

of control cannot be depended upon to provide the first line of defense; in this respect it may be likened to the use of personal immunization as a primary safeguard against the spread of typhoid fever. Dust respirators and air masks do, however, have a definite place in the field of dust control, especially as an emergency measure, as a means of protection on infrequent dusty occupations and as an adjunct to other more fundamental methods of prevention.

Reports made to the National Silicosis Conference, called by the Secretary of Labor in February (1937) to study specific phases of the silicosis problem and present suggestions for its solution, contained many recommendations by qualified authorities on the subject which have been successfully employed under actual operating conditions. Briefly summarized measures for the control of dust and the prevention of pneumoconiosis include:

A. - DESIGN PLANT FOR DUST CONTROL - Much can be accomplished through design when new buildings are contemplated or when old buildings are to be remodeled. For instance, structural projections and ledges may be minimized to prevent the accumulation of dust that might later be released into the atmosphere by air currents or by building vibration caused by travelling cranes, vibrating machinery, and equipment that have large reciprocating parts. The Engineering Committee recognized the fact that our present day engineering and structural materials for factories do not permit elimination of innumerable ledges and projections without prohibitive building and roofing costs. However, building interiors should be so constructed that they may be easily cleaned by washing, hosing, vacuum cleaning or brushing. In some cases operations may be located over gratings, beneath which equipment is provided for removing the materials and dust that fall through.

B. - PROVIDE BUILDING VENTILATION - Natural ventilation should usually be considered only an adjunct in removing or reducing dust in the air. Even though it is possible to have high roofs in one-story structures which will give the greatest benefit from natural ventilation, such methods cannot be relied upon to provide complete protection in dusty operations. Where mechanical ventilating systems are provided, care should be taken to prevent strong drafts from open windows and doors destroying the effectiveness of the system. Guards and shields should be placed in the vicinity of hooded and partially enclosed processes to prevent such a condition.

C. - STORE DUSTY MATERIALS IN DUST-TIGHT BINS - Dusty materials should be stored in dust-tight bins, tanks, or enclosures, but each structure of this type should be provided with a breather or vent stack -- perhaps with an exhaust fan in the stack -- to permit the air displaced during loading to be carried outside the building. Basements may be used for storage purposes but should not be used for dusty manufacturing operations.

D. - ENCLOSE MATERIAL HANDLING EQUIPMENT - Excessive dust created by mechanized material - handling equipment can usually be controlled by provision of adequate housing and application of exhaust systems. Some materials can be kept in a moist condition while being handled, but when this is done, the material may dry out and be dispersed into the atmosphere as dust.

E. - ISOLATE DUSTY PROCESSES - Where possible, several or all dusty processes may be isolated from the rest of the plant. This sometimes permits the installation of a more compact exhaust system resulting in more efficient operation and lower maintenance cost.

F. - PROVIDE WET METHODS OF OPERATION - Water, oil, and other liquids may be used effectively.