5-5-87

STATE OF MISSISSIPPI
DEPARTMENT OF NATURAL RESOURCES
BUREAU OF POLLUTION CONTROL
P.O. BOX 10385
JACKSON, MISSISSIPPI 39209

For Agency Use
FACILITY NUMBER

Date Received

Month Day Year

APPLICATION FOR PERMIT TO CONSTRUCT AND/OR
OPERATE AIR EMISSIONS EQUIPMENT - GENERAL FORM

APPLICATION FOR: _____CONSTRUCTION _____PERMIT RENEWAL - PLEASE CHECK APPROPRIATE BOX

1. Name, Address, Location, and Telephone Number
   A. Name HERCULES INC
   B. Mailing Address of Applicant
      1. Street Address or P.O. Box 1937
      2. City HATTIESBURG 3. State Ms
      4. Zip Code 39401 5. Telephone No. 601 545 3450
   C. Location of Facility
      1. Street WEST 7th STREET
      2. City HATTIESBURG 3. State Ms
      4. Zip Code 39401 5. Telephone No. 601 545 3450
   D. If the facility is located outside the City limits, please provide a sketch or description showing the approximate location and attach to this application.
2. SIC Code 2861
3. Number of Employees 475
4. Principal Product ROSIN DERIVATIVES
5. Principal Raw Materials ROSIN
6. Principal Process ROSIN DERIVATIVES
7. Maximum amount of principal product produced or raw material consumed per day _____
8. (A) Check here if operation which generates air pollutant emissions occurs all year X, or specify the months the operation occurs: _____
   (B) Specify how many days per week the operation occurs: 7
   (C) Specify how many hours per day the operation occurs: 24
9. If this application is for existing facility permit renewal only, has the facility been modified in any way (including production rate, fuel, and/or raw material changes) during period covered by the Operating Permit _____Yes _____No or since 1972? _____Yes _____No If Yes, give year(s) in which modification(s) occurred. _____
10. ALL APPLICATIONS MUST BE SIGNED BY THE APPLICANT.

I certify that I am familiar with the information contained in the application and that to the best of my knowledge and belief such information is true, complete, and accurate, and that I am the owner or chief corporate officer, or his designated representative, responsible for complying with air pollution control laws and regulations.

GR YANDLE
Printed Name of Person Signing

PLANT MANAGER
Title

5-11-87
Date Application Signed

GR Yandle
Signature of Applicant

PLEASE COMPLETE FOLLOWING PAGES WHERE APPLICABLE

FOR ALL APPLICANTS, WHETHER NEW CONSTRUCTION, EXISTING FACILITY, OR RENEWAL

CONTROL EQUIPMENT COVERED UNDER THIS APPLICATION - PLEASE CHECK ALL APPLICABLE AND INDICATE NUMBER OF UNITS.

PARTICULATE EMISSIONS CONTROL EQUIPMENT

1. Cyclone(s) _____
2. Water Scrubber _____
3. Baghouse _____
4. Electrostatic Precipitator _____
5. Venturi Scrubber _____
6. Cyclonic Baghouse _____
7. Cyclonic Scrubber _____
8. Other _____

GASEOUS EMISSIONS CONTROL EQUIPMENT

1. Water Scrubber __/__
2. Activated Carbon Bed __/__
3. Other _____

WASTE DISPOSAL SYSTEMS

1. Solid Waste Incinerator _____
2. Liquid Waste Incinerator _____
3. Wood or Other Waste Fuel Recovery Boiler _____
4. Gaseous Waste Flare _____
5. Liquid Waste Flare _____
6. Other _____

Pneumatic Conveying System _____

Other (please describe)

FOR ALL APPLICANTS

FUEL BURNING EQUIPMENT
(Except for Refuse Disposal)

This form has 3 pages; each is a continuation of the equipment information from the page before. Please fill in as completely as possible, listing all fuel burning equipment. Reasons should be given explaining any data not filled in.

PAGE 1

1. Fill in company name and address, plus year for which data is given (if existing facility) at top of page. Use data for most recent calendar year available.
2. Reference Number. Use an identifying number for each boiler, furnace, kiln, etc., and use the same reference number on each of the three pages to identify information for the same unit.
3. Manufacturer and Model Number. Nameplate data for boiler, furnace, kiln, etc. Waste gas flares and stationary internal combustion engines should also be included on this form.
4. Rated Capacity in Millions of BTU per hour.
5. Type of Burner Unit. Use Codes (1*) at bottom of form. If not listed put (11) and specify.
6. Usage. Type of fuel burning equipment. Use codes (2*) at bottom of form. If not listed put (5) and specify.
7. Heat Usage. Percent of heat used for process and percent for space heating.

8. Reference Number. Continue reference numbers from Page 1, using same number to identify information for same unit.

9. Stack Parameters.
Stack Height in feet from ground.
Stack Inside Exit Diameter in feet.
Exit Gas Velocity in feet per second. (SCFM may be used if velocity is not known; specify units as SCFM if used.)
Exit Gas Temperature in degrees F.

10. Fuel Data
Fuel Type. Coal, Gas, #2 Oil, #6 Oil, etc.
Maximum Capacity burned per hour. Gallons, pounds, cubic feet, etc.
Specify. Average amount burned per year. Gallons, tons, million cubic feet, etc.
Specify. Heat Content of Fuel. BTU per gallon, pound, cubic foot, etc., Specify.
Average Percent Sulfur Content.
Average Percent Ash Content.
(If percent sulfur and percent ash are not known, list fuel type and supplier's name at bottom of page in spaces provided so that information may be obtained.)

11. Reference Number. Use same numbers as on Pages 1 and 2 to identify information for same unit.

12. Air Pollution Control Equipment.
Manufacturer and Model Number. Information from nameplate. Type. Use Table 1, Page 16. If a wet scrubber, specify gallons per minute of water flow and water pressure if known. Efficiency. Percent design control on pollutants and actual percent control if known.

13. Emission Rates.
Specify tons per year of each of the listed pollutants emitted per year.
Give basis of estimates of pollutants emitted (Material Balance, Stack Tests, Emission Factors, etc.)
(If unit is a kiln or similar unit in which combustion products and process losses vent through a common stack, emissions may be totaled and listed under process losses).

FUEL BURNING EQUIPMENT
(Except for Refuse Disposal)

Page 1

1 FACILITY NAME	Address	for Agency use Only
HERCULES	WEST 7th STREET HATTIESBURG MS	
FACILITY NUMBER	Information for Calender Year	Date
Emission Point 038	19 87	5/87

2 Reference Number	3 Manufacturer and Model Number	4 Rated Capacity 10^6BTU/hr	5 Type of Burner Unit (use code 1*)	6 Usage (use code 2*)	7 Most Usage	
					% Process	% Space heat
	NONE					

1* BURNER CODES

1. Cyclone furnace
2. Pulverized coal
3. Spreader Stoker
4. Hand fired
5. Other stoker (specify)
6. Multiple port gas
7. Forced draft gas
8. Atomizing Oil (Stove of Air)
9. Atomizing Oil (Mechanical)
10. Rotary Cup Oil
11. Others (specify)

2* USAGE CODES

1. Boiler, Steam
2. Boiler, Other (specify)
3. Air Heating for Space Heating
4. Air Heating for Process Usage
5. Others (specify)

FUEL BURNING EQUIPMENT

(FOR AGENCY USE ONLY)

038

Reference Number	Stack Parameters				Fuel Data					
	Stack Height Feet	Inside Exit Dia. Feet	Exit Gas Velocity Feet/Sec.	Exit Gas Temperature Degree F.	Fuel Type	Maximum Amount Per Hour (Specify Units)	Amount Per Year (Specify Units)	Heat Content BTU/Gal, etc. (Specify Units)	Percent Sulfur	Percent Ash
	None									

FUEL SUPPLIERS:

Fuel Type	Supplier

038

FUEL BURNING EQUIPMENT

(FOR AGENCY USE ONLY)

11	12				13			
Reference Number	Air Pollution Control Equipment				Emissions (Tons/Year)			Basis of Estimate
	Manufacturer and Model Number	Type* (Use Table 1)	Efficiency		Particulate	So_2	Other (specify)	
			Design	Actual				
	None							

*For Wet Scrubber give Gallons per minute Water Flow and Water Pressure if known.

FOR ALL APPLICANTS

MANUFACTURING PROCESS OPERATIONS

Page 1

1. Company Name and Address, plus year for which information is given (if existing facility) at top of page. Use data for must recent calendar year available.
2. Reference Number. Use an identifying number for each manufacturing process which emits matter to the air and use the same number on all three pages of this form to identify information for the same operation.
3. Process or Unit Operation Name. Identify the unit or process section for which information is given by name.
4. Rated Process Capacity. Give in tons per hour the maximum rated capacity of the process or unit identified, wet weight.
5. Feed Input. Process rate in wet tons per hour and wet tons per year of materials fed to the operation.
6. Number of Emission Points to Air. Number of stacks, vents, etc., which emit materials to air.
7. Product Output. Product rate in wet tons per hour and wet tons per year from the operation.

Page 2

8. Reference Number. Use same number as on Page 1 of form to identify information for same process or operation.
9. Stack Data (or outlet of air cleaning device).
   Stack Height in feet above ground.
   Stack Inside Diameter in Feet.
   Exit Gas Velocity in feet per second. (SCFM may be used if velocity is not known; specify units as SCFM if used).
   Exit Gas Temperature in degrees F.
10. Air Pollution Control Equipment.
    Manufacturer and Model Number. Nameplate Data.
    Type. Use Table 1, Page 16. If a wet scrubber, give water flow in GPM and water pressure.
    Collection efficiency. Design and actual collection efficiency if known.

Page 3

11. Reference Number. Use same number as on Pages 1 & 2 of form to identify information for same process or operation.
12. Process Emissions. Give in pounds per hour and tons per year the amount of emissions from the process or operation of each of the two pollutant categories so that process rates versus emission rates may be compared with Regulations. Identify the units of measure used.
    Give the basis of the estimates of pollutants emitted (stack tests, material balance, emission factors, etc.)

MANUFACTURING PROCESS OPERATIONS

Company Name	Address	FOR AGENCY USE
HERCULES	WEST 7th STREET HATTIESBURG MS	

FACILITY NUMBER	Information for Calendar Year	Date
Emission Point 038	19 87	5/87

Reference Number	Process or Unit Operation Name	Rated Process Capacity Tons/Hour	Feed Input		Number of Emission Points To Air	Product Output	
			Quantity Per Hour	Quantity Per Year		Quantity Per Hour	Quantity Per Year
1	See Confidential Attachment						

(FOR AGENCY USE ONLY)

MANUFACTURING PROCESS OPERATIONS

Reference Number	Stack Data				Air Pollution Control Equipment			
	Height Feet	Inside Unit Dia. Feet	Exit Gas Velocity Feet/Sec.	Exit Gas Temperature °F	Manufacturer and Model Number	Type* (use Table 1)	Collection Efficiency	
							Design	Actual
1	12	0.33	NIL	72	HERCULES WATER SCRUBBER	40	100	
1	25	0.5	1 (est.)	72	HERCULES TWO STAGE ACTIVATED CARBON ADSORPTION SCRUBBER	11	100	

*For Wet Scrubbers Give Gallons per minute Water Flow and Water Pressure if known.

MANUFACTURING PROCESS OPERATIONS

(FOR AGENCY USE ONLY)

11 12

Reference Number	Process Emissions*			Basis for Estimation	(Agency Comments Only)
	Particulates	Sulfur Oxides	Others (Specify by chemical composition)		
1	None Detected	None Detected		Stoichiometry	
1	None Detected	None Detected		Stoichiometry	

*Please Express Emissions as Tons per Year and Pounds per Hour and Identify Units Being Used.

FOR ALL APPLICANTS

REFUSE DISPOSAL AND INCINERATION

A. Company Name & Address plus year for which information is given if for renewal of permit, at top of page.

B. Type Waste. Describe type of waste materials (paper, garbage, wood crates, sawdust, coal refuse, etc.)

C. Maximum amount per day in pounds.

D. Average amount per year in tons.

E. Method of Disposal. Use codes at bottom of Form (1*).

Page 2

1. Type of Incinerator. Check which applies.

2. Manufacturer, Model Number, Capacity in pounds per hour and type waste on which capacity is based (Nameplate Data).

3. Average Quantity Burned in pounds per year.

4. Operating Schedule for Incinerator. Hours per day and days per year incinerator is in operation.

5. Auxiliary Fuel Data.
   Type. (Natural Gas, #2 Oil, etc.)
   Amount per year. Specify gallons, cubic feet, etc.
   Heat Content of Fuel. BTU per gallon, cubic feet, etc.
   Percent Sulfur. Average sulfur content of auxiliary fuel.
   Percent Ash. Average ash content of auxiliary fuel.
   Fuel supplier's name if ash and sulfur content are not known.

6. Pollution Control Equipment on Incinerator.
   Manufacturer of Control Device.
   Model Number of Control Device.
   Percent efficiency of control if known.
   Type. Venturi Scrubber, Baghouse, etc., as outlined on other forms.
   GPM water flow if control device is a wet scrubber.

7. Stack Data.
   Height in Feet above Ground.
   Inside Exit Diameter in Feet.
   Exit Gas Velocity in Feet per Second.
   Exit Gas Volume if Velocity not known.
   Exit Gas Temperature in Degrees F if known.

8. Estimated Emission from Refuse Incineration. Give amounts in tons per year and basis of estimates for each of the five listed pollutants.

A

REFUSE DISPOSAL AND INCINERATION

Company Name	Information for Year	(Agency Use Only)
HERCULES	1987	
Address	Date	
WEST 7th STREET HOPEWELL VA	5/87	

B

Description of Waste Materials

C D E

Type (Describe)	Maximum Amount Per Day (Pounds)	Amount Per Year (Tons)	Method of Disposal 1*
NONE			

If Waste Disposal is by Incineration, Specify the Following:

1. Type of Incinerator:
   - single chamber ☐
   - multiple Chamber ☐
   - Modified (describe) ☐
   - Other (describe) ☐
   - Rotary ☐
   - Flue Fed ☐

2. Manufacturer's Name: _____
   Model Number _____
   Rated Capacity _____

3. Quantity Burned: _____ Pounds / Hour _____ Type Waste
   _____ Pounds / Day
   _____ Tons / Year

4. Operating Schedule _____ Hours / Day
   _____ Days / Year

*1 Disposal Method Codes

1. Open Burning
2. Landfill (No Burning)
3. Incinerator (Complete rest of F...)
5. Burned in Boiler or Furnance
6. Other (Specify)

(AGENCY USE ONLY)

5. Auxiliary Fuel:
   - Type _____
   - Amount/Year (Specify Units) _____
   - Heat Content _____
   - Percent Sulfur _____
   - Percent Ash _____
   - Supplier's Name _____

6. Pollution Control Equipment:
   - Manufacturer _____
   - Model Number _____
   - % Efficiency _____
   - Type _____
   - GPM Water Flow (If Wet Scrubber) _____

7. Stack Data:
   - Height _____ Feet
   - Inside Exit Diameter _____ Feet
   - Exit Gas Velocity _____ Feet/Sec.
   - Exit Gas Volume _____ SCFM
   - Exit Gas Temp. _____ $^{o}F.$

8. Estimated Emissions From Refuse Incineration:

Name:			Basis of Estimates:
Particulates	_____	Tons/Year	_____
Sulfur Oxides	_____	"	_____

ADDITIONAL INFORMATION REQUIRED FOR APPROVAL TO CONSTRUCT

The following additional information must be submitted. Failure to submit any of the additional information or to conform to the instructions will result in initial denial of the application.

1. Site Plan - The drawing or sketch submitted must be to scale and show at least the following:

   A. The property involved and outlines and heights of all buildings. Identify property lines plainly.

   B. Location and identification of all existing or proposed points of discharge of air contaminants to the atmosphere.

   C. Location of streets and all adjacent properties. Show location of all buildings outside the property that are within 150 feet of the equipment involved in the application. Identify all such buildings (as a residence, apartment, warehouse, etc.), specifying number of stories. Indicate north, and prevailing wind direction.

2. Drawings of Equipment (See Note Below) - Supply an assembly drawing, dimensioned and to scale, and plan elevation in as many sections as are needed to show clearly the design and operation of the equipment and the means by which air contaminants are controlled. The following must be shown:

   A. Size and shape of equipment. Show exterior and interior dimensions and features.

   B. Locations, sizes, and shape details of all features which may affect the production, collection, conveying or control of air contaminants of any kind; location, size and shape details concerning all materials handling equipment.

   C. All data and calculations used in selecting or designing the equipment.

   D. Horsepower rating of all motors driving the equipment.

   NOTE: Structural design calculations and details are not required.

ADDITIONAL INFORMATION MAY BE REQUIRED.

3. Description of Process and Control equipment - The application must be accompanied by two copies of a written description of each process to be carried out in the facility and the function of the equipment used in the process. The descriptions must be complete and particular attention must be given to explaining all stages in the process where the discharge of any materials might contribute in any way to air pollution. Control procedures must be described in sufficient detail to show the extent of control of air contaminants anticipated in the design, specifying the expected efficiency of the control devices. All obtainable data must be supplied concerning the nature, volumes, particle size, weights, chemical composition and concentrations of all types of air contaminants.

4. Two copies of a block flow diagram showing the steps of the process and the flow of materials through the process and any control devices must be supplied.

NOTE: THE APPLICATION FORM, SITE PLAN, AND EQUIPMENT MUST BE SIGNED AND STAMPED BY AN ENGINEER REGISTERED IN THE STATE OF MISSISSIPPI.

ADDITIONAL INFORMATION

1. Two copies of construction site plot plan.
2. Two copies of detailed equipment drawings.
3. Two copies of a detailed explanation of the process and control equipment.
4. Two copies of a flow diagram of the of the process or operation showing control devices.

SIGNATURES: If for construction, the application must be submitted in duplicate and both copies should also be signed and stamped by an engineer registered in the State of Mississippi. If application is for Existing Facility or Renewal of Permit to Operate, registered engineer's signature not required. All signatures and stamps must be originals on all copies, not photocopies.

Charles A. McMahan 5249
TYPED NAME & MISSISSIPPI REGISTRATION NUMBER

Charles A. McMahan
SIGNATURE OF ENGINEER REGISTERED IN MISSISSIPPI

Seal of Engineer
Registered in Mississippi

TABLE 1

CODE NUMBERS FOR CONTROL DEVICES

Vapor Control Equipment

00 Group – CONTROL BY COMBUSTION

01 catalytic combustion
02 furnace combustion
03 boiler firebox
04 steam injection flare
05 venturi flare
06 direct flame combustion (afterburner)

10 Group – ADSORBERS

10 activated carbon – nonregenerative
11 activated carbon – regenerative
12 silica gel – nonregenerative
13 silica gel – regenerative
14 lithium chloride
15 activated alumina
16 activated bauxite

20 Group – ABSORBERS

20 sieve plate tower
21 bubble-cap tower
22 packed tower

Particulate Matter – Liquid Mist Control Equipment

30 Group – DRY SEPARATORS AND FILTERS

30 simple cyclones
31 high efficiency cyclones
32 settling chamber
33 simple filters
34 baghouse (shaking)
35 baghouse (reverse jet)
36 dry collector (dynamic)

40 Group – WET COLLECTORS

40 spray chamber – no baffles
41 spray chamber – with baffles
42 wet cyclones – rotoclone
43 wet dynamic precipitator
44 venturi scrubber
45 spray tower (not absorption – scrubbers)
46 packed tower (not absorption – scrubbers)
47 condensors (tube and shell); air
48 barometric condensor with hot wells

50 Group – ELECTRICAL PRECIPITATORS

50 single stage
51 double stage
52 precipitron

60 Group

60 Counteractant

70 Group – SPECIAL

71 Jet exhausters (air dilution)
72 Mist eliminators

80 Group – Other
Specify