INDUSTRIAL CODE RULE NO. **34**
Effective July 1, 1942

STATE OF NEW YORK
DEPARTMENT OF LABOR
BOARD OF STANDARDS AND APPEALS
ALBANY OFFICE: 11 NO. PEARL ST.
NEW YORK OFFICE: 80 CENTRE ST.

RULES

RELATING TO THE

Control of Silica Dust

IN

Stone Crushing Operations

BOARD OF STANDARDS AND APPEALS

William J. Picard, *Chairman*
Joseph P. Cra[illegible]gh, *Member*
Raymond M. Fisher, *Member*

Price 10 Cents

RULES
RELATING TO THE
CONTROL OF SILICA DUST
IN
STONE CRUSHING OPERATIONS

These rules effective July 1, 1942 were adopted by the Board of Standards and Appeals of the Department of Labor, June 25, 1941 in accordance with the provisions of Sections 27-a, 28 and 29 of the Labor Law and Section 65 of the Workmen's Compensation Law.

STATE OF NEW YORK }
BOARD OF STANDARDS AND APPEALS } ss:

I, WILLIAM J. PICARD, CHAIRMAN OF THE BOARD OF STANDARDS AND APPEALS of the New York State Department of Labor, DO HEREBY CERTIFY, that a certified copy of the Board's resolution dated June 25, 1941 adopting Industrial Code Rule No. 34, Relating to the Control of Silica Dust in Stone Crushing Operations effective as of July 1, 1942, and certified copy of said rule as adopted, were formally filed with the Department of State of the State of New York on June 27, 1941 in accordance with the provisions of Section twenty-nine of the Labor Law and of Article IV, Section 8, of the Constitution of the State of New York.

WILLIAM J. PICARD,
Chairman, Board of Standards and Appeals.

Dated at Albany, N. Y., this 2nd day of July, 1941.

STATE DEPARTMENT OF LABOR

Frieda S. Miller

Industrial Commissioner

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Extracts of the Labor Law

Section 28. Rules of the Board of Standards and Appeals. Rules of the board of standards and appeals may be made for

1. The proper sanitation in all places to which this chapter applies and for guarding against and minimizing fire hazards, personal injuries and diseases in all places to which this chapter applies with respect to:

a. The construction, demolition, alteration, equipment and maintenance of all such places, including the conversion of structures into factories, factory buildings and mercantile establishments;

b. The arrangement and guarding of machinery and the storing and keeping of property and articles;

c. The places where and the methods and operation by which trades and occupations may be conducted and the conduct of employers, employees and other persons;

It being the policy and intent of this chapter that all places to which it applies shall be so constructed, equipped, arranged, operated and conducted in all respects as to provide reasonable and adequate protection to the lives, health and safety of all persons employed therein, and frequenting the same, and that the board shall from time to time make such rules as will effectuate such policy and intent.

2. Whenever the board finds that any industry, trade, occupation or process involves such elements of danger to the lives, health or safety of persons employed therein as to require special regulation for the protection of such persons, the board may make special rules to guard against such elements of danger by establishing requirements as to temperature, humidity, the removal of dusts, gases or fumes, by requiring licenses to be applied for and issued by the department as a condition of carrying on any such industry, trade, occupation or process, by requiring medical inspection and supervision of persons employed or applying for employment, and by other appropriate means.

3. The rules may be limited in their application to certain classes of establishments, places of employment, machines, apparatus, articles, processes, industries, trades or occupations or may apply only to those to be constructed, established, installed or provided in the future.

4. The rules of the board shall have the force and effect of law and shall be enforced in the same manner as the provisions of this chapter.

5. No provision of this chapter specifically conferring powers on the board to make rules shall limit the power conferred by this section.

Section 30. Variations. If there shall be practical difficulties or

unnecessary hardship in carrying out provisions of this chapter or a rule of the board of standards and appeals thereunder affecting the construction or alteration of buildings, exits therefrom, the installation of fixtures and apparatus or the safeguarding of machinery and prevention of accidents, the board may make a variation from such requirements if the spirit of the provision or rule shall be observed and public safety secured. Any person affected by such provision or rule, or his agent, may petition the board for such variation stating the grounds therefor. The board shall fix a day for a hearing on such petition and give notice thereof to the petitioner. If the board shall permit such variation it shall be in the form of a resolution adopted by at least two votes, and the variation shall apply to all buildings, installations or conditions where the facts are substantially the same as those stated in the petition, and shall be continuing as long as conditions remain unchanged. * * *

Section 222-a. Prevention of dust hazard in public works. In the construction of public works by the state or a public benefit corporation or a municipal corporation or a commission appointed pursuant to law wherein a harmful dust hazard is created for which appliances or methods for the elimination of harmful dust have been approved by the board of standards and appeals, a provision shall be inserted in each contract for the construction of such work requiring the installation, maintenance and effective operation of such appliances and methods, and a further provision shall be inserted in such contract that if this section is not complied with, the contract shall be void. In the construction of public works performed directly by the state or a public benefit corporation or a municipal corporation or a commission appointed pursuant to law wherein a harmful dust hazard is created for which appliances or methods for the elimination of silica dust or other harmful dust have been approved by the board of standards and appeals, the department, board or officer in the state, public benefit corporation, or municipal corporation or commission or board appointed pursuant to law, having jurisdiction over the construction of such work shall provide for the effective use of such approved appliances or methods in connection therewith. A violation of this section shall constitute a misdemeanor and shall be punishable by a fine of not more than five hundred dollars, or by imprisonment for not more than one year, or by both fine and imprisonment.

Workmen's Compensation Law

Section 65. Prevention of silicosis and other dust diseases.

1. It is hereby declared to be the policy of the legislature of this state, in enacting this article, to prohibit through every lawful

means available, any requirement as a pre-requisite to employment which compels an applicant for employment in any occupation coming within the purview of this article to undergo a medical examination.

2. The board of standards and appeals is hereby required to add to the industrial code, as provided in sections twenty-eight and twenty-nine of the labor law, effective rules and regulations governing the installation, maintenance and effective operation in all industries and operations wherein silica dust or other harmful dust hazard is present, of approved devices designed to eliminate such harmful dusts and to promulgate such other regulations as will effectively control the incidence of silicosis and similar diseases.

PENALTIES

The Penal Law, Chapter 40 of the Consolidated Laws

Section 1275. Violations of provisions of Labor Law, the Industrial Code; the Rules, Regulations or Orders of the Department of Labor, the Industrial Commissioner and Industrial Board.* Any person who violates or does not comply with any provision of the Labor Law, any provision of the Industrial Code, any Rule, Regulation or lawful Order of the Department of Labor, Industrial Commissioner or Industrial Board*, and any person who knowingly makes a false statement in or in relation to any application made for an employment certificate as to any matter required by the Labor Law to appear in any affidavit, record, transcript or certificate therein provided for, is guilty of a misdemeanor and upon conviction shall be punished, except as in this Chapter otherwise provided, for a first offense by a fine of not more than fifty dollars; for a second offense by a fine of not less than fifty nor more than two hundred and fifty dollars, or by imprisonment for not more than thirty days or by both such fine and imprisonment; for a third offense by a fine of not less than two hundred and fifty dollars, or by imprisonment for not more than sixty days, or by both such fine and imprisonment.

* Chapter 819, Laws of 1937, effective July 1, 1937, created the Board of Standards and Appeals and transferred to that Board the powers and duties formerly exercised under the Labor Law by the Industrial Board.

INDUSTRIAL CODE RULE NO. 34
RELATING TO THE
CONTROL OF SILICA DUST
IN
STONE CRUSHING OPERATIONS

34–1 GENERAL PROVISIONS

34–1.1 Application

These rules shall apply to all stone crushing and associated processing operations involving exposure to dust containing free silicon dioxide.

Stone crushing and associated processing operations shall include the operation and use of all types of crushing and grinding machinery, drying equipment, screening equipment, mechanical and other separating apparatus, mixing tanks, bagging machines and other loading and packaging equipment and all conveyors, elevators, storage bins and all other equipment and operations employed to convert the pieces of stone into the final product.

34–1.2 Short Title

These rules shall be known and cited as "The Stone Crushing Code."

34–1.3 Conduct of Operations

All stone crushing operations shall be so conducted that there shall be no exposure to atmospheric dust concentrations in excess of those concentrations limited by the provisions of Rule 34-1.4 "Maximum Allowable Dust Concentrations."

Wherever possible, dust generating operations shall be segregated from non-dusty operations and the number of men exposed to dust reduced to a minimum.

34–1.4 Maximum Allowable Dust Concentration

The maximum allowable atmospheric dust concentration, expressed as the total number of particles of dust per cubic foot of air, shall not exceed the values given in the following table for the class of stone to be processed:

MAXIMUM ALLOWABLE DUST CONCENTRATION

Class of Stone	Free Silicon Dioxide Content of Stone	Maximum Allowable Atmospheric Dust Concentration
I	Any stone formation having free silicon dioxide as a component part and containing uniformly less than ten (10) percent by weight of free silicon dioxide.	100,000,000 particles per cubic foot of air
II	Any stone formation having free silicon dioxide as a component part and containing ten (10) percent or more by weight of free silicon dioxide.	10,000,000 particles per cubic foot of air

34–1.5 Determination of Free Silicon Dioxide Content of Stone

The free silicon dioxide content of stone shall be determined from composite samples representative of the material as a whole. When different kinds of stone are handled or processed separately, each shall be sampled and classified separately.

34–1.6 Determination of Atmospheric Dust Concentration

Not less than three (3) dust samples, of at least ten (10) minutes duration, spaced at intervals to yield a fair average measurement of exposure over the entire cycle of operations, shall be collected in the normal breathing zone on the premises by a standard type impinger, or other equivalent sampling instrument. The atmospheric dust concentration shall be deemed to be the average concentration as determined from the samples by the use of the light-field, low-power technic count or its equivalent.

Where, because of the nature of the operations, it is not practical to secure samples of ten (10) minutes duration, the use of any other method providing equivalent representative samples shall be permitted.

34–1.7 Methods of Dust Control

Wherever it is required to control the concentration of atmospheric dust, such method of dust control shall be by one of, or combinations of, the following methods:

1. Local exhaust ventilation, as provided in Rule 34-4 "Local Exhaust Ventilation."

2. Wet method of control, as provided in Rule 34-5 "Wet Method of Dust Control."

3. General ventilation, as provided in Rule 34-6 "General Ventilation."

4. Respirators, as provided in Rule 34-7 "Respiratory Protective Equipment," or

5. Any other method, or methods, approved by the Board of Standards and Appeals.

Crane operators, screen attendants and other workers employed within closed cabs or observation booths whose duties do not take them away from their working stations except for short, infrequent intervals may be protected inside such cabs or booths with an adequate supply of clean air in lieu of direct dust control of the operations which they are attending, provided however, that such operations are effectively segregated so as to prevent the contamination of the rest of the plant by dust produced by such operations. The air to the cab or booth shall be supplied from a clean outside source and shall be supplied at a temperature at not less than fifty-five degrees (55°) Fahrenheit. Each worker stationed in a ventilated cab or booth shall be provided with respiratory protective equipment in compliance with Rule 34-7 "Respiratory Protective Equipment," which protective equipment shall be worn whenever the worker is exposed to dust concentrations in excess of that permitted by Rule 34-1.4 "Maximum Allowable Dust Concentrations," in going to or leaving such ventilated cab or booth.

34-2 DEFINITIONS

34-2.1 **Approved** means approved by the Board of Standards and Appeals.

34-2.2 **Board** means the Board of Standards and Appeals of the State of New York.

34-2.3 **Commissioner** means the Industrial Commissioner of the State of New York, or his duly authorized representative.

34-2.4 **Department** means the Department of Labor of the State of New York.

34-2.5 **Substantial** (referring to an assembly or to construction) means an assembly or construction of such strength and of such workmanship that the object referred to shall, under normal or reasonably foreseen conditions or circumstances, withstand all reasonably expected wear, shock, usage and deterioration.

34-3 GENERAL REQUIREMENTS

34-3.1 Plan Examination

Plans, showing the location and type of dust-generating operations and the methods of dust control to be employed at each point of dust dissemination together with the details of design and operation of such control methods, shall be submitted before installation of the proposed equipment by the owner, or his authorized agent, to the Industrial Commissioner for his examination of the design and specifications, and for his conditional approval subject to final acceptance after tests conducted according to Rule 34-3.2.1 "Tests for Approval." The Industrial Commissioner shall establish the procedure for filing plans and specifications and shall determine the information to be contained therein.

34-3.2 Approval of Installation

34-3.2.1 Tests for Approval

The person or contractor making the installation of the dust control methods as required by these rules shall notify the Commissioner, in writing, within a reasonable period of time prior to the completion of the installation and shall, in the presence of a representative of the Commissioner, subject the installation to the tests prescribed herein.

All tests for the approval of dust control methods shall be made when all machines and other processes to which the control methods being tested apply, are in normal operation and have been so operated for a period of not less than one hour prior to the start of the tests, except in those cases where the time required to complete the cycle of operations under test does not permit this initial pre-test period of one hour.

Atmospheric dust counts shall be made at various points representative of the exposure of the workers except that when several workers are engaged in the same operations which are provided with the same kind of control measures, tests may be made at a single exposure which is representative of the group. Tests for atmospheric dust concentrations shall be made in accordance with Rule 34-1.6 "Determination of Atmospheric Dust Concentration."

34-3.2.2 Certificate of Approval

A certificate of approval shall be issued by the Industrial Commissioner when, after examination of the completed control apparatus as provided by Rule 34-3.2.1 "Tests for Approval," the several parts shall be found to have been installed

in accordance with the plans and specifications and to be operating in accordance with these rules.

34–3.3 Maintenance and Operation

All dust control equipment shall be kept in good repair and in clean condition and shall be operated in accordance with these rules and with the conditions of approval at all times when the stone crushing processes are in operation.

The plant structure, premises, and machinery shall be kept in clean and orderly condition at all times and all waste material shall be removed at regular intervals.

34–3.4 Responsibility of Employees

Every employee shall use all control measures provided for his protection and for the protection of others in accordance with the requirements of these rules.

34–4 LOCAL EXHAUST VENTILATION

34–4.1 General Requirements of Design and Construction

Every exhaust system shall be designed and constructed in accordance with these rules and shall be installed in a substantial and workmanlike manner. Every effort shall be made to have the interior of all parts of the exhaust system smooth and free of obstructions in order to minimize resistance to air flow. All parts of the system shall be as free as possible from air leakage either into or out of the system except at points where air is taken into or discharged from the system by design.

Every exhaust system shall include hoods or enclosures of suitable design located at points of dust generation and connected by means of suitable exhaust piping to air cleaning and exhaust equipment.

34–4.2 Capacity

The capacity of every exhaust system shall be determined upon the basis of all hoods connected to the system being open, except that where the system is so interlocked that only a part, or parts, of the system can be operated at a given time, the capacity of such interlocked system may be calculated upon the basis of those hoods, which are operative at a given time, being open.

34–4.3 Hoods and Enclosures

34–4.3.1 Design and Construction of Hoods and Enclosures

Every exhaust hood or enclosure shall be so designed, constructed, located and placed that the air-borne dust particles

will fall or be projected or drawn into the hood or enclosure in the direction of air flow, and every hood shall be so constructed as to enclose the zone of dust generation in the most complete manner consistent with the conduct of the process. Provision shall be made to eliminate or control every air movement which may tend to disperse the dust generated by the process into the general atmosphere.

Every device provided for supporting an exhaust hood or for adjusting its position with respect to the dust generating operation to which it applies, shall be capable of easy adjustment and shall be substantially constructed.

34-4.3.2 Rate of Air Flow Through Hoods and Enclosures

34-4.3.2.1 General

The rate of air flow into every hood and enclosure shall be such that an inward flow of air into the ventilating system is maintained during the operation of the machine or process at a velocity sufficient to control the dissemination of dust as required by Rule 34-1.3 "Conduct of Operations."

34-4.3.2.2 Crushing and Grinding Mills

Crushing and grinding mills shall be enclosed as completely as possible and shall be ventilated so as to maintain a negative pressure within the enclosure. The air velocity through all openings shall be not less than two hundred (200) feet per minute.

34-4.3.2.3 Driers

Driers shall be ventilated at a rate in excess of the combined rates of production of gases from the combustion of fuel and from the drying process.

34-4.3.2.4 Screens

Every screen shall be enclosed as completely as possible.

Flat deck screens shall be provided with ventilation at a rate of not less than fifty (50) cubic feet per minute per square foot of screen area, and the air velocity through openings shall be not less than two hundred (200) linear feet per minute.

Cylindrical screens shall be provided with ventilation at a rate of not less than six hundred (600) cubic feet per minute per square foot of screen diameter.

34-4.3.2.5 Storage Bins

Storage bins shall be enclosed and shall be ventilated so as to maintain a negative pressure within the enclosure.

34-4.3.2.6 Mixers

Mixers shall be enclosed and shall be ventilated at a rate of not less than one hundred and fifty (150) cubic feet per square foot of open area in the enclosure, including all loading and inspection openings.

34-4.3.2.7 Loading Hoppers

Loading hoppers shall be enclosed as completely as possible and shall be ventilated so as to maintain an inward flow of air during the loading operation and in no case shall the rate of ventilation be less than one hundred (100) cubic feet per square foot of open area in the enclosure.

34-4.3.2.8 Bucket Elevators

Bucket elevators shall be enclosed and shall be ventilated at a rate of not less than one hundred (100) cubic feet per minute per square foot of cross-sectional area of elevator enclosure and the air velocity into all openings shall be not less than two hundred (200) linear feet per minute.

34-4.3.2.9 Conveyors

Conveyors shall be enclosed as completely as possible and shall be ventilated so as to maintain a negative pressure within the enclosure.

Exhaust hoods over loading and discharge points on conveyor belts shall be ventilated at a rate of not less than three hundred and fifty (350) cubic feet per foot of belt width and the air velocity through the net open area of the hood shall be not less than two hundred (200) linear feet per minute.

Wherever dust is released from conveyor belts at points other than the loading and discharge points, the belts shall be provided with belt wipers or enclosed to prevent the dissemination of such dust into the working area.

34-4.3.2.10 Material Chutes

Material chutes shall be enclosed as completely as possible and shall be ventilated so as to maintain a negative pressure within the enclosure.

34-4.3.2.11 Bagging Machines

Bagging machines shall be enclosed as completely as possible and shall be ventilated at a rate of not less than one hundred (100) cubic feet per square foot of open area in the enclosure for paper bag filling; and two hundred (200) cubic feet per square foot of open area in the enclosure for cloth bag filling. Collecting hoppers shall be provided and shall be so

located in relation to the bagging machine as to catch any spilled material.

34-4.3.2.12 Filling of Barrels and Containers

The filling of barrels and other containers, except as provided for in Rule 34-4.3.2.11 "Bagging Machines," shall be performed in a space enclosed as completely as possible. Such space shall be so ventilated as to maintain an inward flow of air into the ventilating system during the filling operation, provided however, that the rate of ventilation shall be not less than one hundred (100) cubic feet per square foot of open area between the hood or enclosure and the container which is being filled.

34-4.4 Exhaust Piping

34-4.4.1 Materials and Sizes

All exhaust piping shall be iron piping or other material of equivalent strength or suitability. Where iron piping is used the thickness shall be not less than No. 20 U. S. Standard Gauge, but all elbows and bends shall be made from material not less than No. 18 U. S. Standard Gauge.

Flexible rubber or metal hose may be used for the connection between hoods and piping where movement of the hood is required.

34-4.4.2 Location and Protection of Piping

All exhaust piping shall be so located as to require the minimum length of pipe and a minimum number of bends or elbows. Pipes shall be so located as to be readily accessible for inspection and maintenance and shall be protected against any damage due to accidental contact.

All exhaust piping shall be substantially braced and supported. All horizontal runs of pipe shall be supported at sufficiently close intervals to prevent the sagging of the pipe and all vertical runs of pipe shall be supported laterally to reduce vibration and to prevent possible movement.

34-4.4.3 Joints in Piping

All longitudinal joint or seams, unless of welded construction, shall be double locked or lapped and riveted with rivets centered not more than three (3) inches apart. All girth joints of pipe, except the joints of butt welded or flanged construction, shall be so made that the outlet end of one length fits into the inlet end of the next length in the direction of air flow. The length of lap shall be not less than one (1) inch.

There shall be not less than four (4) rivets in any riveted girth joint.

Flanged, gasketed or bolted girth joints may be used in place of lapped and riveted joints.

Telescopic joints employed to permit the raising and lowering of hoods shall have the smaller pipe connected to the hood with a sliding fit inside the larger connecting pipe. The inside pipe shall extend into the outside pipe not less than six (6) inches when the joint is fully extended.

34-4.4.4 Elbows and Bends

Elbows and bends shall have a throat radius of not less than one and one-half (1½) times the diameter of the pipe. Rectangular elbows or bends, venturi shaped elbows, or other bends of similar low-resistance design may be used in place of long radius elbows.

34-4.4.5 Branch Pipe Junctions to Main Lines

Branch pipe junctions to main lines shall be made at the side or top of the main line and at an angle of not more than forty-five degrees (45°) measured on the center lines of the two pipes. Not more than one (1) branch pipe shall enter the main pipe at the same point of intersection.

34-4.4.6 Passage of Piping Through Walls

All piping more than eighteen (18) inches in diameter which passes through fire walls shall be provided with automatic fire doors on both sides of the wall through which it passes. Piping less than eighteen (18) inches in diameter may have, in lieu of such fire doors, fire dampers constructed of steel plate not less than three-eighths (⅜) inches in thickness.

Piping which passes through a fire partition shall be provided with an automatic fire damper of steel plate not less than No. 16 U. S. Standard Gauge for piping up to and including eighteen (18) inches in diameter; not less than No. 12 U. S. Standard Gauge for piping up to and including thirty-six (36) inches in diameter; and not less than No. 7 U. S. Standard Gauge for piping more than thirty-six (36) inches in diameter.

Approved fire dampers of other material equivalent in protection and suitability may be used in lieu of steel dampers as herein provided.

Fire doors and fire dampers for piping shall be arranged to close automatically and to remain tightly closed upon the operation of a fusible link or other approved heat-actuated device located so as to be readily responsive to an abnormal

rise of temperature in the piping. Hinged dampers shall be equipped with spring catches and hinge pins of corrosion-resistant material.

34-4.4.7 Dampers and Gates

Except as provided in Rule 34-4.4.6 "Passage of Piping Through Walls," the use of dampers, gates and orifice plates shall not be permitted in an exhaust system unless provided for the specific purpose of balancing the air flow in the system, after which function they shall be riveted or permanently fixed to prevent any further manipulation.

34-4.4.8 Clean-out Openings

Clean-out openings shall be provided in all horizontal runs of pipe wherever dust settlement is likely to occur and shall be provided at the bottom of all long vertical runs of pipe. Clean-out openings shall be provided with removable caps of such size as will permit ready access into the interior of the pipe. Unless impractical, clean-out openings shall be located on the undersides of pipes and shall offer no obstruction on the inside of the pipe.

34-4.4.9 Chip Traps

Chip traps may be installed in the exhaust pipe to collect any large particles of dust. The material to be collected in any chip trap shall discharge into an enclosed container which shall be readily removable for the disposal of accumulated material.

34-4.5 Air Cleaning Equipment

Air cleaning equipment to clean the air effectively before it is discharged from the exhaust system shall be provided to prevent the contamination of any working area caused by dust released by the exhaust discharge.

The capacity and operating characteristics of all air cleaning equipment shall be such as to insure its continued operation without impairing the efficiency of the exhaust system.

Means shall be provided for the removal and disposal of collected materials at regular intervals. The removal and disposal of collected material shall be so conducted as to prevent the dissemination of dust in any working area.

34-4.6 Exhaust Fan

Every exhaust fan shall wherever possible be located beyond the air cleaning equipment so as to handle clean air. The fan speed shall be sufficient to create the required rate of air flow when operating against the total resistance pressure of the exhaust system.

34-4.7 Exhaust Discharge

The discharge from every exhaust system shall be to the outer air. The actual point of discharge shall be so located as to prevent, as far as possible, the recirculation of dust-laden air to any working area by way of open windows or other ventilation inlets.

34-4.8 Weather Protection

Air discharge pipes and other exterior equipment shall be protected from the elements unless such discharge pipes or equipment are of such design and construction that no loss in efficiency results from exposure.

34-5 WET METHOD OF DUST CONTROL

34-5.1 General Requirements of Design and Construction

The wet method of dust control shall include an adequate and continuous supply of water delivered to the process and terminating in suitable water sprays or jets at the point of dust generation.

Water used for dust control purposes shall not be cross connected with the drinking water supply and suitable provision shall be made for the removal of water and sludge which drain from the operation.

34-5.2 Protection of Workmen

The wet method of dust control shall include and provide effective wetting at the point of dust generation with as little exposure of the operator to the water as possible. Effective baffles shall be installed, or protective clothing furnished by the employer, where necessary to prevent the wetting of the operator. The application of water shall be so controlled as not to create a slipping hazard.

34-6 GENERAL VENTILATION

34-6.1 Limitation of Use

General ventilation shall not be employed as the principal method of dust control, except where the stone to be processed contains less than ten percent (10%) by weight of free silicon dioxide or where the operations are such as not to require the constant attendance and exposure of the operator, and where such operations are carried on in the open air or under a simple roof.

General ventilation shall be supplied in sufficient quantities to limit the dust concentrations to that required by Rule 34-1.4 "Maximum Allowable Dust Concentration."

34–6.2 General Requirements of Design and Construction

Facilities for general ventilation in buildings shall include mechanical ventilators of suitable capacity and construction, properly located with reference to the dust sources, and such fresh air inlets as may be necessary to insure efficient circulation of air through the building.

34–7 RESPIRATORY PROTECTIVE EQUIPMENT

34–7.1 Limitation of Use

Respiratory protective equipment shall not be employed as the principal means of protecting workers against dust except in connection with isolated or infrequent operations.

Respiratory protective equipment may be used in conjunction with other methods of dust control only when the latter cannot be made to develop the required degree of control and cannot be replaced by other effective methods.

34–7.2 Approval of Respiratory Protective Devices and Equipment

All personal respiratory protective devices and equipment shall be approved by the Board of Standards and Appeals.

34–7.3 Use and Maintenance of Equipment

The employer shall provide each workman requiring the use of personal respiratory protective equipment with not less than one (1) such device, suitably identified; and the employer shall further provide and employ facilities for the inspection, cleansing, sterilizing and repair of all such respiratory protective equipment as may be required by the standards prescribed by the Board in its approval of such respiratory protective devices and equipment. Personal respiratory protective equipment, when not in use, shall be stored in a clean, dust-proof container.

34–8 VARIATIONS

34–8.1 Section 30 of Labor Law, Variations

"If there shall be practical difficulties or unnecessary hardship in carrying out provisions of this chapter or a rule of the board of standards and appeals thereunder affecting the construction or alteration of buildings, exits therefrom, the installation of fixtures and apparatus or the safeguarding of machinery and prevention of accidents, the board may make a variation from such requirements if the spirit of the provision or rule shall be observed and public safety secured. Any

person affected by such provision or rule, or his agent, may petition the board for such variation stating the grounds therefor. The board shall fix a day for a hearing on such petition and give notice thereof to the petitioner. If the board shall permit such variation it shall be in the form of a resolution adopted by at least two votes, and the variation shall apply to all buildings, installations or conditions where the facts are substantially the same as those stated in the petition, and shall be continuing as long as conditions remain unchanged. * * * ''

34-8.2 Additional Considerations as Grounds for Variations

In passing upon applications for variations from the provisions of these Rules, the Board in determining injurious silica dust concentrations may consider in addition to the determination of allowable dust concentration as provided in Rule 34-1.4, among other things, the following factors: (1) The free silicon dioxide content of the air-borne dust particles; (2) The quantities of suspended particles of free silicon dioxide less than ten microns in size and (3) The presence and character of inhibitor substances.

* * * *