

YGG: JCL: MMG: (RF)
XF: LCVCM

TO: R. A. Conrad

FROM: T. G. Grumbles

DATE: July 30, 1986

Interoffice
Communication

SUBJ: LCVCM INDUSTRIAL HYGIENE AUDIT

VISTA

The subject audit was conducted on July 13-14 by Michele Goodreau, Laurie Mauerman, Dr. Drumwright, and myself. During the audit, plant policy and procedures relating to industrial hygiene and monitoring results were reviewed, a walk-through survey of the plant was conducted and interviews with 5 employees were held. Employees interviewed included the plant superintendent, shift supervisor, maintenance supervisor, maintenance lead and laboratory supervisor. Following are the audit team's comments and recommendations.

The plant industrial hygiene program is in good order and exposures to the major contaminants of concern, EDC and VCM, are well below applicable exposure limits during normal operating conditions. Installation of the EDC product sampling system has further reduced the EDC exposure potential. The recent revision of the breathing air drop stations is a positive addition to the plant respirator program. The boxes keep the points generally free of contamination and are highly visible for easy identification. Recent bench testing of the SCBA regulators is another positive addition to the respirator program and consideration should be given to doing the testing routinely as was indicated. Employee interviews indicate a good general knowledge and awareness of the hazards present in the plant. General housekeeping in the process, maintenance and off-site areas is good.

RECOMMENDATIONS

Following are the team's specific recommendations:

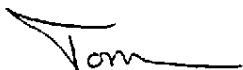
1. Respiratory Protection - Several recommendations are made in this area:
 - A. A specific statement of procedure should be added to the written program regarding the process for refilling SCBA units after use.
 - B. The use of spectacle kits for employees needing eyeglasses while wearing full-face equipment should be reemphasized, and the availability of the kits reviewed, with employees.
 - C. A statement regarding the cylinder watch requirement policy should be added to the written program.
 - D. The procedure for testing purchased breathing air quality should be formalized and followed. It should assure that purchasing notifies the lab when a new shipment arrives in-plant.

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- E. The criteria for determining the respiratory protection needs for confined space welding should be reviewed. No specific procedure, or consistent criteria is currently used.
 - F. The procedure for responding to leak alarms should be revised to require the availability of respiratory protection equipment during leak response and include criteria for donning the equipment when high concentrations are encountered.
- 2. The Confined Space Entry Procedure is currently being revised. In the context of the revision the following should be done.
 - A. Assure consistency of procedures with Appendix B of the Respiratory Protection Program.
 - B. Avoid the use of phrases such as "knowledgeable person" and "adequate protection". Where possible be specific or quantitative.
 - C. A plant definition of confined spaces should be included.
 - 3. The plant asbestos removal procedure should be revised to assure compliance with the recently revised OSHA Asbestos Standard.
 - 4. The personal protective equipment requirements for the acid loading rack should be clearly posted on and around the rack.
 - 5. The conditions during personal sampling should be accurately indicated in the computerized industrial hygiene recordkeeping system. Specifically, deficiencies were noted in indicating respirator use and turnaround conditions.

These recommendations were discussed at length during the closing conference, therefore, little discussion of the rationale for them is included in the report text.

I would like to thank plant personnel for their time and cooperation during the audit. Steve's pre-audit preparation was good and allowed us to use our time in-plant efficiently. Members of the team are available to assist in implementing any of the above recommendations.



Thomas G. Grumbles

ajo/9

cc R. T. Ferrell
J. A. DeBernardi
J. R. Drumwright

M. M. Goodreau
L. A. Mauerman

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CERTIFIED--RETURN
RECEIPT REQUESTED

May 5, 1986

VISTA

Mr. George H. Cramer II
Administrator Groundwater Protection Division
Office of Solid and Hazardous Waste
Department of Environmental Quality
P. O. Box 44307
Baton Rouge, LA 70804-4096

Dear Mr. Cramer:

Re: Compliance Order Dated March 31, 1986 (Received April 10, 1986)
Vista Chemical Company, Lake Charles Vinyl Chloride Monomer (VCM)
Plant

The Vista Chemical Company by way of this letter seeks to respond to the above referenced order and to request extensions to the compliance dates listed in the order. This is in accordance with the discussion held on April 22, 1986, among representatives of the DEQ, Vista, Conoco, and Geraghty and Miller. The following addresses each of the appropriate sections with justification for the extension of the time frame. Each section is numbered according to the corresponding section of the Order portion of the Compliance Order.

"I. Submit, within thirty (30) days after receipt of this ORDER, a listing and labeled diagram of all areas within the plant site with a history of leakage, spillage, or releases of hazardous materials or hazardous wastes with potential for having impacted ground water. The listing shall include release dates, materials identified, and volumes documented or estimated when applicable. This narration shall particularly address the Departments concerns for hazardous materials handling, storage, and rail and vehicle loading/unloading areas with a history of spill incidents, or with a potential or probability of having had releases in the past."

Response: As noted during the discussion of 4-22, the areas of the plant which are covered by the assessment and order are the entire VCM Plant area, the Ethylene Plant area with emphasis on the caustic system, the Turtle Pond area, and the wastewater treatment area (specific to EDC). As the plant has been in existence since 1967-68, the volume of records which must be reviewed is very substantial, including shift supervisor log books, chief operator log books, capital projects requests and justifications, and expense projects requests and justifications. A detailed review and

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interpretation of these records, accumulating release history events, and consolidating these items and entries into a workable document is a significant undertaking from the standpoint of time, manpower and expertise. As such, Vista is requesting a 60-day extension to the proposed 30-day compliance date.

"II. Submit a plan and investigative schedule within forty-five (45) days after receipt of the ORDER, as certified by a geologist or geotechnical engineer, that will propose to complete the ongoing contamination assessment of ground water on a plant-wide basis. This evaluation plan shall include completion dates for current areas under investigation, and shall particularly address the reuseable materials storage facilities, and any other area subsequently identified under ORDER I above."

Response: Completion of the ongoing contamination assessment will be concluded as a part of Phase III of the Groundwater Assessment which was presented in the 4-22 meeting. A copy of the Phase III recommendations, which were included in the Phase II Results submittal, is attached. The recommendations by Conoco and Vista are based on the conclusions reached by Geraghty and Miller, a qualified geotechnical firm, as to the appropriate steps necessary to complete the ongoing contamination assessment and to develop proper remedial actions. To assure a complete assessment and meet the objectives of the order, the results of Item I above must be included in the development of the scope of work for Phase III. When Item I is complete, it will be combined with the previously submitted Phase III recommendations, to develop a detailed scope of work proposal, including completion dates, which will be submitted for DEQ approval. As information such as the work covered under Section I above must be included in the scope and direction of Phase III; and because of the complexity of the facility's hydrogeologic setting, and contaminants, the completion of the Phase III proposal will be a process somewhat more lengthy than the allowed time frames. We are, therefore, requesting an extension of 90 days beyond the 45-day compliance date.

"III. Complete the ground water assessment of the reuseable materials tank storage complex, and submit a report of findings and recommendations for a corrective action program within ninety (90) days after receipt of this ORDER."

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Response: A pilot remedial action plan is recommended as a part of the Phase III recommendations. A pilot program in the tank farm area will be prepared in a manner so to act as the required remedial action program. We request an additional 45 days beyond the 90-day time frame so that submittal of this information is consistent with the recommendations submittal for Phase III proposal.

"IV. Initiate ground water corrective actions for the reuseable materials storage complex within thirty (30) days of approval of the corrective action program by the Ground Water Protection Division, Department of Environmental Quality."

Response: No extension is requested.

"V.A. Retain the services of recognized qualified geotechnical personnel to oversee and direct all ground water assessment investigations and implementation of ground water corrective action programs. The investigative completeness of assessment programs must be supported by the data from geotechnical exploration and chemical analyses for site specific hazardous wastes or constituents at the method levels of detection recommended by the E.P.A., Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW 846)."

Response: Qualified geotechnical personnel will continue to be retained to oversee and direct all groundwater assessment and implementation of ground water corrective action programs. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW 846) will be utilized as appropriate.

V.B. "Exploratory borings to delineate vertical extent of contaminant involvement shall be completed to a minimum depth of thirty (30) feet into clean soils or uncontaminated water bearing zones underlying known areas of contamination, and shall be supported by laboratory contaminant extractions from soil cores at reasonable selection intervals, and samples of water from monitoring wells screened below the contaminated zone(s)."

Response: As discussed in the meeting of 4-22, recommendations for actions necessary to satisfy the objectives of this portion of the order will be submitted in the Scope of Work Document referenced under Item II above.

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V.C. "The completeness of the ground water horizontal evaluation for contamination shall also be supported by monitoring wells which exhibit no impact for the constituents of concern. This will require assessment wells to be placed at reasonably spaced intervals dependent upon hydrology and stratigraphy, and the wells that are to be dedicated as compliance monitoring points must be strategically placed and screened beyond the plumes and below any zone(s) found to be contaminated."

Response: As discussed in the meeting of 4-22, recommendations for actions necessary to satisfy the objectives of this portion of the order will be submitted in the Scope of Work Document referenced under Item II above.

"VI. Consider all hazardous wastes and constituents as listed in Chapters 17.0 and 24.0 of the Louisiana Hazardous Waste Regulations, which could be expected to be associated with the Respondent's Lake Charles operations, in conducting the ground water quality assessment ORDERED above."

Response: The Phase III proposal will include a list of parameters which should be included as constituents to monitor. These parameters will consider the constituents which would be related to the appropriate plant process.

"VII. Report the progress of ground water quality assessment and corrective action programs to the Ground Water Protection Division, Department of Environmental Quality, on a quarterly basis as authorized by Chapter 23.0 of the Louisiana Hazardous Waste Regulations. At a minimum, the effectiveness of contaminant treatment or removal programs shall be illustrated graphically and shall include contaminant concentrations, total volumes or pounds of phased and soluble contaminants recovered or treated in the ground on at least a monthly basis. Volumes shall be metered and not estimated. Compliance monitoring data and data from assessment wells illustrating the effectiveness of the corrective action program shall also be reported quarterly."

Response: Progress reports will be provided on the required schedule and will contain all elements requested for which progress or status may be reported.

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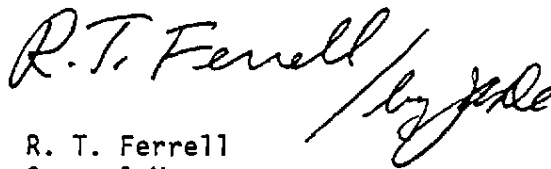
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"VIII. Submit, within forty-five (45) days after receipt of this ORDER, a maintenance plan and schedule for routine and future care of the ground water monitoring and corrective action network. Work priorities shall be listed and sufficient pertinent details specified to assure the Ground Water Protection Division that the monitoring recovery program will function adequately."

Response: As discussed in the meeting of 4-22, recommendations for actions necessary to satisfy the objectives of this portion of the order will be submitted in the Scope of Work Document referenced under Item II above. An extension of 45 days is requested so that submittal of this portion will be consistent with the Phase III submittal.

If you have any questions or comments, please contact M. G. Hayes at (318) 494-5437. Your expeditious response is appreciated.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. T. Ferrell", followed by a large, stylized flourish or signature mark.

R. T. Ferrell
General Manager
Lake Charles Operations

mbr

cc: BIR HJN

bcc: TGG WLMCC RAC RTF JAD GEH GLF

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RECOMMENDATIONS

The Phase I and II studies have identified several areas at the plant site where concentrations of EDC were found in the ground water. Therefore, it is recommended that the Phase III work plan presented below be implemented to meet the following objectives:

- A. Better define the rate and extent of identified plumes of contamination.
- B. Delineate the sources responsible for these identified plumes.
- C. Design a ground-water monitoring program to monitor the effectiveness of future remediation programs and to ensure no off-site migration of contaminants.
- D. Perform a risk assessment to determine alternate concentration limits, ground-water clean-up levels, and potential risks to public health and the environment.
- E. Determine the technical alternatives (Feasibility Study) which would lead to the appropriate design of a ground-water remediation program.

- F. Design a shallow pilot ground-water remediation program to assist in the evaluation and selection of alternatives for plume remediation that will be performed during the Feasibility Study.
- G. Perform an inspection of the existing monitor well network and develop a restoration program as needed.
- H. Develop a data base management system to facilitate future data analyses.

Proposed Phase III Work Plan

The following work plan is proposed to implement the recommendations for the Phase III work. This Phase III work plan has been generalized to maintain flexibility and to allow appropriate modifications to be made during the work as new information and data become available. It is proposed that, after state approval of this work plan, a letter report be submitted quarterly to the DEQ which would contain updates of the project status in order to keep the DEQ abreast of the progress of the Phase III work.

Rate and Extent Assessment

The Phase II investigation showed the presence of EDC in the water sampled from some of the monitor wells tapping the 80-ft and 200-ft sands. It is suspected that the EDC may have been carried down into the sands as a result of well