



CHEMICAL MANUFACTURERS ASSOCIATION

July 31, 1980

To: Vinyl Chloride Research Coordinators

The most recent EHA proposal for an update of the vinyl chloride mortality study (Final Report prepared by Equitable Environmental Health, January, 1978) is enclosed for your review. The proposal was developed after a series of discussions with EHA staff in Berkeley, California on June 25/26, 1980. Attending the conference were:

Dr. Ted Torkelson	Dow Chemical U.S.A.
Mr. Nick Wheeler	Union Carbide
Dr. Maurice Johnson	BFGoodrich
Dr. Chi-Pang Wen	Gulf Oil
Dr. H. Michael Utidjian	Union Carbide
Dr. Carol Stack	CMA Staff
Mr. Joseph Seawell	CMA Staff
Dr. Thomas Milby	EHA Staff
Dr. Clark Cooper	EHA Consultant
Mr. Richard Davis	EHA Staff
Dr. Donald Whorton	EHA Staff
Dr. Harrison Stubbs	EHA Consultan
Ms. Jane Schulman	EHA Staff

On the first meeting day, Mr. Richard Davis and Dr. Thomas Milby presented a detailed history of the existing study, described methodology used in data collection and analysis, and provided a summary description of the present condition of the data base. A condensation of their comments may be found on pages 1-3 of the Introduction and Background section of the proposal. Attached are additional materials distributed at the meeting that will provide you with further details on the composition of the cohort.

On the second day of meetings, several options were considered for a comprehensive update of mortality in the 10,173 member cohort. In considering various options, information gained was weighed against projected time and costs that would be expended by both EHA and the plants involved.

In the original study, data were gathered from 34 plants representing 17 companies. The "Cohort by Type of Plant and Year Records Began" chart was carefully scrutinized and the merits of including all or combined segments of the cohort in the follow-up were discussed. For example, consideration was given to including all "prior to '59" exposures and excluding "after '60", or following up on only those with complete data in all categories. Ultimately, it was proposed that all 10,173 workers in the original cohort be included, although it is recognized that a small portion of these will be lost to follow-up by virtue of the fact that code numbers for some individuals can no longer be matched to names.

CMA 011571

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Information required of the plants is described on pages 6 and 7 of the proposal. On page 3, the statement is made that exposure duration be terminated on December 31, 1972. At the meeting it was suggested that the plants consider: 1) updating work histories post 1972 ('72-'79), and 2) provide the same information on employees entering the work force with at least one cumulative year of vinyl chloride exposure post '72 through December 31, 1979. These options are still open and would not add appreciably to EHA's projected costs; however, they would place an additional burden on the plants. EHA considered that, given the substantial drop in worker exposure levels during the 1970's, information gained by including these options would not be worth the additional effort at this time. This data would be a valuable addition if future follow-up studies on this cohort were planned.

Brain Tumors - Case-Control Study

Dr. Whorton briefed the group on what would be needed to conduct a proper case-control study using the twelve brain tumor deaths found in the earlier mortality study as "cases". (Reference to a preliminary review of eight of the cases is made on pages 11-12 of the proposal). In order to select a suitably matched group of exposed controls from the cohort, considerably more medical and occupational information would be needed than is presently available. Data of this nature may be obtained through several channels, including workers' compensation, health insurance records, questioning plant personnel and/or coworkers. Contacting the deceased's family for personal information has become increasingly difficult due to the legal protection now afforded them, and gaining access to medical records is also a difficult task. If one were able to collect sufficient data on the 12 cases and a control group, the exposure duration factor would be compared. Dr. Whorton also noted that of the 12 brain tumors found, six were classified as primary astrocytomas, one as "other", and five were non-descriptive.

It was Dr. Whorton's opinion that a case-control study performed at this time could not be conclusive and, therefore, little would be gained from it. However, if the follow-up reveals more brain tumor deaths, reconsideration should be given to a study of this type at that time. Those present were in agreement with this suggestion.

This material will be used as a basis for discussion at our meeting on September 17, 1980. I look forward to meeting with you at this time.

Carol R. Stack, Ph.D. 
Project Administrator
Vinyl Chloride Research

CRS:md
Enclosure

NOTICE OF MEETING
of the
VINYL CHLORIDE PROJECT PANEL
RESEARCH COORDINATORS

Date: September 17, 1980
Time: 9:00 a.m.
Place: Dow Chemical U.S.A.
1800 M Street, N.W.
Washington, D.C.

AGENDA

- 1.0 Discussion of July 1980 proposal from Environmental Health Associates, Inc., (EHA) for an update of the epidemiological study on vinyl chloride workers.
- 2.0 Discuss letter containing recommendations on the EHA proposal to be sent to the Project Panel.
- 3.0 Propose timetable for conduct of an update.
- 4.0 Compensation owed EHA for preliminary review of the existing data base (\$11,495).
- 5.0 Reimbursement or reallocation of funds from the IBT Laboratories settlement.
- 6.0 Additions to NIOSH angiosarcoma registry.
- 7.0 Current research and regulatory activities.

COHORT BY TYPE OF PLANT AND YEAR RECORDS BEGIN

	PRIOR TO 1959	1959- 1960	AFTER 1960	TOTAL
COMPLETE RECORDS:				
PVC	4,828	93	1,511	6,432
VCM	102	-	50	152
PVC/VCM	559	-	-	559
OTHER	<u>739</u>	<u>-</u>	<u>-</u>	<u>739</u>
TOTAL	6,228 6,611	93	1,561	7,882
INCOMPLETE RECORDS:				
PVC	289	-	181	470
VCM	577	23	462	1,062
PVC/VCM	331	45	-	376
OTHER	<u>383</u>	<u>-</u>	<u>-</u>	<u>383</u>
TOTAL	1,580 1,580	68	643	2,291

SUMMARY:				
PVC	5,117	93	1,692	6,902
VCM	679	23	512	1,214
PVC/VCM	890	45	-	935
OTHER	<u>1,122</u>	<u>-</u>	<u>-</u>	<u>1,122</u>
TOTAL	7,808	161	2,204	10,173

EXPOSURE INFORMATION

PLANT NO.

1	No information in file
2	Relative levels; no quantification
3	Low = Less than 50 ppm Medium = 50-199 ppm High = 200-500 ppm
5	Relative levels; no quantification
6	Only Medium and Low; no quantification
7	No information in file
9	No information in file
10	No information in file
11	No information in file
12	Quantified exposure; 50-300 ppm (halved after '58)
13	No information in file -
14	No information in file
15	No information in file
16	All exposures less than 50 ppm; all classified Low
17	Low = 50 ppm and less Medium = 50-100 ppm High = 100 ppm
18	Relative levels; no quantification
19	Relative levels; no quantification
21	Relative levels; no quantification
23	No exposure over 50 ppm; all classified Low
24	No information in file
25	No information in file
26	No exposure over 50 ppm; all classified Low
27	No information in file
29	No information in file
30	No information in file
31	Classifications not clear in file
32	No exposure over 50 ppm; all classified Low
33	Relative levels; no quantification
34	Low = Less than 50 ppm Medium = 50-199 ppm No High
36	Low = 0-50 ppm Medium = 50 ppm High = 50-199 ppm
37	Low = 0-100 ppm Medium = 100-500 ppm No High
38	Low = Less than 50 ppm Medium = 50-200 ppm High = Greater than 200 ppm
39	No information in file
40	All classified Low
41	No information in file
42	All classified Low and Medium; no quantification
43	All classified Low and Medium; no quantification

CMA 011576

Refers to coding on ITEM card - **NCA**

Mortality study

<u>COLUMNS</u>	<u>ITEM</u>	<u>CODE</u>
1-4	ID number	Number
5-6	Starting year for subject's plant	Date
7-10	Month and year born	Date
11	Vital status as of 12/31/72	1 alive 2 dead 9 unknown
12	Record status	1 working 2 retired 3 terminated 4 died an employee
13-16	Month and year hired	Date
17-18	Years worked	Number
19-22	Month and year of death	Date
23-26	Cause of death	ICD 1955
27-28	Age at death	Number
29	Race if dead	1 white 2 black 3 oriental 4 Spanish American 5 American Indian 6 Filipino 7 other
30-33	Month and year VC exposure started	Date
34-38	Time weighted total	Carried to 1 decimal place Unknown-blank
39-41	Total months exposed	Number Unknown-blank