

The Commission, having considered the following Applications for Permit submitted by the following respective firms and having reviewed the staff recommendations and the Summary Reports attached hereto does hereby approve said Applications subject to the conditions contained with the Application, Summary Reports, or amendments thereto; provided, however, that the applicant complies with all general terms of the permit and all special terms and conditions to the permit, if any, which are so specified.

APPLICATION FOR PERMIT - PROCESS CONTROL EQUIPMENT

<u>PERMIT NO.</u>	<u>FACILITY & LOCATION</u>	<u>COST</u>
286-A	Great Lakes Chemical Corp. (To be located near Marysville)	\$1,700,000

The Summary Reports, prepared by the staff, are designed to facilitate the administration of the air pollution control program for the State of Arkansas and, otherwise, for the convenience of the Commission and other interested persons. Copies of these Minute Orders, the Permits, and the Summary Reports are to be attached to the Applications for Permit which are on file in the Department's central office. It is further noted that the approvals of these applications are based upon information contained within the Application for Permit - not the Summary Reports. Nevertheless, the applicant is expected to forthwith notify the Department of any discrepancies found between the two documents.

COMMISSIONERS

JS
[Handwritten signatures]
BDD by EW

Buddy Ford
Chairman

Submitted by Jarrell E. Southall Date Passed 3/28/75
Executive Committee

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

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: GREAT LAKES CHEMICAL CORPORATION
EL DORADO

CSN: 700101

FIRST SUBMITTAL: February 4, 1975 AMENDED: March 10, 1975

CASE REFERENCES: _____

SUMMARY: Great Lakes Chemical Corporation proposes to construct and operate a new plant for the production of bromine and sulfur and to install air pollution control equipment to minimize emissions of hydrogen sulfide (H₂S), hydrocarbons (HC), sulfur dioxide (SO₂), bromine (Br₂) and chlorine (Cl₂).

Brine from a well is processed at the wellhead through a separator in which substantially all of the gas is separated. The H₂S in this gas will be recovered as molten sulfur. The hydrocarbon content of the gas will be burned, with heat recovery, in the sulfur recovery operation.

The separated brine flows through pipelines to the plant area where residual gases are stripped. The stripped gases are combined with the gases separated at the wellhead.

Brine, steam and chlorine are injected into bromine extraction towers where the chlorine releases the bromine from the sodium bromide contained in the brine. The bromine is steamed from the solution, condensed, purified, dried with sulfuric acid and then stored in tanks. Impurities removed during the process are disposed of in the tail brine.

The gases separated at the wellhead and stripped at the plant site are combined and fed into the sulfur recovery plant where one-third of the H₂S is burned to SO₂. The SO₂ produced combines with the unburned H₂S to form elemental sulfur. The tail gas containing some free sulfur and residual H₂S is fed to a tail gas incinerator in which they are converted to SO₂. The SO₂ along with the products of combustion of the hydrocarbons, the carbon dioxide and the nitrogen are vented to the atmosphere by means of a tall stack.

The control equipment will consist of: liquid scrubbers to prevent bromine emissions during normal operation; a final vent scrubber to prevent bromine emissions during upset conditions such as power outages; caustic scrubbers to prevent bromine and chloride emissions from the vents on the storage tanks and on the loading, unloading facilities; a sulfur plant to produce sulfur from H₂S; and a stack to adequately disperse the SO₂ formed from residual sulfur and H₂S.

ESTIMATED COST: \$1,700,000 TOTAL PROJECT: \$5,400,000

COMMENCEMENT OF CONSTRUCTION: About March 1, 1975

DATE OF COMPLIANCE: GIVEN: _____ SET: _____

REVIEWED BY: ROB APPROVED: JES

RECOMMENDATION: Approval

ASSIGNED PERMIT NUMBER: 286-A

COMMISSION MINUTE ORDER NUMBER: _____
