



January 8, 1986

The Honorable Michael N. Castle
Governor's Office
Legislative Hall
Dover, Delaware 19901

Re: Regulation of Vinyl Chloride Monomer

Dear Governor Castle:

On October 22, 1985, you addressed the State Affairs Committee of the Chemical Manufacturers Association (CMA). During this presentation, you referred to Delaware's problem with vinyl chloride gas, your uncertainty concerning the health effects on the general population of releases of vinyl chloride into the air, and the "consistently poor safety practices" of a polyvinyl chloride (PVC) plant owned by Formosa Plastics Corporation. Most members of the vinyl chloride monomer (VCM) and PVC industries have successfully minimized emissions by thorough compliance with applicable federal and state regulations. But, as you so aptly noted, "The best safety record in the world doesn't amount to a hill of beans if your neighbor or competitor is constantly on the front page for safety violations. You are all tarred with the same brush."

The Vinyl Institute (VI), a division of the Society of the Plastics Industry, Inc. (SPI), represents most of the major domestic producers of VCM and PVC and enjoys an excellent reputation in all the communities in which we operate. We do not wish to be tarred with the same brush and must point out that Formosa is not and has never been a member of the Vinyl Institute or SPI.*

* SPI, the major national trade association of the plastics industry, is a Corporation organized under the Not-for-Profit Corporation Law of the State of New York. Its 1,700 member companies and individuals and 49 operating units include those who supply raw materials; process or manufacture plastics or plastics products; and engineer or construct molds or similar accessory equipment for the plastics industry. The majority of SPI members are the processors and converters of plastic resins into end products which represent 75% of the dollar volume sale of plastics in this country. (footnote continued)

A Division of

THE SOCIETY OF THE PLASTICS INDUSTRY, INC.

355 LEXINGTON AVENUE • NEW YORK, N.Y. 10017 • (212) 503-0652

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Our primary purpose in contacting you is to indicate our desire and availability to assist your office, the Department of Natural Resources and Environmental Control (DNREC) and the public by providing scientific and technical information on the emission control and health effects of VCM and PVC. Members of the Vinyl Institute have dramatically reduced emissions of VCM in their facilities as confirmed by U.S. Environmental Protection Agency (EPA) reports. As responsible members of the industrial community, we are concerned that Formosa takes the necessary steps to create a safe and sound facility in light of obvious past deficiencies. Despite the fact that Formosa was not a VI member, we extended offers of technical assistance to Formosa in a June 1985 meeting. We also extended this offer to DNREC in a September 1985 letter. We take this opportunity to reiterate again our willingness to assist Delaware authorities and Formosa.

During your CMA presentation referred to at the beginning of this letter, you commented on the absence of information on which to base a response to citizen inquiries on the community health and safety impacts of VCM emissions. The Vinyl Institute is preparing a document addressing this topic and will forward it when completed.

The EPA rulemaking leading to the 1976 vinyl chloride standard was based on the adverse health effects for workers exposed to high levels of vinyl chloride monomer in plants (not communities). There was and is an absence of any sound

[Footnote continued]

Members of the Vinyl Institute include Air Products & Chemicals, Inc., The BFGoodrich Company, Borden, Inc., Certain-Teed Corporation, The Dow Chemical Company, Georgia Gulf Corporation, Occidental Chemical Corp., PPG, Inc., Shell Chemical Co., Tenneco, Inc., and VISTA Chemical Company. Members of the Vinyl Institute account for approximately 72% of the domestic production of vinyl chloride and 76% of the domestic production of polyvinyl chloride. The Vinyl Council of Canada is a Special Member of the Institute. ICI Europe Ltd. Petrochemicals and Plastics Division is an Associate Member.

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scientific information that vinyl chloride monomer is harmful at community ambient levels. Moreover, EPA's projections of expected community cancer cases from VCM exposure both before and after industry compliance with the 1976 standard fortunately have not materialized.

We are particularly interested in the application of remedial solutions with proven success to the Formosa facility. The use of unreliable or unproven control technologies provides no additional protection to the public and could very well distract both the State and Formosa from implementation of a real solution. Well-intentioned but misguided corrective efforts here may lead to unnecessary expenditures and regulations elsewhere.

We have reviewed the consent decrees and strongly believe the proposed remedial solutions alone are inadequate and are only a partial solution of the problem. We are convinced that all PVC plants of this nature must be equipped with a properly designed chemical addition system (short-stop) to prevent over-pressure. The so-called "containment system" referred to in the consent decree is not a substitute for such a short-stop system. We note that a short-stop system was included in Formosa's recent consent order with the state of Texas. Texas v. Formosa Plastics Corp., District Court No. 85-10-11452 (Calhoun County, Texas) (August 1985) (copy enclosed). We also feel that the training and maintenance measures should be strengthened, particularly relating to instrument calibration, rupture discs and emergency power.

Strong enforcement benefits the public as well as those industries that comply with the standard. We urge DNREC to be vigilant and maintain an aggressive enforcement posture by continued, frequent scrutiny of Formosa's compliance with the provisions of the consent decree.

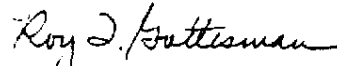
Under the supplemental consent order, Formosa was required to submit several schedules and programs by January 3, 1986. We offer our services in assisting the State in review of these programs and other remedial plans. To this end, we

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request an opportunity to meet with you and your staff to see how we may be of further assistance to the State.

Sincerely,



Roy T. Gottesman

Enclosure

cc: John E. Wilson, Secretary DNREC
Thomas P. Eichler, EPA Region III
Robert Chow, Formosa
Larry Peyton, Formosa

Effective January 20, the Vinyl Institute offices will be relocated to 150 Route 46 West, Wayne, NJ 07470 and our new telephone number will be (201) 890-9299. After that date, please contact us at this new address.

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NO. 85-10-11452

STATE OF TEXAS,

IN THE DISTRICT COURT OF

Plaintiff,

V.

CALHOUN COUNTY, TEXAS

FORMOSA PLASTICS CORPORATION,
TEXAS,

Defendant.

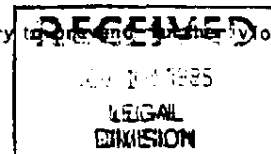
26th JUDICIAL DISTRICT

AGREED FINAL JUDGMENT

BE IT REMEMBERED that on the 3rd day of October, 1985, the State of Texas, Plaintiff, and Formosa Plastics Corporation, Texas, Defendant, submitted to the Court this agreed final judgment. By their proper and duly authorized signatures at the foot of this judgment, all parties have represented to the Court the following: that they have agreed to the terms of this judgment; that it represents a compromise and settlement of all matters placed in issue by Plaintiff's Original Petition and Request for a Temporary Injunction, accruing down to the date of signing of the judgment by the Court; that they have requested the Court to approve it; that they have waived all right of appeal; that the Defendant specifically waives the necessity of the issuance of the citation and original petition in this matter; that the Defendant acknowledges receipt of the original petition in this matter; that they have waived the necessity of the issuance and service of the writ of injunction; that they have waived the requirements of Rules 680-691, Texas Rules of Civil Procedure; that they have received copies of the judgment; that they have waived delay in execution of the money portion of the judgment; that they actively participated in the negotiations leading up to this judgment and are well aware of the duties placed upon them by it and are desirous and capable of carrying out those duties in full; and that the parties enter into this settlement because of the uncertainty and costs of litigation and Formosa Plastics Corporation, Texas, admits no liability.

Defendant owns and operates a facility which processes ethylene dichloride, vinyl chloride monomer, and polymerized vinyl chloride at 100 Formosa Drive, Point Comfort, Calhoun County, Texas for shipment to plastic fabricators.

Plaintiff's suit against Defendant was requested to be filed by the Texas Air Control Board (TACB). It alleged various violations of the Texas Clean Air Act and sought injunctive relief and civil penalties. All injunctive provisions in this judgment are necessary to the maintenance of the quality of the air of the State of Texas and particularly Calhoun County, Texas, where Defendant's plant is located. Those provisions are also necessary to prevent further violations of the Texas Clean Air Act.



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The Court has reviewed this judgment and finds it to be proper, necessary to the maintenance of air quality, and in the best interests of justice. This court approves it in all respects.

IT IS THEREFORE ORDERED, ADJUDGED AND DECREED:

Civil Penalty Provision

1. The State of Texas shall have judgment against the Defendant, Formosa Plastics Corporation, Texas, in the amount of \$66,000.00 with interest at the highest allowable legal rate from the date of the judgment until payment thereof. The full sum of \$66,000.00 will be immediately due and collectible from the Defendant, Formosa Plastics Corporation, Texas, without delay in execution. Payment will be made by cashier's check to the State of Texas and delivered to the Chief, Environmental Protection Division, P.O. Box 12548, Austin, Texas 78711. The check should have the reference number, AG #85-872. \$6,525.00 of the \$66,000.00 is hereby denominated "Investigative Costs" in this matter.

Injunctive Provisions

Defendant, Formosa Plastics Corporation, Texas is hereby enjoined as follows:

2. That Formosa Plastics Corporation, Texas shall, by no later than March 12, 1986, have completed installation of and have operable a third waste gas incinerator, the construction permit for which was approved on May 2, 1985.

3. That Formosa Plastics Corporation, Texas from the date of the signing of this judgment and thereafter, shall keep at least one waste gas incinerator continuously in operation at all times that the plant is in operation; and after March 12, 1986 shall ensure that a back-up waste gas incinerator is available when needed for any reason.

4. That Formosa Plastics Corporation, Texas shall, from the date of the signing of this judgment and thereafter, begin to implement the "Rupture Disc and Relief Valve Inspection/Testing Program," a copy of which is attached hereto and incorporated herein, for the rupture discs at its facility in Point Comfort, Texas.

5. That Formosa Plastics Corporation, Texas shall, from the date of the signing of this judgment and thereafter, perform a valve operation, alarm check and pluggage check at least once a month and a water simulation check at least 4 times a year of the reaction stopper system in the polyvinyl chloride reactors.

6. That Formosa Plastics Corporation, Texas shall, by no later than October 31, 1985, and thereafter, have in operation control measures at the polyvinyl chloride plant which will allow reaction stopper to be automatically injected into the polyvinyl chloride reactors in the reaction step after a power failure.

7. That Formosa Plastics Corporation, Texas shall, by no later than October 31, 1985, and thereafter begin to revise the storage and transfer system to increase the inventory, improve the transfer to the charge tanks and enhance the routine testing of the complete operation at the polyvinyl chloride plant.

8. That Formosa Plastics Corporation, Texas shall, from the date of the signing of the judgment and thereafter maintain on each polyvinyl chloride reactor two independent temperature indicators, one remote independent pressure indicator and one reactor mounted pressure gauge, all temperatures and pressures compared weekly.

9. That Formosa Plastics Corporation, Texas shall maintain and operate a back flow preventer on the nitrogen propellant used as the reaction stopper in the polyvinyl chloride reactors.

10. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, have installed and thereafter maintain a second high level alarm on the vinyl chloride monomer sphere VV752 at the polyvinyl chloride plant.

11. That Formosa Plastics Corporation, Texas shall increase delay times in main breaker between the transformer and the switchgear room and shall thereafter maintain such delay.

12. That Formosa Plastics Corporation, Texas shall, from the date of the signing of the judgment and continuously thereafter, implement a four times per year check of the back-up batteries for each reactor control panel at the polyvinyl chloride plant.

13. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, have installed and thereafter maintain a balance header connecting vessels PV102A, PV102B, PV303A, PV303B and PV306 with a common relief valve discharging to the gasholder PV304 at a pressure less than the individual relief valve settings at the polyvinyl chloride plant.

14. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, have interlocked the existing load cells on the vinyl chloride monomer charge tanks PV102A and B with the filling system at the polyvinyl chloride plant and thereafter maintain such interlock.

15. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, have installed and thereafter maintain a second gauge glass high level alarm on vessels PV303A and B and PV306.

16. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, have installed and thereafter maintain a pressure interlock to shut down all compressors when the vinyl chloride monomer recovery system reaches a pressure not to exceed 90% of the individual relief valve settings.

17. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, have installed and thereafter maintain a 2" bypass to the incinerator to open automatically when the vinyl chloride monomer recovery system reaches a pressure not to exceed 90% of the individual relief valve settings.

18. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, have installed and thereafter maintain a common header from recovery system equipment pressure relief valves to vent directly to gasholder PV304.

19. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, have installed and thereafter maintain a high pressure, high temperature interlock on purification column PC303 located in the polyvinyl chloride area of the vinyl-chloride monomer purification system to automatically block in the steam and stop feed to the column.

20. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, have installed and continuously thereafter maintain a 2" header connecting the rectification system pressure relief valves to vent directly to gasholder PV304.

21. That Formosa Plastics Corporation, Texas shall, from the date of the signing of the judgment, begin to revise and update all standard operating procedures designed to prevent relief valve discharges and shall thereafter on a continuing basis keep such procedures revised and updated. These procedures shall include but are not limited to the "Rupture Disc and Relief Valve Inspection/Testing Program" attached hereto and incorporated herein.

22. That Formosa Plastics Corporation, Texas shall, from the date of the signing of the judgment and thereafter, maintain training records and schedules on all employees stationed at the Formosa Plastics plant in Point Comfort, Texas.

23. That Formosa Plastics Corporation, Texas shall by no later than October 31, 1985, have installed and thereafter maintain a high temperature alarm on the quench liquid for columns VC 401A, B, and C in the vinyl chloride monomer plant.

24. That Formosa Plastics Corporation, Texas shall, from the date of the signing of this judgment and thereafter have compiled and begin to implement a preventive maintenance program. The program shall include but is not limited to the "Preventive Maintenance" program attached hereto and incorporated herein.

25. That Formosa Plastics Corporation, Texas shall immediately upon the signing of this judgment have installed and thereafter maintain a high tray temperature alarm for purification columns VC 502 and 503 in the vinyl chloride monomer plant.

26. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, install and thereafter maintain a high pressure alarm on the caustic scrubber VV506 and bottoms tank VV500 at the vinyl chloride monomer plant.

27. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, have installed and thereafter operate a second high level alarm on VV751 at the vinyl chloride monomer plant.

28. That Formosa Plastics Corporation, Texas shall, by no later than March 1, 1986, have installed and thereafter operate a liquid balance line on caustic wash tank VV506 and caustic dryers VV505A, B and C which will relieve to blow-down tank VV764 at a pressure below that of the individual relief valves at the vinyl chloride monomer plant.

29. That Formosa Plastics Corporation, Texas shall immediately upon the signing of this judgment and thereafter begin to monitor the emergency control panel back-up power on a normal workday basis at the vinyl chloride monomer plant.

30. That Formosa Plastics Corporation, Texas shall hereafter comply with 31 T.A.C. 101.20 which adopts National Emission Standards for Hazardous Air Pollutants (NESHAPS) promulgated by Environmental Protection Agency at 40 C.F.R. part 61. The Defendant specifically waives the necessity to attach the regulations and incorporate them herein.

31. That Formosa Plastics Corporation, Texas shall hereafter comply with TACB Rules 116.1, 116.4 and 116.5 of Regulation VI.

Force Majeure Provisions

32. a. If any event occurs which causes or may cause a delay in compliance with the terms of this judgment, or which causes or may cause noncompliance with the terms of this judgment, the Defendant shall notify the Attorney General of the State of Texas and TACB, in writing within 10 days after the occurrence of

such event, describing in detail the anticipated length of the delay, the extent of noncompliance, the precise cause or causes of the delay, the measures taken or to be taken to prevent or minimize any such delay and to comply with all requirements of this judgment as soon as possible. Failure by the Defendant to comply with the notice requirements of this paragraph shall render paragraphs b. and c. below void and of no effect as to the particular incident involved.

b. If Plaintiff agrees that noncompliance has been caused by circumstances beyond the control of and without the fault of Defendant, then the parties shall submit to the Court a stipulation for extension of time for a particular requirement. If Plaintiff does not agree in writing, then Defendant may submit the matter to the Court for resolution within 30 days after the Defendant's notification of the event pursuant to paragraph a. above. If Defendant does not submit the matter to the Court within the prescribed 30 day period, the event will be deemed not to justify an extension of time.

c. The burden of proving that any delay or noncompliance is caused by circumstances beyond the control of and without the fault of Defendant, and the duration and extent of the noncompliance attributable to such circumstances, shall rest with the Defendant. Trial shall be to the Court. A jury is hereby waived. Normal discovery shall be available. Nonavailability of funds will not be justification for extensions of time. Delay in achievement of one interim step under this judgment shall not necessarily justify or excuse delay in achievement of subsequent steps.

33. Both parties reserve the right to petition the Court for dissolution or modification of this judgment according to the laws of this State and nothing herein shall relieve the defendant from complying with all rules, and regulations of the Texas Air Control Board and Tex.Rev.Civ.Stat.Ann. art. 4477-5.

34. Costs of court in this action are taxed against Defendant, Formosa Plastics Corporation, Texas. If any items of costs remain unpaid, let execution issue forthwith for its collection.

Signed this 31st day of October, 1985.

Sh Clarence N. Stearns
JUDGE PRESIDING

APPROVED AS TO FORM AND
SUBSTANCE AND ENTRY REQUESTED

JIM MATTOX
Attorney General of Texas

DAVID R. RICHARDS
Executive Assistant Attorney
General

NANCY N. LYNCH
Assistant Attorney General
Chief, Environmental Protection
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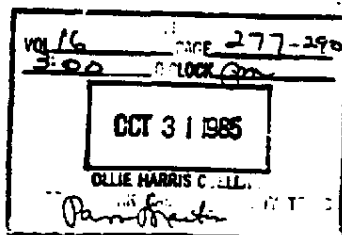
ATTORNEYS FOR PLAINTIFF

Larry Feldkamp

LARRY FELDKAMP
Baker & Botts
SBN 06884000
ATTORNEY FOR DEFENDANT

FORMOSA PLASTICS CORPORATION,
TEXAS

By David T. H. Cheng
David T. H. Cheng
Executive Vice President



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