

Chapter 2

QUARRIES AND PITS

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Ind 2.01 Construction of orders. Failure on part of superintendents, foremen, bosses and other persons having control of any place of employment, or of any employee and of any operations, to carry out any duty prescribed in these orders, is violation of such order by the employer.

Ind 2.02 Definitions. (1) **APPLICATION.** These orders shall apply to all quarries and pits in the state of Wisconsin.

(2) **SINGULAR AND PLURAL NUMBERS.** For the purpose of these orders the singular number when used in reference to persons, acts, objects and things of whatsoever kind and description shall, whenever the context will permit, be taken and held to import and include the plural number, and the plural number shall similarly be taken and held to import and include the singular.

(3) **DEFINITION OF QUARRY OR PIT.** The term "quarry" or "pit" when used in these orders shall be held to mean a place from which stone, rock, sand, gravel, or any other material is removed from open face workings, but shall not include the removal of material in construction work, except when explosives are used to remove stone.

(4) **SUPERINTENDENT.** The term "superintendent" when used in these orders shall mean the person having general supervision of the quarry.

(5) **FOREMAN.** The term "foreman" when used in these orders shall mean a person who at any one time is charged with the immediate direction of the quarry work.

Note: Section 101.06, Wis. Stats., makes it the duty of all employers to provide a safe place of employment. The industrial commission cannot by order relieve employers of this obligation. No matter how the orders of the industrial commission may read, the employer is responsible if he does not provide safe employment. If any employee is injured through a violation of any order of the commission, he can recover a 15% increase in compensation from his employer, under the provisions of section 102.09 (5) (h), Wis. Stats. This order, consequently does not impose any obligation upon the employer which is not placed upon him by the statutes of the state, but makes it clear that this entire set of orders is not intended and cannot nullify the express provisions of section 101.06, Wis. Stats.

The attention of superintendents and foremen and of other persons having control of any employee or any operation, however, is directed to the fact that the term "employer" as used in section 101.01, Wis. Stats., is defined to include "every person, firm, corporation, agent, manager, representative, or other person having control or custody of

any employment, place of employment, or of any employee." The duty to provide a safe place of employment rests not only upon the employer, but also upon the superintendent and foreman. Failure on the part of a superintendent or foreman to comply with any order contained in this code is a violation of law and renders him personally liable to a forfeiture of \$10 to \$100 for each day and each instance of violation. This forfeiture can be collected at any time within 2 years after it is incurred through a civil suit brought by the attorney general. In such a suit the only possible defense is proof of compliance with the commission's order.

Superintendents, foremen and others who are specifically charged with any duty by any order contained in these general orders on quarries will be held responsible by the industrial commission for the discharge of such duties. Employers, however, should also realize that they may become liable for increased compensation, if they do not see to it that the superintendents and foremen observe these orders.

(6) **EXCAVATIONS OR WORKINGS.** The words "excavations" and "workings" when used in these orders shall signify all working places of a quarry, whether abandoned or in use.

(7) **PERSON.** The term "person" when used in these orders shall be held to mean and include a firm or body corporate as well as natural persons.

(8) **APPROVED.** The term "approved" shall be held to mean approved by the industrial commission.

Ind 2.03 General safety precautions. (1) The operator and superintendent of every quarry shall use every reasonable precaution to insure the safety of the workmen in the quarry in all cases, whether provided for in these orders or not.

(2) All defects in or damage or injury to machinery or timbering or to apparatus and equipment generally in and about a quarry, all unsafe or dangerous conditions in any part of the quarry, and all accidents occurring in the course of quarrying operations, even though not resulting in personal injury, shall be promptly reported to the quarry foreman or superintendent by the person observing the same.

(3) Each workman employed in the quarry, when first engaged, shall have his attention directed to the general and special rules provided for in these orders, and if not able to read the English language, to have them explained to him.

(4) No person shall without authority of his foreman or superintendent handle electric wires or conductors, or electrical apparatus of any kind.

Ind 2.04 Bulletin boards. Safety bulletin boards shall be provided by operators at all quarries. Miscellaneous rules for quarrymen, safety bulletins, pictures, slogans, or circulars shall be posted on such bulletin boards.

Ind 2.05 Care of the injured. (1) It shall be the duty of employers to keep at such place or places as shall be convenient and accessible to employees a stretcher and a woolen blanket for use in carrying any person who may be injured. An approved supply of first aid material shall be kept and maintained at all times in a dust and moisture proof box.

(2) It shall be the duty of the employer, on all quarry and pit operations, to designate certain employees to be trained in the application of first aid, and at least one employee who has had first aid training shall be present throughout each shift. It shall be the duty of the employer to procure the services of a competent person to

instruct such employees from time to time but not less than once each year in the proper handling and treatment of injured persons before the arrival of a physician.

Ind 2.06 Tunnels in quarries. All tunnel work in connection with quarry operations shall be governed by the provisions of the general orders on Safety in Mines issued by the industrial commission of Wisconsin.

Ind. 2.07 Superintendents. (1) The operator of every quarry shall appoint a man who shall be personally in charge of the quarry and the performance of the work done therein, who shall be designated as the "superintendent", provided, however, that nothing herein contained shall prevent the owner or operator of any quarry from personally filling the office of superintendent.

(2) The superintendent of every quarry or pit shall inspect or cause some competent person or persons appointed by him to inspect all appliances, boilers, engines, magazines, explosives, signalling devices, tracks, ladders, dry closets, and all parts and appliances in actual use, and any such person or persons appointed by the superintendent shall at once report any defects therein to the superintendent. It shall be the duty of the superintendent, upon ascertaining such defects to take immediate steps to remedy the same so as to make the same comply with the provisions of these orders, and he shall forthwith notify the operator of said quarry or pit of the existence of such defects. It shall be the duty of the superintendent to appoint a competent man to have full charge, under the direction of the superintendent of every magazine containing explosives situated on the premises, and to make such other appointments and perform such other duties as are provided by these orders to be performed by such superintendent.

Ind 2.08 Inspection at the face of the quarry. (1) **INSPECTION BY SUPERINTENDENT OR COMPETENT PERSON.** The superintendent of the quarry or a competent person detailed for this purpose shall make frequent inspections of the face of the quarry and of the overburden where men are employed and shall dislodge any slabs of rock or boulders in said face that may be dangerous to employees.

(2) **STEEP LEDGES.** During thawing and freezing periods workmen shall not be permitted to expose themselves next to vertical or steeply inclined ledges. Where ledges are inclined 30 degrees or more from the vertical, work may be permitted provided watchmen are employed at each working place to warn men when loose rocks are about to fall.

Note: Exceptions. Where material is handled by hand labor next to vertical or steeply inclined ledges work may be permitted provided material is blasted so as to be thrown sufficiently clear from the base of the ledge to eliminate exposure to falling rocks.

When rock walls are smooth with little or no fracturing and not subject to open joints or presence of seams of clay or inferior rock, and past experience has proven that alternate freezing and thawing is not productive of rock falls, exceptions may be made to paragraph (2) provided Ind 2.08 (1) has been strictly complied with.

(3) **TRIMMING BARS AND LADDER.** Trimming bars and extension ladders shall be provided and maintained in good condition for the trimming of loose rocks from the quarry ledge.

(4) **TRIMMING LOOSE SCALE.** Persons engaged in trimming down loose scale and loose rock from high and steeply inclined ledges shall

be provided with safety ropes. One end of the rope must be attached to the body continually and the opposite end firmly secured at the top of the bank.

(5) **BARS FOR ROCK PILES.** Each working place in the quarry shall be provided with a bar 8-12 feet in length to be used when pulling down rock piles. One end of the bar shall be provided with a handhold and the opposite end with a hook or 90 degree bend.

Ind 2.09 Sand and gravel excavations. (1) Sand and gravel excavations shall be kept sloped at all times. The slope shall not exceed an angle of 60 degrees from the horizontal. If at any time the gravel bank or any section of the bank approaches an angle exceeding 60 degrees from the horizontal, means shall be taken immediately to reduce the slope by caving. Overhangs at the top of the bank shall be barred or shot down as fast as developed.

Exception: When excavating with mechanical shovels or cranes, the face may be worked to a height not to exceed twice the reach of the shovel or crane without caving to reduce the slope; provided however, that employees shall not be permitted to expose themselves in close proximity to the bank until the face has been sloped as required above.

(2) During caving operations no employee shall be permitted to expose himself directly in front of the section to be caved.

Ind 2.10 Overburden. All places in quarry excavations where men are or may be regularly employed, the top soil or overburden shall not be made continuous with the quarry walls and shall be protected either by (1) The overburden shall be stripped to bedrock to provide a bench the width of which shall equal the depth of the overburden.

(2) The overburden shall be kept sloped 45 degrees with the addition of a fence, wall, or cribbing to catch rolling stones or slides of material.

(3) Employees shall not be permitted to work where falls of overburden may cause injury.

Ind 2.11 Hoisting apparatus and derricks. (1) Wire rope slings, grabhooks or chains shall be used to attach the blocks of stone to the hoisting apparatus.

(2) All ropes, chains, cables, slings, sheaves, gears and other parts of derricks and hoisting apparatus in use shall be carefully examined daily. Any parts that are found to be defective shall be renewed immediately.

(3) The wire rope guys supporting the mast of a derrick and their fastenings shall be inspected semi-monthly while in use and shall be kept in good condition.

(4) An approved signal system shall be maintained when the hoists or derricks are so located that the operator cannot readily see or hear the signals given by men near the end of the hoists or derricks.

Ind 2.12 Cables, standards. The maximum safe working load for all hoisting cables used in quarries must be not more than one-fifth of the breaking load as given in the schedules of the cable manufacturers. Cables are considered unsafe and must be condemned when through broken wires, wear, rust, undue strain, or other conditions indicating deterioration, the strength of the cable has deteriorated 20%.

Ind 2.13 Cable sheaves. Exposed cables, where they pass through sheaves shall be guarded.

Ind 2.14 Hoisting men. No person shall be hoisted out of or lowered into a quarry. Employees shall not be permitted to ride on conveyor or elevator belts.

Ind 2.15 Hoisting loads. When blocks of stone or loaded grout pans are being hoisted out of the quarry, the foreman shall require that all employees in the danger zone retire to a place of safety until the load has reached the surface.

Ind 2.16 Hoisted material. Hoisted material, or any loose material about the quarry shall be deposited not less than 10 feet from the edge of the excavation and secured in such a manner that there is no possibility of the material falling back into the pit where the men are employed.

Ind 2.17 Quarry cars and haulage. (1) All haulage equipment shall be frequently inspected and all defects properly repaired.

(2) "Rocker" or "Cradle" dump boulder cars shall be equipped with an approved locking device.

Ind 2.18 Elevated spur tracks. Elevated spur tracks shall be kept in good condition and a bumper placed on or other means provided to prevent cars rolling over the embankment. A proper runway for carmen shall be provided.

Ind 2.19 Quarry stairs and ladders. (1) Safe and easy access to quarry excavations shall be provided for deep quarries, stairs with numerous landings and secure handrails shall be provided.

(2) All landings and flights shall be securely braced beneath.

(3) Unsecured ladders shall not be used except for short flights as from one quarry bench to another. Ladder steps shall be notched in rather than merely spiked to the side supports and shall at all times be kept in good repair.

(4) After safe and adequate means of descent and ascent in quarry excavations have been provided for, strict rules shall be made prohibiting workmen from using any other means than those provided.

(5) All ladders used to gain access to elevated places in quarries shall be of sufficient length to extend at least 3 feet above the landing, and the top of the ladder shall be firmly secured to the ledge to prevent slipping.

(6) Excavations shall be provided with railings at points where men are regularly employed, or where passageways, tracks, roadways or buildings adjoin such excavations.

Note: Exceptions may be made at points where stripping is being carried on and at points where material and rocks are landed after being hoisted from the pit.

Ind 2.20 Passageways. Passageways regularly used by persons shall be planked overhead at the point of intersection with bucket elevators and conveyor belts to prevent injury from falling stones.