



Johns-Manville

Internal Correspondence

To: C. G. Stelchek

From: E. J. Mitchell

Date: July 24, 1975

Copies: W. A. Sells, R. Gomez, L. I. Richards - Denison, F. W. Fekete - Denison

Subject: FIBRE DUST AT THE WILLOW FEED STATION
Your letter dated June 17, 1975

PLAINTIFF'S
EXHIBIT
JHMC-195

I appreciate having your thoughts on this subject. Because, no matter how different an idea may be, it should never be rejected without giving it fair consideration. Our progress in the Pipe Division has been made from ideas, such as yours, coming from many sources.

By now, Louis may have told you of our discussions at the Pine Valley meeting and also of the presentation made by Fred Henry (Manville) on their most recent improvements at the bag opening station. I'll try to be consistent and comment to you as I did to Louis.

First, the air sample results from Manville's revised bag-disposal arrangement support an argument that I make that respirable dust counts are greatly affected by what is done to the empty bag after the fibre has been dumped out of it. Everything we do with the fibre, from car to willow, has some bearing on dust counts, as we would all agree. But, it is beginning to emerge that the most critical thing may be how we get rid of the empty bag.

Keeping this in mind, let's take a look at your proposal.

The addition of grates at work level and floor level seems like a reasonable idea, since logic tells us that spilled fibre will fall downward. However, it isn't the spilled fibre which falls that is the respirable problem: it is the airborne fibre. Material in this size range is more affected by the movement of the air which provides its support than it is by gravity.

For effective control of airborne dusts, the direction and the speed of the air movement must be controlled at all times. This is difficult where large open areas are concerned (such as, in front of your fibre conveyor). Depending on the hooding and shielding arrangement, air velocities decrease in direct proportion to something between the square and the cube of the distance from the hood or duct inlet. This means that for an adequate air velocity at a person's breathing zone, which is four (4) feet away from the hood or duct inlet, the velocity at the hood or duct inlet would have to be two thousand (2000) to one hundred thousand (100,000) times as great as that at the breathing zone.

When we consider that minimum capture and control velocities are in the 150-200 FPM range, we can then see what kind of velocities we would be required to attain in the hood or duct.

The foregoing is an attempt to explain why we say that the area of influence outside a vent hood is very small and the "reach" is extremely short. When these facts are understood it then becomes obvious that operations, such as bag opening and empty bag disposal, must be done inside a hooded area. And, any operations which cannot be done under these conditions must be done very carefully.

So, in conclusion, I am obliged to say that your proposal probably wouldn't do much for reducing respirable dust counts.

The following items were discussed with Louis Richards and are feasible for you to do:

1. Utilize willow air for ventilation instead of dust house air. Long Beach, Waukegan and Green Cove Springs plants can tell you how they accomplished this.
2. Place bag disposal immediately adjacent to fibre dump and supply it with its own vent hood, connected into willow air (negative) system. Any of the other five (5) A/C plants can supply information.
3. Feed fibre onto conveyor at one (1) station only, rather than utilizing all of the doors. Long Beach can advise.
4. Provide full-time vacuum cleaning capability at the fibre feed station.
5. Up-date work procedures and require immediate disposal of each empty bag rather than accumulating several prior to disposal. Also require area clean-up by means of vacuum hose immediately after each batch and immediately after each accidental spill.
6. Make every supervisor and management person an auditor of the fibre handling and fibre feeding operation. And, take corrective action on all adverse reports.

If you will do these things, I'll be surprised if you have not corrected your problem.

/mf

B. J. Mitchell - DMQ

June 17, 1975

C. G. Stelchek - Denison

See below

FIBER DUST AT THE WILLOW FEED STATION

This subject area continues to be one of great concern to us. We have studied the operation over the years to try to reduce the exposure to fiber dust. Most of the improvements have been directed at better packaging, patching bags, increased frequency of vacuuming and clean ups. All of these have contributed to the improvement of the areas environment, but more has to be done in the immediate future to handle our current problems at this station.

As you know, we try to do a good job of patching bags in the warehouse, but they still arrive at the willow staging area with concealed damage due to rough or splintered pallets, nails, banding, truck damage, hang-on fibers, etc.

Also, we are getting a wide variety of bags such as: burlap, burlap covered with plastic, paper and plastic. The pallet sizes and stacking vary a great deal, ranging from compact to very loose units. Because of this, handling and emptying each type at the willow presents its' own problem. Developing a universal automated bag handler would be very complex.

In the meantime, to minimize the dust in the willow operator's breathing zone, I am proposing that the present work ledge in front of the belt conveyor be replaced by a grate. The grate would be the top of a dust collection chamber tied into our dust system to suck all dust down away from the operator while opening and emptying the fiber bags. Also, the empty bags stacked on the grate would be in the down-flow air of this chamber. This chamber would be extended to include the bag disposal container also.

In order to insure an adequate air flow, it is suggested that a booster fan be placed in the dust line similar to the ones in the Finishing End except that a larger capacity fan would be required because of the relatively large open area of the grate.

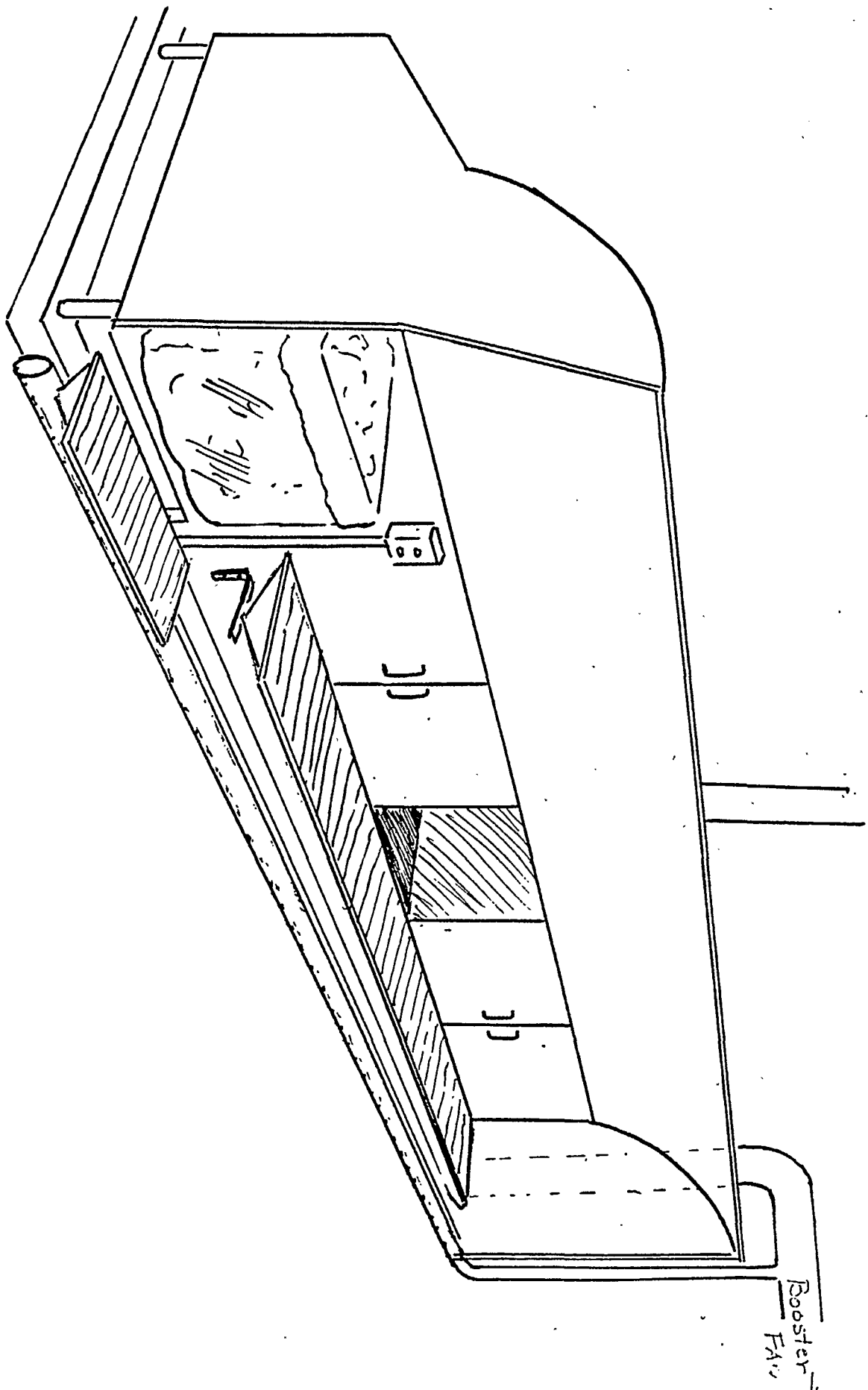
If, because of the suction on the work ledge, the fiber bags would not slide easily, a gang of small rollers could be used to replace the grate.

Besides the above suction grate, a slotted suction pipe at floor level, below the work ledge, would be installed to collect the dust and fibers stirred up by the operator's feet as he walks back and forth servicing this willow station.

Please let us have your comments on this recommendation for reducing fiber exposure at the willow station.

sg
Attachment

cc: R. Gomez - DMQ L. I. Richards
P. W. Fekete



Rooster
Fav