

TECHNICAL COMMITTEE MEETING

Callaway Gardens
Pine Mountain, Georgia
Conference Center Room 103

Monday
May 8, 1989
8:00 a.m.

Attendees:

Woody Ban, BFGoodrich Company
Frank Borrelli, Georgia Gulf
Don Brilliant, Argus Division, Witco
Chuck Bush, BFGoodrich Company (Chairman)
Bill Carroll, Occidental Chemical
Peter de la Cruz, Keller and Heckman
Lee Fishbein, Borden Chemicals & Plastics
Fred Fisher, Air Products and Chemicals
Rick Flammer, Vista Chemical Company
Pat Gallagher, Edward Howard and Company
Don Goodman, Occidental Chemical Company
Roy Gottesman, Vinyl Institute
Clark Graybill, PPG Industries
Bud Hall, Vista Chemical Company
Marcelo Hirschler, BFGoodrich Company
W.C. Holbrook, BFGoodrich Company
Jeff Klein, FMC
Don Knechtges, BFGoodrich Company
Joe Ledvina, Vista Chemical Company
Dick Magee, N.J. Institute of Technology
Donna Magill, PPG Industries
Debbie Neale, BFGoodrich Company
Michael O'Mara, General Electric
Don Pearson, PPG Industries
Gene Rabent, Akzo Chemicals
Al Reventas, Shintech inc.
Ed Shimkus, Argus Division, Witco
Mike Voison, BFGoodrich Canada
Brian Wadey, BASF
D'Lane Wisner, BFGoodrich Company

I. SELF-INTRODUCTIONS AND APPROVAL OF MINUTES

Following self-introductions, the minutes of the March 8, 1989 meeting of the Technical Committee held in Washington D.C. were unanimously approved as submitted.

SPI-11069

II. PROJECT REVIEWS

A. Recycling

1. PRF Commingled Plastics Project

Bill Carroll, who is Chairman of the Committee of the Plastics Recycling Foundation supervising this project, reported that the project is proceeding satisfactorily under the leadership of the new project leader, Tom Nosker. Considerable time has been spent in converting commingled plastics to materials for use in demonstration projects. For example, materials have been converted from beach collection projects in Oregon and Florida into "plastic" lumber for use in benches and picnic tables. The next month will be devoted to research and especially physical testing.

It was reported that New England CRInc. may no longer be using its ET-1, although Tom Nosker has apparently convinced Orange County that the ET-1 does work with polystyrene. It was suggested that perhaps the Council For Solid Waste Solutions or the Vinyl Institute could act as a broker for an ET-1 operation in Orange County. There are many requests to produce materials at Rutgers, so much so that very little time is available for research.

Mention was made of the demonstration park that Rutgers is planning to establish. Bill Carroll indicated that the next step is to continue with more of this type of data gathering. Roy Gottesman made a request for more quantification of the effects of specific levels of PVC being processed in the ET-1. This information is not currently available, but we continue to receive inquiries concerning the levels that can be tolerated in the commingled stream and there continue to be questions concerning HCl resulting from degradation of PVC in the processing. A Rutgers report relative to the levels of PVC that can be tolerated with no HCl generation would be helpful.

Action Item: Bill Carroll is to try to arrange to have studies at Rutgers include quantification of the levels of PVC that can be tolerated in a commingled stream in the ET-1.

2. Program At PRARI

Lee Fishbein briefly reported on the conclusion of activities at PRARI, including a report from Dr. Chen. The remaining funds provided by the Vinyl Institute are being held in escrow and it is expected that we will receive this money with accrued interest shortly.

Action Item: Lee Fishbein is to pursue receiving the refund due from PRARI.

3. Council For Solid Waste Solutions

The status of Senate Bill S-196 appears to be somewhat equivocal. The bill is still being reviewed and the next step is to get a layman's version put together for a review by interested parties.

4. Vermont Republic Industries Program

Don Goodman reported on the efforts to develop a file folder from recycled PVC. He noted that problems have been encountered at Georgia Gulf regarding the feeding of regrind material, which apparently causes bridging. This work is being continued by Georgia Gulf via Frank Borrelli and Occidental Chemical with Don Goodman.

Don Goodman noted that the contract may need to be extended with Vermont Republic Industries and Roy Gottesman noted that \$25,000 for an extension on the VRI contract had been built into the fiscal year 1989-1990 budget.

Roy Gottesman requested that Don Goodman arrange to get a project report from Al Voegele at VRI dealing with the attempts to find PVC being discarded at landfills.

Action Item: Don Goodman is to request Vermont Republic Industries for a final report on the project carried out cooperatively with the University of New Hampshire to discover the extent of PVC in landfills and sources of material that could be recovered.

5. Delaware Valley Program

Don Goodman and Bud Hall reported that there is a real lack of firm data from the work in which PVC recovered from bottles in the Delaware Valley program was converted to irrigation pipe and fittings. For that reason, it is doubtful that a useful paper can be written, and if it is still considered desirable, it was the consensus of the group that it would be necessary to repeat this program. This was held in abeyance pending a later discussion on future work on recycling within the Vinyl Institute.

6. R2B2 Program

Frank Borrelli reported that he recently visited R2B2 and discovered that the Council For Solid Waste Solutions has also given them a grant. There has been a delay in their relocation to new facilities since there is a problem with regard to permits at the new site. This is being actively worked on and there is a possibility that a new location may be necessary.

Frank Borrelli also reported that 60,000 pounds of vinyl had been recycled in a 2-month period. This is post-industrial scrap. Mr. Schedler at R2B2 noted that there appears to be a decline for PVC regrind material in the marketplace.

Action Item: Frank Borrelli is to continue liaison with R2B2, so as to be aware of items of interest relating to vinyl recycling.

7. ASTM Voluntary Consensus Standards

Frank Borrelli reported that he had attended recent meetings of this ASTM group which is involved in the development of nomenclature for recycling. He noted that the committee believes that nomenclature is much more complex than that contemplated by the SPI Coding System, as there are some 70 categories as compared with SPI's 7. It is necessary to determine who the ASTM representatives are for the Vinyl Institute member companies, so that they can vote together on nomenclature issues.

Action Item:

1. Roy Gottesman will carry out a survey of member companies to determine who their ASTM representatives are.
2. Frank Borrelli will be made aware of ASTM representatives from VI member companies so that he can be in contact with them for voting when this ASTM group has issues requiring such action.

8. Reclamation of PVC From Wire and Cable Scrap

Chuck Bush reported that a subcommittee had been set up and that Gabe LeFebvre and Joe Ledvina had met with Franklin Associates and had quantified information regarding lead and cadmium (by markets) that actually end up in municipal solid waste from pigments and stabilizers. Franklin Associates had assumed the same levels of lead in all PVC applications which is a flaw in their method. Gabe LeFebvre and Joe Ledvina, who had visited Franklin Associates, developed their own spread sheet of sources. In this connection, see Joe Ledvina's letter of April 24, 1989 which gives revised estimates (Appendix A) and Gabe LeFebvre's memorandum of May 2nd (Appendix B) which summarizes the data at this point.

It is believed that Franklin Associates will probably refine their estimate based on the subcommittee's analysis.

Action Item: Messrs. LeFebvre and Hall are to complete this assignment including contact with Franklin Associates.

It was noted that we do not have a very good idea as to where this "wire chip" goes, although some is believed to be used in the manufacture of garden hose. There are some 10 million pounds of material, i.e., wire chips, and a processor in Toledo apparently separates PVC out of this source for resale. There was general discussion on how to deal with a combined approach on cadmium and lead, as there was some concern that if we are to proceed with a proposed elimination of cadmium without a concerted focused forward plan on lead, there could be a problem.

The following options for lead in PVC in solid waste were developed:

1. Remove lead from PVC products containing it.
2. Identify sources and separate out lead-containing products.
3. Some combination of items 1 and 2 above.
4. Treatment of incinerator ash or management thereof.
5. Contact with lead industry associations to determine their strategy.
6. Establish the magnitude of PVC containing lead to the overall lead problem.
7. Contract with Franklin Associates for a study with regard to trends on lead in PVC.
8. Determine whether there is a permanent use for PVC containing lead.

A task group is to be set up by Chuck Bush to review these options and Don Brilliant of Argus division of Witco volunteered to serve on this task group.

Action Item: Chuck Bush is to establish a task force to evaluate the options with regard to lead in PVC in municipal solid waste.

It was agreed that the position statement dealing with cadmium stabilizers that had been approved by a 9 to 1 vote by the Executive Board should move forward. Prior to presenting this to the Council For Solid Waste Solutions, however, it was recommended that the Cadmium Council and Cadmium Producers be advised of this planned action.

Action Item: Chuck Bush and Roy Gottesman will coordinate advising cadmium producers or the Cadmium Council of this planned proposal to eliminate cadmium from PVC stabilizers and will then convey this position statement to the Council For Solid Waste Solutions for adoption by the plastics industry.

9. Recycling - What Further Action Should The Vinyl Institute Be Carrying Out?

Frank Borrelli of Georgia Gulf put forth the proposition that there have to be some hard practical programs demonstrating the commercial recycling of PVC. Debbie Neale reaffirmed this point of view in that a model is needed to negate allegations made by politicians as in New York State, that PVC is not being recycled. Bill Carroll offered the suggestion that water bottles be collected via a deposit program and as such, could represent an uncontaminated separable source of PVC. There was a discussion dealing with separation, collection, buy-backs and other approaches to affect a practical separation for recovery of PVC from municipal solid waste.

Roy Gottesman indicated that he had placed on the agenda for the Executive Board Meeting to be held on the following day, a proposal that a multi-disciplinary task force be established to evaluate possibilities to ensure a practical recovery of PVC be established so as to blunt the legislative attack.

Action Item: Subsequent to this meeting, the Executive Board established a committee to include Executive Board Members and Committee Chairman which will have an initial meeting on June 29th in Washington to develop a strategy and program aimed at practical recycling of PVC.

B. Incineration

1. HCl Scrubbing

Dick Magee provided a review (see Appendix C) in which he calculated the cost for the additional scrubbing required to eliminate HCl resulting from the incineration of PVC in MSW. His calculations indicate a cost of from \$0.09 to \$0.25 per ton of MSW as the additional scrubbing costs to remove 100 million additional pounds of PVC per year.

Action Item: Dick Magee was requested to refine this data and present a memo on the impact of additional HCl scrubbing that could be used by the Vinyl Institute.

Roy Gottesman suggested that Dick Magee aim at developing a "white paper" on the dioxin issue, HCl emissions and alleged corrosion as a result of HCl. Dick Magee indicated that he is still trying to establish contacts with incinerator manufacturers in order to gain a viewpoint with regard to incinerator corrosion.

Action Item: Dick Magee is to develop further information on the corrosion issue and subsequently develop a white paper on the dioxin, HCl emission and corrosion issues.

C. Fire and Combustion Toxicity

1. Smoke Corrosivity

Dr. Hirschler reported that the University of Edinburgh Project is underway and he expects to visit there shortly for a project review. He further noted reports that had been issued on the Hinsdale Central Office fire and provided a report on this which is appended to these minutes as Appendix D.

2. Smoke Toxicity

Dr. Hirschler reported on the initial results carried out in the NIBS Program, a report of which is appended to these minutes as Appendix E.

In summary, the PVC coated wire appeared to give very low toxicity, but the conduit gave unexpectedly poor results with high rodent lethality. Dr. Hirschler has written to NIBS, pointing out the technical flaws in their protocol because the carbon dioxide values suggest a large oxygen depletion which could have been responsible for the lethality. Many of the products tested have been virtually calcined. Dr. O'Mara pointed out that the high carbon dioxide level suggests a problem in the combustion so that the NIBS test results might be seriously flawed.

Dr. Hirschler indicated that he is having a retesting of a specially-prepared conduit carried out at SWRI. Roy Gottesman suggested that a commercial conduit sample be run at the same time and agreed that the Vinyl Institute would pick up the cost for this test estimated to be approximately \$6,000.

Marcelo Hirschler noted that an IEEE Subcommittee is to meet in Chicago on May 9th dealing with establishing standards on toxicity and corrosivity. He will attend this meeting on behalf of the Vinyl Institute. This meeting has been convened by a Mr. Whittington, who is a Union Carbide retiree.

It was noted that a presentation had been made to the Massachusetts Commission on Combustion Toxicity and Fire Safety on April 28th by Anthony Fazzari of Union Carbide. A copy of a memorandum dealing with that meeting is found under Appendix F. It was noted that Massachusetts appears to be inclined to adopt the "Boston chair test".

D. Pipe-Related Issues

1. California EIR Status

Roy Gottesman and Debbie Neale updated the committee on the status of the California EIR. At present, the Worker Safety Health Study has been received and transmitted to SRI. An initial report from SRI is now expected on May 15th. It was noted that the ad hoc committee is to be re-established to provide general guidance for this program. Under the current schedule, assuming that there are no unexpected delays, the entire process is now expected to be completed sometime in December 1989.

IV. OTHER ACTIVITIES

A. NEC Code Panel Representation

Chuck Bush indicated that the contact with Joseph Reed as a potential consultant has not been established. Peter Lloyd of BFGoodrich re-emphasized the necessity for Vinyl Institute participation in code panels. Specifically, panels 6, 7, and 16 need representation.

Fred Clarke reviewed the process at NEC and how one obtains membership on a panel. He noted that this is a very difficult thing to achieve and made the suggestion that we determine what individuals are now on the panels and if any of these are approachable to act as consultants for the Vinyl Institute.

Action Item: Fred Clarke is to advise on the representation on Panels 6, 7, and 16 so that we

can determine whether any of the currently-seated NEC code-panel members can be approached to consult for the Vinyl Institute.

B. Financial Support For The International Electro-Technical Commission (EC Committee 15 - March 1990)

Dr. Hirschler noted that this is the first time a meeting of this group will be held in the United States and recommended some support for the meeting. This money will be used for organizing the meeting of which the Vinyl Institute will act as a sponsoring agency.

It was agreed that Roy Gottesman will advise John Blair that the Vinyl Institute will contribute \$3,000 for support of this meeting.

V. TECHNICAL INFORMATION PAPERS

A. VCM Generation in Landfills - Technical Information Paper

In the absence of John Krokosky of Dow, there was no report on this information paper and the assignment continues with John Krokosky to develop such a paper.

B. Indoor Pollution From PVC

Frank Borrelli noted that the CMA report on plasticizers has been completed and is now in "blue line" review. The final CMA report is expected out by the end of May.

Action Item: When the CMA report is received, the draft paper on indoor pollution will be revised to include information regarding plasticizers. This assignment continues with Frank Borrelli.

VI. NEXT MEETING

It was agreed that this meeting will be held during the week of September 18th, the final date and location to be established after the Executive Board Meeting, at which time the September Executive Board Meeting will be established.

Action Item: Roy Gottesman will establish this date with Chuck Bush. (This has now been set for September 19th in Philadelphia and committee members will receive details at a later date.)

The meeting was adjourned at 12:15 p.m.

R. 2. Gottesman