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Geon Vinyl Division
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Cleveland, Ohio 44131
216-447-6000

~~November 23, 1992~~

Mr. Robert H. Burnett
The Vinyl Institute
155 Route 46 West
Wayne, NJ 07470

Dear Mr. Burnett:

Attached is a report on the visit that Bud Hall and I made with the group at DESC. There are a few items for review within the EMC to see how much effort should be spent here.

Please do not hesitate to call me if you have any questions.

cc: Pat Benkner
Len Krauskopf
Mary Mahon
Rick Smith
Dan Stanowick

Sincerely,

B.F. Goodrich Co.
Geon Vinyl Division

Tom Williams

Thomas W. Williams
Technical Manager

CTL008189

November 23, 1992

To: VI EMC Members
From: Tom Williams
Subject: VI TRIP TO DESC

Bud Hall of Vista and I visited a group at Defense Electronics Supply Center (DESC) as representatives of the Vinyl Institute. A press release, picked up by an electrical trade journal prompted our visit. The essence of the release is that PVC is one of the materials that DESC plans to phase out. Our objectives included:

1. Find out why DESC's Hazardous Materials Minimization (HMMIN) group included PVC in this initial effort, and
2. Get a better definition of the steps to be taken.

The participants are listed at the end of this document.

We started the meeting by indicating our problem with the press release and the very probable misinterpretation of statements. Not to mention the fact that PVC is on a list being reviewed by a HazMat group. Dave Moore agreed in principle with our concern and indicated he had heard or expected to hear from others representing other materials on the list. He welcomed input from (Dan Stanowick: Any ideas?)

The most recent impetus to eliminate PVC as a wire insulation/jacket material was fueled by a 1987/1988 investigation done by Support Systems Associates, Inc., of San Antonio, TX. This was done for the San Antonio Air Logistics Command. The following is lifted from the Introduction.

A prime example would be the utilization of polyvinyl chloride (PVC) which is banned for Air Force use by MIL-STD-1587. Most people think of PVC as an innocuous plastic used in household plumbing and lawn furniture. PVC is the most commonly used insulating and jacketing material in electronic cable assemblies. . . . PVC decomposes autocatalytically and leads to corrosion problems in wiring and its' adjacent structures. For example, a common cable weighing ten pounds using PVC as a prime insulating material would contain approximately five pounds of PVC. This five

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pounds of PVC will outgas over 2.5 pounds during a period of as little as five years. This decomposition will occur faster or slower due to the environment in which it is used. The outgassed material is hydrogen chloride gas, which when mixed with normal moisture in the air, results in hydrochloric acid. This hydrochloric acid mist inside of electronic equipment will inevitably lead to corrosion which will negatively affect the operation and life cycle of the equipment.

Bud Hall is obtaining a full copy of the report.

The game plan to eliminate PVC from wiring in weapons systems is now at this point. MIL-STD-454 directs the reviewing activity, DESC-EMT, to flag PVC use in systems designs. The design is then returned to the contractor, usually accompanied by recommended alternatives, x-link PE or fluoropolymer. The contractor must then get a waiver from the contracting agency - Air Force, Navy, etc. - or specify the alternative material. We were told the latter occurs more often than not.

The HMMIN plan for reducing (eliminating) the use of PVC includes several individual active projects. One of these is: Project 59GP-D107 is "Engineering Practices Study to Develop a DESC PVC reduction Plan." It would appear as though the "flag" policy is a good start.

Action To Be Taken:

- Bud Hall to obtain and distribute the SSA, Inc. report
- Technical Committee review of report and recommendations
- Letter to Dave Moore re press release recommendations
- Contact Bob Showalter at DESC EPE re revising MIL-STD-454
- Supply literature to the Hazardous Technical Information Service in Richmond, VA.

Meeting Participants: Bud Hall, Vista
Tom Williams, B.F. Goodrich
Dave Moore, DESC-EMM
Carl Dello-Stritto, DESC-EMT
Nancy Christolear, DESC-EMM
Bill Carpenter, DESC-EMT
Jack Begley, DESC-EMT
Ron Gary, DESC-EMT
Bob Jackson, DESC-ES