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February 13, 1976

Mr. W.J. Woods
Manager of Engineering
Garlock of Canada Ltd.
66 Jutland Road
Toronto, Ontario

Dear Mr. Woods:

Enclosed is a copy of the Field Visit Report prepared by S.J. Bell, P. Eng. following a visit to your company on November 7, 1975.

Yours truly,

M. Fitch, M.D.
Acting Director
Occupational Health Protection Br.

MF:dk

Ministry of Health

Ontario

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OCCUPATIONAL HEALTH PROTECTION BRANCH

FIELD VISIT REPORT

416/965-4066

Date: February 11, 1976

From: S.J. Bell, P. Eng.

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| Plant: Garlock of Canada Ltd. | Requested by: I.S.B. |
| Address: 66 Jutland Road<br>Toronto, Ontario | Accompanied by: Mr. M. Polny - O.H.P.B.<br>Mr. A. Cotgreave - I.S.B. |
| Contacts: Mr. W.J. Woods -<br>Manager of Engineering | Date of Visit: November 7, 1975 |
| Hazard: Asbestos and Jute | Copies to: Dr. M. Fitch (1)<br>Mr. R.K. Cleverdon (3)<br>Mr. W.J. Woods (1) |

Abstract:

A visit was made to this plant to assess asbestos and jute exposures. The braiding departments were on a reduced production schedule, however, a modified braider enclosure was observed during this visit. The modifications appear to have provided a more complete enclosure which should eliminate the need to leave the enclosure doors open during operation.

Four recommendations are made; no directions are suggested.

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The brading operations, at the time of this visit, were on a reduced production schedule due mainly to the pulp and paper industry strike. Several braiders were put into operation in both the asbestos braid and jute braid operations. However, the complete department was not fully operational during the air sampling hence the results reported in report AQA #49 represent production conditions which are less than full production.

DIRECTOR
OCCUPATIONAL
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PROTECTION BRANCH

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The front enclosure on braider #6 (black braid department) had been modified to provide a more complete cover of the front section of the braider. The enclosure panels have been enlarged such that they extend to the bed of the braider mechanism at the front and about 2 inches from the braider bed at the sides. This arrangement provides a much improved view of the braider mechanism and the final braid which exists at the top of the unit. It would appear, therefore, that the need to keep the enclosure open while the braider is operational has been eliminated.

There are openings or slots at each side of the enclosure. The measured face velocity at these slots was about 950 feet per minute (fpm) which is higher than the velocity figures listed in Mr. G. Rajhan's report (#6B-71) of April 1975. However, it should be noted that the dampers on the exhaust ducts of some of the braiders were closed hence the preceding may be somewhat higher than conditions during a fully operational department.

The two jute braiders in the white braid department do not have enclosures or local exhaust. It was stated that attempts will likely be made to equip these machines with exhaust enclosures, however, attention would be directed toward the modified enclosure design for the remaining white and black braid units before the jute braiders.

COMMENTS

1. The modified braider enclosure which has been installed on braider #6 appears to be a considerable improvement over the original design. The braider mechanism is, in effect, enclosed and it is quite visible with the enclosure doors closed. There should be no reason, therefore, to keep the enclosure open while the braiders are operational.

2. The face velocity of the enclosure side ports was measured with only #6 braider operational. Some of the dampers in the other braider exhaust ducts were closed hence the measured velocity is likely not representative of a fully operational department. There was also an opening of about 5" x 10" at the back of braider #6; the face velocity was measured at 950 fpm. This rear opening combined with the two side ports results in a calculated flow of about 1900 cfm per square foot of opening. It is suggested that a flow of at least 200 cfm per square foot of opening would suffice hence the available exhaust at braider #6 should be adequate.

3. The opening at the rear of braider #6 appears to serve no meaningful purpose. The other braiders in the black braid department had similar openings, however, most of these openings were sealed with a face plate. Elimination of this rear opening would increase the face velocity at each of the enclosure side ports.

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As mentioned previously, a number of exhaust dampers were closed at the time of this visit hence the preceding flow per square foot of opening is likely higher than would be encountered with the department fully operational. However, if all the braiders are converted to the modified enclosure design, it is likely that in excess of 200 cfm per square foot of opening would be available at each braider.

4. It was noted at the time of this visit, that the method of handling a double braid could create problems. This procedure involved the normal braiding operation, however, a braided core was fed through the opened face of the enclosure and a second or outer shell braided onto this center core. The enclosure, therefore, was opened several inches to allow the core braid to be fed into the braid mechanism. This would reduce the effective velocity considerably (see Mr. G. Rajhan's report #6B-71) and the resultant exhaust capacity could be reduced to below 200 cfm per square foot of opening.

   This double braid requirement could perhaps be handled by the installation of a small port at the front of the enclosure. A hinged flap or quick release cap could be used to seal the port when only single braid is run. The port should be large enough to allow free entry of the braid core, however, small enough to ensure the exhaust capacity does not drop below the required 200 cfm per square foot of opening.

5. Air sampling in both the white and black braid departments (Air Quality Assessment Report #49) showed asbestos levels well below the current threshold limit value; 2 fibers greater than 5 $\mu$ in length per cubic centimeter of air. [This sampling was done, however, during a production slow-down hence they should not be considered as representative of full production.]

6. It was stated by the company that blue asbestos (crocidolite) is no longer in use at this plant. The operation involving the blue asbestos has apparently been transferred to a U.S. plant.

7. The mixer in the Sheeter Room is equipped with a side exhaust at the charge table. At the time of this visit, the exhaust had not been turned on hence a possible explanation for the high air sampling result (#8) in the AQA report #49. The exhaust slot is about 16" x 8" and when turned on, the face velocity was measured at about 1300 fpm or about 1150 cfm.

   The placement of this exhaust port appears to be of questionable value for the initial charging operation (ie: - bag slitting & dumping) as the bales of material tend to block-off the port. It is possible that this exhaust port was designed to handle the mixer back flow during the material charge, however, it is likely that a downdraft arrangement would be more effective.

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