R336.1301(1)(c))

VOCs: 1.1 pph (R336.1702)

Responsibilities

Finish End Operators- Tracking paint use, Routine inspection, Filter changes

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers

Environmental Technician- Routine maintenance and inspections, inventory control for chemicals, review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment.

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities.

Maximum Intervals

Inspection- The equipment shall be externally inspected once per shift during operation and internally inspected during scheduled down days.

Operating Parameters- Maintain record of VOC content of paint material. Maintain monthly record of usage rate.

Maintenance- Maintenance shall be based on the manufacturer's suggested maintenance schedule. However, maintenance schedule and operation are subject to change based on equipment operation and function.

Corrective Procedures

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the dryer system shutdown.

The coating line shall not be operated unless all exhaust filters are in place and operating properly.

SECTION 6:Baghouses
Section 6.1
EUBaghouse#1

Emission Unit

Description: Process group exhausts controlled by the Baghouse #1 which can include, the Diamond roll screener, Baghouse #1 outfeed, and collected fines from Baghouse #5.

Emission Limits

Visible Emissions: 10% opacity, except due to uncombined water vapor (R336.1301(1)(c)) 6 minute average.

PM/PM-10: 0.032 lb per 1000lbs of exhaust gases on a dry gas basis (R336.1205(3)), 5.8 pph (R336.1205(3))

Responsibilities

Press Utility and Dryer/Press Operators - Daily inspection of Baghouse stack for visible emissions while plant is operating. Routine inspection and maintenance, and recording data.

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers. Conduct method 22 observation on a daily basis when plant is operating.

Environmental Technician- Routine maintenance, inspections, and review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment and maintain records of corrective actions.

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities.

Maximum Intervals

Inspection- The equipment shall be externally inspected once per shift during operation and internally inspected as defined by maintenance schedule.

Operating Parameters- Each shift the operating parameters shall be observed and recorded as indicated in the Baghouse Preventative Maintenance Report. A copy of the Baghouse Preventative Maintenance Report is attached as Appendix E.

Maintenance- Maintenance shall be performed as needed or based on maintenance schedule, kept in the electronic work order system.

Spare Parts

A recommended spare parts list is kept in the Maintenance Supervisor's office

Corrective Procedures

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the system shutdown.

The process group associated with this Baghouse shall not be operated unless the Baghouse is installed, maintained and operated in a satisfactory manner.

Section 6.2
EUBaghouse#2

Emission Unit

Description: Baghouse treatment on the process group exhausts from the mat forming line, including the flake resin application operation, the flying cutoff saw, and the flake reclaim system. The flake reclaim system includes the flake formers, flake conveyors and mat side suction.

Emission Limits

Visible Emissions: 10% opacity, except due to uncombined water vapor (R336.1301(1)(c)) 6 minute average.

PM/PM-10: 0.031 lb per 1000lbs of exhaust gases on a dry gas basis (R336.1205(3)), 3.8 pph (R336.1205(3))

Responsibilities

Press Utility and Dryer/Press Operators - Daily inspection of Baghouse stack for visible emissions while plant is operating. Routine inspection and maintenance, and recording data.

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers. Conduct method 22 observation on a daily basis when plant is operating.

Environmental Technician- Routine maintenance and inspections and review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment and maintain records of corrective actions.

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities.

Maximum Intervals

Inspection- The equipment shall be externally inspected once per shift during operation and internally inspected as defined by maintenance schedule.

Operating Parameters- Each shift the operating parameters shall be observed and recorded as indicated in the Baghouse Preventative Maintenance Report. A copy of the Baghouse Preventative Maintenance Report is attached as Appendix E.

Maintenance- Maintenance shall be performed as needed or based on maintenance schedule, kept in the electronic work order system.

Spare Parts

A recommended spare parts list is kept in the Maintenance Supervisor's office.

Corrective Procedures

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the system shutdown.

The process group associated with this Baghouse shall not be operated unless the Baghouse is installed, maintained and operated in a satisfactory manner.

Section 6.3
EUBaghouse#3

Emission Unit

Description: Baghouse treatment on the process group consisting of thermal oil heater fuel metering bin and waferizer green fines blower.

Emission Limits

Visible Emissions: 10% opacity, except due to uncombined water vapor (R336.1301(1)(c)) 6 minute average.

PM/PM-10: 0.021 lb per 1000lbs of exhaust gases on a dry gas basis (R336.1205(3)), 1.9 pph (R336.1205(3))

Responsibilities

Konus Operators- Daily inspection of Baghouse stack for visible emissions while plant is operating. Routine inspection and maintenance, and recording data.

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers. Conduct method 22 observation on a daily basis when plant is operating.

Environmental Technician- Routine maintenance and inspections and review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment and maintain records of corrective actions.

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities.

Maximum Intervals

Inspection- The equipment shall be externally inspected once per shift during operation and internally inspected as defined by maintenance schedule.

Operating Parameters- Each shift the operating parameters shall be observed and recorded as indicated in the Baghouse Preventative Maintenance Report. A copy of the Baghouse Preventative Maintenance Report is attached as Appendix B.

Maintenance- Maintenance shall be performed as needed or based on maintenance schedule, kept in the electronic work order system.

Spare Parts

A recommended spare parts list kept in the Maintenance Supervisor's office.

Corrective Procedure

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the system shutdown.

Baghouse #3 controls emissions generated from the thermal oil heater fuel metering bin, therefore Baghouse #3 operates when the TOH fuel metering bin is operating.

The process group associated with this Baghouse shall not be operated unless the Baghouse is installed, maintained and operated in a satisfactory manner.

Section 6.4
EUBaghouse#4 (Konus)

Emission Unit

Description: Individual cyclone dust collector for each TOH heater exhausted into Baghouse #4.

Emission Limits

See Section 3: EUKONUS

Responsibilities

Konus Operators- Daily inspection of Baghouse stack for visible emissions while plant is operating. Routine inspection and maintenance, and recording data.

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers

Environmental Technician- Routine maintenance and inspections and review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment and maintain records of corrective actions.

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities.

Maximum Intervals

Inspection- The equipment shall be externally inspected once per shift during operation and internally inspected as defined by maintenance schedule.

Operating Parameters- Each shift the operating parameters shall be observed and recorded as indicated in the Baghouse Preventative Maintenance Report. A copy of the Baghouse Preventative Maintenance Report is attached as Appendix B.

Maintenance- Maintenance shall be performed as needed or based on maintenance schedule, kept in the electronic work order system.

Spare Parts

A recommended spare parts list is kept in the Maintenance Supervisor's office.

Corrective Procedures

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the system shutdown.

The process group associated with this Baghouse shall not be operated unless the Baghouse is installed, maintained and operated in a satisfactory manner.

Section 6.5
EUBaghouse#5

Emission Unit

Description: Baghouse treatment on the process group consisting of exhausts from the two dry flake day bins, conveyors and screener.

Emission Limits

Visible Emissions: 10% opacity, except due to uncombined water vapor (R336.1301(1)(c)) 6 minute average.

PM/PM-10: 0.01 lb per 1000lbs of exhaust gases on a dry gas basis (R336.1205(3)), 0.9 pph (R336.1205(3))

Responsibilities

Press Utility and Dryer/Press Operators - Daily inspection of Baghouse stack for visible emissions while plant is operating. Routine inspection and maintenance, and recording data.

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers.

Environmental Technician- Routine maintenance and inspections and review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment and maintain records of corrective actions.

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities.

Maximum Intervals

Inspection- The equipment shall be externally inspected once per shift during operation and internally inspected as defined by maintenance schedule.

Operating Parameters- Each shift the operating parameters shall be observed and recorded as indicated in the Baghouse Preventative Maintenance Report. A copy of the Baghouse Preventative Maintenance Report is attached as Appendix E.

Maintenance- Maintenance shall be performed as needed or based on maintenance schedule, kept in the electronic work order system.

Spare Parts

A recommended spare parts list is kept in the Maintenance Supervisor's office.

Corrective Procedures

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the system shutdown.

The process group associated with this Baghouse shall not be operated unless the Baghouse is installed, maintained and operated in a satisfactory manner.

Section 6.6
EUBaghouse#6

Emission Unit

Description: Baghouse treatment on the process consisting of exhausts from the dryer burner fuel bin. Wood fines discharged from Baghouse #1 pass thru a hammer mill then are blown to dryer burner fuel storage bin.

Emission Limits

Visible Emissions: 10% opacity, except due to uncombined water vapor (R336.1301(1)(c)) 6 minute average.

PM/PM-10: 0.01 lb per 1000lbs of exhaust gases on a dry gas basis (R336.1205(3)), 0.14 pph (R336.1205(3))

Responsibilities

Press Utility and Dryer/Press Operators - Daily inspection of Baghouse stack for visible emissions while plant is operating. Routine inspection and maintenance, and recording data.

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers.

Environmental Technician- Routine maintenance and inspections and review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment and maintain records of corrective actions.

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities.

Maximum Intervals

Inspection- The equipment shall be externally inspected once per shift during operation and internally inspected as defined by maintenance schedule.

Operating Parameters- Each shift the operating parameters shall be observed and recorded as indicated in the Baghouse Preventative Maintenance Report. A copy of the Baghouse Preventative Maintenance Report is attached as Appendix E.

Maintenance- Maintenance shall be performed as needed or based on maintenance schedule, kept in the electronic work order system.

Spare Parts

A recommended spare parts list is kept in the Maintenance Supervisor's office.

Corrective Procedures

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the system shutdown.

The process group associated with this Baghouse shall not be operated unless the Baghouse is installed, maintained and operated in a satisfactory manner.

Section 6.7
EUBaghouse#8

Emission Unit

Description: Baghouse treatment on the process group consisting of exhausts from the groover booth and hammermill, which includes the 1st and 2nd pass trim saws and 1st pass clean-up conveyor.

Emission Limits

Visible Emissions: 10% opacity, except due to uncombined water vapor (R336.1301(1)(c)) 6 minute average.

PM/PM-10: 0.015 lb per 1000lbs of exhaust gases on a dry gas basis (R336.1205(3)), 1.37 pph (R336.1205(3))

Responsibilities

Press Utility and Dryer/Press Operators - Daily inspection of Baghouse stack for visible emissions while plant is operating. Routine inspection and maintenance, and recording data.

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers.

Environmental Technician- Routine maintenance and inspections and review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment and maintain records of corrective actions.

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities.

Maximum Intervals

Inspection- The equipment shall be externally inspected once per shift during operation and internally inspected internally inspected as defined by maintenance schedule.

Operating Parameters- Each shift the operating parameters shall be observed and recorded as indicated in the Baghouse Preventative Maintenance Report. A copy of the Baghouse Preventative Maintenance Report is attached as Appendix E.

Maintenance- Maintenance shall be performed as needed or based on maintenance schedule, kept in the electronic work order system.

Spare Parts

A recommended spare parts list is kept in the Maintenance Supervisor's office.

Corrective Procedures

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the system shutdown.

The process group associated with this Baghouse shall not be operated unless the Baghouse is installed, maintained and operated in a satisfactory manner.

Section 6.8
EUBaghouse#9

Emission Unit

Description: Baghouse treatment on the process group consisting of exhausts from the fines recovery system, which includes a metering bin.

Emission Limits

Visible Emissions: 10% opacity, except due to uncombined water vapor (R336.1301(1)(c)) 6 minute average.

PM/PM-10: 0.025 lb per 1000lbs of exhaust gases on a dry gas basis (R336.1205(3)), 1.37 pph (R336.1205(3))

Responsibilities

Press Utility and Dryer/Press Operators - Daily inspection of Baghouse stack for visible emissions while plant is operating. Routine inspection and maintenance, and recording data.

Shift Supervisor- Manage inspection, repair, and maintenance activities performed by shift workers.

Environmental Technician- Routine maintenance and inspections and review of work performed by other parties.

Maintenance Department- Repairing and maintaining equipment and maintain records of corrective actions.

Environmental Manager- Implementation of this plan, and oversee inspection, repair, and maintenance activities.

Maximum Intervals

Inspection- The equipment shall be externally inspected once per shift during operation and internally inspected internally inspected as defined by maintenance schedule.

Operating Parameters- Each shift the operating parameters shall be observed and recorded as indicated in the Baghouse Preventative Maintenance Report. A copy of the Baghouse Preventative Maintenance Report is attached as Appendix E.

Maintenance- Maintenance shall be performed as needed or based on maintenance schedule, kept in the electronic work order system.

Spare Parts

A recommended spare parts list is kept in the Maintenance Supervisor's office.

Corrective Procedures

If a malfunction or failure occurs which may lead to the exceedance of applicable emission limitations, the operator that discovers the problem shall immediately inform the Shift Foreman, and have the system shutdown.

The process group associated with this Baghouse shall not be operated unless the Baghouse is installed, maintained and operated in a satisfactory manner.

SECTION 7
Emission Control Equipment Operating Parameter Limits

GeoEnergy E-TUBE (WESP)								
	Secondary Voltage Kva	Secondary Current mA	Spark Rate per min.	Inlet Temp ° F	Quench Temp ° F	Total Solids %	Blowdown Rate GPM	Differential Pressure in. W.C.
Preferred	30 to 60	100 to 400	25 to 35	210 to 280	150 to 180	2 to 10	2	0.3
Permit Limits	>30	-	-	-	<180	-	-	-

Wheelabrator RTO							
	Burner Temp. ° F	Chamber Bed Temp ° F	Combust. Chamber ° F	Inlet Temp. ° F	Exhaust Temp ° F	Differential Pressure in W.C.	Bearing Temp. ° F
Preferred	1520-1560	350-500	1540	150-170	230-280	14-30	<150
Permit Limits	-	-	>1525	-	-	-	-

BAGHOUSES Pressure Drop in inches W.C.								
Baghouse I.D. #	1	2	3	4	5	6	8	9
Baghouse Name	Line Cleanup	Flying Cutoff Saw	Bark	Konus	Screener	Dryer Fuel	Sawline	Fines
Normal Range	2.0 - 5.0	1.0 - 3.5	0.25 - 2.5	1.0 - 3.5	3.0-4.0	0.5-2.0	1.0-4.0	0.5-4.0

Note: These numbers are hourly averages, not instantaneous readings. The numbers noted here are based on the recorded operation of this equipment on-site. Numerous variables cause parameters to vary from site to site, as suggested by the manufacturers.

SECTION 8
Control Equipment Inspection and Maintenance Summary
E-tube

Item	Shift	MWF	Wkly	Mnthly	6 mos.	Annual	As Need
E-tube							
Check Operating Parameters	hourly						
Solids Test							X
Clean Strainer							X
Blow Out Purge Air Filter							X
Record all Operating Parameters as per E-tube Operating Report	X						
Check Nozzle Temperatures							X
Check all Motors							X
Check Insulators for Arcing							X
Check Tanks & Piping for Leaks		X					
Check Fire Protection			X				
Inspect / Clean Insulators							X
Inspect / Clean Power Grid							X
Inspect / Clean Flush Nozzles							X
Inspect / Clean Tubes & Probes							X
Inspect / Clean Sump Floor							X
Inspect / Clean Quench Chamber							X
Inspect / Clean Quench Nozzles							X
Inspect / Clean Cyclone							X
Inspect / Clean Purge Air Filters							X
Inspect High Volt. Electrode Alignment							X
Inspect Insulators for Cracks							X
Inspect High Volt. Electrode Alignment							X
Inspect for Corrosion							X
Inspect for Loose Fasteners and Welds							X
Replace Lithium Battery in T/R Controller							X
Check Transformer Oil							X

Control Equipment Inspection and Maintenance Summary
RTO

Item	2 Hr	Daily	Wkly	Mnthly	6 mos.	Annual	As Need
RTO							
Record all Operating Parameters as per RTO Operating Report	X						
Check Valve Drive Fasteners				X			
Lube Bearings and Shafts				X			
Lube Valve Button Head Fittings					X		
Replace Gearbox Lube					X		
Coat Valve Drive Shafts					X		
Check Prox. Switches					X		
Inspect Valve Drive for Backlash					X		
Lube Fan Motor Bearings				X			
Record Bearing Temperatures	X						
Check ID Fan Shaft Seals					X		
Check Fans for Vibration / Noise			X				
Check Burner Scanners Operation / Clean					X		
Clean Igniter						X	
Check Burner Linkages				X			
Check Burner Pressure Switch					X		
Calibrate Burner Actuators						X	
Check Gas Lines for Leaks			X				
Clean Ductwork							S/D
Clean Valve Seats							S/D
Clean & Adjust Damper Seats						X	S/D
Clean & Seal Internal Flanges							S/D
Clean Dispersion Tube							S/D
Check Dispersion Tube P/V taps (open)							S/D
Inspect Lower Stoneware Beds							S/D
Inspect Refractory							S/D
Inspect Upper Stoneware							S/D
Check Burner Throats							S/D
Touch-up Paint							S/D
Calibrate Instruments							S/D
Bakeout							X
Adjust Valve Drive Linkage (thermal balance)							S/D

S/D = Shut Down

Control Equipment Inspection and Maintenance Summary
Baghouses

Item	Shift	Daily	Wkly	Mnthly	6 mos.	Annual	As Need
Baghouses							
Record Magnehelic Reading	X						
Check Pulse Sequence	X						
Check Air Pump Pressure	X						
Check Air Pump Motor	X						
Check Air Pump Drive	X						
Check Air Lock Motor	X						
Check Air Lock Drive	X						
Check All Doors For Proper Seal	X						
Inspect #1 B.H. Air Filter, replace if necessary	X						
Check Sweep Arm Motor				X			
Check Sweep Arm Drive				X			
Check Air Lock Seals				X			
Check / Inspect Bags							S/D
Visually Check Air Pump Belt Tension				X			
Check Pump Oil Level				X			
Check Gearbox Oil Level				X			
Visually Check Chain Slack Tightener				X			
Check Nozzle Clearance							S/D

S/D = Shut Down

APPENDIX A

E-Tube WESP Spare Parts List

Mfg: **GeoEnergy International Corp.**
Model: **1013-378 2 T/R**
Serial:
Job #:

Transformer Rectifier (M4232 & M4237)

A.	(1)	Controller, PCA Micro Kraft	Part #: 091898
B.	(1)	SCR Trigger Unit, PCA	Part #: 191318
C.	(1)	High Voltage Bushing	Part #: 291670
D.	(1)	Thermostat and level switch	Part #: 420833
E.	(2)	Thyristor	Part #: 520468
F.	(1)	Shunt, 600mA meter	Part #: 530546
G.	(1)	Overvoltage Protection	Part #: 531936
H.	(1)	Service Set C/C	Part #: 291579A
I.	(1)	Service Set T/R	Part #: 291580A

Instrumentation

A.	(1)	Float Switch, SST ball	Part #: 1011
B.	(1)	Float Switch weight	Part #: 1012
C.	(1)	Thermocouple, gas, with transmitter	Part #: 1020
D.	(1)	Milltronics, "Probe", 2" NPT	Part #: 1040
E.	(1)	Milltronics, "Probe", with 3" Flange	Part #: 1041
F.	(1)	Gauge, pressure transducer	Part #: 1050
G.	(1)	Bubbler tube sensor complete assembly	Part #: 1060

Valves

A.	(1)	Solenoid valve for actuators	Part #: 2120
B.	(1)	1-1/2" quick connect assembly	Part #: 2141

Manways

A.	(1)	24" Viton gasket	Part #: 3011
B.	(1)	32" Viton gasket	Part #: 3012
C.	(1)	20" Buna N gasket	Part #: 3013
D.	(1)	10" Buna N gasket	Part #: 3014

Caustic Pump (M4236)

A.	(1)	Electric Motor	460/3/60, 3/4hp, 1725rpm, D56c Frame
B.	(1)	Caustic Pump Complete (Gear Iron)	Part #: 4012

E-Tube WESP Spare Parts List

Recycle Pumps (M4235 & M4241)

A.	(1)	Electric Motor	460/3/60, 40hp, 1775rpm, 324T Frame
B.	(1)	Impeller (item 101)	Part #: 4020A
C.	(1)	Mechanical Seal (item 383)	Part #: 4020B
D.	(1)	Shaft Sleeve (item 126)	Part #: 4020C
E.	(1)	Shaft (item 122)	Part #: 4020D
F.	(1)	Pump repair kit (item 906A)	Part #: 4020E

Transfer Pump (M4234)

A.	(1)	Electric Motor	460/3/60, 50hp, 1775rpm, 326TS Frame
B.	(1)	Impeller (item 101)	Part #: 4030A
C.	(1)	Mechanical Seal (item 383)	Part #: 4030B
D.	(1)	Shaft Sleeve (item 126)	Part #: 4030C
E.	(1)	Shaft (item 122)	Part #: 4030D
F.	(1)	Pump repair kit (item 906A)	Part #: 4030E

Flush Pump (M4240)

A.	(1)	Electric Motor	460/3/60, 20hp, 3525rpm, 256T Frame
B.	(1)	Impeller (item 101)	Part #: 4040A
C.	(1)	Mechanical Seal (item 383)	Part #: 4040B
D.	(1)	Shaft Sleeve (item 126)	Part #: 4040C
E.	(1)	Shaft (item 122)	Part #: 4040D
F.	(1)	Pump repair kit (item 906A)	Part #: 4040E

Area Sump Pump (M4239)

A.	(1)	Electric Motor	460/3/60, 3hp, 3429rpm, 182T Frame
B.	(1)	Impeller (item 2)	Part #: 4050A
C.	(1)	Mechanical Seal (item 3)	Part #: 4050B
D.	(1)	Shaft Sleeve (item 21)	Part #: 4050C
E.	(1)	Shaft (item 18)	Part #: 4050D
F.	(1)	Pump repair kit (item 906A)	Part #: 4050E

Bete Spray Nozzles

A.	(1)	Complete set for unit	Part #: Varies

Elastomeric Components

A.	(1)	Isolation joint, Neoprene wrap	Part #: 6000
B.	(1)	Isolation joint, Neoprene with Kevlar	Part #: 6002
C.	(10')	1-1/2" diameter gas hose	Part #: 6020

Water Treatment

A.	(1)	6" #105 Plenty strainer basket	Part #: 7052
B.	(1)	6" #105 Plenty strainer Viton O-ring	Part #: 7062

E-Tube WESP Spare Parts List

ID Fan (M4242)

A.	(1)	Electric Motor	460/3/60, 350hp, 1780rpm, N587UZ Frame
B.	(1)	Drive Sheave	8-8V-14.0-J
C.	(1)	Drive Sheave Bushing	J-QD-3-7/8
D.	(8)	Drive Belts	8V-2240
E.	(1)	Driven Sheave	8-8V-19.0-M
F.	(1)	Driven Sheave Bushing	M x 4-15/16"
G.	(2)	Fan shaft Bearings	SKF-528-SAF (4-15/16")

Miscellaneous Components

A.	(1)	Pass through bushing (Lapp)	Part #: 0010
B.	(4)	Stand off insulator (Lapp)	Part #: 0011
C.	(8)	Insulator gasket	Part #: 0012
D.	(4)	Insulator top mount hardware	Part #: 0014
E.	(1)	Purge compartment heater (3kW)	Part #: 0030
F.	(2)	Purge air filter	Part #: 0033
G.	(1)	Mesh pad mist eliminator, 6" f/f (set)	Part #: 0050

REGENERATIVE THERMAL OXIDIZER
LOUISIANA-PACIFIC
NEWBERRY, MI

XIII. RECOMMENDED SPARE PARTS

Item	Qty.
1. Burners and Fuel Trains	
- Maxon safety shutoff valve	1
- Pilot solenoid valve	1
- Vent solenoid valve	1
- Mercoid pressure switch	1
- Honeywell pressure switch for monitoring combustion air pressure and Proof-of-Air-Flow across exhaust fan(s)	1
- Spark electrode	1
- Ignition transformer	1
- Burner sleeve	1
- Honeywell M940 burner control	1
- Honeywell flame detector	1
- Combustion air blower motor	1
2. Thermocouples & RTD's	
- Type "K", dual element	1
- Type "J", dual element for inlet/exhaust temp.	1
- Type "J", dual element for lower recovery chamber	1
- 100 Ohm Plat. RTD, single element for exhaust fan bearings	1
- 10 Ohm Cop. RTD, single element for exhaust fan motor bearings (also Actionpak retransmitter 10 Ohm to 4-20ma)	1
3. Electric Actuator (Bernard Controls, Inc.)	
- One of each size - Note: only the bakeout/cooldown damper actuator include an internal feedback pot	
4. Vibration Switch	
- Vitec Corp. for exhaust fans, see fan dwg's for details	1

REGENERATIVE THERMAL OXIDIZER
LOUISIANA-PACIFIC
NEWBERRY, MI

XIII. - RECOMMENDED SPARE PARTS (Continued)

	Item	Qty.
5.	Lubricants	
	- Mobil SHC634 for gearbox (3 qts. change)	(qts) 6
	- Mobil grease special (cartridges)	10
	- Anti-seize compound (cartridges)	10
	Note: See Section V for lubricants for fan bearings and motor bearings	
6.	Valve Drive Components	
	- Gearbox	1
	- D.C. motor, 1/2 HP	1
	- 2" pillow block bearing	1
	- Secondary drive shaft bearings	3
	- Hanger bearing (threaded rod end)	1
	- NAMCO proximity switch	1
7.	Control Panel Mounted Devices	
	- One of each type of Honeywell controller	2
	- Potter Brumfield plug-in relays	1
	- Viatran pressure transmitter	1
	- PLC 120 VAC input module	1
	- PLC analog input module	1
	- PLC analog input module	1
	- 120 VAC/24 VDC power supply	1
	- Boston Gear Co. AC/DC power supply for valve drive motor	1

REGENERATIVE THERMAL OXIDIZER
LOUISIANA-PACIFIC
NEWBERRY, MI

XIII. RECOMMENDED SPARE PARTS (Continued)

Item	Qty.
Fuses	
- Each type/size (in fuse blocks)	5
- For Dataliner	2
- For DC power supplies	2
- For AC/DC power supply	2
- For battery backup power supply	5
8. Miscellaneous	
- Fiberglass gasket for valve transition	(roll) 100 ft
- Viatran Delta P transmitter	1
- Allen-Bradley DL30 Dataliner	1
- Modicon processor module	1
- 120 VAC power supply, battery backup	1
- 240/120 volt stepdown transformer	1
- Magnehelic, range 10-0-10" w.c.	1
- Magnehelic, range 5-0-5" w.c.	1
- Magnehelic, range 0-40" w.c.	1
- Repair kit for combustion air blower motor starter	1
- Repair kit for purge air fan motor starter	1
- Bearings for 700 HP fan	(set) 1
- Coupling for 50 HP purge fan	(set) 1
- Coupling for 700 HP (fan-to-motor)	1
- Coupling for purge fan (fan-to-motor)	1
- Stonel proximity switch assembly	1
- Ceramic fiber insulation, 1" x 24" x 50'	(box) 1
- Extra recorder chart paper	(box) 1

RECOMMEND SPARE PARTS LIST
HEAVY DUTY INLET VANE DAMPER

Identification & Description	Unit Price	Procurement Lead Time	Name & Address of Supplier
3/8" Rod End CW-6	*	30 Days	Ruskin Mfg. Div. 3900 Dr. Greaves Rd Grandview, MO 64030
2-Bolt Flange Ball Bearing (Dodge or Equal) Specify Dia.	*	"	"
2-Bolt Stn. Stl. Bearing Assembly (IVD Hub) #79-020250-00A	*	"	"
3/8" x 3/4" Shoulder Bolt with Nut	*	"	"
Control Arm 15499	*	"	"
Double Control Arm #76-020107-01B	*	"	"
Spacer Assembly CDIV-473	*	"	"
Chesterton Nickle Anti-Seize Comp.	*	"	"

* Prices available upon request

OPERATING AND MAINTENANCE INSTRUCTION

1. Semi-annually, the bearings should be lubricated with a Chesterton nickle anti-seize comp.

2. Semi-annually, the linkage should be inspected for wear and replaced if necessary.

3. When equipped with pneumatic or electric actuators, the manufacturers recommended maintenance procedure should be observed.

#1 Baghouse System Spare Parts List

Mfg: **Donaldson, Inc. Day Div.**
Model: **376-RFH-10**
Serial: **RFH 1815**
Job #: **105152**

Induced Draft (ID) Fan Assembly (M5410)

A.	(1)	Electric Motor	460/3/60, 100hp, 1800 rpm, 405T Frame
B.	(1)	Drive Sheave	3-5V-13.2-E
C.	(1)	Drive Sheave Taper Bushing	E 2-7/8"
D.	(3)	Drive Belts	5VX1800
E.	(1)	Driven Sheave	3-5V-15.0-R1
F.	(1)	Driven Sheave Taper Bushing	R1 3-7/16"
G.	(1)	Fan Shaft	Made at the plant as needed
H.	(2)	Fan Shaft Bearings	Dodge #041868

Reverse Blower Assembly (M5407)

A.	(1)	Electric Motor	460/3/60, 5hp, 1725rpm, 184T frame
B.	(1)	Drive Sheave	2 5V 6.7 SK
C.	(1)	Drive Sheave Taper Bushing	SK 15/16"
D.	(2)	Drive Belts	5VX500
E.	(1)	Driven Sheave	2 5V 8.5 SK
F.	(1)	Driven Sheave Taper Bushing	SK 1 1/8"
G.	(1)	Blower Complete (MD Pneumatics)	Model #: 3206-46L3
H.	(1)	Blower Inlet Filter (NAPA)	6078

Sweep Arm Assembly (M5408)

A.	(1)	Electric Motor	Baldor (Ex. Pf.) #VM7002A
B.	(1)	Gearbox Complete	Boston #FWC721-600-B5-G
C.	(1)	Drive Sprocket	Part #: 66644
D.	(1)	Drive Chain	RC #50 x 10' long
E.	(1)	Driven Sprocket	Part #: 66645
F.	(1)	Idler Assembly	Part #: 66858
G.	(1)	Solenoid valve, Asco	Part #: 67566
H.	(1)	Timer (w/o box)	Part #: 66839
I.	(1)	Secondary Diaphragm Assembly	Part #: 66850
J.	(1)	Main Diaphragm	Part #: 75666
K.	(1)	Pilot Spring	Part #: 66647
L.	(1)	Main Spring	Part #: 66648
M.	(1)	Bronze Bearing	Part #: 31108
N.	(1)	Bearing, CB504	Part #: 31112
O.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W

#1 Baghouse System Spare Parts List

Filters

A.	(376)	Filter Bag (DuraLife)	Part #: P030664-016-210
B.	(10)	Filter Cage	Part #: 4MA-56417-05
C.	(10)	Filter Take-Up Rod	3/8"-16 x 10' threaded rod

Airlock (M5409)

A.	(1)	Electric Motor	460/3/60, 2hp, 1740rpm, F145TC frame
B.	(1)	Gearbox Complete	Winsmith, Serial #: #006MCTS43000EK
C.	(1)	Drive Sprocket	60 SDS 17
D.	(1)	Drive Sprocket Taper Bushing	SDS 1-3/8"
E.	(1)	Drive Chain	RC #60 x 10'
F.	(1)	Driven Sprocket	60 SK 40
G.	(1)	Driven Sprocket Taper Bushing	SK 1 11/16"
H.	(2)	Airlock Shaft Bearings	Dodge #124217
I.	(6)	Airlock Wipers	L-P DWG #5409-001
J.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W
K.	(1)	Plug Detector (Dynatrol)	#CL-10DJ

#2 Baghouse System Spare Parts List

Mfg: **Donaldson, Inc. Day Div.**
Model: **144-RJ-120 CLGX**
Serial:
Job #:

Induced Draft (ID) Fan Assembly (M4114)

A.	(1)	Electric Motor	460/3/60, 125hp, 1775rpm, 444T Frame
B.	(1)	Drive Sheave	5 5V 11.3 E
C.	(1)	Drive Sheave Taper Bushing	E 3 3/8"
D.	(5)	Drive Belts	5VX1500
E.	(1)	Driven Sheave	5 5V 11.3 E
F.	(1)	Driven Sheave Taper Bushing	E 2 15/16"
G.	(1)	Fan Shaft	L-P Dwg. 4114-019
H.	(2)	Fan Shaft Bearings	SKF 22217CCK/W33

Reverse Blower Assembly (M4119)

A.	(1)	Electric Motor	460/3/60, 25hp, 3520, 284T Frame
B.	(1)	Blower Complete (Cincinnati Fan)	Part #: 4BP CWTH4
B.	(1)	Blower Impeller (Donaldson)	Part #: 65501

Sweep Arm Assembly (M4418)

A.	(1)	Electric Motor	Baldor (Ex. Pf.) #VM7006A
B.	(1)	Gearbox Complete	Boston # FWC732600D56/70
C.	(1)	Drive Sprocket	Part #: 34732
D.	(1)	Drive Chain	RC #60 x 10' long
E.	(1)	Driven Sprocket	Part #: 31110
F.	(1)	Idler Assembly	Part #: 34735
G.	(1)	Extension Spring	Part #: 36400
H.	(1)	Cam Follower Roller	Part #: 31129
I.	(1)	Bronze Bearing	Part #: 31108
J.	(1)	Bearing, CB504	Part #: 31112
K.	(1)	Pivot Shaft Seat Assembly	Part #: 31113
L.	(1)	Stub Shaft	Part #: 31109
M.	(1)	Outer & Center Butterfly Assembly	Part #: 36410
N.	(1)	Inner Ring Buttery Assembly	Part #: 35936
O.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W

Filters

A.	(144)	Filter Tubes	Part #: P030708-016-210
B.	(10)	Filter Cage	Part #: 35773-W
C.	(10)	Tube Take-Up Rod	3/8"-16 x 12' threaded rod

#2 Baghouse System Spare Parts List

Airlock (M4417)

A.	(1)	Electric Motor	460/3/60, 7.5hp, 1750rpm, 213T Frame
B.	(1)	Drive Sheave	2 3V 6.0 SH
C.	(1)	Drive Sheave Taper Bushing	SH 1 3/8
D.	(2)	Drive Belts	3VX475
E.	(1)	Driven Sheave	2 3V 6.0 SH
F.	(1)	Driven Sheave Taper Bushing	SH 1 3/8
G.	(1)	Gearbox Complete	Rex, Mercury, 31.6:1
H.	(1)	Drive Sprocket	100 BTB 16 2517
I.	(1)	Drive Sprocket Taper Bushing	2517- 2"
J.	(1)	Drive Chain	RC #100, 1 master, 41 links
K.	(1)	Driven Sprocket	100 BTB 40 3020
L.	(1)	Driven Sprocket Taper Bushing	3020 2 15/16"
M.	(2)	Airlock Shaft Bearings	2 15/16" F4B-SC-215
N.	(6)	Airlock Wipers	Made as needed
O.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W
P.	(1)	Plug Detector (Dynatrol)	#CL-10DJ

#3 Baghouse System Spare Parts List

Make: **Donaldson, Inc. Day Div.**
Model: **156-RF-96**
Serial:
Job #:

Waferizer Fines Blower (M1320)

A.	(1)	Electric Motor	460/3/60, 15hp, 1760rpm, Frame
B.	(1)	Drive Sheave	3 5V 670 TB
C.	(1)	Drive Sheave Taper Bushing	TB 3020 1-5/8"
D.	(3)	Drive Belts	5VX670
E.	(1)	Driven Sheave	3 5V 750 TB
F.	(1)	Driven Sheave Taper Bushing	TB 2517 1-15/16"
G.	(1)	Fan Shaft	Make as needed
H.	(1)	Fan Shaft Bearing (sheave side)	P2B-S2-115L (#070324)
I.	(1)	Fan Shaft Bearing (fan side)	P2B-S2-115LE (#070347)
J.	(1)	Fan Impeller (Waltz-Holtz)	13 HD Paddle Wheel

Wet Bin Infeed Conveyor Cyclone Airlock (M1223)

A.	(1)	Electric Motor	460/3/60, 1/2hp, 1800rpm, 56C Frame
B.	(1)	Gearbox Complete	Boston Cat #F7328-50-85-G
C.	(1)	Drive Sprocket	80 SDS 14
D.	(1)	Drive Sprocket Taper Bushing	SDS 1-3/8"
E.	(1)	Drive Chain	RC80, 5'
F.	(1)	Driven Sprocket	80SK16
G.	(1)	Driven Sprocket Taper Bushing	SK 1-1/2"
H.	(1)	Airlock (WM Meyer)	12x12 SD 195175-1
I.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W
J.	(1)	Plug Detector (Dynatrol)	#CL-10DJ

Cyclone Airlock (M1227)

A.	(1)	Electric Motor	460/3/60, 3hp, 1800rpm, 182T Frame
B.	(1)	Drive Sheave	2-3V-3.6-SH
C.	(1)	Drive Sheave Taper Bushing	SH 1-1/8"
D.	(2)	Drive Belts	3VX600
E.	(1)	Driven Sheave	2-3V-6.5-SDS
F.	(1)	Driven Sheave Taper Bushing	SDS 1-7/16
G.	(1)	Gearbox Complete (Dodge)	TXT425T, S/N 244126 TN
M.	(2)	Airlock Shaft Bearings (Dodge)	F4B-GT-207
N.	(6)	Airlock Wipers	Made as needed
O.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W
P.	(1)	Plug Detector (Dynatrol)	#CL-10DJ

Sweep Arm Assembly (M1226)

A.	(1)	Electric Motor	Baldor (Ex. Pf.) #VM7002A

#3 Baghouse System Spare Parts List

B.	(1)	Gearbox Complete	Boston #FWC721-600-B5-G
C.	(1)	Drive Sprocket	Part #: 8PP-29073-00 (#50-20T)
D.	(1)	Drive Chain	RC #50 x 78 links
E.	(1)	Driven Sprocket	Part #: 8PP-29232-00 (#50-60T)
F.	(1)	Chain Tensioner	Part #: 8PP-29077-00
G.	(1)	Solenoid valve, Asco	Part #: 8PP-29082-01
H.	(1)	Timer (w/o box)	Part #: 8PP-29240-00
I.	(1)	Secondary Diaphragm Assembly	Part #: 3EA-29036-00
J.	(1)	Main Diaphragm	Part #: 3EA-29039-00
K.	(1)	Pilot Spring	Part #: 8PP-29045-01
L.	(1)	Main Spring	Part #: 8PP-29046-01
M.	(1)	Bronze Bearing	Part #: 8PP29060-00
N.	(1)	Bearing, pivot shaft	Part #: 8PP-29081-00

Filters

A.	(156)	Filter Tubes	16oz Polyester 6" oval x 8' long
B.	(10)	Filter Cage	Part #: 4MA-56417-03

Baghouse Airlock (M1220)

A.	(1)	Electric Motor	460/3/60, 2hp, 1750rpm, 145TC Frame
B.	(1)	Gearbox Complete	Boston F332-50-C1
C.	(1)	Drive Sprocket	60 BTB 22 2012
D.	(1)	Drive Sprocket Taper Bushing	2012 1-3/8"
E.	(1)	Drive Chain	RC #60, 10'
F.	(1)	Driven Sprocket	60 BTB 27 2012
G.	(1)	Driven Sprocket Taper Bushing	2012 1-11/16"
H.	(2)	Airlock Shaft Bearings	1-11/16" F4B-GT-111
I.	(6)	Airlock Wipers	Made as needed
J.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W
K.	(1)	Plug Detector (Dynatrol)	#CL-10DJ

#4 Baghouse System Spare Parts List

Make: **Donaldson, Inc. Day Div.**
Model: **484-RFT-12**
Serial:
Job #:

Konus Induced Draft (ID) Fans (M1314 & M1414)

A.	(1)	Electric Motor	460/3/60, 125hp, 1785rpm, 444T Frame
B.	(1)	Drive Sheave	5 5V 1130 E
C.	(1)	Drive Sheave Taper Bushing	E 3-3/8"
D.	(5)	Drive Belts	5VX1500
E.	(1)	Driven Sheave	5 5V 12.5 3535
F.	(1)	Driven Sheave Taper Bushing	3535 3-15/16"
G.	(1)	Fan Shaft	Make as needed
H.	(1)	Fan Shaft Bearing (sheave side)	P4BS2315R (#044704)
I.	(1)	Fan Shaft Bearing (fan side)	P4BS2315RE (#044681)

Reverse Blower Assembly (M1431)

A.	(1)	Electric Motor	460/3/60, 5hp, 1725rpm, 184T frame
B.	(1)	Drive Sheave	2 B 5.5 SDS
C.	(1)	Drive Sheave Taper Bushing	SDS 1 5/16"
D.	(2)	Drive Belts	B52
E.	(1)	Driven Sheave	2 B 9.4 SK
F.	(1)	Driven Sheave Taper Bushing	SK 1 3/8"
G.	(1)	Blower Complete (MD Pneumatics)	Model #: 3206-46L3
H.	(1)	Blower Inlet Filter (NAPA)	6078

Sweep Arm Assembly (M1429)

A.	(1)	Electric Motor	Baldor (Ex. Pf.) #VM7002A
B.	(1)	Gearbox Complete	Boston #FWC721-600-B5-G
C.	(1)	Drive Sprocket	Part #: 50 BS 24 1"
D.	(1)	Drive Chain	RC #50 x 10' long
E.	(1)	Driven Sprocket	Part #: 8PP-29072-00
F.	(1)	Idler Assembly	Part #: 8PP-29077-00
G.	(1)	Solenoid valve, Asco	Part #: 67566
H.	(1)	Timer (w/o box)	Part #: 66839
I.	(1)	Secondary Diaphragm Assembly	Part #: 67202
J.	(1)	Main Diaphragm	Part #: 67075
K.	(1)	Pilot Spring	Part #: 67071
L.	(1)	Main Spring	Part #: 67072
M.	(1)	Bronze Bearing	Part #: 67101
N.	(1)	Bearing, CB504	Part #: 31112
J.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W

#4 Baghouse System Spare Parts List

Filters

A.	(484)	Filter Tubes	070-061-03 145" 12CD14oz Nomex SI
B.	(10)	Filter Cage	Part #: 4MA-56417-07

Baghouse Airlock (M1420)

A.	(1)	Electric Motor	460/3/60, 3hp, 1725rpm, 56TC Frame
B.	(1)	Gearbox Complete	Boston F332-50-C1
C.	(1)	Airlock Complete	Wm. W Meyer #18x18 S/N175904-1
D.	(1)	Drive Sprocket	80 BTB 12
E.	(1)	Drive Sprocket Taper Bushing	TB 1615 1-1/2" bore
F.	(1)	Drive Chain	RC #80 5' Long
G.	(1)	Driven Sprocket	80 SF 45
H.	(1)	Driven Sprocket Taper Bushing	SF 2-1/2"
I.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W
J.	(1)	Plug Detector (Dynatrol)	#CL-10DJ

#5 Baghouse System Spare Parts List

Make: **Donaldson, Inc. Day Div.**
Model: **72-RJ-72 CFSX**
Serial:
Job #:

Induced Draft (ID) Fan Assembly (M4443)

A.	(1)	Electric Motor	460/3/60, 60hp, 1775rpm, 364T Frame
B.	(1)	Drive Sheave	4 5V 8.0 2517
C.	(1)	Drive Sheave Taper Bushing	2517 2 3/8"
D.	(5)	Drive Belts	5VX1320
E.	(1)	Driven Sheave	4 5V 12.5 3020
F.	(1)	Driven Sheave Taper Bushing	3020 2 15/16"
G.	(1)	Fan Shaft	Made as needed
H.	(1)	Fan Shaft Bearing (Fan side)	REX MA2215
I.	(1)	Fan Shaft Bearing (Sheave side)	REX ZA2215

Reverse Blower Assembly (M4323)

A.	(1)	Electric Motor	460/3/60, 10hp, 3500, 215T Frame
B.	(1)	Blower Complete (Cincinnati Fan)	4AP CWTH 4

Sweep Arm Assembly (M4322)

A.	(1)	Electric Motor	460/3/60, 0.5hp, 1725, 56C Frame
B.	(1)	Gearbox Complete	Boston # FWC721600B5G
C.	(1)	Drive Sprocket	Part #: 34261 (16T)
D.	(1)	Drive Chain	RC #60 x 10' long
E.	(1)	Driven Sprocket	Part #: 31110 (84T)
F.	(1)	Chain Tensioner	Part #: 34735
G.	(1)	Extension Spring	Part #: 36400
H.	(1)	Cam Follower Roller	Part #: 31129
I.	(1)	Bronze Bearing	Part #: 31108
J.	(1)	Bearing, CB504	Part #: 31112
K.	(1)	Pivot Shaft Seat Assembly	Part #: 31113
L.	(1)	Stub Shaft	Part #: 31109
M.	(1)	Outer & Center Butterfly Assembly	Part #: 36410
N.	(1)	Inner Ring Buttery Assembly	Part #: 35936
O.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W

Filters

A.	(144)	Filter Tubes	Part #: 070-028-02 16oz polyfelt
B.	(10)	Filter Cage	Part #: 30893
C.	(10)	Tube Take-Up Rod	3/8"-16 x 6' threaded rod

#5 Baghouse System Spare Parts List

Airlock (M4324)

A.	(1)	Electric Motor	460/3/60, 2hp, 1750rpm, 145TC Frame
B.	(1)	Gearbox Complete	Dodge Quantis S/N 6837701
C.	(1)	Drive Sprocket	60 B 14, 1-1/4" Bore
D.	(1)	Drive Chain	RC #60, 1 master, 29 links
E.	(1)	Driven Sprocket	60 BTB 24 2012
F.	(1)	Driven Sprocket Taper Bushing	2012 1-7/16"
G.	(2)	Airlock Shaft Bearings	2 7/16" F4B-SC-207 (#124217)
H.	(6)	Airlock Wipers	L-P Drawing #4324-001
I.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W
J.	(1)	Plug Detector (Dynatrol)	#CL-10DJ

#6 Baghouse System Spare Parts List

Make: **Flex-Kleen**
Model: **84-BVBS-25-IIG**
Serial: **M34706**
Job #: **57350 (MEC Company)**

Induced Draft (ID) Fan Assembly (M4443)

A.	(1)	Electric Motor	460/3/60, 5hp, 3455rpm, 184T Frame
B.	(1)	Blower Impeller	Dayton Mod #602-14-4003-5

Reverse Blower Assembly (Compressed Air)

A.	(1)	Solenoid Valve	Part #: E20929
B.	(1)	Diaphragm Valve	Part #: M14909

Filters

A.	(24)	Filter Tubes (Flex-Kleen)	Part #: B21119 (6" dia., 86" Long)
B.	(2)	Filter Cage (Flex-Kleen)	Part #: C10111
C.	(2)	Bag Clamp (Flex-Kleen)	Part #: M12803

#7 Baghouse System Spare Parts List

Make: **Flex-Kleen**
Model: **58-BVBS-25-IIG**
Serial: **300355**
Job #:

Induced Draft (ID) Fan Assembly (M4123)

A.	(1)	Electric Motor	460/3/60, 3hp, 3450rpm, 56C Frame

Reverse Blower Assembly (Compressed Air)

A.	(1)	Solenoid Valve	Part #: E20929
B.	(1)	Diaphragm Valve	Part #: M14909

Filters

A.	(25)	Filter Tubes (Flex-Kleen)	#B21217 (5-3/4" dia., 58" Long)
B.	(2)	Filter Cage (Flex-Kleen)	Part #: C10219
C.	(2)	Bag Clamp (Flex-Kleen)	Part #: M12803

#8 Baghouse System Spare Parts List

Mfg.:	**Donaldson, Inc. Day Div.**
Model:	**376-RFW-10**
S/N:	**IG1854201**
Filter Part No.:	**PO30664-016-210**

Induced Draft (ID) Fan Assembly (M6501)

A.	(1)	Electric Motor	460/3/60, 150hp, 1785 rpm, 445T Frame
B.	(1)	Drive Sheave	6-5V-10.9-E
C.	(1)	Drive Sheave Taper Bushing	E 3-3/8"
D.	(3)	Drive Belts	5VX1700
E.	(1)	Driven Sheave	6-5V-11.3-E
F.	(1)	Driven Sheave Taper Bushing	E 3-7/16"
G.	(1)	Fan Shaft	Made at the plant as needed
H.	(2)	Fan Shaft Bearings (Link-Belt)	PLB6855R

Reverse Blower Assembly (M6503)

A.	(1)	Electric Motor	460/3/60, 5hp, 1750rpm, 213T frame
B.	(1)	Drive Sheave	2 B 9.4 SK
C.	(1)	Drive Sheave Taper Bushing	SK 1-3/8"
D.	(2)	Drive Belts	BX54
E.	(1)	Driven Sheave	2 B 6.4 SDS
F.	(1)	Driven Sheave Taper Bushing	SDS 1 5/16"
G.	(1)	Blower Complete (MD Pneumatics)	Model #: 3206-46L3
H.	(1)	Blower Inlet Filter (NAPA)	6078

Sweep Arm Assembly (M6502)

A.	(1)	Electric Motor	Baldor (Ex. Pf.) #VM7002A
B.	(1)	Gearbox Complete	Boston #FWC 721B-600S B5 J1
C.	(1)	Drive Sprocket	Part #: 8PP-29073-00 (#50-24T)
D.	(1)	Drive Chain	RC #50 x 92 links & master
E.	(1)	Driven Sprocket	Part #: 8PP-29072-00 (#50-70T)
F.	(1)	Chain Tensioner	Part #: 8PP-29077-00
G.	(1)	Solenoid valve, Asco	Part #: 8PP-29082-01
H.	(1)	Timer (w/o box)	Part #: 8PP-29240-00
I.	(1)	Secondary Diaphragm Assembly	Part #: 3EA-29021-00
J.	(1)	Main Diaphragm	Part #: 8PP-29046-02
K.	(1)	Pilot Spring	Part #: 8PP-29045-02
L.	(1)	Main Spring	Part #: 8PP-29046-02
M.	(1)	Bronze Bearing	Part #: 8PP-29051-00
N.	(1)	Bearing Assembly, Pivot Shaft	Part #: 3EA-29079-01
O.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W

#8 Baghouse System Spare Parts List

Filters

A.	(376)	Filter Bag (DuraLife)	Part #: P030664-016-210
B.	(10)	Filter Cage	Part #: 4MA-56417-05

Airlock (M6504)

A.	(1)	Electric Motor	460/3/60, 2hp, 1725rpm, F145TC frame
B.	(1)	Gearbox Complete	Dodge Quantis #HB482CN140TC
C.	(1)	Drive Sprocket	60 B 17, 1-1/4" Bore
E.	(1)	Drive Chain	RC #60 x 52 links & Master
F.	(1)	Driven Sprocket	60 B 70, 2-7/16" Bore
H.	(2)	Airlock Shaft Bearings	Dodge #F4B-SC-207 (#124217)
I.	(6)	Airlock Wipers	Made as needed
J.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W
K.	(1)	Plug Detector (Dynatrol)	#CL-10DJ

#9 Baghouse System Spare Parts List

Make: **Donaldson, Inc. Day Div.**
Model: **124-RFW-10**
Serial:
Job #:

Induced Draft (ID) Fan Assembly (M3204)

A.	(1)	Electric Motor	460/3/60, 40hp, 1800 rpm, 324T Frame
B.	(1)	Drive Sheave	3-B-11.0-SK
C.	(1)	Drive Sheave Taper Bushing	SK 2-1/8"
D.	(3)	Drive Belts	BX100
E.	(1)	Driven Sheave	3-B-7.0-SK
F.	(1)	Driven Sheave Taper Bushing	SK 2-3/16"
G.	(1)	Fan Shaft	Made at the plant as needed
H.	(1)	Fan Shaft Bearing (Sheave Side)	PEU335 (Link-Belt)
I.	(1)	Fan Shaft Bearing (Fan Side)	PU335 (Link-Belt)

Reverse Blower Assembly (M3202)

A.	(1)	Electric Motor	460/3/60, 3hp, 1750rpm, 182T frame
B.	(1)	Drive Sheave	2 B 4.8 SDS
C.	(1)	Drive Sheave Taper Bushing	SDS 1-1/8"
D.	(2)	Drive Belts	A38
E.	(1)	Driven Sheave	2 B 4.8 SDS
F.	(1)	Driven Sheave Taper Bushing	SDS 15/16"
G.	(1)	Blower Complete (MD Pneumatics)	Model #: 3204-46L3
H.	(1)	Blower Inlet Filter (WIX)	46078

Sweep Arm Assembly (M3201)

A.	(1)	Electric Motor	Baldor (Ex. Pf.) #VM7002A
B.	(1)	Gearbox Complete	Boston #FWC 721B-600S B5 J1
C.	(1)	Drive Sprocket	Part #: 8PP-29233-00 (#50, 24T)
D.	(1)	Drive Chain	Part #: 8PP-29078-01, #50, 78 Links
E.	(1)	Driven Sprocket	Part #: 8PP-29232-00 (#50, 60T)
F.	(1)	Chain Tensioner	Part #: 8PP-29077-00
G.	(1)	Solenoid valve, Asco	Part #: 8PP-29082-01
H.	(1)	Timer (w/o box)	Part #: 8PP-29240-00
I.	(1)	Secondary Diaphragm Assembly	Part #: 3EA-29036-00
J.	(1)	Main Diaphragm	Part #: 3EA-29039-00
K.	(1)	Pilot Spring	Part #: 8PP-29045-01
L.	(1)	Main Spring	Part #: 8PP-29046-01
M.	(1)	Bronze Bearing	Part #: 8PP-29060-01
N.	(1)	Pivot Bearing Assembly	Part #: 3EA-29079-01
O.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W

#9 Baghouse System Spare Parts List

Filters

A.	(124)	Filter Bag (DuraLife)	Part #: P030664-016-210
B.	(10)	Filter Cage	Part #: 4MA-56417-05

Airlock (M3203)

A.	(1)	Electric Motor	460/3/60, 1hp, 1740rpm, 56C frame
B.	(1)	Gearbox Complete (Boston)	Mod #:F726B40SB56, S/N: 94741207
C.	(1)	Drive Sprocket	60 B 16, 1-1/8" straight bore
E.	(1)	Drive Chain	RC #60 x 39 links & Master
F.	(1)	Driven Sprocket	60 B 32, 1-11/16" straight bore
H.	(2)	Airlock Shaft Bearings	Fafnir #RCJC 1-11/16"
I.	(6)	Airlock Wipers	Made as needed
J.	(1)	Motion Sensor (Pepperl-Fuchs)	#NJ40-U4-W
K.	(1)	Plug Detector (Dynatrol)	#CL-10DJ

APPENDIX B

LP BUILDING PRODUCTS

Thermal Oil Heater System

Date: _____ Shift: **Day** **Evening** **Night** Crew: _____
circle one

Operator: _____

Time	Bark Use Unit # 1	Bark Use Unit # 2	Pond Temperature #1	Pond Temperature #2
7:00				
8:00				
9:00				
10:00				
11:00				
12:00				
1:00				
2:00				
3:00				
4:00				
5:00				
6:00				
Total				

Temperature	Set Point	Temp
Return Oil		
Feed Oil		
Space Heat		
Pond #1		
Pond #2		
	#1	#2
Flue Gas		
Blend Air		
Economizer		
Refractory		

Running Time (minutes)	#1	#2	Total
Wood Fuel			
Backup Fuel			

Gas Usage (cf)	Konus	Geka	
Begin		Begin	
End		End	
Use		Use	

Fuel used to ignite Konus

Type: _____

Amount:

Pond Flow Meters Digital Readout	
Pond #1	
Pond #2	

ASH OUTPUT FROM

	Baghouse	Cyclone
Time:		

Emergency Diesel Pump	Checked	Filled
Fuel Level		
Oil Level		
Test Run?	Yes ☐	

Tank Level (inches)	Bark Feed Screw Revolutions	Unit # 1	Unit # 2
Thermal Oil Tank _____	Begin		
	End		
Blow out Bark Scale ☐	Use		

Operation

Space Heat Pump	#1 ☐	#2 ☐			I.D. Damper	Open ☐	Closed ☐	Auto ☐	Off ☐	
Baghouse	Bypass ☐	Auto ☐			I.D. Fan	Open ☐	Closed ☐	Auto ☐	Off ☐	
Combustion Air Fan	Manual ☐	Auto ☐	Off ☐		Fill Drain Pump #1	Drain ☐	Fill ☐	Auto ☐	Off ☐	
Combustion Air Damper	Manual ☐	Auto ☐	Off ☐		Fill Drain Pump #2	Drain ☐	Fill ☐	Auto ☐	Off ☐	
Feed Rate	Manual ☐	Auto ☐			Deash	Manual ☐	Auto ☐	Off ☐		
Blend Air Damper	Open ☐	Closed ☐			Baghouse Pulser	On ☐	Off ☐			
Bark Bin Outfeed	Manual ☐	Auto ☐	Off ☐							

Comments: Check here and write on back ☐

LP BUILDING PRODUCTS

Newberry Siding Plant

BAGHOUSE PREVENTATIVE MAINTENANCE REPORT

DATE: _____ Name: _____

Time: _____

SHIFT: **DAY** **EVENING** **NIGHT** (Circle One)

CREW: **A** **B** **C** (Circle One)

BAGHOUSE #	**BAGHOUSE NAME**
#3	**Bark Bin**
#4	**Konus**

Daily Preventative Maintenance

	Task	Baghouse Number #3		Baghouse Number #4	
	*Normal operating ranges for B.H. 3 and 4	.5-3.0		1.0-4.0	
1	RECORD MAGNEHELIC READING				
2	IS BH OPERATING PROPERLY	Y	N	Y	N
3	HAS BH DELUGE GONE OFF? IF YES PUT IN TIME	Y	N	Y	N
4	ANY VISIBLE EMISSIONS (DAY SHIFT ONLY)	Y	N	Y	N
5	ANY DISCHARGE FROM BAGHOUSE	Y	N	Y	N

Malfuntion reporting: If any Maintenance or electrical work is done on a Baghouse.
Describe in detail what work was done to restore baghouse to normal operation.

Shut down Time:	Start up time:	BH #	W/O #:

☐ **Check box for Additional comments on back**

*If operating higher than normal operating conditions contact your Supervisor.

APPENDIX C

LP BUILDING PRODUCTS

Newberry Siding Plant C:\Mydocuments\oforms\pmpchecklists\etube **E-Tube Operating Report**

Operator	Crew	Date
Days 7-3 Evenings 3-11		
Nights 11-7		

	QUENCH		Inlet	Outlet	Bypass	Mesh	Transformer/Rectifiers								
	Inlet ° F	Outlet ° F	inches W.C.	inches W.C.	inches W.C.	Pad diff. P	Spark Rate	No. 1 kV	mA	Spark Rate	No. 2 kV	mA	Primary Current	Check Chart	
Normal Range	210 to 280	150 to 180	8 to 13	17 to 30	0.1-4	.2 to .4	25 to 35 per min.	30 to 60 kV	100 to 400 mA	25 to 35 per min.	30 to 60 kV	100 to 400 mA	20 to 130 amps	✓	Foam over Y or N
Time															
7:00															
8:00															
9:00															
10:00															
11:00															
12:00															
13:00															
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1:00															
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3:00															
4:00															
5:00															
6:00															
Ave:															

Crew

Normal Chemical and Water usage: Defoamer: 30-60 gal Caustic: 40-60 gal. Make-Up: 0-1500 Flush: 9000-11500

Chemicals	Start	End	Total	Water	Start	End	Total	Caustic	Start	End
Defoamer*				Make up				Day Tank		
Caustic				Flush				Bulk Tank		

	DAY	NIGHT
Recycle Water		
% solids		
Time		

Comments: Check Here ☐ and Write on Back

	Strainer Cleaned
Day Shift	
Night Shift	

Defoamer	*Full*	*3/4*	*1/2*	*1/4*	*EMPTY*	Tote *Change*
Day Shift						
Night Shift						

Defoamer: Place a check ✓ for tote that is in use. Place a X for tote not running

PLEASE NOTE IF THERE WAS A DEFOAMER TOTE CHANGE.

APPENDIX D

LP BUILDING PRODUCTS

	1st	2nd	3rd
CREW			

Newberry Siding Plant — RTO Operating Report

Operator		Operator	Operator
Date	Day 7-3	Evening 3-11	Night 11-7

	Normal Rang	Permit Limit	8:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00	0:00	2:00	4:00	6:00
Cmbr #1 Temp (+/-25°)	350-600°	-												
Cmbr #2 Temp(+/-25°)	350-600°	-												
Cmbr #3 Temp(+/-25°)	350-600°	-												
Cmbr #4 Temp(+/-25°)	350-600°	-												
Cmbr #5 Temp(+/-25°)	350-600°	-												
Inlet Pressure	>0.5	-												
Burner #1 Temp	1510-1550°	-												
Burner #2 Temp	1510-1550°	-												
Inlet Temp (WESP)	<180°	<180°												
Chamber Temp**	**>1530°**	**>1525**												
Exhaust Temp	230-300°	-												
RTO Dif. Press	10-34"	-												
Burner Set Point	1525-1540	-												
Burner # 1 Out	<100	-												
Burner # 2 Out	<100	-												
VFD Amps	<770	-												
VFD RPM	<1780	-												
P/V Setpoint	1.1	-												
P/V Output	<95	-												
Dryer to RTO (y/n)														
Chamber Purge Fan														
Gas Meter Reading														
Chart Operating? (y/n)	Y	Y												
Chart Time														
Air flow rate CFM E-Tube														

Fan Bearing #1 Temp		Fan Bearing #2 Temp		**Motor Bearing #1Temp**		**Motor Bearing #2 Temp**	
---	---	---	---	---	---	---	---

Take Bearing Temps at 2:00 AM

Comments:

****If the RTO chamber temperature falls below an average of 1525 degrees fahrenheit for 1 half hour, the dryer is to shut down according to the facility air permit requirements**

****Contact appropriate departments as soon as possible during RTO chamber temperature permit deviations**

All lower bed chambers (1-5) are operating at improved performance when within 25 degrees F of one another

APPENDIX E

LP BUILDING PRODUCTS

Newberry Siding Plant

BAGHOUSE PREVENTATIVE MAINTENANCE REPORT

DATE: _____ Name: _____

Time: _____

SHIFT: **DAY** **Evening** **NIGHT** (Circle One) CREW: **A** **B** **C** (Circle One)

BAGHOUSE # _____ _____ BAGHOUSE #

- **# 1** Line Cleanup
- **# 2** Flying Cut Off Saw / Forming Line
- **# 5** Dryer Area
- **# 6** Dryer Burner Fuel Bin
- **#8** Sawline
- **#9** Metering Bin/Fines Recovery

Daily Preventative Maintenance

	Task	Baghouse Number #1		#2	
	*Normal operating ranges for B.H. 1 and 2	1.5 - 5.0		1.5 - 5.0	
1	RECORD MAGNEHELIC READING				
2	IS BH OPERATING PROPERLY	Y	N	Y	N
3	HAS BH DELUGE GONE OFF? IF YES PUT IN TIME	Y	N	Y	N
4	ANY VISIBLE EMISSIONS (DAY SHIFT ONLY)	Y	N	Y	N
5	ANY DISCHARGE FROM BAGHOUSE	Y	N	Y	N
6	CLEAN PULSE FILTER DAILY	Y	N		

CONVEYER MAGNEHELIC READINGS

4401 SBO		**4403 BST**		**4213 BCT**	
4402 CBO		**4212 TST**			

		#5	#6	#8	#9
	*Normal operating ranges for B.H. 5,6,8&9	3.0-4.0	0.5-2.0	1.0-4.0	0.5-4.0
1	RECORD MAGNEHELIC READING				
2	IS BH OPERATING PROPERLY	Y/N	Y/N	Y/N	Y/N
3	HAS BH DELUGE GONE OFF? IF YES PUT IN TIME	Y/N	Y/N	Y/N	Y/N
4	ANY VISIBLE EMISSIONS (DAY SHIFT ONLY)	Y/N	Y/N	Y/N	Y/N
5	ANY DISCHARGE FROM BAGHOUSE	Y/N	Y/N	Y/N	Y/N
6	BLOW OUT FILTERS EACH SHIFT			Y/N	

Malfunction reporting: If any Maintenance or electrical work is done on a Baghouse.

Describe in detail what work was done to restore baghouse to normal operation.

Shut down time:	Start up time:	BH #	W/O #:

_____

_____

_____

_____

☐ **Check box for Additional comments on back**

*If operating higher than normal operating conditions contact your Supervisor.

Fugitive Dust Control Plan

BUILDING PRODUCTS

Environmental Department

FUGITIVE PARTICULATE MATTER CONTROL PLAN[1]

LOUISIANA-PACIFIC CORPORATION
NEWBERRY, MICHIGAN
Permit Number: MI-ROP-N0780-2011

1. Speed limits of 5 MPH will be maintained in the log storage area.

2. The log storage areas have gravel base cover and logs will be decked to provide windbreaks within the log yard traveled ways.

3. Speeds on paved surfaces will be controlled to minimize particulate airborne matter.

4. All traveled ways on site other than the log storage areas are paved with bituminous concrete pavement, concrete pavement or are graveled.

5. All other areas other than the log storage area and traveled ways have been seeded with grass or planted with shrubs and trees.

6. A fully enclosed building is used to collect ash.

7. Water and Calcium carbonate will be used for fugitive dust control as deemed necessary on traveled ways and storage piles.

[1] As drafted by the Michigan Department of Environmental Quality
[2] Permit No. changed to match current ROP.