

CertainTeed

Date

April 2, 1981

To

J.L. MacDougall

Location and mail code

VF - #2B

Subject

ENVIRONMENTAL STATUS & ACTIVITIES
FOR MARCH 1981

From

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XC R T Kelly

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APR 13 1981
S. J. GILMERVCM Monitoring

I attended a seminar presented by the 3-M Company on their passive dosimeters which are called Organic Vapor Monitors (OVMS). These have several advantages over the Protek badges made by DuPont. The primary advantage is that 3-M is actively evaluating OVMS vs. charcoal tubes with a variety of organics including VCM. NIOSH has also evaluated the OVM for VCM under contract with Utah Biological Testing Laboratory.

The OVM has a more advantageous design than the Protek in that it cannot be disassembled during use (several Proteks fell apart during our evaluation), it seals positively after use, and the charcoal can be analyzed without removal from the unit. The removal step required in the Protek analysis provides an opportunity for a low ?? boiler such as VCM to escape.

The NIOSH study has not been published yet, but preliminary results indicate that great care must be taken during sampling to insure against overloading the badges either by humidity or by other organics. Thus a CertainTeed program using badges must require a humidity and temperature check before sampling, a limitation to sampling time based on humidity, and a table of upper limit guidelines with which to evaluate the results.

These restrictions to the use of passive dosimeters do not indicate a weakness in the method in comparison to charcoal tubes. On the contrary, the severe effect of humidity has barely been considered in the use of charcoal tubes in the past and may have caused inaccuracies which have gone unnoticed. For example, in the recent Corporation S & H studies at Eads and Lake Charles, several charcoal tube results showed more VCM in the back half of the tube than in the front half. This could be explained by humidity condensing in the front half which blocked the absorption of VCM causing it to pass through to the back half. These results which should have been discarded were reported along with the rest as if they were valid.

The experimental data of 3-M and UBTL (when published) will provide the validation of passive dosimetry as well as document its limitations and restrictions. When this is available, I recommend consideration be made to replace P&PG's charcoal tube program with a centrally organized, twice yearly survey using OVM's, analyzed either at NATLSCO or at 3-M's laboratory. (An additional advantage

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✓ *ANALYZE
CHARCOAL TUBES
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of the OVM over the Protek is that these laboratories provide the devices as part of the analysis price). I do not see the value of comparison studies with charcoal tubes if experimental data is available elsewhere, particularly in view of the inaccuracies possible with charcoal tubes. Contrary to popular belief, NIOSH does not approve any techniques for VCM nor does OSHA specify any. The only thing specified is the accuracy of the measurements. 3-M has demonstrated better accuracy than is possible with charcoal tubes. CAL-OSHA and Ohio are currently using OVMS in their plant surveys.

As preliminary steps to a passive dosimetry program, I recommend a second series of tests at all plants using five OVMS at each to be analyzed at NATLSCO (cost < \$600). During the analysis, I would like to visit NATLSCO to supervise the analytical techniques and arrive at a working relationship with the analysts. This is very important to the validity of the results, because unless the analyst understands the possible variables involved in each sample, misinterpretation of the data could result. This has occurred on several occasions at Lake Charles where both cigarette smoke and propane have been read as VCM. It is also a possible explanation for the .45 ppm TWA of the maintenance mechanic at Social Circle in the Protek test.

Asbestos Monitoring

Grabski spent 71 hours during March on fiber counting activities. Part of this time was devoted to attending the NIOSH Course 582 on fiber counting at Temple University. During the remainder of the month, 20 samples were counted from Santa Clara and Ambler. In addition, time was spent trying to resolve differences between the Corporate and Group microscopes. The conclusion was that the Corporate microscope (B&L) requires a different condensor and some factory adjustments before it will match the Group instrument.

A request was sent to all plants for their sampling schedules on a monthly basis. The intent is to bring the plants in to a unified program so that comparable data will be generated on a regular basis.

Noise

Six major noise measurement manufacturers were contacted for information concerning their noise dosimeters. Two questions were asked: (1) What is the total cost for a system of ten dosimeters and all peripheral equipment and (2) What is the company's stance on compliance with OSHA's proposed 1983 requirements. GenRad, Inc. not only had the lowest price but also was the only company manufacturing equipment which meets the 1983 requirements.

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RCRA

The Interim Status applications for both Santa Clara and Riverside were returned with a request for a minor correction. Since the same information was used on all applications, more returns are expected. In addition, actual photos were requested of the Santa Clara plant. These have been resubmitted along with explanatory letters. The State forms from Tennessee were reviewed with Dan Wehner and he has now filed with the State.

Lead

I attended a conference on March 18 sponsored by the Lead Industries Association at the request of Leopold Parth. The subject was OSHA and RCRA compliance for users of lead. Worker blood-lead levels is a primary concern and must be measured at regular intervals if airborne concentrations exceed the action level. I prepared a summary of concerns to be addressed if lead compounds are used in P&PG plants.

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