ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

MINUTE ORDER NO. 74-46

LOCATION SUBJECT: ORDER

September 27, 1974

FINDINGS: The Department has received continuing complaints regarding the atmospheric emissions of the bromine industries located in the El Dorado-Magnolia area, which complaints have been increasing in number and intensity. The emissions from these facilities are of a toxic and corrosive nature representing harm to the public's health and welfare or, at the very least, the potential for such harm. The operators of at least two such facilities claim the emissions to be caused by upset conditions beyond the control of such operators. Furthermore, this industry has experienced and is continuing to experience growth in production and expansion of facilities in the El Dorado-Magnolia area. Consequently, the Department finds that the emissions from these facilities will be increased and the air quality diminished unless extraordinary actions of the Commission are taken.

ORDER: Therefore, the Commission on Pollution Control and Ecology hereby orders and directs Arkansas Chemical in El Dorado, Bromet Company in Magnolia, Dow Chemical in Magnolia, Great Lakes Chemical Corporation in El Dorado and Michigan Chemical in El Dorado to undertake the following measures forthwith:

(1) Each named facility shall submit, on or before November 1, 1974, to the Department a written report containing a complete description and location of all operations under the ownership or direction of the named facilities, which operations shall include wells, transportation systems, bromine production facilities and those related operations which create or have the potential for emitting to the atmosphere sour gas (reduced sulfur compounds), sulfur oxides, halogens or halogen-related compounds. The report shall identify each point of emission and for each point of emission there shall be identified the range of quantities and nature of emissions, the control devices associated with said emission point and procedures which can reasonably and immediately be employed to reduce or cease emissions during the event of upset conditions, regardless of the nature or cause of the upset conditions. Each reporting facility shall itemize current permits issued by the Department.

(2) Each named facility, individually or collectively, shall submit on or before November 1, 1974, to the Department for its approval, a program by which ambient air quality shall be representatively and continuously monitored in the area of the facilities.

(3) Each named facility shall submit on or before November 1, 1974, to the Department for its approval, an emission monitoring program, which program shall include the sampling methods and frequency for each point of emission.

COMMISSIONERS

Chairman

Submitted by: Date passed: 9-27-74

(4) After receipt of this order, each named facility shall notify the Department of each emission caused by upset conditions as soon as possible and in any event no longer than one hour after an upset occurs. Such notification shall be made by telephone and confirmed by letter. (Procedures for such notification will be given to each named facility.)

(5) Each named facility shall submit to the Department, for its approval, on or before January 1, 1975, a schedule indicating methods and timetables for the construction and installation of control equipment, which control equipment is designed for increased reduction of emissions under normal and upset conditions.

(6) The Department is hereby authorized to initiate appropriate enforcement actions upon the failure of any named source to fully comply with all the terms of this order.

COMMIS-
SIONERS

Chairman

Submitted by: Date passed:

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: ARKANSAS EASTMAN COMPANY

BATESVILLE

CSN: _____

FIRST SUBMITTAL: _____ AMENDED: _____

CASE REFERENCES: _____

SUMMARY: Arkansas Eastman proposes to construct a facility southeast of Batesville to manufacture various intermediate organic chemicals and hydroquinone. The organic intermediate chemicals will be manufactured by use of batch processes. There will be 26 batch reactors which can be interconnected with each other and with other equipment (distillation columns, filters, dryers, etc.) such that as many as 26 products can be produced at one time (or as few as three or four). Potentially, hundreds of different products could be produced with this equipment. See attachment I for a partial list of the classes of organic intermediates to be manufactured.

The emissions from this process equipment will be controlled by four 2' x 11' packed column scrubbers using caustic as a scrubbing medium. The batch reactors will have temporary openings for charging and unloading. Exhaust hoods are to be provided for these openings and the discharge from this ventilation air will be controlled by use of seven 4' x 12' packed column scrubbers using water as a scrubbing medium or caustic if necessary.

(continued)

ESTIMATED COST: $760,000 TOTAL PROJECT: $30,000,000

COMMENCEMENT OF INSTALLATION: Upon Approval

COMMENCEMENT OF OPERATION:
~~DATE OF COMMENCEMENT OF OPERATION~~ Late 1976 SET: _____

REVIEWED BY: CDH APPROVED: JES

RECOMMENDATION: Approval

ASSIGNED PERMIT NUMBER: 262-A

COMMISSION MINUTE ORDER NUMBER: _____

The production of hydroquinone will be a continuous operation. The crude hydroquinone will be produced from phenol and will be subjected to several purifying operations. The unloading of the mineral base used in this operation and the drying and packaging of the hydroquinone will produce particulate emissions which are to be controlled with bag filters. Thirty five (35) tanks will be used for the storage of solvents, raw materials, intermediate chemicals and products. All of the storage tanks which will be at atmospheric pressure will be equipped with conservation vents and will be blanketed with nitrogen to minimize emissions.

The majority of the waste solvents will be consumed in the power boilers and chemicals which could foul the boiler tubes will be destroyed in a chemical destructor. The gases from the destructor will be scrubbed with a packed column using a caustic solution.

To provide process steam for this facility, Arkansas Eastman proposes the installation of three coal fired boilers (normally, only two of the boilers will be operating). At maximum conditions, each boiler will be fed via spreader stoker approximately 6,000 pounds per hour of coal and produce 50,000 pounds per hour of steam. The source of the coal has not been determined, therefore, an ash content of 20% and a sulfur content of 1% were used in calculating the predicted emissions. Each boiler will be equipped with a mechanical collector and an electrostatic precipitator in series. The collection efficiency will be 97.6% with predicted emission rate of 13 pounds of particulate per boiler. In addition to the coal and waste solvents described above, 1200 pounds of solid waste per day will be consumed in the boilers. The three boilers will discharge to one common stack 200 feet high.

Using the aforecited assumptions, atmospheric modeling indicates compliance with Sections 7 and 8 of the Air Code.

Conditions: Prior to commencement of operation, the applicant shall submit to the Department an approvable emissions monitoring program which program shall be initiated promptly after start up, and which program shall be designed to demonstrate compliance with applicable standards for SO_2 and particulate emissions, and which program shall also demonstrate the effectiveness of the scrubbers, chemical destructors, and power boilers in preventing emissions of harmful levels of contaminants to the atmosphere.

ARKANSAS EASTMAN

Attachment I

Partial List of Classes of Intermediate Organic Chemicals

1. resorcinol mono benzoate
2. mono and di methyl ethers of hydroquinone
3. phenoxy substituted derivatives of dimethyl isophthlate
4. esters of pivalic acid
5. amides of fatty acids and substituted anilines
6. substituted pyrazolones
7. chlorinated derivatives of analine and alkyl substituted analines

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: WARREN BROTHERS COMPANY
WEST MEMPHIS

CSN: 180090

FIRST SUBMITTAL: August 16, 1974 AMENDED: _____

CASE REFERENCES: _____

SUMMARY: Warren Brothers proposes the installation of an asphalt concrete plant at West Memphis. A rotary drier with a capacity of 300 tons per hour is to be used to dry the aggregate. The particulate emissions are to be controlled by use of a cyclone collector followed by a Venturi scrubber manufactured by Warren Brothers. The proposed particulate emissions are to be 14.4 pounds per hour (0.03 grains per standard cubic foot).

This is an affected facility under the Federal New Source Performance Standards; therefore, performance tests must be performed within 60 days after the maximum production rate is achieved, but not later than 180 days after initial startup. These tests must show compliance with the NSPS requirement of 0.04 grains per dry standard cubic foot.

ESTIMATED COST: $100,000 TOTAL PROJECT: $400,000

COMMENCEMENT OF INSTALLATION: Upon approval

COMMENCEMENT OF OPERATION: _____

REVIEWED BY: CDH APPROVED: JES

RECOMMENDATION: Approval

ASSIGNED PERMIT NUMBER: 264-A

COMMISSION MINUTE ORDER NUMBER: _____

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: Medallion Foundry, Inc.
Hot Springs

CSN: 260076

FIRST SUBMITTAL: August 23, 1974 AMENDED: _____

CASE REFERENCES: _____

SUMMARY: Medallion Foundry, Inc. proposes to install a foundry to produce gray iron and aluminum sand castings. The gray iron furnace will have a capacity of 500 pounds and the average daily production will be approximately 1,100 pounds. The aluminum furnace will have a capacity of 2,000 pounds and the average daily production rate will be 300 pounds. Only ingots will be charged to the furnaces, no scrap. The aluminum furnace will be fluxed once per week.

ESTIMATED COST: _____ TOTAL PROJECT: _____

COMMENCEMENT OF INSTALLATION: Upon approval

COMMENCEMENT OF OPERATION: _____

REVIEWED BY: CDH APPROVED: JES

RECOMMENDATION: Approval

ASSIGNED PERMIT NUMBER: 265-A

COMMISSION MINUTE ORDER NUMBER: _____

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: GENERAL TIRE & RUBBER COMPANY
JONESBORO

CSN: 160095

FIRST SUBMITTAL: October 24, 1974 AMENDED: _____

CASE REFERENCES: _____

SUMMARY: General Tire and Rubber Company has applied for a permit under Subsection 3(c) to install a facility for the manufacture of tennis balls. The particulate emissions are to be less than 1 pound per hour, and 62.5 pounds per hour of photochemically inert solvents will be emitted.

ESTIMATED COST: $91,500 TOTAL PROJECT: $4,000,000

COMMENCEMENT OF INSTALLATION: Upon approval

COMMENCEMENT OF OPERATION: _____

REVIEWED BY: CDH APPROVED: JES

RECOMMENDATION: Approval

ASSIGNED PERMIT NUMBER: 266-A

COMMISSION MINUTE ORDER NUMBER: _____

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: REYNOLDS METALS COMPANY

BAUXITE

CSN: 630005

FIRST SUBMITTAL: _____ AMENDED: _____

CASE REFERENCES: _____

SUMMARY: Reynolds Metals Company has applied for a permit under Subsection 3(c) to construct a pilot plant at Bauxite. The emissions are to be 2 pounds per hour of nitrogen oxides.

ESTIMATED COST: $20,000 TOTAL PROJECT: $1,000,000

COMMENCEMENT OF INSTALLATION: January 1, 1975

COMMENCEMENT OF OPERATION: _____

REVIEWED BY: CDH APPROVED: JES

RECOMMENDATION: Approval

ASSIGNED PERMIT NUMBER: 267-A

COMMISSION MINUTE ORDER NUMBER: _____

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: UNION CARBIDE CORPORATION

OSCEOLA

CSN: _____

FIRST SUBMITTAL: October 21, 1974 AMENDED: _____

CASE REFERENCES: _____

SUMMARY: Union Carbide proposes to install a facility at Osceola for the manufacture of cellulose and fibrous casings to be used in the meat, cheese, and sausage industries. Cotton linters and wood pulp are to be reacted with a solution of sodium hydroxide and carbon bisulfide to form a solution called viscose. The viscose is regenerated into a seamless cellulose tube by submergance into a bath of sodium sulphate and sulphuric acid. The remainder of the process consists of washing the casing, adding glycerine as a plasticizer, and drying the casing.

In these operations, 175 pounds per hour of carbon bisulfide and 26.2 pounds per hour of hydrogen sulfide will be released. Union Carbide proposes to collect these gases and discharge through a 140 foot stack. Union Carbide has presented evidence from similar plants that indicate that the proposed facility will not create an odor problem. Union Carbide has also presented evidence that removal of the sulfur-bearing gases is not presently practicable but that at least one control system holds considerable promise and that system is presently being evaluated.

(continued)

ESTIMATED COST: $130,000 TOTAL PROJECT: $36,200,000

COMMENCEMENT OF INSTALLATION: Upon approval

COMMENCEMENT OF OPERATION: _____

REVIEWED BY: CDH APPROVED: JES

RECOMMENDATION: Approval

ASSIGNED PERMIT NUMBER: 268-A

COMMISSION MINUTE ORDER NUMBER: _____

Qualification:

The permittee shall install flue gas desulfurization equipment should the Commission find such equipment necessary to assure acceptable air quality in the area of the facility.

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: Transvaal, Inc.
Jacksonville, Arkansas

CSN: _____

FIRST SUBMITTAL: October 31, 1974 AMENDED: _____

CASE REFERENCES: _____

SUMMARY:

Transvaal Inc., proposes to control the vents from four heated tanks used for the storage of tetrachlorobenzene (TCB). The TCB vapors are to be absorbed in toluene, with the toluene stream being returned to the process. The toluene vapors in the discharge from the absorption vessel will be removed by condensation in a shell and tube condenser.

ESTIMATED COST: _____ TOTAL PROJECT: _____

COMMENCEMENT OF INSTALLATION: Upon Approval

COMMENCEMENT OF OPERATION: _____

REVIEWED BY: CDH APPROVED: JES

RECOMMENDATION: APPROVAL

ASSIGNED PERMIT NUMBER: 269-A

COMMISSION MINUTE ORDER NUMBER: _____

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: Transvaal, Inc.
Jacksonville

CSN: 600028

FIRST SUBMITTAL: Nov. 1, 1974 AMENDED: _____

CASE REFERENCES: _____

SUMMARY:

Transvaal proposes to install a facility for the manufacture of sodium 2,2 dichloropropionic acid, a herbicide. Propionic acid is to be reacted with chlorine gas at elevated temperatures in three reactors. The hydrogen chloride gas generated is to be treated with an absorber. The off gas from the absorber will be treated with a caustic scrubber. The chlorinated propionic acid is distilled and treated with sodium hydroxide to produce the sodium salt solution. This solution will be spray dried to produce the dry salt for packaging. The emissions from the spray drier are to be controlled with cyclones and a wet rotoclone in series. The waste material from the distillation will be burned, and the off gases from the incinerator will pass through two absorbers and a caustic scrubber.

QUALIFICATION:

Emission's from permitted facility shall be analysed by the permittee in a manner acceptable to the director. Further controls shall be required as indicated by these analyses or as the commission finds necessary.

ESTIMATED COST: $164,000 TOTAL PROJECT: $1,000,000.

COMMENCEMENT OF INSTALLATION: Upon Approval

COMMENCEMENT OF OPERATION: _____

REVIEWED BY: CDH APPROVED: JES

RECOMMENDATION: Approval with Qualification

ASSIGNED PERMIT NUMBER: 270-A

COMMISSION MINUTE ORDER NUMBER: _____

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: Potlatch Corporation

McGehee

CSN: _____

FIRST SUBMITTAL: Oct. 24, 1974 AMENDED: _____

CASE REFERENCES: _____

SUMMARY:

SEE ATTACHMENT

ESTIMATED COST: $3,170,000 TOTAL PROJECT: ~~$135,000,000~~

COMMENCEMENT OF INSTALLATION: Upon Approval

COMMENCEMENT OF OPERATION: _____

REVIEWED BY: CDH APPROVED: JES

RECOMMENDATION: Approval with Qualifications

ASSIGNED PERMIT NUMBER: 271-A

COMMISSION MINUTE ORDER NUMBER: _____

Permit No. 271-A

Potlatch Corporation
McGehee

Potlatch proposes installation of a 400TPD bleached kraft pulp and paper mill to be located near McGehee. Significant air pollution control features include "low-odor" recovery boiler with an electrostatic precipitator having design efficiency of 99.7% and the collection and incineration of reduced sulfur containing gases. Incineration of these gases is proposed to be accomplished in the lime kiln or, when the lime kiln is not in operation, in the sludge incinerator.

The proposed sources of particulate and SO_2 emissions are:

	Source	Control Equipment	Particulate Emission (lb/hr)	SO_2 Emission (lb/hr)
1.	Recovery Boiler	ESP	81.4	508
2.	Lime Kiln	Scrubber	10.4	510
3.	Smelt Tank	Scrubber	14.4	-
4.	Power Boiler	-	47.6	380
5.	Sludge Incinerator	Scrubber	11.7	-

The Department's dispersion modelling indicates that the particulate emissions will be in compliance with Subsection 7(a) if the lime kiln stack height is moved to 150 feet. The dispersion modelling of the predicted SO2 concentrations shows noncompliance with Section 8. However, discussions with the consultant designing the plant, has revealed that the design is not to the point where a sulfur balance could be made for the plant liquor streams. Therefore, no SO_2 adsorption was credited for the lime kiln and scrubber. Also, apparently a conservative SO_2 emission rate was chosen for the recovery boiler. The consultant is concerned that (1) sulfur make-up from the chlorine dioxide part of the bleaching operation and (2) the containment of the odor producing gases will raise the sulfidity of the plant liquor streams to the point where adsorption would not occur.

The consultant is currently examining various possibilities to lower the sulfur input to the process.

Qualifications:

1. The applicant present a more complete description of the proposed facility which description will demonstrate that (a) the best available technology will be used for air pollution control,

Permit No. 271=A

Potlatch Corporation
McGehee

(b) the sulfur levels in the process will be maintained such that the resulting SO_2 emissions will comply with Section 8 of the Air Code and (c) emissions will comply with all state and federal emission regulations.

2. Upon receipt of the information required under (1) above, the staff shall promptly prepare a detailed analysis with recommendations and shall provide opportunity for the public to comment on said analysis and the application, including supplements, in accordance with the provisions of 40 CFR 51.18.

3. Upon conclusion of the thirty day period for comments, the Director shall place whatever conditions he deems appropriate upon the permit or he may refer the matter to the Commission for further consideration. The applicant shall be promptly notified of the Director's action.

4. Until such time that the applicant is notified of the Director's action, as specified in (3) above, the applicant may proceed at his own risk toward the installation of the proposed facility.

5. Prior to commencement of operation, the applicant shall submit to the Department an approvable emissions monitoring program, which program shall be initiated promptly after start-up and which program shall be designed to (a) demonstrate compliance with all applicable state and federal regulations and (b) assess the effectiveness of the controls for the removal of reduced sulfur compounds.

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: LIBERTY FOOD STORES, INC. #65
EL DORADO, ARKANSAS

CSN: _____

FIRST SUBMITTAL: October 17, 1974 AMENDED: _____

CASE REFERENCES: _____

SUMMARY:

Liberty Food Stores of El Dorado, Arkansas proposes to install and operate an EEI-480 Incinerator on their premises to dispose of 2880 pounds of type 0 and 1 waste daily. The incinerator has a rated capacity of 480 lbs/hr and would be operated for approximately 6 hrs/day. From the test data submitted, the particulate emissions were found to be 0.0581 gr/SCF at 12% CO_2.

ESTIMATED COST: _____ TOTAL PROJECT: _____

COMMENCEMENT OF INSTALLATION: _____

DATE OF COMPLIANCE: GIVEN: _____ SET: _____

REVIEWED BY: IB APPROVED: JES

RECOMMENDATION: Approval

ASSIGNED PERMIT NUMBER: 219-AI

COMMISSION MINUTE ORDER NUMBER: _____

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: Storey's Big Star Grocery Stores
Blytheville, Arkansas

CSN: _____

FIRST SUBMITTAL: September 30, 1974 AMENDED: _____

CASE REFERENCES: _____

SUMMARY: Storey's Big Star Stores of Blytheville, Arkansas proposes to construct and operate an incinerator facility to dispose of type "0" waste from stocking operations in their receiving department. The proposed incinerator is an FEI Model VR-500, Class III with a rated capacity of 375 lbs/hr and will be used for 3 to 4 hours daily to dispose of about 800 lbs. of waste per day. Test data submitted with the application showed the particulate emissions to be 0.08 grains per SCF at 12% SO_2 (dry catch).

ESTIMATED COST: $5920 TOTAL PROJECT: _____

COMMENCEMENT OF INSTALLATION: _____

DATE OF COMPLIANCE: GIVEN: _____ SET: _____

REVIEWED BY: IB APPROVED: JES

RECOMMENDATION: Approval

ASSIGNED PERMIT NUMBER: 220-AI

COMMISSION MINUTE ORDER NUMBER: _____

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: PIGGLY WIGGLY RED RIVER CO.

P.O. BOX 921, CLARKSVILLE, ARKANSAS 75426

CSN: _____

FIRST SUBMITTAL: _____ AMENDED: _____

CASE REFERENCES: _____

SUMMARY:

The Piggly Wiggly Red River Co. of Clarksville, Arkansas proposes to install an FEI Incinerator, Model VR-500, to burn type 0 and I waste. The capacity of the proposed incinerator is 375 lbs/hr and will be operated for about 3 hours per day. The particulate emissions were found to be 0.08 grains/dSCF from the test reports submitted with the application.

ESTIMATED COST: $5921.00 TOTAL PROJECT: _____

COMMENCEMENT OF INSTALLATION: _____

DATE OF COMPLIANCE: GIVEN: _____ SET: _____

REVIEWED BY: IB APPROVED: JES

RECOMMENDATION: Approval

ASSIGNED PERMIT NUMBER: 221-AI

COMMISSION MINUTE ORDER NUMBER: _____

DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
D.A.P.C.

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: A & P FOOD STORES

1432 N.W. AVENUE, EL DORADO, ARKANSAS

CSN: _____

FIRST SUBMITTAL: November 13, 1974 AMENDED: _____

CASE REFERENCES: _____

SUMMARY:

The A&P Food Stores of El Dorado, Arkansas proposes to install an Incinerator International of the type 500-R, Class III, with a rated capacity of approximately 500 lbs/hr to burn type 1 waste to be operated for 2-3 hours daily. The particulate emissions were found to be 0.033 grains per dSCF.

ESTIMATED COST: $5,000.00 TOTAL PROJECT: _____

COMMENCEMENT OF INSTALLATION: _____

DATE OF COMPLIANCE: GIVEN: _____ SET: _____

REVIEWED BY: IB APPROVED: JES

RECOMMENDATION: Approval

ASSIGNED PERMIT NUMBER: 222-AI

COMMISSION MINUTE ORDER NUMBER: _____