



DOW CHEMICAL U.S.A.

PLAINTIFF'S EXHIBIT

DOW-691

MIDLAND, MICHIGAN 48640

January 15, 1980

Memo to R. R. Cook

cc: L. O. Baker
K. M. Bodner
G. G. Bond
J. Cartmill
M. D. Coin

B. J. Lasich
M. G. Ott
F. L. Sabel
J. Townsend

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ASBESTOS-EXPOSED COHORT

1. The Epidemiology Group meeting of 14 January 1980, discussed asbestos exposure among Dow Midland employees, with special attention to updating the pipe coverer list assembled by Jerry Ott. Members of our group including Greg, Bernie and Roy presented various aspects, and we were fortunate also to have comments by Industrial Hygienist, Fred Sabel.
2. It is my impression that the group's consensus was that an asbestos-cohort at Dow should be studied, not to learn whether high asbestos exposure causes increased mortality from lung cancer and other diseases (we already know that) - but to identify which jobs or exposures may, in fact, have experienced such increased exposure and be expected to have increased mortality from specific malignancies in the future. The group further agreed that a list of master numbers of individuals considered to have significant asbestos exposure would be valuable even with the realization that persons with limited exposure to asbestos might not be included (i.e. might have missed census lists), so work histories of future cohorts might have to be further searched for asbestos exposure.
3. Other items were (not in order of priority) discussed:

Problem

Comment

- (a) Asbestos exposure in construction trades from cutting and using panels of "Tensite."

Almost impossible to document - be aware of this, but do not include construction workers in the Asbestos List.

Transite

AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY



(b) The multi craftsman job category, created in 1974 includes some craftsmen who do pipe covering since 1974 - do we include them all in Asbestos List?

No, only those with prior history of asbestos exposure (because exposure minimal from 1974 on), and

only the present listed as pipecoverers

(c) Pipe coverers are not the only Dow Michigan employees with asbestos exposures. Some persons involved with boilers at the Power Plant or with manufacturing chlorine cells may have (and have had) significant asbestos exposures.

Include them in the Asbestos List - Jean T. will check this out with Industrial Hygiene.

(d) Lack of industrial hygiene exposure data prior to 1974. This is particularly difficult since we don't even know when we stopped using new asbestos pipe coverings - asbestos was used in 1968 and was not in 1973, so discontinuation was some-time in that period.

* Not unique to asbestos - do best we can as far as "informed estimates" and time of exposure vs. intensity.

*data 1965-69
no data 1969-73
data after 1973*

4. A report on current status of the Asbestos List is enclosed. Please let me know if you want an asbestos cohort study protocol written.

Pike

P.F.D. VanPeenen

Attachment

cm

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** data presumably available from 1965-69, with ^{and} between 69-73, available after 73.*

CURRENT STATUS OF LIST OF
ASBESTOS-EXPOSED DOW MICHIGAN EMPLOYEES

PURPOSE:

Exposure to asbestos is known to be associated with increased mortality from certain diseases, including cancer of the lung. It is therefore, desirable to identify those members of Dow Michigan cohorts and controls who have had significant asbestos exposure, and to consider their mortality/morbidity experiences separately.

BACKGROUND:

In a report dated 13 October 1970, Jerry Ott identified ~~173~~ men who had worked as pipe coverers between the 1920's and January 1970 - persons with this job classification could be assumed to have had significant asbestos exposure. This original list was compiled from yearly censuses, so persons with less than 1 year exposure may have been missed. The list was apparently updated 11/72 (at least deaths were updated). 8/30/72, 5/23/73 and 8/30/73.

PRESENT

STATUS:

From Jerry's IBM cards, Bernie Lasich has now assembled a computer disk file which incorporates all 178 Dow Midland employees considered by Jerry to have had significant exposure to asbestos. On that file, the last date on which vital status is known was January 1973 (01/73), when all but 46 of the 178 were still working and, significantly, only 8 had retired. For each pipe coverer, the computer data available includes man #, last name (initials sometimes), birthdate (mo./yr.),

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date started asbestos exposure (mo./yr.), date completed 1 year of exposure (mo./yr.) - which is the same as date started except with the next year, vital status (working, dead, retired, quit, etc.), and date of vital status.

DISCUSSION:

One could probably make a case for asbestos exposure in almost everyone who worked in the Midland production plants prior to 1970, given the extensive use of steam and pipes. In fact, even though Dow discontinued use of new asbestos pipe coverings between 1968 and 1973, and discontinued use of asbestos weather proofing paper in 1976; and despite industrial hygiene efforts to prevent exposures during rip outs of old pipe coverings; there may be sporadic exposures for a long time to come as brittle old coverings are removed or repaired.

Industrial hygiene data are limited prior to 1974; apparently, since 1974 exposures have been less than 1 fiber/ml TWA, and respirators have been used for all rip outs. Nevertheless, it seems reasonable that pipe coverers prior to 1970 be considered those with highest exposures, those from 1970-74 much less exposed and those since 1974 very minimally exposed. If I interpret Jerry Ott's reports (000020 in his files) correctly, pre-1970 pipe coverers have, in fact, suffered increased pulmonary mortality & morbidity compared to controls.

A weakness of using Jerry's list as the sole source for identifying asbestos-exposed individuals is, as pointed out by Jerry himself, that pipe coverers not on census

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lists (i.e. with exposure of less than 1 year) may be missed. In addition, the list needs updating since 1973. Finally, the list includes only pipe coverers whereas other job categories (i.e. chlorine cell fabricators) may also be exposed.

RECOMMENDA-
TION

It is recommended that a list of Dow Midland employees considered to have had significant exposure to asbestos be compiled and the members be considered separately in any Dow Michigan epidemiological studies. Pipe coverers before 1974, and certain other job categories such as power plant mechanics and chlorine cell fabricators should be on the Asbestos List. Individuals with service as pipe coverers since 1974 probably should also be identified and probably considered in a separate, but less heavily exposed, category. Man numbers of some pipe coverers are presently available on the lists compiled by Jerry Ott & now available on a disk prepared by Bernie Lasich. Leroy Baker has identified additional pipe coverers, most with service since 1973: these will be added to the Asbestos List. Man numbers were obtained from hard copy searches for the pipe coverer category of personnel print out lists by department for 1 January 71 through 80. These lists were available in 2020 and 690 Buildings. Man numbers also were obtained by computer listing of job classifications for 1977 which has been obtained through a program written for Leroy by Jerry Stoops.

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In order to verify that all these categories are, in fact, at special risk, it is recommended that a retrospective cohort mortality study be performed for those on the List. For this purpose, mortality according to intensity of exposure and job category should be checked.

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1603 Building
March 21, 1980

MEMO FOR THE RECORD

CC: Gregory Bond
Dale Ducommun, M.D.
Rick Olson
Fred Sabel
Jean Townsend

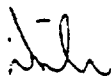
SUBJECT: ASBESTOS STUDY

1. We met in Building 607 at 0830 today to discuss this study. Some of the items discussed and/or agreed upon may be summarized as follows:
 - (a) Glass blowers were not at risk to asbestos exposure and will be eliminated from our considerations. A 1978 IH survey showed levels of 0.04 fibers/cc or less - Rick will get the exact reference for us.
 - (b) 70 Bldg, also known as NT, Power Plant. Jean will contact Woody Woodcock regarding kinds of jobs (job class#) and processes (index#) which might have had asbestos exposures. [Some of the folks working in Bldg. 70 - which ceased operations in 1965 - may also show up on Power Maintenance lists: vide infra]. According to Fred, there are probably no IH data for 70 Bldg, but after Jean checks, perhaps we can extrapolate from data from west and south power plants - - particularly after the surveys of these planned for this spring.
 - (c) Magnesium casting and graphite. No asbestos exposures according to telephone conversation with Harold Hoyle this date.
 - (d) Power operating crews (index 3030), power maintenance (P.M.) (3040), P.M. Boiler (3041), P.M. construction (3042) and P.M. pipe (3044) all had "medium" exposures. Fred will try to document or guesstimate in terms of fibers; he advised that all the power groups also had exposure to SO₂ and fly ash, and that the power maintenance groups additionally were exposed to welding fumes and silica.

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- (e) Power feed water (9410). Eliminate - no asbestos exposures.
 - (f) For individuals in Rick's areas, we will use his format and list i.e., all those in cell maintenance (index #?) will be considered at risk to low exposures except the 3 job classifications he specified as medium. Rick will provide us with job classification numbers for those (and for the jobs in chlor alkali (index #?) he considered to have also had medium exposures). He will also try to arrive at some kind of quantitative fiber exposure for these two departments.
2. I called Harold Hoyle; in addition to answering my questions about magnesium casting and graphite, he advised:
- (a) Look at carpenters in construction because of their use of Transite. There should be some documentation of exposure (to dust, not fibers unfortunately) about the early 50's because of concern about asbestos in the air during power saw operations.
 - (b) One safety department did come out with a "Directive" about avoiding asbestos exposure - sometime prior to 1970. This was partly a result of an IH study by Roy deGessero (now in Texas). I haven't yet been able to contact the latter.
3. The next step is for Jean to check up on 70 Bldg. and for Fred and Rick to do the best they can on identifying the indices and job classification numbers we discussed. Meanwhile, I will start rewriting the proposal.


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