

VI TECHNICAL COMMITTEE MEETING

Newark Airport Vista Hotel
1127 Spring Street
Elizabeth, New Jersey 07201
Partner's Suite

Thursday
July 26, 1990
10 a.m.-3:30 p.m.

Attendees:

Frank Borrelli, Georgia Gulf Corporation
Larry Brecker, Witco Corporation
Charles Bush, BFGoodrich Company
Lee Fishbein, Borden Chemicals & Plastics
Don Goodman, Occidental Chemical Corporation
Roy Gottesman, Vinyl Institute
H. J. "Bud" Hall, Vista Chemical Company
Robert Hinderer, BFGoodrich Company
Marcelo Hirschler, BFGoodrich Company
John Krokosky, Dow Chemical Company
Gabe Lefebvre, BFGoodrich Company
Richard Magee, NJIT
Debbie Neale, BFGoodrich Company
Robert Strength, Vista Chemical Company Consultant

I. SELF-INTRODUCTIONS AND APPROVAL OF MINUTES

Following self-introductions, the minutes of the May 10, 1990 meeting held at South Seas Plantation were approved as received.

II. PROJECT REVIEWS

A. PVC Ecobalances

Chuck Bush reported on the meetings of the subcommittee held on June 6th and July 17th. He noted that a Request For Proposal (RFP) has now been sent out to 6 companies including Environ Corporation, Franklin Associates, SRI, Battelle, Arthur D. Little, and CPI Consulting. The proposals call for a comprehensive study, including energy and environmental impacts in the production of 3 vinyl related product groups (pipes, tubing and fittings; siding; and containers). The RFPs are due on August 31, 1990 and will be reviewed shortly thereafter by the subcommittee. The plan then is to have the finalists

meet with the subcommittee to answer questions. It is now anticipated that a recommendation could be made to the Vinyl Institute Board by October.

The group was advised of a conference and workshop being sponsored by the Society of Environmental Toxicology and Chemistry (SETAC) to be held at Smuggler's Notch in August on the subject of "Technical Framework For Product Lifecycle Assessments". Although a number of individuals from consulting firms that have been sent the RFP appear to have been invited to this conference, there appears to be no vinyl industry representation, and the desirability of such was discussed. Gabe Lefebvre is working on getting a Vinyl Institute invitation to this workshop. If this is successful, he will arrange for a conference call with the Ecobalance Subcommittee to select the appropriate representative for the Vinyl Institute at this SETAC Conference.

Action:

Gabe Lefebvre will attempt to obtain a Vinyl Institute invitation for the workshop. If he is successful, he will arrange for a conference call involving members of the Ecobalance Subcommittee, so as to decide on the appropriate representative for the Vinyl Institute.

Gabe Lefebvre advised the group of the recent meeting that he had attended in Brussels in which the Ecobalance Task Force Group of the Plastics Waste Management Institute of APME had heard presentations by 4 experts on the subject of ecobalances. The group decided as a first phase, their ecobalance studies will carry from the birth to the pellet stage and the first material to be so investigated is polyethylene. Dr. Ian Boustead of the Open University in England, who appears to have considerable knowledge in the development of such studies has been commissioned to carry-out this first investigation. This will be followed with 5 other materials with completion expected by May 1991.

Roy Gottesman suggested that the group might consider sending the Vinyl Institute RFP to Dr. Boustead, requesting his proposal. The group agreed that this was a good idea.

Action:

Roy Gottesman will send the RFP to Dr. Ian Boustead to see if he is interested in being considered for this work.

Roy Gottesman also advised the group on recent activities to engage an issues management/public relations firm to carry-out a research program to determine the impact of key issues, viz. solid waste management, "no halogen", and other negatives on vinyl. The Vinyl Institute will be cooperating with The Chlorine Institute that is also carrying out a program. Their focus initially appears to be on the safety of chlorine in drinking water, so that the Vinyl Institute will proceed independently on the defense of vinyl plastics, coordinating its efforts with The Chlorine Institute.

B. Recycling Projections

Roy Gottesman reported on the recent VIGOR Meeting on July 17th in which progress on the sortation project at NRT was discussed. Another review meeting is scheduled for August 8th and a press conference/media tour at National Recovery Technologies (NRT) in Nashville, is tentatively scheduled for sometime during the week of September 10th, but is dependent on progress at NRT and the availability of Senator Albert Gore, whom we would like to have at this media tour. At the July 17th meeting, Henry Frankel of the Center For Plastics Recycling Research (CPRR) at Rutgers presented information on ASTM activities and the need for expediting recycling issues through ASTM. He also discussed some of his other interests as they relate to vinyl plastics, particularly the possibility of developing a cheaper scanner for use in sortation of PVC from a mixed plastic stream.

Also at the July 17th meeting, Dr. Robert Bennett of the University of Toledo, gave a presentation on his market study on potential end uses for recycled PVC. He is now finalizing this report based on the comments from the VIGOR Committee. Essentially, it shows that there are ample markets for second generation products derived from vinyl post-consumer waste.

The group was advised that a paper will be given by Roy Gottesman on behalf of the Vinyl Institute at the New York State Recycling Conference on October 25th that will discuss the various technologies now available for separation of vinyl plastics.

III. UPDATE ON VINYL INSTITUTE-FUNDED PROJECTS

A. NRT

The group was advised that the NRT project is progressing well and is on schedule. Bill Carroll is attempting to

finalize a review meeting to be held at NRT in Nashville on August 8th. Subsequent to this meeting, Bill Carroll advised that this review meeting is now firmly scheduled for August 8th and he will advise those involved in the NRT program of this.

Debbie Neale noted that there is a meeting of state legislators in Nashville in August and inquired whether the NRT technologies might be shown to selected legislators at that time.

Action:

Debbie Neale is to contact Bill Carroll to discuss with him whether a visit by legislators to the NRT facility in Nashville should be carried out in August.

B. CPRR/Rutgers

Frank Borrelli advised that there has been no further work on the sortation unit at Rutgers since the press conference in late May. Lee Fishbein inquired whether it would be possible to arrange for a demonstration of the CPRR technology at one of the New England CRInc. MRFs. Further, as noted above, Henry Frankel had loosely proposed additional projects, including a lower cost sortation unit.

Action:

1. Frank Borrelli will ask for a formal proposal from Henry Frankel for the development of a less expensive model of the sortation unit.
2. Lee Fishbein will facilitate discussions between New England CRInc. and CPRR regarding New England CRInc.'s evaluation of the Rutgers-developed sortation technology.

C. Rhode Island/New England CRInc.

Lee Fishbein continues to keep New England CRInc. aware of Vinyl Institute activities. He advised that the SEC has not yet given final approval to Wellman's purchase of the MRI portion of New England CRInc. The recent Senate Committee testimony by Victor Bell of the Rhode Island Department of Environmental Management was discussed and it was agreed that the plan to invite him to attend the NRT media briefing was important in order to try to convince him of vinyl's recyclability.

D. Commingled Plastics

In the absence of Bill Carroll, there was no report on the program at CPRR. Chuck Bush advised the group of the discussion at the VIGOR meeting concerning the plan to increase the cost of directorate membership in the Plastics Recycling Foundation next year from \$50,000 to \$60,000 per year. Most of PRF's funding is now coming from the Council For Solid Waste Solutions, and the presence of the Vinyl Institute is necessary to be sure that PVC interests are addressed. Chuck Bush pointed out that a decision was not needed at the current meeting, but one will be needed as we approach the end of 1990. He therefore asked the Technical Committee members to think about this, with the plan being to discuss it further a future meeting.

E. Vermont Republic Industries

Don Goodman will continue to provide guidance to Al Voegelé at VRI concerning his attendance at conferences under Vinyl Institute sponsorship. Don Goodman will advise Al Voegelé, that while the grant is unrestricted, if Al has questions on which conferences he should attend, Don Goodman will be able to direct him.

IV. COUNCIL FOR SOLID WASTE SOLUTIONS

In the absence of Bob Elcik, there was no report on Council activities. Debbie Neale advised the group of the MassPIRG initiative which was aimed at banning environmentally-unfriendly packaging materials and requiring certain rates of recycling and recycled content in packaging. She noted that the initiative was removed from the ballot due to a technicality, but that a similar initiative has been filed by OSPIRG for a vote in November in Oregon. She offered her opinion that the Oregon initiative will pass.

Gabe Lefebvre advised that DevTech has approached the Council For Solid Waste Solutions concerning a separation device that is reported to accomplish separation of PET and PVC in 100% purity from flake material. Roy Gottesman indicated that Bill Carroll had advised him of a meeting on the DevTech process which Peter Dinger of the Council is arranging in Washington on August 10th. Gabe Lefebvre noted that he had received a secrecy agreement from DevTech for his signature prior to attending the August 10th meeting.

Action:

Roy Gottesman and Gabe Lefebvre will coordinate to assure that there is Vinyl Institute attendance at the August 10th

meeting, at which time the DevTech technology will be revealed.

V. RECOVERY OF VINYL FROM WIRE AND CABLE SCRAP

The Council For Solid Waste Solutions was asked to fund a project at RPI for the separation of PVC from other plastics using a solvent extraction technique that employs xylene. The economics of this solvent-based separation are highly questionable. Gabe Lefebvre indicated that he had carried out a feasibility study on this technology and had concluded that the process was too expensive. He is continuing his review of the technology in light of the possibility that it could result in the removal of lead from wire and cable scrap. It was also reported that a similar technology development was going on at Cornell using polyvinylpyrrolidone.

After discussions, it was agreed that pursuit of the recovery of vinyl from wire and cable scrap was properly an individual company endeavor and not an activity for the Vinyl Institute. It was noted that BFGoodrich, Vista and others planned to continue to address this problem independently.

VI. R2B2 LIAISON

Frank Borrelli advised the group that R2B2 has continued its program on collection of vinyl post-consumer containers. He noted that not only is the hand sort time consuming, but often results in material that is cross-contaminated with other products.

Action:

Frank Borrelli will continue to work with R2B2, encouraging their movement to automatic sortation, possibly using the ASOMA technology. It was agreed that the Vinyl Institute grant to R2B2 which is in the budget at \$10,000 for the current fiscal year might appropriately be used to support the installation of an automatic sortation device.

VII. ASTM STANDARDS FOR RECYCLED MATERIALS

Frank Borrelli, who is the VI liaison to the ASTM activity, advised that a subcommittee has been formed in ASTM 20.95 to investigate the incorporation of vinyl recycled materials into ASTM standards.

Peter Lloyd of BFGoodrich will chair this subcommittee that will work with various ASTM standard writing committees. At the VIGOR Meeting on July 17th, Henry Frankel indicated that this group will be instrumental in expediting standard

rewriting, so as to include recycled material in appropriate applications.

Action:

Roy Gottesman, Frank Borrelli and Chuck Bush are to discuss with Henry Frankel expediting the ASTM activities as it relates to appropriate uses for recycled vinyl.

VIII. INCINERATION

A. Planned Swedish Studies

Dick Magee reported that he had contacted Professor Christopher Rappe in an attempt to finalize on a date for a meeting in Umea. He had suggested the dates of October 29, 30 and 31st for a meeting with the international panel of experts that are to assist Professor Rappe in the experimental design and to review initial data regarding scale up in a fluidized bed incinerator

Action:

Dick Magee is to continue to attempt to get a date for the meeting with Professor Rappe.

B. Information Package

Roy Gottesman distributed 4 items of information that provide a view on the incineration of plastics in general and vinyl in particular in municipal solid waste incinerators. Dick Magee provided his copy of a letter to the editor of Modern Plastics to correct mis-information in a letter from Professor Batich of the University of Florida regarding vinyl incineration that had been published in Modern Plastics last month.

Finally, Dick Magee indicated that a recent publication by Professor Hites at Indiana University did not appear to pose any problem and, for that reason, did not merit a rebuttal.

C. Franklin Associates Report on Lead in Plastic Products in Municipal Solid Waste

Gabe Lefebvre distributed copies of the final draft of the Franklin Associates study on sources of lead in plastics. The conclusion of this study is that the use of lead compounds in plastics is on the decline, and that regulations are unwarranted. He requested that committee members provide him with any minor changes or revisions no later than August 2nd.

Action:

1. Technical Committee members are to convey any comments on the final draft of the Franklin Associates report to Gabe Lefebvre no later than August 2nd.
2. Gabe Lefebvre will coordinate issuance of the final report by Franklin Associates and will review with them the possibilities for publication of this work.
3. Gabe Lefebvre will see that 100 copies of the final report are produced for distribution to interested parties.

IX. MEDICAL/HEALTH EFFECTS PROGRAMS**A. SWRI Publications**

Bob Hinderer indicated that the 3 reports from Southwest Research Institute have now been received. With the previously-published paper on this work, we now have completed studies including primates/HCl 3 month post-exposure, primates/HCl one year post-exposure, primates/-PVC with non-flaming and flaming fire scenarios in one year post-exposure, and rodents/PVC in flaming and non-flaming fire situations with one year post-exposure. Discussion followed on the necessity to publish these documents with other related works for use in education with the fire and safety communities.

B. Proposal for Publication of a Book/Monograph on Fire Toxicity of HCl and PVC

Bob Hinderer indicated that he felt a compendium of critical papers packaged with an "executive summary" prior to a given section in this compendium would be a expedient way for a monograph to be issued. The group agreed with this.

Action:

Bob Hinderer will lead an editorial committee to include Fred Clarke, Hal Kaplan and Marcelo Hirschler to develop a program and execute same for the completion of a monograph.

C. AIHA Emergency Response Planning Guideline for Hydrogen Chloride

Bob Hinderer indicated that he had advised the American Industrial Hygiene Association (AIHA) that they had not

included recent primate data from publications on the toxicity of hydrogen chloride. In the AIHA response, they have advised that they will take this newly-developed information into account for consideration when this guideline is next revised.

D. American Liver Foundation Pamphlet On "Your Liver Lets You Live"

A recent publication by the American Liver Foundation carries in it an erroneous statement relative to a cancer threat for workers in the manufacture of PVC. Roy Gottesman had asked Bob Hinderer to see if a statement could be written to the American Liver Foundation by Dr. Carlo Tamburo of the University of Louisville correcting this inaccuracy. Dr. Tamburo is willing to issue such a statement but had not been able to due to personal illness.

Action:

Dr. Hinderer will provide suggested wording to Dr. Tamburo so that he can write to the American Liver Foundation with appropriate correction statements for their use.

E. Consultation By Dr. Harold Kaplan

Roy Gottesman suggested that as part of Dr. Kaplan's consulting for the Vinyl Institute during the coming year, we should attempt to have him participate at conference programs, so as to make available information on the extensive fire toxicology program carried out at SWRI. Roy Gottesman indicated that he had been approached by Professor Lewin at Polytechnic Institute of New York regarding participation in a conference scheduled to be held on May 21, 1991 in Stamford, Connecticut dealing with fire toxicity issues and fire performance of plastics. It was agreed that when an invitation is received for a Vinyl Institute paper, we will offer a presentation by Dr. Kaplan.

Action:

1. Roy Gottesman will advise the organizing committee of the Polytechnic Institute Conference of Dr. Kaplan's availability to provide a paper at that conference.
2. Dr. Hirschler will arrange to have Dr. Kaplan's paper on the agenda for the 1991 Hilado Conference.

3. Technical Committee members are to send suggestions to Roy Gottesman regarding conferences at which Dr. Kaplan might be a candidate for presentation of papers.

F. Angiosarcoma Registry

With the retirement of Dr. Brian Bennett from ICI, he had approached Roy Gottesman concerning someone who could take over the responsibility for this Registry. It is believed that the continuation of this Registry is very desirable, and that it should be continued at least until the year 2010. Bob Hinderer advised that Dr. Jack Drumwright of Vista Chemical has agreed to accept responsibility for maintaining the Registry following Dr. Bennett's retirement later this year. It was further agreed that Dr. Drumwright would carry-out these responsibilities as a member of the Medical Subcommittee of the Vinyl Institute Technical Committee.

Action:

Roy Gottesman will advise Dr. Bennett that Dr. Drumwright has agreed to accept this responsibility and he will initiate the transfer process.

G. HCl Workshop on Ambient Air Quality

Bob Hinderer has been invited to participate in a workshop on HCl ambient air quality, which is to be held in Michigan in October. The panel will discuss short term and chronic effects as well as the environmental fate of HCl in the environment. The conference is being co-sponsored by the Regional EPA and the Michigan Environmental Authority.

X. FIRE AND COMBUSTION TOXICITY

Marcelo Hirschler reported on the recent meetings of the Task Group on Fire Sciences. The initial meeting was held on May 10th at South Seas Plantation and a follow-up meeting was held prior to this Technical Committee meeting. He noted that the committee is to focus activities on fire, toxicity, corrosivity and HCl transport and decay data. A copy of the minutes of the meeting held on July 26th is appended to these minutes as it largely covers the activities and decisions relating to smoke toxicity and corrosivity.

Dr. Hirschler also advised that NBS is using the proposed HCl transport and decay models in their computer program, and that models have successfully predicted the test results from three large-scale fire tests.

XI. OTHER BUSINESS**A. Cadmium Stabilizer Removal From Vinyl Products**

Frank Borrelli reported that Georgia Gulf has been working on the elimination of cadmium stabilizers and that they have just about eliminated its use in their products. Don Goodman noted that Occidental Chemical has also almost eliminated cadmium stabilizers. Roy Gottesman indicated that he had received an inquiry from a writer at Modern Plastics concerning the Vinyl Institute's statement on cadmium and had advised that reporter that there was no formal Vinyl Institute statement, but that it had been provided to the Council For Solid Waste Solutions for incorporation in an overall plastics industry statement.

Don Goodman reported that a cadmium policy statement had been published by the Council, and Roy Gottesman asked that a copy of that statement be sent to him, so that it could also be attached to the minutes of this meeting and so that he would be able to provide it to any other trade publication that make inquiry.

There was a brief discussion on polybrominated diphenyloxide flame retardants which have shown carcinogenicity, but as these are not used in vinyl plastics, no further action was necessary.

XII. NEXT MEETING DATE AND LOCATION

The next meeting of the Technical Committee will take place on Thursday, November 8th in Cleveland, hotel location to be determined. Technical Committee members will be advised as soon as the location is selected.

XIII. ADJOURNMENT

The meeting was adjourned at 3:30 p.m.

Respectfully submitted,


Roy T. Gottesman