PLAINTIFF'S EXHIBIT IWRG-37

February 9, 1965

via air mail

Mr. N. F. Bushell
Grant Industries Ltd.
1075 Melville Street
Vancouver 5, B. C., Canada

Dear Mr. Bushell:

Mr. Kelley has forwarded copies of your letters dated December 8, 1964 and February 4, 1965 along with the copies of correspondence with the Alberta Department of Health. He asked that I write you and discuss the dust situation in general. I will discuss the dust situation as I know it in the U.S. and hope you will be able to apply some of this to your own situation.

In general, the dust control can be broken down to two separate situations.

1. Inside the plant - that effects the workers and other plant personnel and housekeeping.

2. Dust ejected outside the plant into the atmosphere and neighborhood. This effects your neighbors.

In both cases the Health Department is or can be involved and there may or may not be laws involved.

But first I will review the nature of the vermiculite dust itself. Vermiculite itself has been reported to contain no free silica or a very small percent. It is considered by most authorities that dusts which contain less than 5% silica do not cause silicosis. I found the following reports in our files:

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1. A sample checked in 1948 by the Bureau of Industrial Hygene, Department of Health, Commonwealth of Pennsylvania, showed no free silica content. This sample was taken from a rafter

2. A sample of vermiculite submitted in 1947 to the Industrial Hygiene Foundation of America, Inc., Pittsburgh, Pennsylvania was checked and reported as 2% free silica. It does not state where the sample was obtained.

A copy of "Dusts, fumes and mists in Industry" published by the National Safety Council is enclosed which contains some very good information. The threshold limit or concentration of dust for vermiculite is 50 mppcf and for asbestos 5 mppcf (million particles per cubic foot). Vermiculite is classified as a nuisance dust whereas asbestos is usually considered as a health hazard unless the dust is controlled. This is all explained well in the above report. The point I am making is that Libby vermiculite does contain a small amount of asbestos dust. There is none in the South Carolina vermiculite.

The Montana State Board of Health in checking the dry mill dust at Libby has set a safe limit at 20 mppcf if I remember correctly. Earl Lovick can confirm this. In my opinion the plants using Libby ore should also adopt this limit for areas where men have to work.

About three years ago in South Carolina we started having all employees x-rayed once a year and when a new employee is hired. As far as I know we have never had any negative reports on any of our people nor do I know of any reports from plants using the South Carolina ore. Some of our men have worked in the mill for 15 years.

There have been reports at Libby of men having pulmonary trouble. I also believe Western Mineral Products have had a report or two. I'm sure Earl Lovick will cover this in his letter.

We have adopted the position that <u>ANY DUST</u> is a health hazard and should be kept within a safe limit. We are attacking this problem by several methods.

1. Design and installation of bigger and better dust collection equipment at our mills and expanding plants.

2. Trying to eliminate as much dust as possible at the mills but this is one which will help but not solve the dust problem at the plant. No matter how clean the ore appears to be at the mill, the handling, loading, rehandling and expansion produces more dust.

3. Where we do have a dust problem not yet solved by mechanical improvement be sure the <u>dust mask</u> is worn. This is especially

true in our dry mill areas at the two mills when working with mixed products such as Acoustical Plaster and when unloading ore by payloader.

4. We already have a dust sampling unit at Libby for checking the dust concentration and I am buying one for use at South Carolina and to check our plants with.

5. We are having all plant employees x-rayed once a year - trying to have them checked by the same doctor so he can pick up any change. Not only do we want to know about our employees but we do not want to hire someone who already has a respiratory disease.

6. And last but not least have a good repair and maintenance program to keep the equipment we have in good working order.

In designing new expanding plants, we are designing for dust control. First of all we are abandoning some of our old obsolete plants and building new ones. There are two main ideas followed here.

1. Divide the plant into 3 separate areas and confine any dust generated in these areas to the local area. These 3 areas are: ore storage, furnace room, bagging and warehouse area. Each should be sealed from the other. Silos are the best ore storage for dust control.

2. Enclose dust producing points and install sufficient dust collection equipment.

With some existing plants it may be as costly to try and obtain good dust control as it would be to rebuild. However, in most plants a great improvement can be made by re-designing the dust collection equipment and extending it to include all points of dust generation. This is especially true on the Model "A" furnace. This would include replacing the present fan with one twice as large, enlarge the dust vent pipes, and extend them to include all points. For instance, the furnace discharge chute should be completely or almost completely enclosed. Do you have good collection at the ore hopper?

You can find most of your points of insufficient collection when running Masonry Fill as I'm sure you are aware of.

Once the dust is collected there must be a way of disposing of it. The cyclones should be followed by at least a dry Vortex collector where there is no neighborhood or laws limiting it. This does fairly

good collecting the dust but doesn't keep the Masonry Fill smoke from going into the atmosphere.. Where the neighborhood relations or laws limit the dust ejected into the outside a wet collector should be installed. This brings me to the second situation as mentioned in the second paragraph of the first page.

I am attaching a few articles that presents the picture in the U.S. very clearly. There are very tight laws in some states like New York and California whereas some states have none. Each area should be investigated for city, county and state laws. The U. S. Federal Government is now getting into the act. I'm sure that it will not be long until there will be very strict laws in almost all areas. It is much better to stay ahead of them and act before they do. Frankly, we will have no other choice before long. It is my opinion that trying to save a few dollars on installation of the initial dust collection equipment will be a poor investment.

I may have been too general and not answered your questions. When you receive Earl Lovick's letter and you still have questions, please do not hesitate to write or contact us again. I'm sure we do not have all the answers. We do realize we have a twofold problem and we are working to solve these as fast as our capital and time permits.

The next time you are in the area I suggest you visit our Weedsport, New York plant. This is our latest Model "A" plant and where we are trying to get control of the dust both inside and outside. At the moment we have not installed a wet collector but plan to do so this year.

The D-16 installation at Newark, California represents the latest in this furnace design. Here we have tried to design a good dust collection system. Again this was a dry Vortex collector by local choice of California Zonolite.

Sincerely yours,

ZONOLITE DIVISION
W. R. GRACE & CO.

O. F. Stewart

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Attachments