THE DOW CHEMICAL COMPANY

MIDLAND, MICHIGAN 48674

June 3, 1987

PLAINTIFF'S EXHIBIT

DOW-1284

Marise Burger, RN
Assistant Editor
AMERICAN JOURNAL OF INDUSTRIAL MEDICINE
Mount Sinai School of Medicine
of the City University of New York
10 East 102nd Street
New York, New York 10029

RE: Cause-Specific Mortality Among Female Employees of a Chemical Company

Dear Ms. Burger:

Enclosed find another revision to our manuscript which addresses points made by your second reviewer, and amends the table headings to more closely conform with the new title. In response to the comments of the reviewer we offer the following:

-- We have added a paragraph to page 19 in which we have emphasized the relatively small proportion of total subjects who have died, the young age of the survivors, and consequently the need for additional follow-up of this population. However, we remain convinced of the current study's informativeness. Analyses were done of many subsets of employees in an effort to identify whether some may have experienced aberrant mortality patterns. Within many of those subsets, the proportion who had died was considerably greater than 5.0%.

-- The specification of any duration of employment criterion for cohort eligibility will be arbitrary, and the investigator risks missing an occupational effect in the subset which has been excluded. For instance, some hazards (e.g., asbestos) have been known to cause disease after only brief exposure, and many short-term industrial workers typically were assigned to less-desirable (i.e., more hazardous) jobs which may have hastened their early exit from the industry. For these reasons, we prefer to include short-term workers and then analyze for the influence of duration of work as was done in Table IX.

ST0161107

-- We already had summarized the industry and occupation data available from death certificates in response to comments from the first reviewer (see page 17).

-- A brief description of the facilities has been added at the top of page 5, and the reader is referred to our study of male employees which includes a more complete description.

We did not collect detailed exposure data for this study. Our plan was to follow-up aberrant findings with nested case-control studies which would require developing rigorous exposure data only for a subset of the employees, thus maximizing the efficient use of resources.

-- The issue of soft-tissue sarcoma is of concern not only to the company, but to the community and the State of Michigan. In fact, the State is conducting a prospective case-control study of soft-tissue sarcoma in a multi-county, Mid-Michigan area to address an apparent increase in the death rate from soft-tissue sarcoma among white women in Midland county. We did not feel it was appropriate to cite local newspaper stories as the basis for the controversy, because the AJIM readership would not have ready access to such articles.

Although we do not consider soft-tissue sarcoma to be a sentinel tumor, we have added a brief discussion of a single case of malignant mesothelioma to page 18.

-- We discussed possible under-enumeration of deaths extensively on page 16. It is unlikely to have affected the distribution of deaths by cause in any meaningful way.

-- We do not know how many of the women had husbands that also worked at Dow (current experience would suggest a substantial percentage), but we are also uncertain as to how we would have used this information had it been available to us. Based on the results we observed for breast and cervical cancer, we think knowing marital and reproductive history would have been of greater interest. Even then, the data would have been useful mainly for descriptive rather than for analytical purposes.

S1016108

We hope you will find our revisions and response to the first and second reviewer's comments satisfactory, and look forward to your decision regarding publication.

Sincerely,

Gregory G. Bond, Ph.D., M.P.H.
Project Leader
Department of Epidemiology
Health and Environmetal Sciences
1803 Building
Midland, MI 48674
Telephone: (517) 636-9063

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June 20, 1987

Gregory G. Bond, Ph.D.
The Dow Chemical Company
Department of Epidemiology
H&ES 1803 Building
Midland, MI 48674

Dear Author,

We have received the manuscript of your article, "Mortality Among Female Employees of a Chemical Company," scheduled for publication in American Journal of Industrial Medicine.

We plan to send you page proofs of this article before it goes to press. If the address to which this letter was sent is incorrect or if you will not be at that address for any significant period until you receive the proofs, please contact us immediately and provide us with the address to which the proofs should be sent.

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AMERICAN
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MEDICINE

Editor-in-Chief
IRVING J. SELIKOFF, MD
Deputy Editor
RUTH LILIS, MD

May 28, 1987

Gregory G. Bond, PhD, MPH
Project Leader
Health and Enviromnnetal Sciences
1803 Building
The Dow Chemical Company
Midland, MI 48640

Re: 'Mortality among female employees of a chemical company'

ST0161111

Dear Dr. Bond,

The attached comments have been received on the other review of your manuscript. Although you have addressed some of the points raised in your revision, we are submitting these for your consideration, possibly for the inclusion of covering statements.

May we also ask you to consider amending the headings of the Tables in order for them to conform to the new title?

We look forward to hearing from you.

Sincerely,

Marise Burger

Marise Burger, RN
Assistant Editor

cc: I.J. Selikoff, MD, Editor in Chief
Ruth Lilis, MD, Deputy Editor

EDITORIAL OFFICE American Journal of Industrial Medicine, Mount Sinai School of Medicine of the City University of New York, 10 East 102nd Street, New York, New York 10029

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THE DOW CHEMICAL COMPANY

MIDLAND, MICHIGAN 48674

May 29, 1987

M. A. Makulski
Legal
WSB

Mr. Makulski:

Per your request, I am sending you a copy of the report entitled "MORTALITY AMONG FEMALE EMPLOYEES OF A CHEMICAL COMPANY" which has been submitted for possible publication to the American Journal of Industrial Medicine. If you should have any comments or questions, please contact Gregory Bond 6-9063.

Angie

Angie Grzegorczyk
Epidemiology, H&ES
1803 Building

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S10161112

THE DOW CHEMICAL COMPANY

MIDLAND, MICHIGAN 48674

May 6, 1987

Marise Burger, RN
Assistant Editor
AMERICAN JOURNAL OF
INDUSTRIAL MEDICINE
Mount Sinai School of Medicine
of the City University of New York
10 East 102nd Street
New York, New York 10029

RE: "MORTALITY AMONG FEMALE CHEMICAL COMPANY EMPLOYEES"

Dear Ms. Burger:

Your letter of April 6 included comments directed at our manuscript from a single reviewer, but intimated that further comments would be coming. One month has elapsed and we have not received anything more. I have tried unsuccessfully to reach you by telephone to obtain clarification. Because we are anxious to have our study published, we have undertaken a revision based on the comments of the one reviewer. Find enclosed an original and one copy of this revision, incorporating many of the reviewer's excellent suggestions.

-- We agree with the reviewer's suggestion of a title change to "Mortality among female employees of a chemical company".

-- Table VII and VIII have been abridged to include only those categories of death for which there were more than 5 observed or expected deaths, or for which the SMR exceeded 200. We have done this with some regret. Although the reviewer is correct in noting the study had low power to detect increases in the more uncommon causes of death, power is a moot issue once the study has been completed, as the point and interval estimates of risk are much more infomative. We originally included detailed causes of death so that investigators who conduct future studies could benefit fully from our data.

ST0161113

-- A paragraph has been added to pages 16 and 17 to address the issue of brevity of employment among female workers. We acknowledge that many of the subjects of our investigation were not career employees at this company. But this is also true of many of the men included in occupational health studies conducted by ourselves and others, and we are unaware of other instances in which the authors have had to address this point. An inherent assumption, common to nearly all occupational mortality studies, is that the cohort and the reference population are similar in all respects other than the exposure of interest. We assume that upon their terminating employment, the workers do not systematically enter other hazardous work, but instead enter the same general types of jobs as are held by the reference population.

We did not collect a lifetime occupational history from the women in our study. This would have been cost-prohibitive, and inconsistent with the goals of our occupational health surveillance program. However, based on the reviewer's comment we undertook coding of the usual industry and occupation as listed on the death certificates for 467 decedents. Others have shown this information to have some basic validity. This exercise demonstrated that many of the women did continue employment, but that a substantial number assumed the role of "housewife". We are uncertain as to how this may have affected their mortality experience.

-- At the reviewer's suggestion we have eliminated the speculation regarding the contribution of sedentary work to colon cancer risk among clerical workers. However, we have retained our discussion concerning the possible role of maritally- and sexually-related risk factors in explaining the patterns of breast and cervical cancer. Although we agree there are better methods for determining differences between employed and unemployed women with respect to such factors, the mortality patterns we observed may be a direct manifestation of those differences. We are simply suggesting a hypothesis which we or other investigators may wish to explore.

-- We have modified the next to last line of Table II per the reviewer's suggestion. The mean age employees left Dow has been added to the first full paragraph on page 9 rather than to Table III.

S1016114

We hope you find our revisions and response to the reviewer's comments satisfactory, and do not think it presumptuous of us to respond without awaiting further comments.

We look forward to your decision regarding publication.

Sincerely yours,

Gregory G. Bond, Ph.D., M.P.H.
Project Leader
Department of Epidemiology
Health and Environmental Sciences
1803 Building
Midland, MI 48674
Telephone: (517) 636-9063

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Encls.

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