

January 23, 1987

MEMO TO: J. E. Gulick

FROM: Martin E. Powers, Otto P. Preuss

SUBJECT: PROPOSED PROGRAM OF FILLING NEED FOR NEW AND
ACCURATE BERYLLIUM HEALTH AND SAFETY LITERATURE

The Need

The medical and industrial hygiene information on beryllium is largely obsolete and inaccurate. With the exception of a relatively few documents such as Eisenbud's 1984 paper on the Beryllium Registry, the literature on beryllium published in the last twenty years has been very damaging.

The literature is constantly being cited, either to our doctors at medical meetings in rebuttal of the Brush experience, or by potential customers as the cause of their unwillingness to use our products. Federal Government regulatory agencies such as OSHA and EPA publish much of this material and then in the absence of good data, cite these erroneous documents to support regulatory activities that are harmful and expensive to Brush.

The Solution

What is needed to combat this situation is a complete, accurate and well written textbook on beryllium health and safety. It will have to be financed by Brush (or Brush and NGK?) and the bulk of the work done by Marty Powers and Otto Preuss. To be fully accepted and credible, however, it will have to be published under the auspices of some not-for-profit organization such as a university or medical group. We estimate the project would cost about \$50,000 and take two years to complete.

In addition to the book, we should have a number of medical papers published in prestigious medical books. In order to have these papers published timely enough to be used as up-to-date references for the book, one would have to begin their preparation without further delay. This is also important because several papers should be written in coauthorship with reknowned secondary authors who, in general, require additional time for their review and approval.

A priority list and time table needs to be established since it will be impossible to prepare all necessary publications at once. A suggested sequence follows:

1. "Summary of a Diagnostic Workshop on Chronic Beryllium Disease (CBD)" will contain the new and much more reliable criteria. These will take out the guesswork, prevent false positive diagnoses and allow us to determine the presence of CBD with at least 95% accuracy.

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We have been invited to submit this paper to the international journal "Sarcoidosis", which addresses all chest physicians interested in granulomatous lung disease. These represent the very group likely to show the greatest interest in the application of the immune test via bronchio-alveolar lavage (BAL).

Coauthors would be Drs. Rossman (University of Pennsylvania), Saltini (National Institute of Health), Jones-Williams (UK), Buhl (W. Germany), Izumi/Nagai (Japan) and Dr. VanOrdstrand. Brush Wellman would have to coordinate the effort.

The total preparation time would be approximately 10 weeks because of the required inter-author correspondence. Deadline should be set for June 1, 1987.

2. "New Criteria in the Diagnosis of Chronic Beryllium Disease" should be published in the Journal of Occupational Medicine. The paper would give a review of all previously used diagnostic tests and their shortcomings and focus on the favorable experience with the BAL-immune test. This journal reaches a broader readership among occupational health physicians and its editor, Dr. Lloyd Tepper, has assured us of a spot in the May or June issue. This would be particularly valuable in view of the planned DOE screening program which should be finalized by March or April of this year.

Dr. Milton Rossman should be the primary author for this paper, but the main work would have to be done by G. Preuss.

Completion time: 4-6 weeks.

3. "A Critical Review of the Recent Literature Associating Beryllium with Increased Lung Cancer Rates."

The present NIOSH study is at least one more year away from completion and the full acceptance of its outcome, whether positive or negative, might easily take another year. Meanwhile, the infamous Mancuso, Wagoner and Infante studies continue to be quoted as positive evidence. For that reason, a summarized review of these papers, which would point out their shortcomings and submit the reviewing author's opinion to peer review, could be very effective in counter-acting this. It would also provide useful information for the book.

Preferably, the primary authors should be Drs. MacMahon and Roth. However, most of the work on this paper would have to be done by Brush Wellman.

Completion time: 6-8 weeks.

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4. "Skin Effects of Beryllium and Beryllium Compounds. Review and Follow-up on 330 Beryllium Workers." This paper would be best placed in the same journal or in the Archives for Dermatology. This paper is urgently needed to dispell the many and still printed misconceptions and reassure that injuries caused by solid beryllium compounds heal without complications and do not require any special attention.

Primary authors should be Drs. Markham and Preuss and the preparation would require 4-6 weeks.

5. "Epidemiological Aspects of Chronic Beryllium Disease. 46 Years Experience of a Major Beryllium Producer." This paper should discuss our case experience with emphasis on the special circumstances leading to excessive exposures and the eventual development of CBD cases and the efficacy of the adopted TLV. This information is of great importance to beryllium users in view of three fairly recent publications incorrectly claiming the occurrence of disease with exposures below 2 ug/m^3 . The argument, if ever accepted in court, would have a severe adverse effect on Brush. The flaws in these papers are quite obvious and should be included in the discussion.

The principal authors would be Tom Markham and Otto Preuss.

Completion time: 3-4 weeks.

6. "Allergic Alveolitis from Exposure to Beryllium Fluoride". This paper would report two subacute, reversible cases which should clarify old controversies, i.e., Is the acute berylliosis an independent disease entity or the first stage of the same disease? In addition, since both cases were followed in great detail at the National Institute of Health, the accumulated data will enable us to better understand some of the immune mechanisms involved in beryllium disease.

Principal authors: Otto Preuss and Tom Markham.

Completion time: 4-6 weeks.

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7. "Health Effects of Beryllium Compounds - A Monograph." We have been invited to submit and edit material on beryllium by the publisher of a well known monograph series dealing with Occupational Medicine topics. The issue would contain abbreviated chapters containing information from the individual publications listed above. It would be a short version of the medical section of the textbook. The advantages for such a "compendium" would be twofold:

- a) It would be published much faster than the beryllium textbook and thus available sooner to the occupational medicine practitioner in need of readily accessible information.
- b) Since the individual chapters are reviewed by the editorial board, the monograph could also be used as reference for the book.

Editors and contributors would be Tom Markham and O. Preuss with additional contributions by Drs. Rossman, Saltini, Reeves, Sargent, Barna, Eisenbud and VanOrdstrand.

Completion time: 12-16 weeks.

MBF/OPP:ls

cc: D. Davis, T. Markham

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