

Salt Lake City, Utah
February 19, 1976

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CAPCO
RAGLAND PLANT
VENTILATION SYSTEMS

After leaving the Van Buren plant on February 11th, Mr. S. D. Weaver from the Birmingham office of CAPCO accompanied Mr. Richard Jensen and me to Birmingham where we obtained prints which were not available at Van Buren. While there we were shown prints being prepared for a dry mix system under consideration for Ragland. The following day was spent at Ragland.

VENTILATION SYSTEM

The plant had started installing a ventilation system approximately one year ago which was essentially complete at the time of our visit. The system consists of one main duct to which are connected smaller ducts for each lathe and saw in the plant, with the exception of one coupling saw. Two large shaker type bag chambers are installed ahead of a fan rated at 26,000 CFM @ 17 SP, 70°F, and 110 BHP.

The hood design for the lathes was more effective than the ones at Van Buren, as evidenced by the lack of chips and dust on the floor around the lathes. Ventilation around the other equipment was good as shown by our observation of no dust, and with few exceptions, no chips escaping any of the hoods.

WET MIX SYSTEM

A brief description of the system would be: Bags or asbestos are opened under a hood, dumped into an elevator which discharge into the "Kollergang" where the fibers are opened, and a limited amount of water is added, discharged from the Kollergang by means of a rotating table onto an open conveyor belt, into a weigh hopper where silica and cement are added, then into water, and the slurry is pumped to the pipe machine.

The hood design around the bag opening station was possibly less effective than at Van Buren since the latest results from our environmental surveys indicate a high level of asbestos at Ragland, whereas the Van Buren plant sampling

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indicated a fiber count of 1.3 greater than $5 \mu/\text{Cm}^3$, whereas the regulations will allow up to 2 fibers. The table under the Kollergang delivers asbestos in irregular quantities to the conveyor belt and overloads the conveyor, as evidenced by spills along the belt. When asbestos, silica, and cement are dropped into the weigh hopper, more dust is released to the atmosphere since there is no ventilation in this part of the system.

This is one area of the plant which creates the greatest problem in meeting ambient air standards for asbestos. We did not go into a great deal of detail or study regarding a solution using ventilation because in my opinion ventilation will not clean up the area. This is basically a material handling problem.

There was some discussion about alterations in the system to reduce open conveying of asbestos. These alterations would include replacing the feed table with a live bottom bin, a screw conveyor replacing the conveyor belt, enclosing the remaining area, and ventilating the enclosure through a dust cleaning device.

This would be substantially less expensive than installing a dry mix system based on the Van Buren design but would not be as effective in dust control. Several times we noted men working in the area under consideration for enclosure and ventilation, which indicates that personnel would be exposed to elevated levels of asbestos during these periods. An enclosure would also further restrict access to equipment for maintenance in the already congested area.

We were told that the wet mix system was a high maintenance area, and I suggest the plant develop cost data over, say, the past year, and compare the Ragland wet mix maintenance cost with those for the Van Buren dry mix system. These data could be useful in making a decision for either installing a complete new installation or modifying the present system.

RECOMMENDATIONS

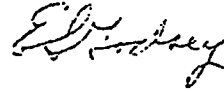
Draftsmen in the Birmingham office have started a study for installing a dry mix system at Ragland but have not completed enough drawings to use as the basis for a cost estimate. I suggest that Central Engineering complete the layout and make a cost estimate for installing a dry mix system. We were told that such a system could be installed without stopping production and with minimum interference in normal work areas.

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A new system will give better environmental controls, and with a cost estimate, will allow a better evaluation of the economic impact on the plant.



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