

CONSTITUTION
OF THE
STATE OF ARIZONA
ARTICLE XIX
MINES

The office of Mine Inspector is hereby established. The Legislature, at its first session, shall enact laws so regulating the operation and equipment of all mines in the State as to provide for the health and safety of workers therein and in connection therewith, and fixing the duties of said office. Upon approval of such laws by the Governor, with the advice and consent of the Senate, shall forthwith appoint a Mine Inspector, who shall serve until his successor shall have been elected at the first general election thereafter and shall qualify. Said successor and all subsequent incumbents of said office shall be elected at general elections, and shall serve for four years.

ARIZONA REVISED STATUTES
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TITLE 27. MINERALS, OIL AND GAS
CHAPTER 1. STATE AGENCIES AND OFFICERS
ARTICLE 2. STATE MINE INSEPECTOR

27-121. Qualifications of mine inspector; duties; deputies; salary; immunity

A. The state mine inspector shall be a resident of this state at least two years before election, not under thirty years of age, and shall have been practically engaged in, and acquainted with, mines and mining in this state, and shall have had at least four years' experience in mining or experience in any industry under the jurisdiction of the state mine inspector, or both.

B. No person may be an inspector or deputy inspector while an employee, director or officer of a mining, milling or smelting company.

C. The inspector, and each deputy, shall devote full time to official duties.

D. The inspector shall receive an annual salary pursuant to section 41-1904 and necessary traveling expenses when traveling in discharge of official duties.

E. The mine inspector shall have a seal bearing the words "Mine Inspector, State of Arizona", which shall be affixed to official documents.

F. Any claim or action against the mine inspector or the inspector's deputies, agents or employees in their official capacity as described in this title shall be brought against the state of Arizona and not against the mine inspector, deputy, agent or employee individually.

27-122. Deputy inspectors

The state mine inspector may appoint and assign such deputy inspectors to perform the duties of the state mine inspector as prescribed by law. All deputies shall receive compensation as determined pursuant to section 38-611.

27-123. Education and training fees

A. The state mine inspector may adopt and collect education and training fees for the purpose of training miners in this state.

B. The state mine inspector shall credit monies received for education and training purposes to the federal education and training fund, designated as the Arizona state mine inspector's account, to be used according to the federal state grant rules, as appropriate.

27-124. Mine inspections required; powers of inspector

A. The mine inspector shall inspect, at least once every three months, every active underground mine in the state employing fifty or more persons, and at least once each year, every other mine. The inspector shall inspect the operation, conditions, safety appliances, machinery, equipment, sanitation and ventilation, the means of ingress and egress, the means taken to protect the lives, health and safety of the miners, the cause of accidents and deaths occurring at the mine, and the means taken to comply with the provisions of this title.

B. The mine inspector may enter and inspect any abandoned or inactive mine to determine whether any dangerous condition exists which may affect the health and safety of the general public.

C. The inspector at any time may enter, examine and inspect any mine or part of any mine and inspect any connected plant or equipment or any part of the workings of the mine.

D. The mine operator or designated representative shall accompany the inspector, without unreasonable delay, while conducting inspections.

27-125. Inspection report

After every inspection the inspector shall fill out and leave with the operator a preliminary inspection report that lists the inspection party, the part of the operation inspected, the type of inspection and every violation of the state mining code observed during the inspection, but nothing contained in or omitted from the entry shall limit or affect the duty and obligation of the owner or operator of

the property under this title. Within a reasonable length of time a typed copy of the inspection report shall be sent to the operator which shall be filed at the office of the operations. The report shall be available at all reasonable times.

27-126. Annual report to governor

A. The mine inspector on March 31 each year shall make and file with the governor a statistical summary and report of the work during the year ending December 31. The report shall contain a statement showing the number of persons employed in each mine, and, separately, the number of persons employed above ground and under ground, the number and nature of fatal and serious accidents occurring in each mine, the number of inspections made, complaints filed, inquests attended, mines or mine workings ordered to be vacated, violations found, and other information deemed important, together with necessary or desirable recommendations.

B. Copies of the report shall be published and distributed at the expense of the state.

27-127. Restrictions on divulging information by inspectors and employees; dismissal for violation

A. No inspector, deputy or employee shall make a report with respect to a mining property or prospect, except an official report to his superior officer or to the governor, nor shall he make public or reveal to any other person knowledge or information obtained by him in the exercise of his official duties concerning ore, ore bodies or values, of any mine or part thereof.

B. An inspector or deputy violating this section shall be dismissed from office.

27-128. Inspection of mines; violation; classification

A. The state mine inspector or a deputy inspector shall inspect each mine in the state as frequently as necessary to determine whether any hazardous dust condition exists therein. There shall be a prompt inspection of any mine in which he or a deputy inspector has reason to believe a hazardous dust condition exists or with respect to which complaint of a hazardous dust condition has been made as provided in section 27-308. The mine inspector or a deputy inspector shall make recommendations to mine operators as to methods of reducing dust and whenever he finds a hazardous dust condition he shall notify the mine operator thereof. The notice shall be in writing and shall specify a reasonable time within which the dust condition must be remedied. The mine operator shall install within the time specified, and thereafter maintain and operate, dust prevention practices which remedy the hazardous dust condition.

B. If the dust prevention practices are not installed within the time specified in the notice or are not thereafter maintained, the state mine inspector or a deputy inspector shall forthwith order cessation of operations, except for necessary maintenance and repair work, in all parts of the mine in which hazardous dust conditions exist or are produced by operations until the condition is remedied. Written notice of the order shall be given the mine operator and any mine operator who thereafter knowingly fails to obey the order is guilty of a class 2 misdemeanor.

27-129. Locating abandoned mines; public education; donor immunity

A. Subject to legislative appropriation, the state mine inspector shall establish a program to locate, inventory, classify and eliminate public safety hazards at abandoned mines as defined in section 27-301. The state mine inspector shall spend state appropriated monies to locate, inventory, classify and eliminate public safety hazards at abandoned mines on state land first and thereafter any public safety hazards at abandoned mines on land not owned by this state.

B. Using reasonable efforts, the state mine inspector shall attempt to notify in writing the owner, or other responsible party, of an abandoned mine at which a public safety hazard exists of the requirements of section 27-318 with respect to abandoned mines.

C. The state mine inspector may establish public education programs to recognize and avoid public safety hazards at abandoned mine sites.

D. To accomplish the purposes of this section, the state mine inspector may accept monies for deposit in the state general fund received from any source, including restricted or unrestricted federal funds, gifts and contributions from other governmental agencies,

individuals, corporations or other organizations. The state shall separately account for monies that are received pursuant to this subsection and that are deposited in the state general fund.

E. The state mine inspector may enter into intergovernmental agreements with Indian tribes in the state to extend the abandoned mine program onto tribal lands.

F. The state mine inspector may accept in-kind donations of material, equipment or services to eliminate public safety hazards at an abandoned mine from any person, public entity or other legal entity.

G. A person, public entity or other legal entity who makes donations pursuant to this section or section 27-131 shall not be liable for damages in any civil action for any injury or death related to the elimination of public safety hazards at an abandoned mine unless the injury or death is a direct result of the intentional misconduct or gross negligence of the donor.

27-131. Abandoned mines safety fund; annual report

A. Notwithstanding section 27-129, subsection D, the abandoned mines safety fund is established consisting of:

1. Gifts, grants and contributions specifically designated for the fund.
2. Monies that may be appropriated by the legislature to the fund to match the gifts, grants and contributions based on the preceding year's expenditure report required under subsection D of this section.

B. The state mine inspector shall administer the fund. Monies in the fund are exempt from lapsing pursuant to section 35-190.

C. Monies in the fund are continuously appropriated to the inspector to ensure public safety at abandoned mines on land owned by this state as provided by section 27-129. The inspector shall use monies in the fund to pay contractors for actual abatement costs to fill, fence or plug shafts and adits and not to pay administrative salaries and other costs. The inspector shall consult with the state land commissioner to identify and prioritize the abandoned mine sites on state lands to be considered for abatement.

D. Each year the inspector shall submit an annual report to the joint legislative budget committee on or before December 1 concerning the expenditure of monies from the fund and contributions to the fund during the preceding fiscal year. The report shall itemize each expense paid from the fund and shall describe the actions taken to ensure public safety.

27-301. Definitions

In this chapter, unless the context otherwise requires:

1. "Abandoned mine" means a mine where mining operations have been permanently terminated or the operator has complied with section 27-303, subsection C or for which no owner, operator or other claimant of record can be located for a deserted mine site.
2. "Active mine" means a mining operation conducting mining activities on any lands.
3. "Claim" means the portion of mining ground held under federal and local law by one claimant or association, by virtue of one location and record. It includes mining claims and sites deemed abandoned under the federal land policy and management act of 1976 (P.L. 94-579; 90 Stat. 2743).
4. "Excavations" or "workings" means any or all parts of a mine excavated or being excavated, including shafts, tunnels, drifts, crosscuts, adits, entries, winzes, raises, stopes, open cuts, and all working places, whether abandoned or in use.
5. "Inactive mine" means a mining operation not conducting mining for more than six months or where mining operations have been temporarily suspended or the operator has complied with section 27-303, subsection C.
6. "Inspector" means the state mine inspector and except in article 7 of this chapter his deputies.
7. "Mill" means any ore mill, concentrator, sampling works, crushing, grinding or screening plant, appurtenant buildings, shops or storage or loading facility used at and in connection with any mine.
8. "Mine" means all lands containing excavations, underground passageways, shafts, tunnels and workings, structures, facilities, equipment, machines or other property including impoundments, retention dams, tailings and waste dumps, on the surface or underground, used in, to be used in or resulting from the work of extracting minerals or other materials, excluding hydrocarbons. Mine includes that portion of an operation which mixes rock, sand, gravel or similar materials with water and cement or with asphalt,

provided that the operation is either physically connected to the mine or is so interdependent with the mine as to form one integral enterprise. Mine includes that portion of an operation that is being reclaimed pursuant to chapter 5 or 6 of this title.

9. "Miner" means a person who works in a mine.

10. "Mining" means those activities conducted to develop or extract materials from a mine including on-site transportation, concentrating, milling, leaching, smelting or other processing of ores or other materials. Mining includes mined land reclamation activities regulated pursuant to chapter 5 or 6 of this title.

11. "Open pit" means any mine operated on the surface of the earth, including quarries, but excluding sand and gravel operations.

12. "Operation" means a mine, mill, smelter, sand and gravel plant or pyrometallurgical or hydrometallurgical operation.

13. "Operator" means a natural person, corporation, partnership association, agent, governmental entity or other public or private organization or representative owning, controlling or managing a mine.

14. "Sand and gravel operation" means any operation the principal product of which is sand, gravel, pumice or any other common variety of material.

15. "Smelter" means any establishment used for the purpose of pyrometallurgical operations and appurtenant buildings, shops, facilities for the production of steam or electrical power, or equipment used in conjunction with any of the above.

16. "Surface mining" means mining conducted on the surface of the land including open pit, strip, dredging, quarrying, leaching, surface evaporation operations, reworking abandoned tailings and dumps and related activities.

17. "Underground mine" means a mine in which minerals or other material is extracted from beneath the surface by means of shafts, tunnels or other openings.

27-302. Operations subject to chapter; enforcement by inspector; violation; classification

A. All operations shall be subject to the provisions of this chapter unless specifically exempted from a particular provision by its terms.

B. The inspector shall enforce this chapter at all operations.

C. Any operator or other person violating any provision of this chapter is guilty of a petty offense unless other penalties are specifically prescribed in this chapter.

27-303. Notification to inspector of beginning or suspending operations

A. When mining operations are scheduled to begin at any mine, the operator, owner, agent or other authorized representative shall give written notice to the inspector prior to commencement of mining.

B. If operations do not commence within six months after the inspector receives the notice of commencement, the operation is considered to be suspended.

C. In the case of temporary suspension of operations, excluding labor disputes, exceeding six months or in the case of permanent termination of mining operations, the operator shall notify the inspector, in writing, before the suspension or termination date. All shafts, portals, adits or other openings shall be secured to prevent unauthorized entry and to protect public health and safety pursuant to section 27-318.

D. On notification of suspension or termination of mining operations, the inspector shall inspect the property to determine if adequate safety measures are being taken to protect the public.

27-304. Operator responsibility

A. The operator shall conduct his operation with due regard to health and safety. No operator shall fail to provide or use such safety devices and safeguards as are reasonably necessary to protect the life, health and safety of his employees.

B. The operator, or some responsible person with authority appointed by him, shall be on duty at all times when employees are working. He shall be responsible for the safe performance of all work under him and for the safety of all employees.

C. The operator shall designate a person or persons to inspect as frequently as may be required by any rules or regulations for unsafe conditions and practices, defective equipment and materials, and where such conditions are found, to take appropriate corrective action.

D. The operator and his supervisory personnel shall enforce safety regulations and issue such orders as may be necessary to safeguard the life, health and safety of employees.

27-305. Employee responsibility

Each employee shall make full use of all safeguards provided for his protection. Except for the purposes of repair, no employee or other person shall remove, displace, damage, destroy or carry off any safety device or safeguard furnished or provided, nor shall he interfere with the use thereof. No employee or other person shall interfere with the methods or processes adopted for the protection of employees, nor shall he fail or neglect to do anything reasonably necessary to protect the life, health and safety of himself and other employees.

27-306. First aid; inspectors as qualified instructors

A. Every operation shall have adequate and proper first aid material as approved by the inspector which shall be available to all employees.

B. No employee or other person shall remove material from first aid boxes or kits at any time except for replacement or use in case of injury.

C. The state mine inspector and deputy mine inspectors shall be qualified first aid instructors, and shall provide instruction upon request.

27-307. Notice to operator of dangerous condition; compliance; failure to comply as prima facie evidence of negligence; order to cease operations

A. If upon inspection it appears to the inspector that an operation from any cause is in a dangerous condition or its condition fails to comply with the requirements of law, the inspector shall at once serve written notice on the operator or the operator's agent in charge, stating in detail why the operation is dangerous or does not comply with law, specifying necessary changes to be made and setting a reasonable time within which to make them.

B. The operator shall promptly make the change and comply with the notice. In an action against a party notified as provided in subsection A for loss of life or bodily injuries by an employee subsequent to the notice and in consequence of the dangerous condition of the operation, a certified copy of the notice served by the inspector shall be prima facie evidence of the negligence of the operator.

C. If it appears to the inspector from a reexamination that the changes or compliances have not been made within the time specified in the notice, and that the operation is still in a condition dangerous to life or health, and in the opinion of the inspector it is necessary for the safety of the life or health of the employees that the operation be closed, the inspector shall promptly order cessation of the operation or part of the operation, and order that the employees not be permitted therein except to remedy the defects complained of until this chapter is complied with to the satisfaction of the inspector. The operator shall promptly obey the order.

D. Except as provided in section 41-1092.08, subsection H, if the operator considers the final order to be in excess of the inspector's authority or unreasonable, the operator may obtain judicial review of its validity or reasonableness pursuant to title 12, chapter 7, article 6.

27-308. Complaint to inspector of dangerous conditions by employee; inspection

When the inspector receives a complaint in writing signed by a person employed in an operation, stating that the operation in which he is working or part of it is being operated contrary to law or is dangerous to the health or lives of persons employed therein, and setting forth when the danger was first observed, the inspector shall examine the operation as soon as possible. The name of the person

making the complaint shall not be disclosed by the inspector unless permission is expressly granted by the person. The complaint shall be indexed and filed by the inspector.

27-309. Reports of fatal accidents to inspector; investigation

A. When a fatal accident occurs in an operation, the operator shall give immediate notice thereof by telephone or facsimile transmission and after investigation report the facts in writing to the inspector. The inspector, upon receipt of such notice shall instruct the operator as to preserving evidence of the accident. The inspector shall investigate and make a report which shall be filed in his office.

B. If the inspector concludes the facts warrant it, he shall cause a copy of his report and all papers in his possession relating thereto to be forwarded to the county attorney of the county in which the fatal accident occurred, with an accompanying statement of the inspector, describing in what particular he believes the law has been violated.

27-310. Copy of law available for inspection

The operator or person in charge of an operation shall keep at all times in the office of the operation and in the timekeeper's office in an accessible place and subject to inspection by all workmen and other interested persons at least one printed copy of this chapter.

27-311. Fire prevention and protection

Every operation where there appears to be any possibility of fire or serious hazards from fire shall provide sufficient fire protection. This shall include water supply with adequate pressure, fireplugs, hose and nozzles, and chemical, automatic chemical or water extinguishers, which shall be properly located to provide for the safety of all employees. All underground mines shall be equipped with adequate rescue equipment and the operators thereof shall provide proper training in its use to rescue crews.

27-312. Safety equipment

A. All persons working in operations shall wear approved type head, foot and eye protection when in the work area and such other safety equipment as is designated by the operator.

B. Equipment placed in an operation for the purpose of safety shall not be removed by anyone nor utilized except for the purpose intended.

27-313. Machinery

A. All moving parts of machinery to which workmen may be exposed shall be adequately guarded. Guards shall conform to the standards set forth in the rules.

B. A guard or safety device necessary for safe operation which has been removed from any machine shall be replaced before the machine is returned to productive operation.

27-314. Electrical installations

All electrical equipment shall be so maintained as to reduce the accident hazard so far as is reasonably possible. Such electrical equipment shall be installed, maintained and used according to standards set forth in the rules.

27-315. Unauthorized persons

No person whose entry has not been authorized by the operator shall be allowed in any operation.

27-316. Intoxicating liquors and drugs

No intoxicating liquors or beverages and no narcotic drugs shall be permitted on any operation. No employee or other person under the influence of or believed to be under the influence of intoxicating liquors or narcotic drugs shall enter or be permitted to enter on any operation.

27-317. Waste dumps and tailings areas; signs; violation; classification

In areas where waste dumps, subsidence areas or tailings areas border on inhabited or public places, the roads from such places leading into such areas shall be blocked off and danger signs shall be placed at intervals along the perimeter of the areas. Any person recklessly removing, destroying or defacing such signs or barriers is guilty of a petty offense as provided in section 27-302.

27-318. Abandoned and inactive mines to be secured; inspector authority; violation; classification

A. Every mine operator or former mine operator or claimant who owns a mine or mining claim or possesses a mine or mining claim under lease, contract, permit or otherwise, who knowingly permits the existence on the premises of an abandoned or inactive mining shaft, portal, pit or other excavation which is dangerous to persons legally on the premises, who fails to cover, fence, fill or otherwise secure it and post warning signs, within sixty days of notification by the inspector and who fails to keep it so protected is guilty of a class 2 misdemeanor. If it is impossible or impracticable to comply with this subsection within the required sixty days, the operator may submit a written plan of action to the inspector which specifically outlines the measures that will be taken and the number of additional days necessary to comply with this section. In no case may the time extension granted by the inspector exceed an additional one hundred eighty days.

B. The inspector may enter on such land to inspect for dangerous conditions which may present a health and safety hazard to the public. If hazards exist, the inspector may erect warning signs across or near the entrance of any mine shaft, portal, pit or other mine opening prohibiting the entry of unauthorized persons or erect other protective devices as necessary.

C. If the mine operator cannot be located through reasonable efforts, the owner of record is the responsible party for the purposes of this section. If neither the mine operator or owner of record can be located through reasonable efforts, the inspector shall erect warning signs across or near the entrance of any mine shaft, portal, pit or other mine opening prohibiting entry of unauthorized persons or erect other protective devices as necessary.

D. A person who knowingly and without authority removes, destroys or tampers with any warning sign, covering, fencing or other protection placed on, around or over any shaft, portal or other excavation is guilty of a class 6 felony.

E. Any reasonable and necessary cost incurred by the state mine inspector pursuant to this section may be recovered in a civil action brought by the attorney general against any responsible party.

F. Inert material, as defined in section 49-701, including concrete, asphaltic pavement, brick, rock, gravel, sand, soil and metal if used as reinforcement in concrete and glass may be used as fill material for the closure of abandoned mines with final cover consisting of earthen material that is at least ten feet deep.

27-321. Explosives; records; inspection

A. Every person manufacturing, storing, selling, transferring or in any manner disposing of explosives or blasting agents, shall keep an accurate record of all such transactions and the date thereof, disclosing the amount of each explosive received, from whom received, when received, disposition made of the explosive with the amount thereof, and the name of the person to whom delivery was made, who shall receipt therefore.

B. The record shall at all times be open to inspection by the inspector or any peace officer engaged in investigating a crime.

27-322. Explosives; marking; utilization and storage

A. All explosives or blasting agents sold in the state shall be marked with the date of manufacture in the manner prescribed by the inspector. The inspector shall have authority to designate types of explosives or blasting agents which may not be sold or used after twelve months from the date of manufacture.

B. The inspector may regulate and limit the amount of explosives or blasting agents stored or kept in general supply stores in mining camps or mining towns where there is no law governing storage thereof.

27-323. Explosives; rules and regulations; access to operations

A. The inspector shall prescribe and promulgate rules in accordance with the provisions of this chapter pertaining to storing, transporting and using explosives and blasting agents in operations, including the character and location of magazines and other structures in which they are stored and the conditions under which they may be transported and designating types of explosives and blasting agents which shall not be stored or used in operations or portions of operations.

B. The inspector shall be accorded free access to any operation in or on which explosives or blasting agents are stored, for the purpose of determining whether magazines and storage facilities conform to law and the rules prescribed and to ascertain that life and property are not endangered by the storage thereof.

27-324. Blasting

Before firing blasting charges, the blasting crew shall clear the vicinity surrounding the blast site of all personnel, make provision to guard all means of access to the area, and give warning in every direction from which access may be had to the place where blasting is being done. Misfire holes shall be reported to the mine foreman or the shift boss in charge at the locality of the holes.

27-325. Use of tamping bar

No person shall, whether working for himself or in the employ of another, while loading or charging a hole with explosives, use or employ a metal tamping bar, nor shall any person allow or permit the use of a metal tamping bar while loading or charging a hole by employees under his management or direction.

27-341. Escapement shafts

A. Every operator maintaining in a mine a vertical or incline shaft or an adits to a distance greater than one hundred feet and who has drifted a distance of two hundred feet or more and commenced to stope, shall provide and maintain to the hoisting shaft or opening through which men are let into or out of the mine, and where the ore is extracted, a separate escapement shaft, raise or opening, or an underground opening, or communication with another contiguous mine. If the contiguous mine is owned or operated by a different person, the right to use the outlet through the contiguous mine, in all cases when necessary, or in case of accident shall be secured and kept in use.

B. Where an escapement shaft or opening is not in existence at the time stoping is commenced, work upon an escapement shaft or opening shall be commenced as soon as stoping begins and diligently prosecuted until completed, and the escapement shaft, raise or opening shall be continued to and connected with the lowest workings in the mine in which mining operations are being conducted.

C. The escapement shaft or exit shall be of sufficient size to afford an easy passageway, and if it is a raise or shaft, shall be provided with substantial ladders from the deepest workings to the surface.

D. When the exit or outlet is not in a direct or continuous course, signboards plainly marked showing the direction to be taken shall be placed at each departure from the continuous course.

27-342. Mine outlets

Every mine shall have at least two outlets to the surface except as otherwise provided in this article. The outlets shall not lead to the surface in the same house and shall not at any point be closer to one another than thirty feet. If two outlets of a mine or part of them do not belong to the same mine, the owners and the operators of the respective mines shall be responsible for the outlet or part of it in their respective mines, being kept in proper repair. Should any obstruction arise in an outlet, or anything occurs in one of the mines to jeopardize the safety of the outlet, the occurrence shall be immediately reported to the operator of the other mine. If either of the two outlets or part of them is situated in an abandoned mine, the operators of the working mine shall be jointly and severally responsible for the proper maintenance and repair of the outlet.

27-343. Structures over mine outlet

No structure shall be erected over an outlet of a mine except the headframe necessary for hoisting from a shaft and the hatch or door necessary for hoisting from a shaft and the hatch or door required to protect persons obligated to work at the top of a shaft from inclement weather, and if a house is required for this purpose the inspector may grant permission in writing for its construction. Such house shall be as small as possible and constructed of fire resistant material. Regular storage of flammable material inside, or within thirty feet of the house is prohibited.

27-344. Timbering support

- A. Minimum standards for proper timbering or other ground support of any working place shall be suitable to the conditions of the mining system. When necessary such standards shall be set by the inspector after consultation with the operator involved.
- B. When any working place has dangerous or hazardous ground no work shall be done there except as shall be necessary to make the place secure and safe. If for any reason necessary timbers cannot be supplied immediately, all work done shall cease until such timbers can be supplied.
- C. "Timber" as used in this section shall mean wood, steel, concrete, rock bolts, sand fill, rock fill or any other material or device used for bracing, supporting or restraining ground.

27-345. Shelter areas

On every level of an underground mine where mechanical haulage is employed and in which there is not sufficient clearance for employees, unobstructed shelter areas in which employees can find safety from moving trains shall be provided at intervals of not more than two hundred feet.

27-346. Ladder-ways

Every shaft, winze, raise or incline, of slope steeper than forty degrees from the horizontal, and deeper than forty feet, through which persons are obliged to travel, shall be equipped with a suitable ladder-way.

27-347. Construction of ladder-ways

- A. Permanent ladder-ways shall be strong and firmly fastened, and shall be kept in good repair.
- B. In a vertical shaft the inspector may, in his discretion, by an order in writing, direct that the ladder be inclined at the most convenient angle which the space where the ladder is fixed allows, and every ladder shall have substantial platforms at intervals of not more than twenty feet. The platform shall be closely covered, with exception of an opening large enough to permit the passage of a human, and shall be arranged so that a person cannot fall from one ladder through the opening to the next ladder.
- C. Ladder-ways shall be provided in shafts in the course of sinking them to within a distance from the bottom as will secure them from damage by blasting. From the end of the ladder-ways, portable ladders shall be extended to the bottom of the shaft.

27-348. Shaft stations

Stations or levels shall have a passageway around the working shaft so that crossing over the hoisting compartments may be avoided. Sumps shall be securely covered. At shaft stations a gate or guard rail shall be provided and kept in place across the shaft, except when a cage, skip or bucket is being loaded, but may be temporarily removed for repairs or other operations if proper precaution is taken to prevent danger to persons. The top of the shaft shall be protected by a substantial gate or guard rail.

27-349. Tracks and roadbeds; maintenance underground

When mechanical haulage is in an underground mine, the tracks, roadbeds, rails, joints, switches and frogs shall be constructed, installed, bonded and maintained in a manner consistent with the speed and type of haulage operation being conducted.

27-350. Lights; trolley wires

A. Stationary lights which are approved by the inspector shall be provided during working hours at all stations in shafts during the time such shafts are in actual use, and at all stations in levels where hoisting or hauling is conducted by means of machinery, and at night at all working places on the surface.

B. Electric trolley wires shall be at least seven feet above the floor.

27-351. Hoists; operator; indicator

A. No person addicted to intoxicating liquors or drugs, or under, eighteen years of age shall be employed as a hoisting engineer.

B. All power hoisting machinery used in hoisting from or lowering employees and materials into mines, except for prospect shafts not exceeding three hundred feet in depth, shall be equipped with an indicator placed near and in clear view or hearing of the engineer.

The indicator shall be in addition to marks on the rope, cable or drum.

C. It is unlawful to hoist or lower persons from or into a mine at a speed greater than fifteen hundred feet per minute, but the inspector may designate a lesser speed than fifteen hundred feet per minute in a shaft, if in his opinion a greater speed is unsafe, or a greater speed if in his opinion particular shafts and hoist conditions so warrant.

27-352. Inspection and construction of hoists

A. Hoisting machinery, cables and sheaves shall be inspected once every twenty-four hours by a competent person appointed by the operator for that purpose, and the person making the inspection shall immediately report in writing to the operator all defects found.

B. Ropes or cables used for hoisting purposes shall be of approved quality and manufacture. In shafts and winzes over two hundred feet deep, wire ropes or cables only shall be used for hoisting purposes.

C. Head frames where persons are hoisted at a speed of over two hundred fifty feet per minute and where more than twenty-five persons are employed shall be constructed to allow at least twenty-five feet above the hoist landing stage in which the cage, skip or bucket can travel freely in case of an overwind.

27-353. Safety cage and catches

A. It is unlawful for the operator of a mine to permit hoisting or lowering persons in a shaft deeper than three hundred feet except shafts in process of sinking, unless an iron-bonnetted safety cage equipped with gates at least five feet in height is used for hoisting and lowering the persons. Every cage or skip used for hoisting persons shall be provided with a safety catch of sufficient strength to hold the cage or skip with its maximum load at any point in the shaft in the event the hoisting cable breaks. The inspector shall require that cages and skips be equipped as required by this section and that on all cages the safety catches are kept well oiled and in good working condition.

B. In a shaft less than three hundred feet deep where no safety cage is used, and where cross-heads are used, platforms for employees to ride upon equipped with safety catches as required for cages and skips shall be provided.

C. Skips, the capacity of which exceeds five tons, running on steel guides in shafts designed primarily for the hoisting of rock, need not be equipped with safety catches. Such skips, however, shall be equipped with a platform and bonnet for the protection of the persons, who, as provided in this article, may legally ride the skips. Only persons engaged in shaft maintenance, pumpmen, skiptenders, supervisors and inspectors shall be permitted to be hoisted or lowered in such skips. No person, including those specifically mentioned in this paragraph, shall be permitted to ride a loaded skip.

27-354. Cross-heads; buckets

A. Vertical shafts more than two hundred feet deep from which hoisting is done by a bucket shall be provided with suitable guides, and with the bucket a cross-head traveling upon the guides shall be provided. The height of the cross-head shall be at least one and one-half times its width. If the cross-head is a type not secured to the hoisting rope, a stopper of a design approved by the inspector

shall be securely and rigidly fastened to the hoisting rope at a suitable point above the rim of the bucket. The number of persons permitted to ride on the deck of a cage, or, in or on a skip or bucket, shall be determined by the inspector and no more than that number shall be allowed to ride.

B. No persons shall ride upon a cage or in or on a skip or bucket when it is loaded with rock or ore, or when loaded with tools, timber, powder or other material, except for the purpose of assisting in passing it through the shaft.

27-355. Hoisting tools and materials

A. When tools, timber or other materials are loaded or hoisted in the shaft, the ends, if projecting above the top of the bucket, skip or other vehicle, shall be securely fastened to the hoisting rope or to the upper part of the vehicle, and tools, timber or other materials loaded erectly upon a cage shall be securely lashed before they are hoisted or carried.

B. No cage, skip, bucket or other vehicle shall be lowered directly to the bottom of a shaft fifty feet or more in depth where persons are working, but shall be stopped at least fifteen feet above the bottom until the signal to lower further has been given by one of the persons at the bottom of the shaft.

27-356. Protection from falling materials

A. Persons engaged in sinking a shaft in which regular hoisting from an upper level is going on, shall be protected from the danger of falling material by a suitable covering, with a sufficient opening left in the covering for the passage of the bucket or conveyance used in the sinking operation.

B. In shafts, winzes or raises where two or more crews are working, one crew above another, there shall be a bulkhead or other barriers between each two crews strong enough to stop tools or other material that may fall from the persons working above, and only the cage, skip or bucket compartment shall be left open.

C. Shafts or winzes shall have a bulkhead over the persons working in the bottom of the shaft or winze built of timber not less than six inches in thickness, not more than fifty feet above the bottom of the shaft or winze, to provide ample protection for the persons working in the bottom of the shaft or winze, and so constructed as not to shut off the air circulation. The cage, skip or bucket compartment only shall be left open. Shafts or winzes shall be cleaned down below the bulkhead after each blasting.

D. Windlasses and winzes shall be provided with a suitable plug or some other reliable device to prevent the bucket or other conveyance running back.

E. No open hook shall be used with a bucket in hoisting, but only some approved form of safety hook or shackle hook.

27-357. Hoist release signal

A. At a mine where men are hoisted by mechanical means, a hoistman charged with the hoisting shall be kept on duty at the hoist at all times when men are underground, except as provided in subsection B.

B. The requirements of subsection A shall not apply to an automatic hoist equipped with the following devices:

1. A device which automatically cuts off the power to the hoist motor and sets the brakes when the hoist ropes of a winding-drum machine becomes slack, and safety dogs or devices on the cage which will stop the cage in the event of slack rope or a broken hoisting cable.

2. A governor which will prevent unsafe speeds and a device to set the brakes and stop the cage if the safe speed is exceeded.

3. Devices which will reduce the speed of the cage before the approximate stopping points so that it can be stopped properly.

4. A manually operated safety switch and other device by means of which the cage may be stopped, started or directed to another level or stopping point.

5. A call button located at each stop, which when actuated, will caused the cage to move to that stop providing the gates and gate switches are closed on all stations.

- 6. A magnetic brake which will stop the hoist motor and hold the cage in fixed position whenever the power applied to the hoist motor is removed or fails.
- 7. An opening or escape hatch in the cage and a shaft manway with ladders which may be reached from the cage.
- 8. A means of signaling or communicating from the cage to a designated place in the mine or on surface where a responsible person on duty can be notified in the event of an emergency.
- C. An automatic hoist is one that does not require the attendance of a hoist engineer and in which the hoist cage and shaft are equipped with operating and safety devices which control the movement of the hoist from the cage and from all stations or levels.

27-358. Signaling apparatus

- A. Every shaft and each compartment thereof used for hoisting which exceeds fifty feet in depth, and not exempted in writing by the inspector, shall be provided with an efficient means of interchanging distinct and definite signals between the top of the shaft and the lowest level from which hoisting is being done, and the various intermediate levels for the time they are in use.
- B. The signaling apparatus shall be either wire or cable actuating a bell, whistle, speaking tube, telephone, electric or electronic system, or two or more of them.
- C. Only those employees and supervisors authorized by the operator shall be permitted to ring any shaft or station bells.

27-359. Signal code

- A. The following signal code shall be used in all mines:

1 bell, stop immediately if in motion.

1 bell, hoist muck, after preliminary signal for hoisting muck.

2 bells, lower.

3 bells, raise.

3 -1 bells, hoist men.

3 -2 bells, lower men.

4 bells, release cage, skip, or bucket to the hoistman.

5 bells, blasting or ready to shoot.

(a) The signal for blasting or ready to shoot is a caution signal and if the engineer is prepared to accept it he shall acknowledge by raising the bucket or cage a few feet then lowering it again.

(b) After accepting the signal for blasting or ready to shoot, the engineer shall be prepared to hoist men away from the blast as soon as any signal is given and shall accept no other signal in the meantime.

6 bells, air on or off.

7 bells, danger signal, followed by station signal, calls cage to that station, and such signal takes precedence over all other signals except an accepted blasting signal.

- B. The following shall be station signals:

1 -2 bells, collar of shaft.

1 -3 bells, 1st level.

1 -4 bells, 2nd level.

1 -5 bells, 3rd level.

2 -1 bells, 4th level.

2 -2 bells, 5th level.

2 -3 bells, 6th level.

2 -4 bells, 7th level.

2 -5 bells, 8th level.

4 -1 bells, 9th level.
4 -2 bells, 10th level.
4 -3 bells, 11th level.
4 -4 bells, 12th level.
4 -5 bells, 13th level.
5 -1 bells, 14th level.
5 -2 bells, 15th level.
5 -3 bells, 16th level.
5 -4 bells, 17th level.
5 -5 bells, 18th level.
6 -1 bells, 19th level.
2 --1-2 bells, 20th level.
2 --1-3 bells, 21st level.
2 --1-4 bells, 22nd level.
2 --1-5 bells, 23rd level.
2 --2-1 bells, 24th level.
2 --2-2 bells, 25th level.
2 --2-3 bells, 26th level.
2 --2-4 bells, 27th level.
2 --2-5 bells, 28th level.
2 --4-1 bells, 29th level.
2 --4-2 bells, 30th level.
2 --4-3 bells, 31st level.
2 --4-4 bells, 32nd level.
2 --4-5 bells, 33rd level.
2 --5-1 bells, 34th level.
2 --5-2 bells, 35th level.
2 --5-3 bells, 36th level.
2 --5-4 bells, 37th level.
2 --5-5 bells, 38th level.
2 --6-1 bells, 39th level.
4 -1-2 bells, 40th level.
4 -1-3 bells, 41st level.
4 -1-4 bells, 42nd level.
4 -1-5 bells, 43rd level.
4 -2-1 bells, 44th level.
4 -2-2 bells, 45th level.
4 -2-3 bells, 46th level.
4 -2-4 bells, 47th level.
4 -2-5 bells, 48th level.
4 -4-1 bells, 49th level.
4 -4-2 bells, 50th level.

C. The station signal shall be given before the hoisting or lowering signal. If bells run slowly, move slowly.

D. The engineer shall not move a cage, skip or bucket unless he understands the signal.

E. One copy of the signal code provided for by this section shall be posted on the gallows frame on each mine, one at each station and one before the engineer.

F. Special signals may be used if they are easily distinguished by their sound, or otherwise, from the code provided for by this section, and do not interfere with it in any manner.

27-360. Precautions against flooding

A. When advancing a drift, adit, level or incline toward a mine working that appears to be filled with water, a bore hole shall be kept at least twenty feet in advance of the breast of the drive and also, if necessary, in directions laterally from the course of the drive. The working place shall not exceed ten feet in width and further measures shall be taken which are deemed necessary by the inspector to obviate the danger of a sudden breaking through of water. No raise shall be allowed to approach within ten feet of a portion of a winze or a stope in which there is a dangerous accumulation of water, unless the winze or stope is first unwatered by bailing or pumping, or by means of a bore from the raise. When in the opinion of the inspector there is danger of a sudden inrush of water, additional raises, drifts or other workings shall be constructed as necessary to insure escape of persons from the lower workings. Places for the storage of water in mines shall be constructed to prevent leakage as far as possible and insure the safety of the persons working below them.

B. It is unlawful for an operator to impound water or keep water impounded within a mine in which persons are working below the water so impounded in a manner which endangers the safety of the persons unless the water is impounded by a dam or wall approved by the inspector.

27-361. Common system of drainage; contribution of cost

A. When adjacent or contiguous mines, opened, developed and worked upon the same or upon separate lodes have a common ingress of water, or, by reason of subterranean communication of water, have a common drainage, the operators of the mines shall provide for disposal of their proportionate share of the drainage, or to prevent the water in the mine from flowing in or upon neighboring mines.

B. If an operator of such mines fails or neglects to provide for drainage, and by reason of failure or neglect the operator of an adjacent or contiguous mine is compelled to pump, drain or otherwise provide for the water flowing in from the other mine, the operator of the mine in default shall be liable for the proportion of the actual and necessary cost and expense of pumping, draining or otherwise providing for such water.

27-362. Order for inspection

A. When an action is commenced to recover the costs and expenses of draining lodes or mines, the court shall grant an order allowing plaintiff to inspect the lodes or mines claimed to have been drained upon application and affidavit that the inspection is necessary for proper preparation of the action for trial.

B. The order shall designate the number of persons, not exceeding three besides plaintiff, to make the examination and they may cause the removal of rock, debris or other obstacles in a lode or vein when removal is shown necessary to a just determination of the claim.

27-363. Danger signals; visitors

A. Owners or operators shall place warning signs or other warning notices at the entrance to working places deemed dangerous, and at the entrance to old or abandoned workings of active mines, and no person other than those authorized by the operator shall remove or go beyond a caution-board, warning sign or danger signal so placed.

B. Visitors shall not be allowed underground unless accompanied by the operator or his agent.

27-364. Interfering with equipment

No person shall knowingly:

1. Injure or destroy any equipment or machinery of a mine, nor, unless authorized so to do obstruct, open, close or change the position of a ventilation door, brattice, or airway, or handle or disturb any part of the machinery of the hoisting engine of the mine.
2. Open the door of a mine and neglect to close it.
3. Endanger the mine or those working therein.
4. Disobey a lawful order, or do a willful act whereby the lives, safety or health of persons working in a mine, the security of a mine, or the machinery connected therewith, is endangered.

27-365. Regulation of underground use of internal combustion engines

The underground use of any internal combustion engine is declared unlawful, unless after application filed with the inspector he approves the equipment for safe use in the type of underground work for which the application is filed and finds that the atmospheric conditions in the underground workings where the equipment is to be used are such that the operation of such equipment will not endanger the health or safety of any employee. If the application is approved by the inspector, the operation of the designated equipment shall be lawful only if and so long as it is operated and maintained in accordance with recommendations made public from time to time by the inspector, and only upon the condition that when air quality becomes unsafe operation of the equipment shall be stopped by the operator until air quality again becomes safe either by increasing ventilation or by correcting mechanical imperfections in the equipment, whichever is found to be the cause of the unsafe quality of the air.

27-366. Maps of underground workings

When ordered by the inspector, the operator of every underground mine shall make and maintain a reasonably accurate map of the workings of the mine. At least once every six months or oftener if necessary, the operator shall make alterations or additions to the map showing excavations made since those last shown on the map. All parts of the mine which were worked or abandoned shall be clearly indicated and all underground workings shall be surveyed and mapped before they become inaccessible. The maps shall at all times be open to inspection by the inspector.

27-367. Maintenance and use of loading equipment

Mucking machines, sorters and other loading devices shall be maintained and operated in a safe manner.

27-368. Ventilation; condition of airways; testing

- A. Every underground working place shall have a sufficient amount of ventilation for employees working in such place.
- B. In any underground working place where there is danger of a serious fire, ventilation shall be controlled by mechanical means.
- C. The air currents going into underground workings shall have sufficient volume and velocity to direct and carry away smoke and harmful gases from blasting and any other gases or dust which might contaminate the atmosphere.
- D. Intake and exhaust airways in underground mines shall be maintained in good condition and free from obstruction.
- E. When the atmosphere in any mine or part of a mine is known to contain or is suspected of containing any explosive or toxic gas, the operator shall test it before employees are allowed to work in such mine or part of such mine.

27-369. Evacuation; procedure; routes

Every operator shall have a plan for orderly evacuation in the event of an emergency. Every evacuation route shall be designated by signs and kept open at all times.

27-370. Stench warning

- A. The operator shall maintain a suitable and sufficient stench warning that can be introduced into the compressed airlines in case of an emergency and reach all employees who might be working underground.

B. When the odor from a stench warning is detected by employees or other persons, they shall immediately leave their working place or other areas underground, give warning to other employees or persons in their vicinity, and follow the operator's evacuation procedure.

27-371. Radon control

Concentrations of radon gas shall not exceed such amounts as may be set by the inspector.

27-372. Uranium operations: testing for radon daughters

In all uranium operations the operator shall test regularly for radon daughter concentration and submit such records of testing as may be required to the inspector.

27-373. Cap lamps

Permissible cap lamps shall be required in all underground mines where there is a potential hazard from gas.

27-411. Definitions

In this article, unless the context otherwise requires:

1. "Dust prevention practices" includes ventilation, suction or exhaust methods of removing dust, wet methods for settling dust, and the use of respirators when the condition or exposure is temporary or intermittent, and other means of removing or settling dust from mine air as approved by the state mine inspector.
2. A "hazardous dust or gas condition" shall exist when the breathing zone of an employee while engaged in the performance of his work contains higher concentration limits of toxic dust and fumes, mineral dusts, and gases than specified by the state mine inspector in the rules and regulations. Dust counts shall be determined in accordance with techniques prescribed by the inspector and shall be made when necessary.
3. "Respirators" means only those respirators approved by the United States bureau of mines or which may be approved hereafter by the United States bureau of mines and by the state mine inspector.
4. "Breathing zone", in the case of persons wearing respirators, is the air space created after the passage of air through the protective device.

27-412. Dust control

A. Every operator shall do everything reasonably within his power to encourage good practices in the use of any appliances for allaying dust. Each employee shall use such devices as are furnished by the operator. Employees shall not be allowed to work in hazardous dust or gas concentrations without approved respiratory and eye protection.

B. In every operation where employees are exposed to hazardous dust conditions, some mechanical or other means which will alleviate this condition shall be used whenever and wherever practical.

C. In dry places where the operation of a power drill produces dust such dust shall be controlled either by wet drilling, spraying, or approved dust catching devices.

27-421. Ingress and egress

The operator shall provide a safe means of ingress and egress at every open pit or any working place.

27-422. Banks

A. Banks and benches shall be suitably trimmed in a manner consistent with the kind of rock or material, height of banks, and type of equipment being used.

B. The operator or a supervisor designated by him shall make a daily inspection of the faces and banks in the working area of any open pit and shall cause all dangerous material to be dislodged or otherwise made safe.

27-423. Tracks, roadbeds and roadways

A. Tracks, roadbeds, rails, joints, switches and frogs on all haulageways shall be constructed, installed and maintained in a manner consistent with the speed and type of haulage operations being conducted.

B. Truck haulage roadways, including berms where necessary, shall be constructed and maintained with due regard for safety, in a manner consistent with the speed and type of haulage operations being conducted and the type of equipment being operated.

27-424. Operation of heavy equipment

A. The operator shall insure that employees operating any heavy duty equipment such as a locomotive, crane, power shovel, truck, bulldozer, front end loader or scraper are qualified to operate such equipment.

B. Mobile heavy duty equipment shall be inspected regularly and maintained in a safe operating condition.

27-425. Open pits; fencing or blocking

Those portions or places of open pits which border on inhabited places frequented by the public shall be fenced or otherwise blocked off.

27-441. Definitions

(L10, Ch. 244, sec. 11. Eff. 10/1/11)

In this article, unless the context otherwise requires:

1. "Aggregate" means cinders, crushed rock or stone, decomposed granite, gravel, pumice, pumicite and sand.
2. "Aggregate mining" means clearing, covering or moving land using mechanized earth-moving equipment on privately owned property for aggregate development and production purposes, including ancillary aggregate finished product activities. Aggregate mining includes an operation that mixes or recycles rock, sand, gravel or similar aggregate materials with water and cement or with asphalt. Aggregate mining does not include surveying, seismic work, exploration or maintenance activities that create a de minimis land disturbance.
3. "Aggregate mining operation" or "operation" means property that is owned, operated or managed by the same person for mining aggregate and is located in an aggregate mining operations zoning district established pursuant to section 11-812. Property that is not contiguous but is in the same zoning district, that is owned, operated or managed by the same person and that is operated as a single aggregate mining complex is considered to be a single aggregate mining operation.
4. "Existing aggregate mining operation" means an aggregate mining operation that was in operation on or before the date the aggregate mining operations zoning district is established pursuant to section 11-812.
5. "Major modification" means a change in an approved community notice that is one or more of the following:
 - (a) An increase of more than twenty acres from that stated in the currently approved community notice for the aggregate mining operation.
 - (b) A new and significant type of aggregate mining that has never been conducted at the aggregate mining operation site.
 - (c) Substantive changes to the provisions of an approved community notice required by section 27-442, subsection C, paragraphs 4, 6, 8, 9 and 10.
6. "Minor modification" means a change in a community notice that is not a major modification.
7. "New aggregate mining operation" means an aggregate mining operation that begins operations after the date the aggregate mining operations zoning district is established pursuant to section 11-812.

27-442. Aggregate mining operations; community notice; application
(L10, Ch. 244, sec. 12. Eff. 10/1/11)

A. An owner or operator of an aggregate mining operation shall not conduct any aggregate mining until it has an approved community notice pursuant to section 27-445, except that an owner or operator of an existing aggregate mining operation may continue the operation if a community notice is filed as provided by subsection H of this section.

B. An owner or operator of an aggregate mining operation shall not undertake a major modification of an approved community notice until a major modification application is approved by the state mine inspector pursuant to section 27-445.

C. The owner or operator of a new aggregate mining operation shall file an application for a community notice with the inspector containing:

1. The name and mailing address of the aggregate mining operation.
2. The name and mailing address of the owner or operator of the operation.
3. The name, mailing address and telephone number of the designated community representative or representatives for the operation.
4. A statement describing the mining activities to be conducted at the operation.
5. The amount of acreage of the operation and a map showing the location of the major process facilities.
6. Each type of major equipment to be used in the operation.
7. The approximate date when the operation will start.
8. A description and location of access routes to be used to and from the operation site during normal hours and nonemergency conditions.
9. The normal operating hours of the operation to be maintained during nonemergency conditions, unless the inspector authorizes a temporary variance from normal operating hours.
10. A description of measures the owner or operator will use to moderate, to the extent economically practicable at the site, any adverse physical effects on the residential property owners who are notified pursuant to section 27-444.

D. An owner or operator who owns or leases the land of the operation may submit a joint application for a community notice with one or more lessees or sublessees who are also operating an aggregate mining operation on the same property. A joint application for a community notice must separately list the information required pursuant to subsection C of this section by each owner or operator of an aggregate mining operation. Owners or operators of aggregate mining operations who received approval for a joint application for a community notice may also file a joint application on that approved community notice for major and minor modifications.

E. The owner or operator may propose a major or minor modification by filing an application with the inspector containing the text of the community notice with the proposed changes noted in the text.

F. Within fourteen days after receiving an application for a community notice for a new aggregate mining operation or major modification, the inspector shall notify the applicant if the community notice application contains the information required by subsection C of this section or if the major modification application is complete pursuant to subsection E of this section. If the inspector fails to notify the applicant within fourteen days, the application is considered to be complete.

G. The owner or operator must file an application for a minor modification to an approved community notice with the state mine inspector. Minor modifications take effect on filing, unless a later effective date is designated in the application. Applications for minor modifications are not subject to sections 27-443, 27-444 and 27-445.

H. For purposes of having an approved community notice, within ninety days after an aggregate mining operations zoning district is established pursuant to section 11-812, the owner or operator of an existing aggregate mining operation must file with the state mine inspector a community notice, which is not subject to sections 27-443 and 27-444. The community notice shall contain all the information required by subsection C of this section, except paragraph 7, for its aggregate mining operation. Owners or operators of existing aggregate mining operations may submit a joint application for a community notice pursuant to subsection D of this section.

27-443. Application fee; aggregate community notice fund

A. The inspector shall adopt by rule an application fee for a community notice for a new aggregate mining operation and for a major modification of an approved community notice. The state mine inspector shall collect an application fee established by rule from each owner or operator who applies pursuant to section 27-442 for a community notice for a new aggregate mining operation or for a major modification of an approved community notice. The inspector shall deposit, pursuant to sections 35-146 and 35-147, the monies collected from applicants in the aggregate community notice fund.

B. The aggregate community notice fund is established. The state mine inspector shall administer the fund. Monies in the fund are continuously appropriated to the state mine inspector for the purpose of processing community notice applications and to conduct public meetings pursuant to this article. On notice from the inspector, the state treasurer shall invest and divest monies in the fund as provided by section 35-313, and monies earned from investment shall be credited to the fund. Monies in the fund are exempt from the provisions of section 35-190 relating to lapsing of appropriations.

27-444. Community notice; public meeting

A. Within twenty-one days after the state mine inspector notifies an owner or operator of an aggregate mining operation that the application for a community notice for a new aggregate mining operation or a major modification for an approved community notice is complete, or within twenty-one days after the application is considered to be complete, the owner or operator shall send by certified mail a copy of the community notice:

1. To each residential property owner, as shown on the current property tax roll, within a one-half mile radius of the aggregate mining operation. The owner or operator shall submit the list of notified residential property owners to the inspector. The community notice shall include a statement that the property owner may request the state mine inspector to hold a public meeting and may submit written comments as provided by this section.
2. To the aggregate mining operations recommendation committee for the district in which the operation is located.
3. If the operation is located in a county in which a multi-county water conservation district is established pursuant to title 48, chapter 22, to the multi-county water conservation district.

B. If there is sufficient public interest, the inspector shall schedule and conduct a public meeting within forty-five days after the community notice for a new aggregate mining operation or major modification is filed with the inspector. The inspector shall give at least fifteen days' notice of the meeting by filing the notice in the office of the secretary of state and by mail to the residential property owners who requested the public meeting pursuant to subsection A, paragraph 1.

C. The inspector or an employee of the inspector shall conduct any public meeting on a community notice. The aggregate mining operation's designated representative shall attend and respond to questions relating to information in the community notice. If a notified residential property owner cannot attend the public meeting, the owner may submit written comments to the inspector before the meeting regarding the community notice. The inspector or the inspector's employee and the aggregate mining operator's designated representative shall receive and consider comments from persons attending the meeting and the written comments submitted before the meeting.

27-445. Approval of community notice or major modification

A. The state mine inspector shall approve or disapprove a community notice for a new aggregate mining operation or major modification within sixty days after the notice is filed by the owner or operator of the aggregate mining operation.

B. The inspector shall approve the community notice for a new aggregate mining operation or a major modification if:

1. The notice filed with the inspector contains the information required by section 27-442, subsection C or the major modification filed with the inspector is complete pursuant to section 27-442, subsection E.
2. The fee prescribed in section 27-443 is paid.
3. The community notice or major modification filed with the inspector is mailed to property owners as required by section 27-444, subsection A.

4. The designated community representative attends and responds to questions if a public meeting is held pursuant to section 27-444, subsections B and C.

C. If the inspector disapproves a community notice or major modification, the inspector must include with the disapproval a written explanation stating the reasons for denial, including recommendations for correcting the unacceptable parts of the community notice or major modification.

D. Community notices for existing aggregate mining operations filed pursuant to section 27-442, subsection H are considered to be approved on submission to the inspector.

E. The owner or operator of any aggregate mining operation shall operate according to an approved original or modified community notice.

27-446. Claims of deviation from an approved community notice
(L10, Ch. 244, sec. 13. Eff. 10/1/11)

A. After a community notice is approved by the state mine inspector, a residential property owner who resides within one-half mile of the boundaries of the aggregate mining operation may submit a written complaint to the designated community representative that the operation has materially deviated from the approved community notice, specifying the community notice provision that is in question and the nature of the material deviation.

B. If the aggregate mining operation does not address the complaint to the satisfaction of the residential property owner within thirty days after receiving the complaint, the notified residential property owner may file the same complaint with the inspector with a statement that the aggregate mining operation has not addressed the complaint to the property owner's satisfaction.

C. In counties that have established an aggregate mining operations recommendation committee pursuant to section 11-812, the inspector shall request the committee to hear the complaint. The committee shall advise the inspector within thirty days in writing of its findings and recommendations regarding the complaint. The inspector shall render a decision on the complaint within thirty days after receiving the committee's recommendation. The inspector shall notify, in writing, the owner or operator of the aggregate mining operation, the complainant and the committee of the decision.

27-447. Inspection and enforcement
(L10, Ch. 244, sec. 14. Eff. 10/1/11)

A. The state mine inspector may enter and inspect any aggregate mining operation to determine compliance with an approved community notice.

B. If the inspector determines that a person is violating this article, an approved community notice or aggregate mining operations zoning district standards regulation adopted by a county and approved by the state mining inspector pursuant to section 11-812, the inspector may issue an order requiring compliance either immediately if the violation is causing an imminent and substantial danger to the public or within a stated period of time. A compliance order must state with reasonable specificity the nature of the community notice violation, a reasonable amount of time for compliance, if applicable, and the right to a hearing. The inspector shall transmit the compliance order to the alleged violator either by certified mail, return receipt requested, or by hand delivery. At the inspector's request, the attorney general may file an action to enforce orders issued under this section after the order becomes final. The action must be filed in the superior court in the county in which the alleged violation occurred or in which the inspector maintains an office.

C. The inspector may suspend, withdraw or revoke a community notice approval if the inspector determines that the aggregate mining operation is in violation of an approved community notice. Any action taken under this subsection must comply with the requirements of title 41, chapter 6, article 10 and section 41-1009, subsection E.

D. If the inspector has reason to believe that a person is violating this article or an approved community notice or aggregate mining operations zoning district standards regulation adopted by a county and approved by the inspector pursuant to section 11-812 or that a person is causing an imminent and substantial danger to the public safety, the inspector, through the attorney general, may request a

temporary restraining order, a preliminary injunction or any other relief necessary to protect the public safety without regard to whether the person has requested a hearing. An action filed pursuant to this subsection must be brought in the superior court in the county in which the alleged violation occurred or in which the inspector maintains an office.

27-448. Sand and gravel safety rules

A. All sand and gravel operations shall be conducted with due regard to safety. The inspector shall adopt rules to carry out the provisions of this section.

B. Article 5 of this chapter applies to sand and gravel operations.

27-461. Definitions

In this article, unless the context otherwise requires:

1. "Inspector" means the state mine inspector.
2. "Interested parties" mean all persons who have filed written notice with the inspector of their desire to receive the notices provided for in this article.

27-462. Administration by inspector; rules and regulations

The inspector shall administer this chapter and may adopt rules reasonably necessary to effectuate the provisions of this chapter.

27-463. Procedure

Except as provided in this article, in adopting rules, the inspector shall comply with the procedures set forth in title 41, chapter 6.

27-464. Notice of proposed adoption of rule

At least twenty days prior to the adoption of any rule, copies of the notice filed with the secretary of state pursuant to section 41-1022 shall be mailed to all interested parties.

27-469. Exceptions to rules and regulations

In cases where, in the opinion of the inspector, the enforcement of any order or rule would not materially increase the safety of employees and would cause undue hardship on an operator, exceptions may be made at the discretion of the inspector. To be effective such exceptions shall be in writing. Such exceptions can only be revoked after reasonable notice is given in writing to the operator concerned.

27-901. Definitions

In this chapter, unless the context otherwise requires:

1. "Division" means the division of mined land reclamation in the office of the state mine inspector.
2. "Existing exploration operation" means an exploration operation that is ongoing as of July 1, 1996.
3. "Existing mining unit" means a mining unit, other than a new mining unit, that continued operations after January 1, 1986.
4. "Exploration operations" means activities that create surface disturbances outside a mining facility and that are conducted to determine the presence, location, extent, depth or grade of minerals, including constructing access roads and drill pads.
5. "Inactive mining unit" means a mining unit that has not been operated after January 1, 1986 and for which there is a current identifiable owner or operator other than the federal or state government.
6. "Inspector" means the state mine inspector.
7. "Maintenance" means an activity to preserve or repair the function of previously disturbed land, including grading roads, repairing berms or dams and dredging sedimentation basins.

8. "Mineral" means any metalliferous material extracted from the earth, including gold, silver, copper, molybdenum, zinc and lead and other materials that are used as feedstocks in producing metalliferous materials.
9. "Mining facility" means property that is owned, operated or managed by the same person to develop, mine, concentrate or leach minerals and associated mineral recovery activities but does not include smelting, refining, fabricating or other metal processing facilities and materials associated with those facilities. Property that is not contiguous but is within the same geographical area and operated as a single mining complex is considered to be a single mining facility.
10. "Mining unit" means an individual portion of a mining facility that encompasses one or more surface disturbances.
11. "New exploration operation" means an exploration operation that begins after the effective date of the initial rules adopted pursuant to this chapter.
12. "New mining unit" means a mining unit at which surface disturbances begin after the effective date of the initial rules adopted pursuant to this chapter.
13. "Reclamation" means measures that are taken on surface disturbances at exploration operations and mining units to achieve stability and safety consistent with post-mining land use objectives specified in the reclamation plan.
14. "Soil" means topsoil, suitable substrata or other plant growth media that will sustain vegetation.
15. "Stability" means the condition of land with respect to its erosion potential and ability to withstand seismic activity.
16. "Surface disturbance" means clearing, covering or moving land by means of mechanized earth-moving equipment for mineral exploration, development and production purposes but does not include surveying, assessment and location work, seismic work, maintenance and other such activities that create a de minimis disturbance.

27-902. Division of mined land reclamation; coordination of programs and activities

- A. The state mine inspector shall establish a division of mined land reclamation and employ staff who have the necessary and appropriate experience in mining and reclaiming mined lands.
- B. This chapter does not replace or duplicate provisions of title 49 that regulate exploration and mining operations to protect public health and the environment.
- C. The requirements of a reclamation plan under this chapter, a closure plan for the same mining unit required under title 49, chapter 2, article 3 and other provisions and requirements of title 49 and this title, including financial assurance requirements, shall not be redundant, inconsistent or contradictory. This chapter does not supersede the closure plan requirements of title 49, chapter 2, article 3.

27-903. Exemption for state lands; agreements for coordination with other governmental agencies and landowners

- A. This chapter does not apply to any activity that occurs on state land and that is regulated pursuant to chapter 2, article 3, 4 or 5 of this title.
- B. The state mine inspector may enter into agreements pursuant to title 11, chapter 7, article 3 with the state land department, United States bureau of land management, United States forest service and other agencies that manage public lands and take other appropriate measures to coordinate the review and approval of reclamation plans, including designating a lead agency for reclamation plan review and action. The inspector shall avoid redundant, inconsistent or contradictory reclamation, inspection, administration, enforcement and financial assurance requirements.

27-904. Rules; contributions

- A. The state mine inspector shall adopt rules consistent with this chapter for the reclamation of surface disturbances at exploration operations and mining units and for the administration of this chapter.
- B. To accomplish the purposes of this section, the state mine inspector may accept monies for deposit in the state general fund received from any source, including restricted or unrestricted federal funds, gifts and contributions from other governmental agencies,

individuals, corporations or other organizations. The state shall separately account for monies received pursuant to this subsection that are deposited in the state general fund.

27-905. Certificate of disclosure of violations; remedies; definition

A. The following persons shall file a certificate of disclosure with the division of mined land reclamation as prescribed by this section:

1. A person who is engaged in an activity subject to regulation under this chapter and who has been convicted of a felony involving laws related to mined land reclamation within the five year period immediately preceding execution of the certificate.
2. A person who is engaged in an activity subject to regulation under this chapter and who is or has been subject in any civil proceeding to an injunction, decree, judgment or permanent order of any state or federal court within the five year period immediately preceding the execution of the certificate that involved a violation of laws of that jurisdiction relating to mined land reclamation.

B. The certificate of disclosure prescribed by this section shall contain the following:

1. Identification of the person, including present full name, all prior names or aliases, full birth name, present house address and all prior addresses for the immediately preceding five year period, date and place of birth and social security number.
2. The nature and description of each conviction or judicial action, the date and place, the court and public agency involved, and the file or cause number of the case.
3. A written declaration that each signer swears to its contents under penalty of perjury.

C. The certificate of disclosure submitted on behalf of a corporation shall be executed by any two executive officers or directors of the corporation.

D. Initial certificates shall be delivered to the division within ninety days after the person first becomes subject to the disclosure requirements of this section. Certificates shall be filed annually thereafter within ninety days after the close of the person's fiscal year as reported on the initial certificate.

E. By February 1 of each year, the state mine inspector shall provide the attorney general with a list of all persons who were convicted of the crimes or who are the subject of the judicial actions described in subsection A of this section, as indicated from the certificates of disclosure filed during the preceding year.

F. In lieu of the certificate of disclosure prescribed by this section, a corporation may submit to the division copies of annual reports filed with the securities and exchange commission pursuant to section 13 or 15(d) of the securities exchange act of 1934 (15 United States Code section 78), commonly known as a "10-K form", within ninety days after filing the annual report. The initial submission shall include 10-K forms for the preceding five years.

G. A person who contributes information for a certificate of disclosure and who makes an untrue statement of material fact concerning the requirements of subsection B of this section or withholds any material fact concerning the requirements of subsection B of this section or a person who is obligated to file a certificate of disclosure and who fails to file the certificate is subject to section 27-1022, section 27-1024, subsections B and C and section 27-1025.

H. For purposes of this section, "person" means:

1. A natural person.
2. Any public or private corporation, its officers, directors, trustees, incorporators and persons who control or hold over ten per cent of the issued and outstanding common shares or ten per cent of any other proprietary, beneficial or membership interest in the corporation.
3. A partnership, including all general partners and limited partners who control a ten per cent or more beneficial interest in the partnership.
4. An association or society of persons.
5. A limited liability company including all members who have a ten per cent or more interest in the limited liability company.
6. The federal government and any of its departments or agencies.
7. This state and any of its agencies, departments, political subdivisions, counties, towns or municipal corporations.

27-921. Surface disturbances created by new exploration operation or mining unit

Beginning April 1, 1997, an owner or operator of a new exploration operation or new mining unit shall not create a surface disturbance of more than five contiguous acres until a reclamation plan and financial assurance mechanism for the exploration operation or mining unit are approved by the state mine inspector or are otherwise authorized by this chapter.

27-922. Surface disturbances created by existing exploration operation or mining unit; extension; continuing operations

- A. An owner or operator of an existing exploration operation or existing mining unit with surface disturbances of more than five contiguous acres shall submit a reclamation plan to the state mine inspector by April 1, 1997.
- B. An owner or operator may petition the inspector for an extension of time to submit a reclamation plan. The inspector shall grant the extension on a showing of good cause, including the need to coordinate the preparation and submission of a reclamation plan with an aquifer protection permit application under title 49, chapter 3, article 2 or with other permits and approvals required for the exploration operation or mining unit.
- C. The owner or operator of an existing exploration operation or existing mining unit may continue operations, including creating surface disturbances, until the inspector takes final action on the reclamation plan and financial assurance mechanism.
- D. The reclamation of surface disturbances created in whole or in part before July 17, 1994, the effective date of this chapter, and the initial rules adopted pursuant to this chapter may present special technical and economic constraints that are not encountered for new surface disturbances. The inspector shall consider the nature and extent of the existing surface disturbances, relevant site-specific circumstances and the technical and economic practicability of reclaiming such surface disturbances. The inspector shall not require the removal or relocation of existing mining units to satisfy the reclamation requirements of this chapter.

27-923. Creating surface disturbances of five acres or less

- A. Nothing in this chapter shall prevent an owner or operator of an exploration operation or mining unit from creating a surface disturbance of five contiguous acres or less.
- B. From and after December 31, 1996, the state mine inspector may require either or both of the following in the case of a series of surface disturbances of five contiguous acres or less by the same owner or operator if the series of surface disturbances in aggregate constitute more than five acres:
 - 1. A reclamation plan under article 3 or 4 of this chapter.
 - 2. A financial assurance mechanism under article 5 of this chapter.

27-924. Inactive mining units

- A. At an inactive mining unit, the following are not subject to the requirements of this chapter:
 - 1. Voluntary reclamation measures that are not required by federal or state law, regulation or permit.
 - 2. Actions that are required to comply with other local, state or federal laws, regulations, permits, orders or decrees.
 - 3. Maintenance activities.
- B. Exploration operations and mineral development, mining, concentrating and leaching activities at an inactive mining unit are subject to the requirements of this chapter only with respect to new surface disturbances created by those operations and activities.

27-925. Remedial response to emergencies and governmental orders

- A. An owner or operator is not required to provide notice or obtain approval of a reclamation plan or financial assurance mechanism under this chapter before creating a surface disturbance pursuant to a remedial action in response to an emergency or to a government order to prevent or mitigate an actual or potential release of pollutants into the environment.

B. The owner or operator shall update the reclamation plan and financial assurance mechanism within six months after completing the emergency or remedial measure.

27-926. Initiation, extension and completion of reclamation

A. Beginning April 1, 1997, if a surface disturbance cannot be practicably reclaimed concurrently with an exploration operation or at a mining unit, reclamation shall be initiated:

1. Within two years after completing the exploration operation or mining unit.
2. Within two years after cessation of mining activity.
3. As required by applicable federal law.

B. The state mine inspector shall extend the period in which to initiate reclamation under subsection A, with up to three subsequent five year extensions, if the owner or operator of an exploration operation or mining unit demonstrates a reasonable likelihood that the project or operation will resume, based on a consideration of factors, including:

1. The presence of additional mineralization of the commodity being mined or other commodities in commerce.
2. Historical fluctuations in the value of the commodity being mined or other commodities present if they can be mined using the same disturbances.
3. The design life of any beneficiation process components existing at a mining unit.

C. Once initiated, the final reclamation measures shall be performed as stated in the approved reclamation plan unless the exploration operation or mining unit is reactivated.

27-927. Substantial changes to approved reclamation plan; fee

A. The state mine inspector must approve any substantial change to an approved reclamation plan as provided by this section before the change is implemented.

B. The owner or operator of the exploration operation or mining unit shall submit a notice of a proposed change to the inspector describing the purpose and scope of the proposed change and whether it constitutes a substantial change to the approved reclamation plan. If the inspector fails to respond within thirty days, the change is considered to be consistent with the operation's or unit's approved reclamation plan.

C. If the inspector determines that the change is substantial the inspector shall:

1. Notify the owner or operator of the decision within fifteen days after receiving the notice.
2. Require the owner or operator to submit an amendment to the plan for approval. The inspector shall approve or disapprove the amended plan within ninety days after receiving the amended plan.

D. The following changes are not considered to be substantial, and the owner or operator is required to file only an amendment to the reclamation plan and modify the financial assurance as necessary:

1. New surface disturbances that can be reclaimed in a manner that is substantially similar to the manner of reclamation included in the approved plan.
2. Changes in the specific techniques for reclamation, including the equipment used and the mixes of seeds and soils.
3. Changes in location, configuration or acreage of surface disturbances unless the changes substantially affect the reclamation measures stated in the reclamation plan.

E. Before implementing a substantial change in an approved reclamation plan, the owner or operator shall submit to the inspector a revised financial assurance mechanism to account for the substantial change.

F. If a surface disturbance is created on more than fifty acres of land that are not included in an initial reclamation plan, the owner or operator shall submit to the inspector a fee of not more than three dollars for each new acre of surface disturbance. This fee shall be submitted with either the notice of proposed change required in subsection B or with a plan amendment submitted pursuant to subsection D.

27-928. Transferring an approved reclamation plan

A. A reclamation plan may be transferred from one person to another, by operation of law or otherwise, if the current owner or operator notifies the state mine inspector in writing before the transfer. The notice shall include:

1. The name, address, telephone number and statutory agent of the person to whom the plan will be transferred.
2. The effective date of the proposed transfer.
3. A proposed financial assurance mechanism.
4. Other information the inspector may determine to be necessary by rule.

B. The inspector may deny a transfer on determining that the proposed financial assurance mechanism does not comply with article 5 of this chapter or that the transferee is not capable of operating in compliance with this article, the rules adopted pursuant to this article or the conditions established in the plan. The inspector shall issue notice of and the reasons for the denial within fifteen days after receiving the proposed transfer. Except as provided in section 41-1092.08, subsection H, a final administrative denial of the plan transfer is subject to judicial review pursuant to title 12, chapter 7, article 6.

C. On receiving the approved financial assurance mechanism from the transferee the inspector shall release the financial assurance mechanism provided by the transferor.

27-929. Notice of plan or substantial change

A. The state mine inspector shall give notice of a proposed reclamation plan or a substantial change to an approved reclamation plan once each week for two consecutive weeks in a newspaper of general circulation in the county or counties in which the exploration operation or mining unit is or will be located. If there is no such newspaper, the inspector shall give notice in a newspaper of general circulation that is published in an adjoining county.

B. The notice shall briefly describe the proposed reclamation plan or substantial change and state that any person who may be adversely affected by the plan or substantial change may:

1. File a written objection to the plan or substantial change within fifteen days after the last publication.
2. Request a public hearing.

C. An objection shall state the name and mailing address of the objector, be signed by the objector or the objector's agent or attorney and clearly state the reasons why the plan or substantial change should be denied. Grounds for objection are limited to whether the proposed plan or substantial change meets the criteria for approval in this chapter.

D. If there is sufficient public interest by persons who may be adversely affected by the plan or substantial change, the inspector may hold a public hearing in the county in which the exploration operation or mining unit is or will be located.

27-930. Public disclosure of information; definition

A. The state mine inspector shall make available to the public any records, reports or information obtained or prepared by the inspector, unless a notice accompanying the information or any part of the information states that the information is a trade secret or is otherwise confidential to the party's competitive position.

B. If the inspector, on his own or following a request for disclosure, disagrees with the trade secret or confidential notice, the inspector may request the attorney general to seek a court order authorizing disclosure. If a court order is sought, the party shall be served with a copy of the court filing and has twenty business days from the date of service to request a hearing on whether a court order should be issued. The hearing shall be conducted in camera, and any order resulting from the hearing is appealable as provided by law. The inspector may not disclose the confidential information until a court order authorizing disclosure has been obtained and becomes final. The court may award costs of litigation including reasonable attorney and expert witness fees to the prevailing party.

C. The inspector shall make available to the public the following information obtained from any person pursuant to this chapter:

1. The name and address of any plan applicant.
2. The proposed post-mining land use or uses.

3. A general description of the proposed reclamation measures.

D. The inspector may disclose, with an accompanying confidentiality notice, any records, reports or information obtained by the inspector or employees of the division of mined land reclamation to:

1. Other state employees concerned with administering this chapter or if the records, reports or information is relevant to any administrative or judicial proceeding under this chapter.
2. Employees of the United States environmental protection agency if the information is necessary or required to administer and implement or comply with federal statutes or regulations.

E. For purposes of this section, "trade secret" means information to which all of the following apply:

1. A person has taken reasonable measures to protect the information from disclosure and the person intends to continue to take those measures.
2. The information is not and has not been reasonably obtainable by legitimate means by other persons without the person's consent, other than by governmental entities and other than in discovery based on a showing of special need in a judicial or quasi-judicial proceeding.
3. A statute does not specifically require disclosure of the information to the public.
4. The person has satisfactorily shown that disclosure of the information is likely to cause substantial harm to the person's competitive position.

27-931. Variances

A. The state mine inspector, by rule or conditional order, may allow an owner or operator of an exploration operation or mining unit to vary from any rule adopted pursuant to this chapter or any requirement or condition of a reclamation plan issued pursuant to this chapter if the inspector finds that allowing the variance will not endanger public safety and will not be inconsistent with the criteria established in section 27-973.

B. The inspector may approve innovative reclamation or other measures proposed by the owner or operator that vary from the reclamation standards of this chapter, the financial assurance requirements under article 5 of this chapter or the rules adopted pursuant to this chapter after a public hearing and on a showing that the innovative or other measures can be reasonably expected to achieve the post-mining land use objectives stated in the reclamation plan.

27-932. Coordination with other governmental agencies

A. The state mine inspector shall coordinate the review and approval of reclamation plans with the state land department, the United States bureau of land management, the United States forest service and other agencies that manage public lands on which exploration operations or mining facilities are located, within the respective jurisdictions, through memoranda of agreement or cooperative agreements that designate a lead agency for reclamation plan review and action. This coordination is intended to avoid duplication of efforts to inspect exploration operations and mining facilities and review and enforce reclamation plans. The memoranda of agreement shall also provide that no financial assurance may be required under this article that will duplicate financial assurances required under any other law or agreement.

B. If an exploration operation or a mining unit is located on land administered by a federal agency, an approved federal reclamation plan and a financial assurance mechanism for the federal land that are consistent with the requirements of this chapter supersede the requirements for a reclamation plan and financial assurance mechanism otherwise required by this chapter.

27-933. Denials; appeals

The owner or operator of an exploration operation or mining unit may request a hearing on the state mine inspector's denial of a plan pursuant to title 41, chapter 6, article 10.

27-934. Plan submission fee; accounting and appropriation of revenues

- A. The state mine inspector shall assess and collect a one-time submission fee from the owner or operator of each exploration operation and mining unit at the time the owner or operator submits a plan under article 3 or 4 of this chapter.
- B. For fiscal year 1996-1997 the submission fee is three dollars per acre of surface disturbance covered by the plan. Thereafter, the inspector may revise the amount of the submission fee each year based on the reasonable direct costs to process, review and approve or deny the plan, but the submission fee shall not exceed three dollars per acre of surface disturbance covered by the plan.
- C. The inspector shall deposit, pursuant to sections 35-146 and 35-147, the revenues from the submission fee in the state general fund. The inspector shall submit the amount that is necessary to administer and enforce this chapter as a separate item in the inspector's budget request. The legislature's appropriation to the inspector shall include an amount sufficient to administer and enforce this chapter, including payments to consultants for services provided pursuant to section 27-935.

27-935. Plan review and evaluation by private consultants

- A. Subject to section 38-503 and other applicable statutes and rules, the state mine inspector may contract with a private consultant for the purpose of assisting the inspector in reviewing reclamation plans that are submitted under this chapter to determine whether the plans meet the criteria and requirements of this chapter and the rules adopted by the inspector.
- B. The inspector shall pay the consultant for the services rendered from the inspector's appropriation under section 27-934.

27-951. Submission and contents of reclamation plan

- A. Beginning April 1, 1997, a person who conducts exploration operations that will create more than five contiguous acres of surface disturbance shall submit a reclamation plan to the state mine inspector. The reclamation plan shall:
 - 1. Identify the county or counties in which exploration operation will be conducted.
 - 2. State the reclamation measures that will be taken to reclaim access roads, drill pads, drill holes, trenches and other exploration workings where the operator conducts exploration operations in this state.
- B. An operator may submit a single reclamation plan covering all new and existing exploration operations in this state.

27-952. Notice of complete, incomplete or denied plan

- A. The state mine inspector shall notify the operator that a reclamation plan is administratively complete or incomplete within thirty days after receiving the plan.
- B. If the inspector notifies the operator that a plan is incomplete or denied, the inspector shall include a written explanation stating the reasons for denial including recommendations for correcting incomplete or unacceptable parts of the plan consistent with the requirements of this chapter. The operator must refile the corrected plan within ninety days after notification that the previous plan was incomplete or denied or within a time frame mutually agreed on between the operator and the state mine inspector that would not materially affect the safety of employees or cause undue hardship on an operator.

27-953. Approval: criteria

The state mine inspector shall approve a reclamation plan for exploration operations within sixty days after receiving a complete plan if the plan provides for the reclamation of surface disturbances at the exploration operations according to the following requirements, as applicable:

- 1. Exploration access roads that the operator constructs and that will not be part of a post-exploration use shall be reclaimed in a timely manner after the exploration is completed. If a governmental unit or agency will accept dedication or conveyance of an access road, reclamation is not required. Reclamation shall include removing culverts, restoring drainage to its general predisturbance configuration, ripping the road surface to reduce compaction and aid revegetation and controlling access of motorized vehicles to the reclaimed area.

2. Holes that are drilled for mineral exploration purposes, unless completed for water monitoring, withdrawal or other use, shall be plugged, sealed or capped promptly after their use is completed as prescribed by rule by the department of water resources and as necessary to ensure the safety of persons, domestic animals, livestock and machinery in the area.
3. Drill pads shall be reshaped promptly after completion of drilling to prevent erosion and to establish contours that are generally compatible with the adjacent areas or shall be ripped to reduce compaction and aid revegetation and, if appropriate, seeded to minimize erosion.
4. Mud pits that are used for drilling fluids and produced waters shall be reclaimed after hazardous substances are removed and disposed of, if necessary, and after they are sufficiently dry by reshaping to contours that are generally compatible with the adjacent areas. If it is appropriate to the area, suitable growth media shall be spread and seeded over the pit area.
5. Exploration trenches and pits shall be backfilled and reclaimed as soon as practicable as prescribed in the reclamation plan. If the trench or pit will remain open, measures shall be taken to stabilize the sides to address erosion control and to restrict access. Trench and pit reclamation shall include backfilling, reshaping to contours generally compatible with the adjacent areas and, if appropriate for the area, seeding to reestablish vegetation.
6. Areas that have been cleared by blading with mechanized equipment during exploration operations shall be reshaped after exploration is completed, unless used for a post-exploration use, to be generally compatible with the adjacent area. Compacted areas shall be ripped to aid revegetation.

27-954. Beginning new exploration operations

New exploration operations may begin when both of the following occur:

1. The state mine inspector approves the reclamation plan for the exploration operations or ninety days after the inspector receives a reclamation plan if the inspector fails to notify the owner or operator that the plan submitted is incomplete or denied.
2. Financial assurance has been submitted to the inspector as required by article 5 of this chapter.

27-955. Annual renewal

A reclamation plan for exploration operations is renewable annually on:

1. Modification of the plan to address types of surface disturbances that will be conducted during exploration operations but that have not been previously addressed in the reclamation plan.
2. Submission of any additional financial assurance, if necessary.

27-971. Submission and contents of reclamation plan

A. Beginning July 1, 1996, an owner or operator may submit a single reclamation plan that covers multiple mining units of a mining facility.

B. The proposed reclamation plan shall include:

1. The names and addresses of the owner or operator and an individual who will be the regulatory contact.
2. A statement that the owner or operator assumes responsibility for the reclamation of surface disturbances that are attributable to the mining unit consistent with this chapter and the rules adopted pursuant to this chapter.
3. The current ownership and use of the land included in the mining unit.
4. The proposed post-mining use of the land.
5. A description of the mining unit and the proposed surface disturbances that will be created.
6. The existing and proposed final topography, including the final slopes of leach piles, overburden or low grade rock stockpiles and tailing piles.
7. A narrative description of roads that are proposed for the mining unit.

8. The acreage affected by each type of surface disturbance and a map of the mining unit area showing each surface disturbance. For previously undisturbed areas, the map shall identify any types of fish and wildlife habitats that will be disturbed.
9. The proposed reclamation measures that are necessary to achieve the post-mining land use including information concerning:
 - (a) The measures that will be taken to restrict public access to pits, adits, shafts and other surface features that may be a hazard to public safety.
 - (b) The measures that will be taken to address erosion control and stability.
 - (c) The measures that will be taken to address revegetation, conservation and the care and monitoring of revegetated areas as provided in this chapter.
 - (d) For surface disturbances where the proposed post-mining land use objective is designated as grazing, fish or wildlife habitat, forestry or recreation, the type of wildlife or fish habitat to be encouraged, including measures that will be taken to encourage that type of wildlife or fish habitat, and that those measures will not be incompatible with the fish or wildlife habitat on adjacent lands.
10. A proposed tentative schedule for beginning surface disturbances and beginning and completing the reclamation measures.
11. The estimated costs to perform each of the proposed reclamation measures for purposes of determining financial assurance requirements under article 5 of this chapter.

27-972. Notice of complete, incomplete or denied plan

- A. The state mine inspector shall notify the owner or operator that the plan is complete or incomplete within thirty days after receiving the plan.
- B. The inspector shall approve or disapprove a plan for new mining units within one hundred twenty days after receiving a complete plan.
- C. If the inspector notifies the owner or operator that a plan is incomplete or denied, the inspector shall include a written explanation stating the reasons for denial including recommendations for correcting incomplete or unacceptable parts of the plan consistent with the requirements of this chapter. The owner or operator must refile the corrected plan within ninety days after notification that the previous plan was incomplete or denied or within a time frame mutually agreed on between the owner or operator and the state mine inspector that would not materially affect the safety of employees or cause undue hardship on an owner or operator.

27-973. Approval: criteria

- A. The state mine inspector shall approve a reclamation plan for mining units if the plan provides for reclamation measures for surface disturbances that are:
 1. Necessary to achieve a safe and stable condition suitable for the post-mining land use objectives stated in the reclamation plan.
 2. Compatible with good engineering practices regarding erosion control and seismic activity for the applicable seismic zone.
- B. In evaluating the reclamation plan, the inspector shall consider the technical and economic practicability of the proposed reclamation measures, taking into account the site-specific circumstances at the mining unit and the proposed post-mining land use objectives as stated in the reclamation plan, including:
 1. Grazing and other agricultural land use objectives.
 2. Developed water resources and water management projects.
 3. Fish or wildlife habitat.
 4. Forestry.
 5. Historic preservation.
 6. Industrial or commercial, including tourism.
 7. Recreation.
 8. Residential.
 9. Scientific or educational.

10. Mining or re-mining, except that the proposed post-mining use of mining or re-mining does not relieve an owner or operator from complying with or implementing the reclamation plan requirements under this chapter.

11. Other appropriate post-mining land use objectives.

C. The post-mining land use objective stated in the reclamation plan need not be the same use of the land that existed before the mining facility was located on the site.

27-974. Preservation and conservation of soil; exceptions

Before creating a surface disturbance that is stated to be reclaimed by revegetation pursuant to a new mining unit reclamation plan, the owner or operator shall conserve the soil as reasonably available from the area of disturbance to support the stated revegetation on that specific disturbance as necessary to achieve the post-mining land use objectives stated in the reclamation plan unless the owner or operator demonstrates one or more of the following factors:

1. There is insufficient soil to make recovery practicable.
2. Recovery of the soil is not practicable due to limitations of topography, thickness of soil or other physical, climactic or biological constraints.
3. Direct revegetation of the disturbance, with or without soil amendments, is reasonably expected to be successful.

27-975. Features excluded from reclamation plan or allowed to remain following reclamation; public protection measures

A. A reclamation plan may exclude any provision for reclaiming open pits, rock faces or subsidence areas through backfilling or returning material to the open pit, rock face or subsidence area from which it was extracted if it is impracticable and if public access to the open pit, rock face or subsidence area, including any surrounding unstable areas or walls, is restricted by fencing or other institutional controls.

B. The following factors shall be considered in determining whether the reclamation of open pits, rock faces or subsidence areas is impracticable:

1. Cost to perform the reclamation.
2. Topography of the site.
3. Geology and stability of the site.
4. Time required to perform the reclamation.
5. Consumption of resources required to perform the reclamation.
6. Future access to mineral resources.

C. Buildings and other structures may remain after reclamation if adequate measures are taken to protect public safety.

27-976. Beginning new mining units

Beginning April 1, 1997, new mining units may begin when both of the following occur:

1. The state mine inspector approves the reclamation plan for the mining unit, or one hundred fifty days after the inspector receives a reclamation plan if the inspector does not notify the owner or operator that the plan submitted is incomplete or denied.
2. Financial assurance has been submitted to the inspector as required by article 5 of this chapter.

27-991. Financial assurance requirements; form

A. Beginning April 1, 1997, as required by this chapter, owners and operators of exploration operations and mining units who create surface disturbances shall provide financial assurance mechanisms to the inspector as provided by this article.

B. Allowable financial assurance mechanisms for purposes of this article include any or a combination of the following:

1. Surety bond.
2. Certificate of deposit.
3. Trust fund with pay-in period.

4. Letter of credit.
5. Insurance policy.
6. Certificate of self-insurance.
7. Cash deposit with the state treasurer.
8. Evidence of ability to meet a corporate financial test or corporate guarantees as provided by 40 Code of Federal Regulations section 264.143(f).
9. Annuities.
10. Additional financial assurance mechanisms that are acceptable to the inspector.

27-992. Mining unit or existing exploration operation

- A. The owner or operator of an existing exploration operation or a new or existing mining unit shall transmit a financial assurance mechanism to the state mine inspector within sixty days after a reclamation plan is approved. The inspector shall take final action on the financial assurance mechanism within thirty days after it is received.
- B. In determining the amount of financial assurance to be provided for an existing exploration operation or a new or existing mining unit, the inspector shall consider the costs of approved reclamation measures stated in the reclamation plan. In computing reclamation costs, the inspector shall assume that third parties will perform the reclamation measures. The inspector shall reduce the amount of the required financial assurance to the costs of the owner or operator performing the reclamation measures if the owner or operator can demonstrate sufficient financial ability to perform the necessary reclamation or if the owner or operator meets the financial assurance reduction criteria established by rule. Financial ability shall be established by one or more of the financial mechanisms described in 40 Code of Federal Regulations section 264.143(f).
- C. Each financial assurance mechanism for an existing exploration or new or existing mining unit submitted to the inspector shall provide the amount in current dollars equal to the cost to:
 1. Perform the approved reclamation measures stated in the reclamation plan on the area of surface disturbance.
 2. Provide continued care and monitoring of the areas stated in the reclamation plan for revegetation for no more than three growing seasons without additional supplemental irrigation or other man-induced inputs after performing the reclamation measures unless the supplemental inputs are part of the post-mining land use. Notwithstanding this paragraph, revegetation efforts that are necessary to achieve the post-mining land use objective are considered adequate and complete if the owner or operator has taken reasonable measures to achieve vegetative success. Technical and economic practicability as it relates to site-specific conditions and the proposed post-mining land use shall be taken into account in making that determination.
- D. The inspector shall adjust the amount of financial assurance every five years or more often as necessary to adjust for new areas of planned surface disturbances or inflation or to reflect changed costs resulting from substantial modifications of the reclamation plan.

27-993. New exploration operation

- A. Beginning April 1, 1997, the owner or operator of a new exploration operation shall furnish a financial assurance mechanism to the state mine inspector in an amount equivalent to two thousand dollars per acre of new surface disturbance, unless the inspector approves a cost estimate for an amount less than two thousand dollars per acre.
- B. An owner or operator may provide a single financial assurance mechanism for all of its exploration operations conducted in this state.

27-994. Duplication of financial assurance not required

Financial assurance is not required under this article that duplicates financial assurance that is required under other state or federal laws.

27-995. Incremental financial assurance

An owner or operator may provide financial assurance under this article on an incremental basis for planned surface disturbances described in the reclamation plan.

27-996. Release of financial assurance

A. An owner or operator may apply to the state mine inspector to release all or part of the financial assurance provided under this article. The application shall:

1. Describe the reclamation measures that have been performed.
2. Describe any surface disturbances included in the reclamation plan that have not been disturbed.
3. Contain an estimate of the costs of reclamation measures that have not been performed.

B. Within sixty days after receiving a complete application, the inspector shall release all or part of the financial assurance except for any amount that is necessary to perform the reclamation measures identified in the reclamation plan. After the reclamation measures have been performed, the remaining financial assurance shall be released, except that ten per cent shall be retained for the costs of care, monitoring and one reseeded, if necessary, for areas that have been revegetated. The inspector shall release the retained monies after a period of not more than three growing seasons after the supplemental management or other man-induced inputs have been finally removed or as otherwise provided in section 27-992, subsection B.

27-997. Rules; release, forfeiture or exercise of financial assurance

A. The state mine inspector shall adopt rules for reviewing and acting on:

1. Applications to release all or part of the financial assurance under this article.
2. Forfeiture or exercise of the financial assurance on failure to implement a reclamation plan as required by this article.

B. The rules shall provide for written notice to all principals and sureties on the financial assurance and an opportunity for a hearing.

27-1021. Inspections

Beginning April 1, 1997, the state mine inspector may enter and inspect, during normal business hours, any exploration operation or mining facility that is subject to this chapter to determine compliance with this chapter. The inspector shall give the owner or operator the opportunity to have its representative accompany the inspector. Within thirty days after the date of the inspection, the division of mined land reclamation shall provide to the owner or operator a copy of any inspection report produced as a result of any inspection of the exploration operation or mining facility.

27-1022. Compliance orders

A. Beginning April 1, 1997, if the state mine inspector determines that a person is violating this chapter, a rule adopted pursuant to this chapter or any condition of a reclamation plan approved pursuant to this chapter or is causing an imminent and substantial danger to the public safety, the inspector may issue an order requiring compliance either immediately or within a stated period of time.

B. A compliance order shall state with reasonable specificity the nature of the violation, a time for compliance, if applicable, and the right to a hearing.

C. The inspector shall transmit the compliance order to the alleged violator either by certified mail, return receipt requested, or by hand delivery.

D. At the inspector's request, the attorney general may file an action in superior court to enforce orders issued under this section after the order becomes final. The action shall be filed in superior court in the county in which the alleged violation occurred or in which the inspector maintains an office.

27-1023. Enforcement action on reclamation plan approval

- A. The state mine inspector may suspend, withdraw or revoke a reclamation plan approval if the inspector determines that the facility is in violation of any rule adopted pursuant to this chapter.
- B. Any action taken under this section shall comply with the requirements of title 41, chapter 6, article 10.

27-1024. Injunctive relief; civil penalties

- A. Beginning April 1, 1997, if the state mine inspector has reason to believe that a person is violating this chapter or a rule adopted pursuant to this chapter or that a person is causing an imminent and substantial danger to the public safety, the inspector, through the attorney general, may request a temporary restraining order, a preliminary injunction, a permanent injunction or any other relief necessary to protect the public safety, without regard to whether the person has requested a hearing.
- B. A person who violates this chapter or a rule, order or reclamation plan approval adopted or issued pursuant to this chapter is subject to a civil penalty of not more than one thousand dollars for each day of violation, not to exceed fifteen thousand dollars for each violation. At the inspector's request, the attorney general shall file an action in superior court to recover civil penalties as prescribed by this section.
- C. An action filed under this section shall be brought in superior court in the county in which the alleged violation occurred or in which the inspector maintains an office.

27-1025. Agency order; appeal

- A. An order issued by the state mine inspector pursuant to this article is final unless the defendant requests a hearing pursuant to title 41, chapter 6, article 10 within thirty days after receiving the order.
- B. Except as provided in section 41-1092.08, subsection H, a final agency order is subject to judicial review pursuant to title 12, chapter 7, article 6.

27-1026. Violation; classification

- A. Beginning April 1, 1997, an owner or operator of an exploration operation or mining unit shall not:
 - 1. Cause a surface disturbance at an exploration operation or mining unit in violation of this chapter.
 - 2. Fail or refuse to conduct reclamation according to the terms of a reclamation plan authorized by this chapter.
- B. A person who violates this section is guilty of a class 2 misdemeanor.

27-1201. Definitions

In this chapter, unless the context otherwise requires:

- 1. "Aggregate" has the same meaning prescribed in section 27-441.
- 2. "Aggregate mining" has the same meaning prescribed in section 27-441.
- 3. "Aggregate mining facility" means property that is owned, operated or managed by the same person for aggregate mining. Property that is not contiguous but is within the same geographical area and operated as a single aggregate mining complex is considered to be a single aggregate mining facility.
- 4. "Aggregate mining unit" means an individual portion of an aggregate mining facility that encompasses one or more surface disturbances.
- 5. "Division" means the division of mined land reclamation in the office of the state mine inspector.
- 6. "Existing aggregate mining unit" means an aggregate mining unit, other than a new aggregate mining unit, that continued operations after April 1, 1997.
- 7. "Existing exploration operation" means an exploration operation that is ongoing as of the effective date of the initial rules adopted by the inspector pursuant to this chapter.

8. "Exploration operations" means activities that create surface disturbances outside an aggregate mining facility and that are conducted to determine the presence, location, extent, depth or grade of aggregate, including constructing access roads and drill pads.
9. "Inactive aggregate mining unit" means an aggregate mining unit that has not been operated after April 1, 1997 and for which there is a current identifiable owner or operator other than the federal or state government.
10. "Inspector" means the state mine inspector.
11. "Maintenance" means an activity to preserve or repair the function of previously disturbed land, including grading roads, repairing berms or dams and dredging sedimentation basins.
12. "New aggregate mining unit" means an aggregate mining unit at which surface disturbances begin after the effective date of the initial rules adopted pursuant to this chapter.
13. "New exploration operation" means an exploration operation that begins after the effective date of the initial rules adopted pursuant to this chapter.
14. "Reclamation" means measures that are taken on surface disturbances at exploration operations and aggregate mining units to achieve stability and safety consistent with postaggregate mining land use objectives specified in the reclamation plan.
15. "Soil" means topsoil, suitable substrata or other plant growth media that will sustain vegetation.
16. "Stability" means the condition of land with respect to its erosion potential and ability to withstand seismic activity.
17. "Surface disturbance" means clearing, covering or moving land by means of mechanized earthmoving equipment for aggregate mining and exploration but does not include surveying, assessment and location work, seismic work, maintenance and other such activities that create a de minimis disturbance.

27-1202. Coordination of programs and activities

- A. The state mine inspector shall employ staff who have the necessary and appropriate experience in aggregate mining and reclaiming aggregate mined lands.
- B. Except as provided by subsection C, the authority to administer aggregate mined land reclamation is conferred on the state mine inspector as provided in this chapter.
- C. Subsection B of this section does not apply to a city or town that adopted an ordinance before January 1, 2005 requiring aggregate mined land reclamation. This section does not affect the legal status of nonconforming uses in a city or town.
- D. The requirements of a reclamation plan under this chapter and a floodplain use regulation for the same aggregate mining unit or exploration operation, including any financial assurance requirements, shall not contradict or be redundant or inconsistent with the requirements of this chapter.
- E. This chapter does not supersede the requirements of a county flood control district to maintain stability and the flood carrying capacity of the floodplain.
- F. This chapter does not supersede the requirements of title 49 or any other applicable federal, state or local law.

27-1203. Exemption for state lands; agreements for coordination with other governmental agencies and landowners

- A. This chapter does not apply to any activity that occurs on state land and that is regulated pursuant to chapter 2, article 5 of this title.
- B. The state mine inspector may enter into agreements pursuant to title 11, chapter 7, article 3 with the state land department, the United States bureau of land management, the United States forest service and other agencies that manage public lands and take other appropriate measures to coordinate the review and approval of reclamation plans, including designating a lead agency for reclamation plan review and action. The inspector shall avoid redundant, inconsistent or contradictory reclamation, inspection, administration, enforcement and financial assurance requirements.

27-1203.01. Exemption for limited, intermittent-use projects

A. The regulatory and reclamation provisions of this chapter do not apply to an aggregate mining unit that is intermittently used for specific governmental projects if it meets all of the following conditions:

1. The aggregate mining unit consists of:

(a) A surface disturbance of not more than twenty contiguous acres.

(b) A single pit of not more than ten acres.

2. The aggregate mining unit is subject to the requirements of the clean water act (33 United States Code chapter 26).

3. The depth of excavation will not exceed twenty-five feet below the lowest existing surface elevation.

4. The aggregate material removed from the excavation is used solely for governmental projects and not for any private commercial purpose.

5. At the end of the specific project use, the unit will be reclaimed in a manner consistent with the requirements of the owner of the land and all safety conditions prescribed by law.

B. This section does not supersede the requirements of a flood control district to maintain the stability and the flood carrying capacity of the floodplain.

C. This section does not apply to aggregate mining units that are within the exterior boundaries of an incorporated city or town or that are in an unincorporated area of a county that is surrounded on all sides by one or more incorporated cities or towns.

27-1204. Rules; contributions

A. The inspector shall adopt rules consistent with this chapter for the reclamation of surface disturbances at exploration operations and aggregate mining units and for the administration of this chapter.

B. To accomplish the purposes of this section, the inspector may accept monies for deposit in the aggregate mining reclamation fund received from the federal government or other governmental agencies. The state shall separately account for monies received pursuant to this subsection that are deposited in the aggregate mining reclamation fund.

27-1205. Certificate of disclosure of violations; remedies; definition

A. The following persons shall file a certificate of disclosure with the division of mined land reclamation as prescribed by this section:

1. A person who is engaged in an activity subject to regulation under this chapter and who has been convicted of a felony involving laws related to mined land reclamation within the five year period immediately preceding execution of the certificate.

2. A person who is engaged in an activity subject to regulation under this chapter and who is or has been subject in any civil proceeding to an injunction, decree, judgment or permanent order of any state or federal court within the five year period immediately preceding the execution of the certificate that involved a violation of laws of that jurisdiction relating to mined land reclamation.

B. The certificate of disclosure prescribed by this section shall contain the following:

1. Identification of the person, including present full name, all prior names or aliases, full birth name, present house address and all prior addresses for the immediately preceding five year period, date and place of birth and social security number.

2. The nature and description of each conviction or judicial action, the date and place, the court and public agency involved and the file or cause number of the case.

3. A written declaration that each signer swears to its contents under penalty of perjury.

C. The certificate of disclosure submitted on behalf of a corporation shall be executed by any two executive officers or directors of the corporation.

D. Initial certificates shall be delivered to the division within ninety days after the person first becomes subject to the disclosure requirements of this section. Certificates shall be filed annually thereafter within ninety days after the close of the person's fiscal year as reported on the initial certificate.

E. By February 1 of each year, the state mine inspector shall provide the attorney general with a list of all persons who were convicted of the crimes or who are the subject of the judicial actions described in subsection A of this section, as indicated from the certificates of disclosure filed during the preceding year.

F. Instead of the certificate of disclosure prescribed by this section, a corporation may submit to the division copies of annual reports filed with the securities and exchange commission pursuant to section 13 or 15(d) of the securities exchange act of 1934 (15 United States Code section 78), commonly known as a "10-K form", within ninety days after filing the annual report. The initial submission shall include 10-K forms for the preceding five years.

G. A person who contributes information for a certificate of disclosure and who makes an untrue statement of material fact concerning the requirements of subsection B of this section or withholds any material fact concerning the requirements of subsection B of this section or a person who is obligated to file a certificate of disclosure and who fails to file the certificate is subject to section 27-1322, section 27-1324, subsections B and C and section 27-1325.

H. For the purposes of this section, "person" means:

1. A natural person.
2. Any public or private corporation, its officers, directors, trustees, incorporators and persons who control or hold over ten per cent of the issued and outstanding common shares or ten per cent of any other proprietary, beneficial or membership interest in the corporation.
3. A partnership, including all general partners and limited partners who control a ten per cent or more beneficial interest in the partnership.
4. An association or society of persons.
5. A limited liability company including all members who have a ten per cent or more interest in the limited liability company.
6. The federal government and any of its departments or agencies.
7. This state and any of its agencies, departments, political subdivisions, counties, towns or municipal corporations.

27-1221. Surface disturbances created by new exploration operation or aggregate mining unit

Beginning January 1, 2007, an owner or operator of a new exploration operation or new aggregate mining unit shall not create a surface disturbance of more than five contiguous acres until a reclamation plan and financial assurance mechanism for the exploration operation or aggregate mining unit are approved by the state mine inspector or are otherwise authorized by this chapter.

27-1222. Surface disturbances created by existing exploration operation or aggregate mining unit; extension; continuing operations

- A. An owner or operator of an existing exploration operation or existing aggregate mining unit with surface disturbances of more than five contiguous acres shall submit a reclamation plan to the state mine inspector on or before January 1, 2007.
- B. An owner or operator may petition the inspector for an extension of time to submit a reclamation plan. The inspector shall grant the extension on a showing of good cause, including the need to coordinate the preparation and submission of a reclamation plan with other permits and approvals required for the exploration operation or aggregate mining unit.
- C. The owner or operator of an existing exploration operation or existing aggregate mining unit may continue operations, including creating surface disturbances, until the inspector takes final action on the reclamation plan and financial assurance mechanism.
- D. The reclamation of surface disturbances created in whole or in part before the effective date of this chapter and the initial rules adopted pursuant to this chapter may present special technical and economic constraints that are not encountered for new surface disturbances. The inspector shall consider the nature and extent of the existing surface disturbances, relevant site-specific circumstances and the technical and economic practicability of reclaiming such surface disturbances. The inspector shall not require the removal or relocation of existing aggregate mining units to satisfy the reclamation requirements of this chapter.

27-1223. Creating surface disturbances of five acres or less

A. Nothing in this chapter shall prevent an owner or operator of an exploration operation or aggregate mining unit from creating a surface disturbance of five contiguous acres or less.

B. From and after December 31, 2006, the state mine inspector may require either or both of the following in the case of a series of surface disturbances of five contiguous acres or less by the same owner or operator if the series of surface disturbances in aggregate constitute more than five acres:

1. A reclamation plan under article 3 or 4 of this chapter.
2. A financial assurance mechanism under article 5 of this chapter.

27-1224. Inactive aggregate mining units

A. At an inactive aggregate mining unit, the following are not subject to the requirements of this chapter:

1. Voluntary reclamation measures that are not required by federal or state law, regulation or permit.
2. Actions that are required to comply with other local, state or federal laws, regulations, permits, orders or decrees.
3. Maintenance activities.

B. Exploration operations and aggregate mining and other associated activities at an inactive aggregate mining unit are subject to the requirements of this chapter only with respect to new surface disturbances created by those operations and activities.

27-1225. Remedial response to governmental orders

A. An owner or operator is not required to provide notice or obtain approval of a reclamation plan or financial assurance mechanism under this chapter before creating a surface disturbance pursuant to a remedial action in response to a government order to prevent or mitigate an actual or potential release of pollutants into the environment.

B. The owner or operator shall update the reclamation plan and financial assurance mechanism within six months after completing the emergency or remedial measure.

27-1226. Initiation, extension and completion of reclamation

A. Beginning January 1, 2007, if a surface disturbance cannot be practicably reclaimed concurrently with an exploration operation or at an aggregate mining unit, reclamation shall be initiated:

1. Within one year after completing the exploration operation or aggregate mining unit.
2. Within one year after cessation of aggregate mining activity.
3. As required by applicable federal law.

B. The state mine inspector shall extend the period in which to initiate reclamation under subsection A, with up to three subsequent five year extensions, if the owner or operator of an exploration operation or aggregate mining unit demonstrates a reasonable likelihood that the project or operation will resume, based on a consideration of factors, including:

1. The presence of additional aggregate being mined or other commodities in commerce.
2. Historical fluctuations in the value of the commodity being mined or other commodities present if they can be mined using the same disturbances.
3. Changing market conditions and demand for the commodity being mined.
4. The design life of any process components existing at an aggregate mining unit.

C. Once initiated, the final reclamation measures shall be performed as stated in the approved reclamation plan unless the exploration operation or aggregate mining unit is reactivated.

27-1227. Substantial changes to approved reclamation plan

- A. The state mine inspector must approve any substantial change to an approved reclamation plan as provided by this section before the change is implemented.
- B. The owner or operator of the exploration operation or aggregate mining unit shall submit a notice of a proposed change to the inspector describing the purpose and scope of the proposed change and whether it constitutes a substantial change to the approved reclamation plan. The inspector shall notify the owner or operator submitting a notice of a proposed change to an approved reclamation plan whether the proposed change constitutes a substantial change within fifteen days after receiving the notice.
- C. If the inspector determines that the change is substantial, the inspector shall require the owner or operator to submit an amendment to the plan for approval. The inspector shall approve or disapprove the amended plan within ninety days after receiving the amended plan.
- D. The inspector shall define substantial change by rule.
- E. Before implementing a substantial change in an approved reclamation plan, the owner or operator shall submit to the inspector a revised financial assurance mechanism to account for the substantial change.

27-1228. Transferring an approved reclamation plan

- A. A reclamation plan may be transferred from one person to another, by operation of law or otherwise, if the current owner or operator notifies the state mine inspector in writing before the transfer. The notice shall include:
 - 1. The name, address, telephone number and statutory agent of the person to whom the plan will be transferred.
 - 2. The effective date of the proposed transfer.
 - 3. A proposed financial assurance mechanism.
 - 4. Other information the inspector may determine to be necessary by rule.
- B. The inspector may deny a transfer on determining that the proposed financial assurance mechanism does not comply with article 5 of this chapter or that the transferee is not capable of operating in compliance with this article, the rules adopted pursuant to this article or the conditions established in the plan. The inspector shall issue notice of and the reasons for the denial within fifteen days after receiving the proposed transfer. Except as provided in section 41-1092.08, subsection H, a final administrative denial of the plan transfer is subject to judicial review pursuant to title 12, chapter 7, article 6.
- C. On receiving the approved financial assurance mechanism from the transferee the inspector shall release the financial assurance mechanism provided by the transferor.

27-1229. Notice of plan or substantial change; new exploration operations; new aggregate mining units

- A. The state mine inspector shall schedule and conduct a public meeting on a proposed reclamation plan for a new exploration operation or new aggregate mining unit or substantial change to an approved reclamation plan within forty-five days after receiving a proposed reclamation plan or a substantial change to an approved reclamation plan that the inspector deems to be complete. The inspector shall conduct the meeting in the county in which the exploration operation or aggregate mining unit is located.
- B. The inspector shall give at least thirty days' notice of the meeting. The notice shall briefly describe the proposed reclamation plan or substantial change and shall designate where the plan or change may be accessed. The notice shall be:
 - 1. Filed with the secretary of state.
 - 2. Sent by first class mail to cities and counties located within five miles of the exploration operation or aggregate mining unit.
 - 3. Sent by first class mail to the department of water resources, department of environmental quality, multi-county water conservation districts and agencies that own or manage lands on which the exploration operation or aggregate mining unit is located.
 - 4. Sent by first class mail to property owners within one mile of an exploration operation or aggregate mining unit located in a county with a population of less than eight hundred thousand persons or within one-half mile of an exploration operation or aggregate mining unit located in any other county.

5. Posted in five conspicuous public locations within one mile of the exploration operation or aggregate mining unit.
- C. The exploration operation's or aggregate mining unit's designated representative shall attend the public meeting and respond to questions that relate to information in the reclamation plan or substantial change.
- D. If an interested party cannot attend the public meeting, that party may submit written comments to the inspector before the meeting regarding the reclamation plan or substantial change, and the inspector shall consider the written comments.
- E. The inspector shall adopt rules to implement the provisions of this section.

27-1230. Notice of plan for existing exploration operations and existing aggregate mining units

- A. The inspector shall give notice of a proposed reclamation plan for an existing exploration operation or an existing aggregate mining unit. The notice shall be:
 1. Filed with the secretary of state.
 2. Sent by first class mail to cities and counties located within five miles of the existing exploration operation or the existing aggregate mining unit.
 3. Sent by first class mail to the department of water resources, department of environmental quality, multi-county water conservation districts and agencies that own or manage lands on which the exploration operation or aggregate mining unit is located.
 4. Sent by first class mail to property owners with property adjoining the exploration operation or aggregate mining unit.
 5. Published once each week for two consecutive weeks in a newspaper of general circulation in the county or counties in which the exploration operation or aggregate mining unit is located. If there is no such newspaper, the inspector shall give notice in a newspaper of general circulation that is published in an adjoining county.
 6. Posted in five conspicuous public locations within one mile of the exploration operation or aggregate mining unit.
- B. The notice shall briefly describe the proposed reclamation plan and shall designate where the plan may be accessed. The notice shall state that any person who may be adversely affected by the plan may file written comments on the plan within fifteen days after the last publication and request a public meeting. If there is sufficient public interest by persons who may be adversely affected by the plan, the inspector shall hold a public meeting in the county in which the exploration operation or aggregate mining unit is located.
- C. The exploration operation or mining unit's designated representative shall attend the public meeting and respond to questions that relate to information in the reclamation plan.
- D. If an interested party cannot attend the public meeting, that party may submit written comments to the inspector before the meeting regarding the reclamation plan, and the inspector shall consider the written comments.
- E. The inspector shall adopt rules to implement the provisions of this section.

27-1231. Public disclosure of information; definition

- A. The state mine inspector shall make available to the public any records, reports or information obtained or prepared by the inspector, unless a notice accompanying the information or any part of the information states that the information is a trade secret or is otherwise confidential to the party's competitive position.
- B. If the inspector, on the inspector's initiative or following a request for disclosure, disagrees with the trade secret or confidential notice, the inspector may request the attorney general to seek a court order authorizing disclosure. If a court order is sought, the party shall be served with a copy of the court filing and has twenty business days from the date of service to request a hearing on whether a court order should be issued. The hearing shall be conducted in camera, and any order resulting from the hearing is appealable as provided by law. The inspector may not disclose the confidential information until a court order authorizing disclosure has been obtained and becomes final. The court may award costs of litigation, including reasonable attorney and expert witness fees, to the prevailing party.
- C. The inspector shall make available to the public the following information obtained from any person pursuant to this chapter:
 1. The name and address of any plan applicant.

2. The proposed postaggregate mining land use or uses.

3. A general description of the proposed reclamation measures.

D. The inspector may disclose, with an accompanying confidentiality notice, any records, reports or information obtained by the inspector or employees of the division of mined land reclamation to:

1. Other state employees concerned with administering this chapter or if the records, reports or information is relevant to any administrative or judicial proceeding under this chapter.

2. Employees of the United States environmental protection agency if the information is necessary or required to administer and implement or comply with federal statutes or regulations.

E. For the purposes of this section, "trade secret" means information to which all of the following apply:

1. A person has taken reasonable measures to protect the information from disclosure and the person intends to continue to take those measures.

2. The information is not and has not been reasonably obtainable by legitimate means by other persons without the person's consent, other than by governmental entities and other than in discovery based on a showing of special need in a judicial or quasijudicial proceeding.

3. A statute does not specifically require disclosure of the information to the public.

4. The person has satisfactorily shown that disclosure of the information is likely to cause substantial harm to the person's competitive position.

27-1232. Coordination with other governmental agencies

A. The state mine inspector shall coordinate the review and approval of reclamation plans with the state land department, the United States bureau of land management, the United States forest service and other agencies that own and manage public lands on which exploration operations or aggregate mining facilities are located, within the respective jurisdictions, through memoranda of agreement or cooperative agreements that designate a lead agency for reclamation plan review and action. This coordination is intended to avoid duplication of efforts to inspect exploration operations and aggregate mining facilities and review and enforce reclamation plans. The memoranda of agreement shall also provide that no financial assurance may be required under this article that will duplicate financial assurances required under any other law or agreement.

B. If an exploration operation or an aggregate mining unit is located on land administered by a federal agency, an approved federal reclamation plan and a financial assurance mechanism for the federal land that are consistent with the requirements of this chapter supersede the requirements for a reclamation plan and financial assurance mechanism otherwise required by this chapter.

27-1233. Fees; plan submissions; substantial changes; aggregate mining reclamation fund

A. The state mine inspector may establish by rule a fee to be collected from the owner or operator of each exploration operation and aggregate mining unit at the time the owner or operator submits a plan under article 3 or 4 of this chapter or submits a substantial change to an approved plan pursuant to this article.

B. The aggregate mining reclamation fund is established consisting of fees collected pursuant to subsection A of this section and monies received pursuant to section 27-1204. The inspector shall administer the fund. Monies in the fund are subject to legislative appropriation and shall be used by the inspector to administer and enforce this chapter. On notice from the inspector, the state treasurer shall invest and divest monies in the fund as provided by section 35-313 and monies earned from investment shall be credited to the fund.

27-1234. Plan review and evaluation by private consultants

A. Subject to section 38-503 and other applicable statutes and rules, the state mine inspector may contract with a private consultant for the purpose of assisting the inspector in reviewing reclamation plans that are submitted under this chapter to determine whether the plans meet the criteria and requirements of this chapter and the rules adopted by the inspector.

B. The inspector shall pay the consultant for the services rendered from the inspector's appropriation under section 27-1233.

27-1235. Appeals

A person may appeal a state mine inspector action taken pursuant to this chapter as provided in title 41, chapter 6, article 10.

27-1236. Licensing time frames

Title 41, chapter 6, article 7.1 applies to this chapter.

27-1251. Submission and contents of reclamation plan

A. Beginning January 1, 2007, a person who conducts exploration operations that will create more than five contiguous acres of surface disturbance shall submit a reclamation plan to the state mine inspector. The reclamation plan shall:

1. Identify the county or counties in which exploration operations will be conducted.
2. State the reclamation measures that will be taken to reclaim access roads, drill pads, drill holes, trenches and other exploration workings where the operator conducts exploration operations in this state.

B. An operator may submit a single reclamation plan covering all new and existing exploration operations in this state.

27-1252. Notice of complete, incomplete or denied plan

A. The state mine inspector shall notify the operator that a reclamation plan is administratively complete or incomplete within thirty days after receiving the plan.

B. If the inspector notifies the operator that a plan is incomplete or denied, the inspector shall include a written explanation stating the reasons for denial including recommendations for correcting incomplete or unacceptable parts of the plan consistent with the requirements of this chapter. The operator must refile the corrected plan within ninety days after notification that the previous plan was incomplete or denied or within a time frame mutually agreed on between the operator and the state mine inspector that would not materially affect the safety of employees or cause undue hardship on an operator.

27-1253. Approval; criteria

The state mine inspector shall approve a reclamation plan for exploration operations within sixty days after receiving a complete plan if the plan provides for the reclamation of surface disturbances at the exploration operations according to the following requirements, as applicable:

1. Exploration access roads that the operator constructs and that will not be part of a postexploration use shall be reclaimed in a timely manner after the exploration is completed. If a governmental unit or agency will accept dedication or conveyance of an access road, reclamation is not required. Reclamation shall include removing culverts, restoring drainage to its general predisturbance configuration, ripping the road surface to reduce compaction and aid revegetation and controlling access of motorized vehicles to the reclaimed area.
2. Holes that are drilled for aggregate exploration purposes, unless completed for water monitoring, withdrawal or other use, shall be plugged, sealed or capped promptly after their use is completed as prescribed by rule by the department of water resources and as necessary to ensure the safety of persons, domestic animals, livestock and machinery in the area.

3. Drill pads shall be reshaped promptly after completion of drilling to prevent erosion and to establish contours that are generally compatible with the adjacent areas or shall be ripped to reduce compaction and aid revegetation and, if appropriate, seeded to minimize erosion.
4. Mud pits that are used for drilling fluids and produced waters shall be reclaimed after hazardous substances are removed and disposed of, if necessary, and after they are sufficiently dry by reshaping to contours that are generally compatible with the adjacent areas. If it is appropriate to the area, suitable growth media shall be spread and seeded over the pit area.
5. Exploration trenches and pits shall be backfilled and reclaimed as soon as practicable as prescribed in the reclamation plan. If the trench or pit will remain open, measures shall be taken to stabilize the sides to address erosion control and to restrict access. Trench and pit reclamation shall include backfilling, reshaping to contours generally compatible with the adjacent areas and, if appropriate for the area, seeding to reestablish vegetation.
6. Areas that have been cleared by blading with mechanized equipment during exploration operations shall be reshaped after exploration is completed, unless used for a postexploration use, to be generally compatible with the adjacent area. Compacted areas shall be ripped to aid revegetation.

27-1254. Beginning new exploration operations

New exploration operations may begin when both of the following occur:

1. The state mine inspector approves the reclamation plan for the exploration operations.
2. Financial assurance has been submitted to the inspector as required by article 5 of this chapter.

27-1255. Annual renewal

A reclamation plan for exploration operations is renewable annually on:

1. Modification of the plan to address types of surface disturbances that will be conducted during exploration operations but that have not been previously addressed in the reclamation plan.
2. Submission of any additional financial assurance, if necessary.

27-1271. Submission and contents of reclamation plan

A. Beginning January 1, 2006, an owner or operator may submit a single reclamation plan that covers multiple aggregate mining units of an aggregate mining facility.

B. The proposed reclamation plan shall include:

1. The names and addresses of the owner or operator and an individual who will be the regulatory contact.
2. A statement that the owner or operator assumes responsibility for the reclamation of surface disturbances that are attributable to the aggregate mining unit consistent with this chapter and the rules adopted pursuant to this chapter.
3. The current ownership and use of the land included in the aggregate mining unit.
4. The proposed postaggregate mining use of the land.
5. A description of the aggregate mining unit and the proposed surface disturbances that will be created.
6. The existing and proposed final topography, including the final slopes or configuration of overburden or waste rock stockpiles and fine areas.
7. A narrative description of roads that are proposed for the aggregate mining unit.
8. The acreage affected by each type of surface disturbance and a map of the aggregate mining unit area showing each surface disturbance. For previously undisturbed areas, the map shall identify any types of fish and wildlife habitats that will be disturbed.
9. The proposed reclamation measures that are necessary to achieve the postaggregate mining land use, including information concerning:
 - (a) The measures that will be taken to restrict public access to pits and other surface features that may be a hazard to public safety.

- (b) The measures that will be taken to address erosion control and stability.
 - (c) The measures that will be taken to address revegetation, conservation and the care and monitoring of revegetated areas as provided in this chapter.
 - (d) For surface disturbances for which the proposed postaggregate mining land use objective is designated as grazing, fish or wildlife habitat, forestry or recreation, the type of wildlife or fish habitat to be encouraged, including measures that will be taken to encourage that type of wildlife or fish habitat, and that those measures will not be incompatible with the fish or wildlife habitat on adjacent lands.
10. A proposed tentative schedule for beginning surface disturbances and beginning and completing the reclamation measures.
 11. The estimated costs to perform each of the proposed reclamation measures for purposes of determining financial assurance requirements under article 5 of this chapter.

27-1272. Notice of complete, incomplete or denied plan

- A. The state mine inspector shall notify the owner or operator that the plan is complete or incomplete within thirty days after receiving the plan.
- B. The inspector shall approve or disapprove a plan for new aggregate mining units within one hundred twenty days after receiving a complete plan.
- C. If the inspector notifies the owner or operator that a plan is incomplete or denied, the inspector shall include a written explanation stating the reasons for denial, including recommendations for correcting incomplete or unacceptable parts of the plan consistent with the requirements of this chapter. The owner or operator must refile the corrected plan within ninety days after notification that the previous plan was incomplete or denied or within a time frame mutually agreed on between the owner or operator and the state mine inspector that would not materially affect the safety of employees or cause undue hardship on an owner or operator.

27-1273. Approval; criteria

- A. The state mine inspector shall approve a reclamation plan for aggregate mining units if the plan provides for reclamation measures for surface disturbances that are:
 1. Necessary to achieve a safe and stable condition suitable for the postaggregate mining land use objectives stated in the reclamation plan.
 2. Compatible with good engineering practices regarding erosion control and seismic activity for the applicable seismic zone.
- B. In evaluating the reclamation plan, the inspector shall consider the technical and economic practicability of the proposed reclamation measures, taking into account the site-specific circumstances at the aggregate mining unit and the proposed postaggregate mining land use objectives as stated in the reclamation plan, including:
 1. Grazing and other agricultural land use objectives.
 2. Developed water resources, water management projects and planned and existing underground water storage facilities.
 3. Fish or wildlife habitat.
 4. Forestry.
 5. Historic preservation.
 6. Industrial or commercial uses, including tourism.
 7. Recreational uses.
 8. Residential uses.
 9. Scientific or educational uses.
 10. Aggregate mining or remining, except that the proposed postaggregate mining use of aggregate mining or remining does not relieve an owner or operator from complying with or implementing the reclamation plan requirements under this chapter.
 11. Water course channelization.
 12. Other appropriate postaggregate mining land use objectives.

C. The postaggregate mining land use objective stated in the reclamation plan need not be the same use of the land that existed before the aggregate mining facility was located on the site.

27-1274. Preservation and conservation of soil: exceptions

Before creating a surface disturbance that is stated to be reclaimed by revegetation pursuant to a new aggregate mining unit reclamation plan, the owner or operator shall conserve the soil as reasonably available from the area of disturbance to support the stated revegetation on that specific disturbance as necessary to achieve the postaggregate mining land use objectives stated in the reclamation plan, unless the owner or operator demonstrates one or more of the following factors:

1. There is insufficient soil to make recovery practicable.
2. Recovery of the soil is not practicable due to limitations of topography, thickness of soil or other physical, climatic or biological constraints.
3. Direct revegetation of the disturbance, with or without soil amendments, is reasonably expected to be successful.

27-1275. Features excluded from reclamation plan or allowed to remain following reclamation: public protection measures

A. A reclamation plan may exclude any provision for reclaiming open pits, rock faces or subsidence areas through backfilling or returning material to the open pit, rock face or subsidence area from which it was extracted if it is impracticable and if public access to the open pit, rock face or subsidence area, including any surrounding unstable areas or walls, is restricted by fencing or other institutional controls.

B. The following factors shall be considered in determining whether the reclamation of open pits, rock faces or subsidence areas is impracticable:

1. Cost to perform the reclamation.
2. Topography of the site.
3. Geology and stability of the site.
4. Time required to perform the reclamation.
5. Consumption of resources required to perform the reclamation.
6. Future access to aggregate resources.
7. Regional or local hydrogeology.

C. Buildings and other structures may remain after reclamation if adequate measures are taken to protect public safety.

27-1276. Beginning new aggregate mining units

Beginning January 1, 2007, new aggregate mining units may begin when both of the following occur:

1. The state mine inspector approves the reclamation plan for the aggregate mining unit.
2. Financial assurance has been submitted to the inspector as required by article 5 of this chapter.

27-1277. Annual status report

A. Within sixty days after the anniversary date of approval of each reclamation plan the owner or operator shall submit to the division a status report for the preceding year.

B. The report shall be in a form prescribed by the state mine inspector and shall include:

1. The acreage of surface disturbance during the reporting year and the total acreage of surface disturbance at the mining facility.
2. The acreage of reclamation conducted during the reporting year and the total acreage of reclamation at the mining facility.
3. The status of the aggregate mining operation at the end of the reporting year.
4. Any change in the names and addresses of the owner, operator and the regulatory contact.

C. The inspector may request further information to supplement or clarify the report, but if the inspector does not respond within thirty days after receiving the report, it is considered to be accepted for the purposes of this section.

27-1291. Financial assurance requirements; form

A. On or before January 1, 2007, as required by this chapter, owners and operators of exploration operations and aggregate mining units who create surface disturbances shall provide financial assurance mechanisms to the inspector as provided by this article.

B. Allowable financial assurance mechanisms for purposes of this article include any or a combination of the following:

1. Surety bond.
2. Certificate of deposit.
3. Trust fund with pay-in period.
4. Letter of credit.
5. Insurance policy.
6. Certificate of self-insurance.
7. Cash deposit with the state treasurer.
8. Evidence of ability to meet a corporate financial test or corporate guarantees as provided by 40 Code of Federal Regulations section 264.143(f).
9. Annuities.
10. Bonding pools.
11. Additional financial assurance mechanisms that are acceptable to the inspector.

27-1292. Aggregate mining unit or existing exploration operation

A. The owner or operator of an existing exploration operation or a new or existing aggregate mining unit shall transmit a financial assurance mechanism to the state mine inspector within sixty days after a reclamation plan is approved. The inspector shall take final action on the financial assurance mechanism within thirty days after it is received.

B. In determining the amount of financial assurance to be provided for an existing exploration operation or a new or existing aggregate mining unit, the inspector shall consider the costs of approved reclamation measures stated in the reclamation plan. In computing reclamation costs, the inspector shall assume that third parties will perform the reclamation measures. The inspector shall reduce the amount of the required financial assurance to the costs of the owner or operator performing the reclamation measures if the owner or operator can demonstrate sufficient financial ability to perform the necessary reclamation or if the owner or operator meets the financial assurance reduction criteria established by rule. Financial ability shall be established by one or more of the financial mechanisms described in 40 Code of Federal Regulations section 264.143(f).

C. Each financial assurance mechanism for an existing exploration or new or existing aggregate mining unit submitted to the inspector shall provide the amount in current dollars equal to the cost to:

1. Perform the approved reclamation measures stated in the reclamation plan on the area of surface disturbance.
2. Provide continued care and monitoring of the areas stated in the reclamation plan for revegetation for no more than three growing seasons without additional supplemental irrigation or other man-induced inputs after performing the reclamation measures unless the supplemental inputs are part of the postaggregate mining land use. Notwithstanding this paragraph, revegetation efforts that are necessary to achieve the postaggregate mining land use objective are considered adequate and complete if the owner or operator has taken reasonable measures to achieve vegetative success. Technical and economic practicability as it relates to site-specific conditions and the proposed postaggregate mining land use shall be taken into account in making that determination.

D. The inspector shall adjust the amount of financial assurance every five years or more often as necessary to adjust for new areas of planned surface disturbances or inflation or to reflect changed costs resulting from substantial modifications of the reclamation plan.

27-1293. New exploration operation

A. Beginning January 1, 2007, the owner or operator of a new exploration operation shall furnish a financial assurance mechanism to the state mine inspector in an amount equivalent to two thousand dollars per acre of new surface disturbance, unless the inspector approves a cost estimate for an amount less than two thousand dollars per acre.

B. An owner or operator may provide a single financial assurance mechanism for all of its exploration operations conducted in this state.

27-1294. Duplication of financial assurance not required

Financial assurance is not required under this article that duplicates financial assurance that is required under other local, state or federal laws. Evidence of financial assurance under this article that would be duplicated must be filed with the state mine inspector.

27-1295. Incremental financial assurance

An owner or operator may provide financial assurance under this article on an incremental basis for planned surface disturbances described in the reclamation plan.

27-1296. Release of financial assurance

A. An owner or operator may apply to the state mine inspector to release all or part of the financial assurance provided under this article. The application shall:

1. Describe the reclamation measures that have been performed.
2. Describe any surface disturbances proposed in the reclamation plan that have not been disturbed.
3. Contain an estimate of the costs of reclamation measures that have not been performed.

B. Within sixty days after receiving a complete application, the inspector shall release all or part of the financial assurance except for any amount that is necessary to perform the reclamation measures identified in the reclamation plan. After the reclamation measures have been performed, the remaining financial assurance shall be released, except that ten per cent shall be retained for the costs of care, monitoring and one reseeding, if necessary, for areas that have been revegetated. The inspector shall release the retained monies after a period of not more than three growing seasons after the supplemental management or other man-induced inputs have been finally removed or as otherwise provided in section 27-1292, subsection B.

27-1297. Rules; release, forfeiture or exercise of financial assurance

A. The state mine inspector shall adopt rules for:

1. Reviewing and acting on applications to release all or part of the financial assurance under this article.
2. Ensuring the implementation of the reclamation plan through forfeiture or exercise of the financial assurance on failure to implement the reclamation plan as required by this article.

B. The rules shall provide for written notice to all principals and sureties on the financial assurance and an opportunity for a hearing.

27-1321. Inspections

Beginning January 1, 2007, the state mine inspector may enter and inspect, during normal business hours, any exploration operation or aggregate mining facility that is subject to this chapter to determine compliance with this chapter. The inspector shall give the owner or operator the opportunity to have its representative accompany the inspector. Within thirty days after the date of the inspection, the division shall provide to the owner or operator a copy of any inspection report produced as a result of any inspection of the exploration operation or aggregate mining facility.

27-1322. Compliance orders

- A. Beginning January 1, 2007, if the state mine inspector determines that a person is violating this chapter, a rule adopted pursuant to this chapter or any condition of a reclamation plan approved pursuant to this chapter or is causing an imminent and substantial danger to the public safety, the inspector may issue an order requiring compliance either immediately or within a stated period of time.
- B. A compliance order shall state with reasonable specificity the nature of the violation, a time for compliance, if applicable, and the right to a hearing.
- C. The inspector shall transmit the compliance order to the alleged violator either by certified mail, return receipt requested, or by hand delivery.
- D. At the inspector's request, the attorney general may file an action in superior court to enforce orders issued under this section after the order becomes final. The action shall be filed in superior court in the county in which the alleged violation occurred or in which the inspector maintains an office.

27-1323. Enforcement action on reclamation plan approval

- A. The state mine inspector may suspend, withdraw or revoke a reclamation plan approval if the inspector determines that the facility is in violation of any rule adopted pursuant to this chapter.
- B. Any action taken under this section shall comply with the requirements of title 41, chapter 6, article 10.

27-1324. Injunctive relief; civil penalties

- A. Beginning January 1, 2007, if the state mine inspector has reason to believe that a person is violating this chapter or a rule adopted pursuant to this chapter or that a person is causing an imminent and substantial danger to the public safety, the inspector, through the attorney general, may request a temporary restraining order, a preliminary injunction, a permanent injunction or any other relief necessary to protect the public safety, without regard to whether the person has requested a hearing.
- B. A person who violates this chapter or a rule, order or reclamation plan approval adopted or issued pursuant to this chapter is subject to a civil penalty of not more than one thousand dollars for each day of violation, not to exceed fifteen thousand dollars for each violation. At the inspector's request, the attorney general shall file an action in superior court to recover civil penalties as prescribed by this section.
- C. An action filed under this section shall be brought in superior court in the county in which the alleged violation occurred or in which the inspector maintains an office.

27-1325. Agency order; appeal

- A. An order issued by the state mine inspector pursuant to this article is final unless the defendant requests a hearing pursuant to title 41, chapter 6, article 10 within thirty days after receiving the order.
- B. Except as provided in section 41-1092.08, subsection H, a final agency order is subject to judicial review pursuant to title 12, chapter 7, article 6.

27-1326. Violation; classification

- A. Beginning January 1, 2007, an owner or operator of an exploration operation or aggregate mining unit shall not:
 - 1. Cause a surface disturbance at an exploration operation or aggregate mining unit in violation of this chapter.
 - 2. Fail or refuse to conduct reclamation according to the terms of a reclamation plan authorized by this chapter.
- B. A person who violates this section is guilty of a class 2 misdemeanor.

27-1327. Procurement; aggregate materials; eligibility

Beginning January 1, 2008, a person is not eligible for consideration for award of contracts for the sale of aggregate pursuant to title 41, chapter 23 until that person has an approved reclamation plan pursuant to this chapter.

TITLE 13. CRIMINAL CODE
CHAPTER 15. CRIMINAL TRESPASS AND BURGLARY

13-1504. Criminal trespass in the first degree; classification

A. A person commits criminal trespass in the first degree by knowingly:

4. Entering unlawfully on real property that is subject to a valid mineral claim or lease with the intent to hold, work, take or explore for minerals on the claim or lease.

B. Criminal trespass in the first degree under subsection A, paragraph 1, 5 or 6 is a class 6 felony. Criminal trespass in the first degree under subsection A, paragraph 2, 3 or 4 is a class 1 misdemeanor.

TITLE 23. LABOR
CHAPTER 2. EMPLOYMENT PRACTICES AND WORKING CONDITIONS
ARTICLE 5. HOURS OF LABOR

23-282. Underground mine employees and hoisting engineers; eight hour day; exceptions; violation; classification

A. Employment in mining activities in underground mines and underground workings is declared injurious to health and dangerous to life and limb of those employed therein.

B. The period of employment for all persons employed or engaged in mining activities in underground mines or underground workings or as hoisting engineers at underground mines shall not exceed eight hours within any twenty-four hour period and the eight hours shall include the time used in descending to and ascending from the point or place of work in an underground mine or underground workings place of work.

C. The period of employment prescribed in subsection B may be deviated from in the following instances:

1. In an emergency, where life or property is in imminent danger, the period of labor prescribed in subsection B may be prolonged during the continuance of the emergency.

2. The hours of employment may be changed from one part of the day to another at stated periods, the change not to occur more than once in any two weeks, and the employment may be for more than eight hours during the day in which the change is made.

3. If the employer has adopted a policy of longer periods of employment based on a collective bargaining agreement between the employer and one or more labor organizations representing one or more affected employees that expressly authorizes longer periods of employment, but in no event longer than twelve hours in any twenty-four hour period, subject to compliance with the terms and conditions for implementing periods of employment in excess of eight hours as set forth in the collective bargaining agreement. For purposes of this paragraph, "affected employees" means all or any group of employees of the employer, regardless of whether or not the employees are members of a labor organization, whose periods of employment are limited pursuant to subsection B of this section.

D. Any person violating any provision of this section, and any person who, as foreman, manager, superintendent, director, or officer of a corporation, or as employer or superior officer of any person, knowingly commands, persuades, or allows any person to violate any provision of this section is guilty of a class 2 misdemeanor.

E. Each day this section is violated constitutes a separate offense.

ARTICLE 12. SAFETY CONDITIONS FOR ELEVATORS
AND SIMILAR CONVEYANCES

23-491. Definitions

In this article, unless the context otherwise requires:

1. "Authorized representative" means the elevator chief and elevator inspector employed by the division.
2. "Board" means the elevator advisory board established to assist the commission in drafting standards and regulations.
3. "Certificate" means a certificate of inspection issued by the division.
4. "Commission" means the industrial commission of Arizona.
5. "Conveyance" means an elevator, dumbwaiter, escalator, moving walk, manlift, personnel hoist, material hoist, stage lift and special purpose personnel elevator, excluding conveyances located at mines and subject to regulation and inspection by the state mine inspector pursuant to title 27, chapter 3.
6. "Director" means the director of the division of occupational safety and health.
7. "Division" means the division of occupational safety and health of the industrial commission.
8. "Dumbwaiter" means a hoisting and lowering mechanism with a car of limited capacity and size that moves in guides in a substantially vertical direction and that is used exclusively for carrying material.
9. "Elevator" means a hoisting and lowering mechanism equipped with a car or platform that moves in guides in substantially vertical direction and that serves two or more floors of a building or structure.
10. "Elevator company" means a person that is engaged in the business of erecting, constructing, installing, altering, servicing, repairing or maintaining conveyances.
11. "Escalator" means a power driven, inclined, continuous stairway used for raising or lowering passengers.
12. "Interested party" means the commission and its agents and the owner or operator who has been issued a correction order.
13. "Manlift" means a device consisting of a power driven endless belt moving in one direction only and provided with steps or platforms and attached handholds for the transportation of personnel from floor to floor.
14. "Material hoist" means a hoist for raising and lowering materials only and prohibiting the hoisting of persons.
15. "Moving walk" means a type of passenger carrying device on which passengers stand or walk and in which the passenger carrying surface remains parallel to its direction of motion and is uninterrupted.
16. "Owner" or "operator" means an individual or organization including this state and all political subdivisions of this state who has title to, controls or has the duty to control the operation of one or more conveyances, but shall not include an individual or organization engaged in mining or metallurgical operations whose operation is subject to regulation and inspection by the state mine inspector pursuant to title 27, chapter 3.
17. "Personnel hoist" means a mechanism for use in connection with the construction, alteration, maintenance or demolition of a building, structure or other work, used for hoisting and lowering workers and materials and equipped with a car that moves on guide members during its vertical movement. The term includes a hoistway of a personnel hoist.
18. "Private elevator inspector" means an individual who is authorized by the commission under section 23-491.16 to conduct inspections under this article.
19. "Special purpose personnel elevator" means a passenger, hand powered, counterweighted device or an electric powered device that travels vertically in guides and that serves two or more landings.
20. "Stage lift" means a hoisting and lowering mechanism equipped with a platform that moves in guides in a substantially vertical direction and that serves one or more landings.

23-491.01. Administration

The division shall administer the provisions of this article.

23-491.02. Owner's and operator's duty

Every owner and operator of a conveyance shall:

1. Construct, furnish, maintain and provide safe and adequate devices with which to safely and properly convey or move all persons and material utilizing the services offered by the owner or operator of such device.
2. Comply with all standards and regulations issued pursuant to this article.
3. Ensure that a conveyance is inspected at all of the following times:
 - (a) Before placing a conveyance in operation after the initial installation of the conveyance.
 - (b) After modification or alteration of a conveyance.
 - (c) After the inspection pursuant to subdivision (a), annually or as otherwise directed by the commission.

23-491.03. Existing conveyances

Existing conveyances lawfully installed prior to the effective date of this article may continue in use if the use is, in the opinion of the director, not a hazard to life, health or property.

23-491.04. Commission powers and duties

A. The commission shall:

1. Administer the provisions of this article through the division of occupational safety and health.
2. Establish an elevator advisory board to assist the commission in drafting standards and regulations.
3. Promulgate standards and regulations pursuant to section 23-491.05 as required and promulgate such other rules and regulations and exercise such other powers as are necessary to carry out the provisions of this article.

B. The commission may, by rule and regulation, set fees not to exceed the actual cost for inspections performed pursuant to this article.

23-491.05. Division powers

The division may:

1. Inspect conveyances when deemed necessary or appropriate by the division.
2. Recommend to the commission for approval or disapproval standards and regulations and amendments to such standards and regulations.
3. Enforce, pursuant to section 23-491.09, all standards and regulations promulgated by the commission.

23-491.06. Development of standards and regulations

A. Safety standards and regulations shall be formulated in the following manner:

1. The division shall either propose adoption of national consensus standards or federal standards or draft such regulations as it considers necessary after conducting sufficient investigations through the division's employees and through consultation with the board and other persons knowledgeable in the business for which the standards or regulations are being formulated.
2. Proposed standards or regulations, or both, shall be submitted to the commission for its approval.

B. Any person who may be adversely affected by a standard or regulation issued under this article may, at any time within sixty days after such standard or regulation is promulgated by the commission, file a complaint challenging the validity of such standard or regulation with the superior court of the county in which the person resides or has his principal place of business, for a judicial review of such standard or regulation. The filing of such a complaint shall not, unless otherwise ordered by the court, operate as a stay of the standard or regulation. The determinations of the commission shall be conclusive if supported by substantial evidence in the record considered as a whole.

C. In case of conflict between standards and regulations, the regulations shall take precedence.

23-491.07. Certificate of inspection

No conveyance shall be operated in this state without an annual certificate of inspection issued by the division. The division shall issue such certificate of inspection if, after inspection, the conveyance is found to comply with the standards and regulations adopted pursuant to this article.

23-491.08. Notice requesting investigation; confidentiality; determination of grounds

A. Any person may make a request for an investigation by the division into alleged violations of section 23-491.02 by giving notice to the director or the director's authorized representative of such violation or danger. Such notice shall be in writing, shall set forth with reasonable particularity the grounds for the notice and shall be signed by the person making the request. Upon the request of the person signing the notice, such person's name shall not appear on any copy of such notice or any record published, released or made available.

B. If upon receipt of such notification the director determines that there are reasonable grounds to believe that such violation or danger exists, the director shall make an investigation in accordance with the provisions of this article as soon as practicable to determine if such violation or danger exists. If the director determines there are no reasonable grounds to believe that a violation or danger exists, the director shall notify the requesting party in writing of such a determination.

23-491.09. Enforcement

A. If the division, following an inspection or investigation, determines that there is reasonable cause to believe that there is a violation of a standard or regulation, the division shall issue a correction order directing any repairs, improvements, changes or additions necessary to eliminate the hazard. Each correction order shall be in writing, delivered either by mail or in person and shall contain the following:

1. A particular description of the nature of the violation, including a reference to the provision of this article or of any standard or regulation alleged to have been violated.
2. A reasonable time for the abatement of the violation.

B. No correction order may be issued after the expiration of a period of six months from the date of the inspection or investigation which produced evidence of the violation.

C. If in the opinion of the director or the director's authorized representative the continued operation of the defective device constitutes an immediate danger to the safety of the persons operating or being conveyed by such device, the director or the director's authorized representative may condemn such device and require it to be returned to a condition allowing safe operation before its use is resumed.

D. Upon failure of an owner or operator to comply with either the requirements of a correction order issued pursuant to subsection A or condemnation pursuant to this subsection, the commission may file an action in the superior court of the county where the violation occurred to enjoin the owner or operator from engaging in further acts in violation of the requirements of the correction order or the condemnation. Any person found to be in contempt of an injunctive order of the court shall be fined not less than fifty nor more than three hundred dollars with each day of violation constituting a separate contempt.

23-491.10. Hearing rights and procedures

A. Any interested party may request a hearing before the commission to contest any correction order issued pursuant to this article.

B. A request for hearing shall be made in writing, signed by or on behalf of the interested party and includes such party's address.

C. The commission shall refer the request for the hearing to the administrative law judge division for determination as expeditiously as possible. The presiding administrative law judge may dismiss a request for hearing if it appears that the disputed issues have been resolved by the parties. Any interested party who objects to such dismissal may request a review pursuant to section 23-491.12.

D. At least twenty days' prior notice of the time and place of the hearing shall be given to all parties in interest by mail at their last known address. Hearings shall be held in the county where the alleged violation occurred or such other place selected by the administrative law judge.

E. A record of all proceedings at the hearing shall be made but need not be transcribed unless a party applies to the court of appeals for a petition for special action pursuant to section 23-491.14. The record of the proceedings if not transcribed shall be kept for at least two years.

F. Except as otherwise provided in this section and rules or procedures established by the commission, the administrative law judge is not bound by common law or statutory rules of evidence or by technical or formal rules of procedure and may conduct the hearing in any manner that will achieve substantial justice.

G. Any party shall be entitled to issuance and service of subpoenas under the general subpoena powers of the commission. Any party or a representative may serve such subpoenas.

H. Upon the filing of a request for hearing, any interested party or his authorized agent is entitled to inspect the file of the commission provided the authorized agent has filed the authorization to inspect with the commission.

I. Within thirty days after the date of notice of hearing, any interested party to a hearing before the commission may file an affidavit for change of administrative law judge against any administrative law judge of the commission hearing such matter or commencing to hear such matter, setting forth any of the grounds as provided in subsection J of this section. The administrative law judge shall immediately transfer the matter to another administrative law judge of the commission who shall preside. Not more than one change of administrative law judge shall be granted to any one party.

J. Grounds which may be alleged for change of administrative law judge are that:

1. The administrative law judge has been engaged as counsel in the hearing prior to appointment as administrative law judge.
2. The administrative law judge is otherwise interested in the hearing.
3. The administrative law judge is related to a party to the hearing.
4. The administrative law judge is a material witness in the hearing.
5. The party filing the affidavit has cause to believe and does believe, that on account of the bias, prejudice or interest of the administrative law judge, he cannot obtain a fair and impartial hearing.

23-491.11. Decisions of administrative law judge; contents; disposition and effect

A. Upon the conclusion of any hearing, or prior to the conclusion with concurrence of the parties, the administrative law judge shall, not later than thirty days after the matter is submitted for decision, determine the matter and make a decision in accordance with the determination.

B. In the event of the demise, resignation, retirement, termination of employment or other incapacitation of the presiding administrative law judge, the decision shall be determined by the chief administrative law judge or an appointee.

C. The decision shall become a part of the commission file. A copy of the decision shall be sent immediately by mail to all parties in interest.

D. The decision is final when entered unless within fifteen days after the date on which a copy of the decision is mailed to the parties, one of the parties files a request for review pursuant to section 23-491.12. The decision shall contain a statement explaining the rights of the parties pursuant to such section.

23-491.12. Decision upon review

A. The request for review of an administrative law judge decision need only state that the party requests a review of the decision. The request may be accompanied by a memorandum of points and authorities, in which event any other interested party shall have fifteen days from the date of filing in which to respond. Failure to respond will not be deemed an admission against interest.

- B. The request for review shall be filed with the division and copies of the request shall be mailed to all other parties to the proceeding.
- C. When review has been requested, the record of such oral proceedings at the hearings before the administrative law judge for purposes of the review shall be transcribed at the expense of the party requesting review.
- D. Notice of the review shall be given to the parties by mail.
- E. The review shall be made by the presiding administrative law judge and shall be based upon the record and the memorandum submitted pursuant to subsection A of this section.
- F. The presiding administrative law judge may affirm, reverse, rescind, modify or supplement the decision and make such disposition of the case as is determined to be appropriate. A decision upon review shall be made within sixty days after the review has been requested.
- G. The decision upon review shall become a part of the commission file and a copy shall be sent by mail to the parties.
- H. The decision upon review shall be final unless within fifteen days after the date of mailing of copies of such decision to the parties one of the parties applies to the court of appeals by a petition for special action pursuant to section 23-491.14. The decision shall contain a statement explaining the rights of the parties pursuant to this section and section 23-491.14.

23-491.13. Effective date of orders; time for compliance; effect of orders

- A. The commission shall, upon application of any owner or operator, grant such time as reasonably necessary for compliance with an order. A person may petition the commission for an extension of time to comply with an order which the commission shall grant if it finds the extension necessary.
- B. All orders of the commission in conformity with law shall be valid and in force and prima facie reasonable and lawful until found otherwise in an action brought for such purpose pursuant to the provisions of this article or until altered or revoked by the commission.
- C. A substantial compliance with the requirements of this article shall be sufficient to give effect to the orders of the commission, and they shall not be declared inoperative, illegal or void for an omission of a technical nature.

23-491.14. Petition for special action to review lawfulness of decision, order or decision upon review; procedure

- A. Any party affected by a decision of the commission or by a decision upon review pursuant to section 23-491.12 may apply to the court of appeals by a petition for special action to review the lawfulness of the decision, order or decision upon review.
- B. The petition for special action provided by subsection A of this section and by section 23-491.12 shall be made returnable within ten days and shall direct the commission to certify its record, proceedings and evidence to the court of appeals. The court of appeals may quash or dismiss the petition for special action upon the grounds of dismissal applicable to civil appeals. The review shall be limited to determining whether or not the commission acted without or in excess of its power and, if findings of fact were made, whether or not such findings of fact support the order or decision. If necessary, the court may review the evidence.
- C. Each party to the proceedings before the commission may appear in the court of appeals.
- D. The court of appeals shall enter judgment either affirming or setting aside the order or decision.
- E. The rules of civil procedure relating to special actions shall apply so far as applicable and not in conflict with this article.

23-491.15. Nonimpairment of other agencies

Nothing contained in this article shall in any way impair the authority or responsibility of political subdivisions of this state with regard to the local enforcement or licensing, safety or police regulation authorized by local ordinance or state statute if, upon determination by the commission, the standards employed by such political subdivision are found to be at least equal to those promulgated by the commission.

23-491.16. Private elevator inspector; qualifications; civil penalty; prohibited conduct; exemption from rule making

A. The commission may authorize an individual to perform initial or annual inspections under this article or any other inspection under this article designated by the commission, if the individual does all of the following:

1. Meets the qualifications and insurance requirements prescribed by the commission.
2. Is certified by an organization that is accredited by a national society of mechanical engineers in accordance with a national standard for safety of elevators, dumbwaiters, escalators and moving walks as determined by the commission.
3. Follows the inspection procedures established by the commission for private elevator inspectors.

B. A private elevator inspector shall register with the commission annually and provide proof of all of the following with the registration:

1. Completion of at least eight hours of continuing education approved by the commission.
2. That the certification prescribed in subsection A is in good standing.
3. That the private elevator inspector is maintaining the insurance prescribed by the commission.

C. The commission may suspend or revoke a private elevator inspector's authorization to perform inspections for any reason related to the performance of an inspection under this article or for any other good cause as determined by the commission.

D. The commission may impose a civil penalty of one thousand dollars on a private elevator inspector or an elevator company for each instance the inspector or company does any of the following:

1. Makes a false statement as to a material matter in an application for authorization under this article.
2. Commits fraud, misrepresentation or bribery in regard to conveyances or any inspection or action taken pursuant to this article.
3. Commits a violation of this article or the rules or inspection procedures adopted pursuant to this article.

E. A private elevator inspector shall not do any of the following:

1. Inspect a conveyance owned, operated or last serviced by any of the following:
 - (a) The private elevator inspector.
 - (b) A company owned by the private elevator inspector.
 - (c) A company for which the private elevator inspector is an employee at the time of the inspection.
 - (d) A company affiliated with a company owned by the private elevator inspector or for which the private elevator inspector is an employee at the time of the inspection.
2. Engage in the sale or service of anything related to elevators.
3. Conduct an inspection pursuant to this article unless the inspector has the current certification and commission authorization pursuant to subsection A.

F. This state is not liable for any act or omission of a private elevator inspector. The commission is not obligated to pay any fee charged or other consideration sought by a private elevator inspector for an inspection pursuant to this article. The fee or consideration is the sole obligation of the owner or operator that retained or contracted with the private elevator inspector.

G. The commission shall compile a list of private elevator inspectors that are currently authorized pursuant to subsection A. An owner or an operator may hire a private elevator inspector.

H. An owner or operator is not relieved of the obligations under this article by the use of a private elevator inspector.

I. The commission is exempt from the rule making requirements of title 41, chapter 6, in the adoption of private elevator inspector qualifications and inspection procedures.

J. Civil penalties and interest assessed pursuant to this section act as a judgment in the same manner and with like effect as if they were a judgment of the superior court. The commission may recover reasonable attorney fees incurred in collecting any civil penalty assessed under this section. All monies collected pursuant to this section shall be deposited in the administrative fund established by section 23-1081.

TITLE 45. WATERS
CHAPTER 6. DAMS AND RESERVOIRS
ARTICLE 1. SUPERVISION OF DAMS, RESERVOIRS, AND PROJECTS

45-1201. Definitions

In this article, unless the context otherwise requires:

1. "Dam" means any artificial barrier, including appurtenant works for the impounding or diversion of water, twenty-five feet or more in height or the storage capacity of which will be more than fifty acre-feet but does not include:
 - (a) Any barrier that is or will be less than six feet in height, regardless of storage capacity.
 - (b) Any barrier that has or will have a storage capacity of fifteen acre-feet or less, regardless of height.
 - (c) Any barrier for the purpose of controlling liquid-borne material.
 - (d) Any barrier that is a release-contained barrier.
 - (e) Any barrier that is own, controlled, operated, maintained or managed by the United States government or its agents or instrumentalities if a safety program that is at least as stringent as the state safety program applies and is enforced against the agent or instrumentality.
2. "Height" means the vertical distance from the lowest elevation of the outside limit of the barrier at its intersection with the natural ground surface to the spillway crest elevation.
3. "Owner" includes any person or entity that owns, controls, operates, maintains, manages or proposes to construct or modify a dam.
4. "Person" means any person, firm, association, organization, partnership, business trust, corporation, company or district.
5. "Release-contained barrier" means any artificial barrier and appurtenant works that comply with both of the following:
 - (a) Has a storage capacity that in the event of failure would be contained within property that the release-contained barrier owner owns, controls, operates, maintains or manages.
 - (b) The property on which the release would be contained is not open to the public.
6. "Storage capacity" means the maximum volume of water that can be impounded by the reservoir when there is no discharge of water.

STATE OF ARIZONA
OFFICIAL COMPILATION OF
ADMINISTRATIVE RULES AND REGULATIONS
TITLE 11.
MINES

Chapter

1. State Mine Inspector

Article

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2. State Mine Inspector - Mined Land Reclamation

Article

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CHAPTER 1.
STATE MINE INSPECTOR
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ARTICLE 2. EXPLOSIVES AND BLASTING

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305, and 27-321 through 27-325.

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ARTICLE 4. AIR QUALITY, VENTILATION AND RADIATION, AND PHYSICAL AGENTS

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ARTICLE 5. MAINTENANCE AND USE OF EQUIPMENT

(Compressors, Mucking Machines, Belts & Guards, Mobile Equipment)

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305, 27-313, 27-367, and 27-424.

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ARTICLE 7. TRAVELWAYS AND ESCAPEWAYS

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ARTICLE 8. ELECTRICITY

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ARTICLE 9. PERSONAL PROTECTION

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305 and 27-312.

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ARTICLE 10. MATERIALS STORAGE AND HANDLING

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304 and 27-305.

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ARTICLE 11. HOISTS AND SHAFTS

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305, 27-348, 27-351 through 27-354, and 27-356 through 27-359.

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ARTICLE 12. UNDERGROUND OPERATIONS

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ARTICLE 15. ACID PLANTS AND LEACHING

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ARTICLE 16. SMELTERS

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ARTICLE 17. AERIAL TRAMWAYS

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ARTICLE 18. GASSY MINES

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304 and 27-305.

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The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304 and 27-305.

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ARTICLE 20. STORAGE AND MIXING OF REAGENTS IN CONCENTRATORS

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes and A.R.S. §§ 27-304 and 27-305.

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ARTICLE 21. ASSAY AND METALLURGICAL LABORATORIES

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ARTICLE 1. GENERAL PROVISIONS

R11-1-101. Mine Inspector and deputies, qualifications and duties

See A.R.S. §§ 27-121 through 27-127 inclusive, 27-141, and 27-461 through 27-468 inclusive.

Historical Note
Former Rule Section 1.

R11-1-102. Reserved

R11-1-103. Reserved

R11-1-104. Reserved

R11-1-105. Reserved

R11-1-106. Reserved

R11-1-107. Reserved

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R11-1-116. Reserved

R11-1-117. Reserved

R11-1-118. Reserved

R11-1-119. Reserved

R11-1-120. Reserved

R11-1-121. Definitions

In these rules, unless the context otherwise requires, the following definitions apply:

1. "Acid plant" means any operation that manufactures sulfuric acid.
2. "Adequate" means sufficient, safe, reasonable and feasible for intended use.
3. "American Conference of Governmental Industrial Hygienists" means the "Documentation of the Threshold Limit Values for Substances in Workroom Air," third edition, adopted by ACGIH for 1971, and Supplements for those Substances Added or Changed Year 1978 (V), pages 453 through 476.
4. "American National Standard Specification for Sound Level Meters" means ANSI Standard 1.4-1971 (R1976), approved April 27, 1971.
5. "American National Standard Practices for Respiratory Protection" means ANSI Standard Z88.2-1969, approved August 11, 1969.
6. "American National Standard Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks" means ANSI Standard A17.1-1978 and ANSI 17.1a-1979, approved February 15, 1979.
7. "American Table of Distances" means the April 1977 edition of "The American Table of Distances for Storage of Explosives" published by the Institute of Makers of Explosives.
8. "Approved" means tested and accepted for a specific purpose by a nationally recognized agency.
9. "Authorized person" means a person approved or assigned by mine management to perform a specific type of duty or duties or to be at specific location or locations in the mine.
10. "Competent person" means a person having abilities and experience to qualify him to perform the duty to which he is assigned.
11. "Compressed air receivers" means any vessels of 100 cubic foot capacity or more which are used for the purpose of receiving and holding compressed air.
12. "Conveyance" means an elevator, dumbwaiter, escalator, moving walk, manlift, personnel hoist, material hoist, stage lift, and special purpose personnel elevator located at mines.
13. "Dam" means any artificial barrier, including appurtenant works, for the purpose of controlling liquid borne material.
14. "Flammable" means capable of being easily ignited and of burning rapidly.
15. "Flammable liquid" means a liquid having a flash point below 100° F and having a vapor pressure not exceeding 40 P.S.I. (absolute) at 100° F.

16. "Imminent danger" means any conditions or practices in any place of employment which are such that a danger exists which could reasonably be expected to cause death or serious physical harm immediately or before the imminence of such danger can be eliminated through the enforcement procedures otherwise provided by this Article.
17. "Leaching" means vat leaching, dump leaching and leaching of ore in place.
18. "National Electrical Code" refers to the code as adopted by the National Fire Protection Association and the American National Standard Institute as NFPA 70-1978 (ANSI).
19. "National Electrical Safety Code" means ANSI Standard C2-1977 Edition.
20. "Powder chest" means a substantial, nonconductive portable container equipped with a lid and used at blasting sites for explosives other than blasting agents.
21. "Suitable" means that which fits and has the qualities or qualifications to meet a given purpose, occasion, condition, function, or circumstance.
22. "Working level (WL)" means any combination of the short-lived radon daughters in one liter of air that will result in ultimate emission of 1.3×10^5 MeV (million electron volts) of potential alpha energy, and exposure to these radon daughters over a period of time is expressed in terms of "working level months" (WLM). Inhalation of air containing a radon daughter concentration of 1 WL for 173 hours results in an exposure of 1 WLM.
23. "Working place" means any place in or about a mine where work is being performed.

Historical Note

Former Rule 1:21; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-122. Reserved

R11-1-123. Reserved

R11-1-124. Reserved

R11-1-125. Reserved

R11-1-126. Reserved

R11-1-127. Reserved

R11-1-128. Reserved

R11-1-129. Reserved

R11-1-130. Error or omission in these rules and regulations

No error or omission in these rules and regulations shall be construed as permitting any unsafe, unhealthy or unsanitary condition to exist.

Historical Note

Former Section R11-1-1902 renumbered as Section R11-1-130 effective August 18, 1980 (Supp. 80-4).

R11-1-131. General provisions

The provisions of Title 27, Chapter 3, Arizona Revised Statutes, are applicable to and will be enforced in all operations subject to the jurisdiction of the State Mine Inspector unless the type of operations specifically designated in a particular statute or is exempted from a particular statute by its terms, or unless a particular statute or statutes are inapplicable to certain types of operations.

Historical Note

Former Rule 1:31.

R11-1-132. Application of rules

These rules are applicable to and will be enforced in all operations subject to the jurisdiction of the State Mine Inspector unless the terms of the rule or the heading of the Section indicates that a rule or rules will apply only to certain types of operations.

Historical Note

Former Rule 1:32.

R11-1-133. Potable water

Potable water shall be available to all employees during working hours.

Historical Note

Former Rule 1:33.

R11-1-134. Employee responsibility for equipment

Employees operating equipment are responsible for the safe and proper operation of the equipment they use.

Historical Note

Former Rule 1:34.

R11-1-135. Report unsafe conditions

It is the responsibility of each employee to report to his supervisor any unsafe condition he may see which can cause injury or damage property.

Historical Note
Former Rule 1:35.

R11-1-136. Reporting of accidents and injuries

- A. Where, in or about a mining operation, an accident occurs, it shall be reported promptly to supervisor in charge.
- B. The State Mine Inspector's office shall be immediately notified of:
 - 1. Any accident or injury to an individual resulting in death, or which has reasonable potential to cause death; and/or
 - 2. An entrapment of an individual for more than 30 minutes; and/or
 - 3. An unplanned inundation of a mine by a liquid or gas; and/or
 - 4. An unplanned ignition of a blasting agent or explosive.
- C. The State Mine Inspector's office shall be notified within ten days of any accident or injury to an individual that, in the opinion of the attending physician, may result in the injured person being incapacitated for regular work for at least one day beyond the day of injury.

Historical Note

Former Rule 1:36; Amended effective April 7, 1976 (Supp. 76-2). Former Section R11-1-136 repealed, new Section R11-1-136 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-137. Repealed

Historical Note

Former Rule 1:37; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-138. Warnings from unusual hazards

Warning signs and/or lights, ropes and temporary guards shall be placed in order to give adequate warning from all unusual hazards.

Historical Note

Former Rule 1:38.

R11-1-139. Sufficient illumination

Illumination sufficient to provide safe working conditions shall be provided in and on all working places. Individual electric lamps shall be carried for illumination by all persons underground.

Historical Note

Former Rule 1:39.

R11-1-140. Good housekeeping

Passageways, work places, service rooms and storage areas shall be kept clean, orderly and in a safe condition.

Historical Note

Former Rule 1:40; Former Section R11-1-140 repealed, new Section R11-1-140 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-141. New employees

New employees shall be indoctrinated in safety rules and safe work procedures.

Historical Note

Former Rule 1:41.

R11-1-142. Emergency telephone numbers

Emergency telephone numbers shall be posted at appropriate telephones.

Historical Note

Former Rule 1:42.

R11-1-143. Conditions for employees working alone

No employee shall be assigned or allowed or be required to perform work alone in any area where hazardous conditions exist that would endanger his safety unless he can communicate with others, can be heard, or can be seen.

Historical Note

Former Rule 1:43.

R11-1-144. Records of men working below surface

Each operator of an underground mine shall establish a check-in and check-out system which shall provide an accurate record of persons in the mine. These records shall be kept on the surface in a place chosen to minimize the danger of destruction by fire or other hazards. Every person underground shall carry a positive means of being identified.

Historical Note

Former Rule 1:44.

R11-1-145. Injured persons

Arrangements shall be made in advance for obtaining emergency medical assistance and transportation for injured persons.

Historical Note

Former Rule 1:45.

R11-1-146. Instruction of employees

All employees shall be instructed at least once each calendar year on fire alarm signals and applicable procedures to be followed in case of fire or other emergency. Records of instruction shall be kept for two years.

Historical Note

Former Rule 1:46.

R11-1-147. Training in first aid

All supervisors shall be trained in first aid. First-aid training shall be made available to all interested employees.

Historical Note

Former Rule 1:47.

R11-1-148. Overcrowding facilities

Facilities used to transport persons to and from work areas shall not be overcrowded.

Historical Note

Former Section R11-1-1151 renumbered and amended as Section R11-1-148 effective August 18, 1980 (Supp. 80-4).

R11-1-149. Safe means of access

Safe means of access shall be provided and maintained to all working places.

Historical Note

Former Section R11-1-1220 renumbered and amended as Section R11-1-149 effective August 18, 1980 (Supp. 80-4).

R11-1-150. Toilet facilities

- A. Toilet facilities shall be provided at locations that are compatible with the mine operations and that are readily accessible to mine personnel.
- B. The facilities shall be kept clean and sanitary. Separate toilet facilities shall be provided for each sex except where toilet rooms will be occupied by no more than one person at a time and can be locked from the inside.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-151. Mine Employment Quarterly Report

- A. Each mining operation shall submit a Mine Employment Quarterly Report to the State Mine Inspector's office within 15 days after the end of each calendar quarter.
- B. Report will include the following information:
 1. Operation name and county.
 2. Operating company name and address.
 3. Name and phone number of person submitting report.
 4. Number of reportable injuries or illnesses during the quarter.
 5. For each operation sub-unit:
 - a. Average number of persons working.
 - b. Total employee-hours worked.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-152. Rehearing or review of decision

- A. Except as provided in subsection (G), any party in a contested case before the Office of State Mine Inspector who is aggrieved by a decision rendered in such case may file with the Office of State Mine Inspector, not later than ten days after service of the decision, a written motion for rehearing or review of the decision specifying the particular grounds therefor. For purposes of this subsection, a decision shall be deemed to have been served when personally delivered or mailed by certified mail to the party at his last known residence or place of business.
- B. A motion for rehearing under this rule may be amended at any time before it is ruled upon by the Office of State Mine Inspector. A response may be filed within ten days after service of such motion or amended motion by any other party. The Office of State Mine Inspector may require the filing of written briefs upon the issues raised in the motion and may provide for oral argument.
- C. A rehearing or review of the decision may be granted for any of the following causes materially affecting the moving party's rights:
 1. Irregularity in the administrative proceedings of the agency or its hearing officer or the prevailing party, or any order or abuse of discretion, whereby the moving party was deprived of a fair hearing;
 2. Misconduct of the Office of State Mine Inspector or its hearing officer or the prevailing party;
 3. Accident or surprise which could not have been prevented by ordinary prudence;
 4. Newly discovered material evidence which could not with reasonable diligence have been discovered and produced at the original hearing;
 5. Excessive or insufficient penalties;

6. Error in the admission or rejection of evidence or other errors of law occurring at the administrative hearing;
 7. That the decision is not justified by the evidence or is contrary to law.
- D.** The Office of State Mine Inspector may affirm or modify the decision or grant a rehearing to all or any of the parties and on all or part of the issues for any of the reasons set forth in subsection (C). An order granting a rehearing shall specify with particularity the ground or grounds on which the rehearing is granted, and the rehearing shall cover only those matters so specified.
 - E.** Not later than ten days after a decision is rendered, the Office of State Mine Inspector may on its own initiative order a rehearing or review of its decision for any reason for which it might have granted a rehearing on motion of a party. After giving the parties or their counsel notice and an opportunity to be heard on the matter, the Office of State Mine Inspector may grant a motion for rehearing for a reason not stated in the motion. In either case the order granting such a rehearing shall specify the ground therefor.
 - F.** When a motion for rehearing is based upon affidavits, they shall be served with the motion. An opposing party may within ten days after such service serve opposing affidavits, which period may be extended for an additional period not exceeding 20 days by the Office of State Mine Inspector for good cause shown or by written stipulation of the parties. Reply affidavits may be permitted.
 - G.** If in a particular decision the Office of State Mine Inspector makes specific findings that the immediate effectiveness of such decision is necessary for the immediate preservation of the public peace, health and safety and that a rehearing or review of the decision is impracticable, unnecessary or contrary to the public interest, the decision may be issued as a final decision without an opportunity for rehearing or review. If a decision is issued as a final decision without an opportunity for rehearing, any application for judicial review of the decision shall be made within the time limits permitted for applications for judicial review of the Office of State Mine Inspector's final decisions.
 - H.** For purposes of this Section the terms "contested case" and "party" shall be defined as provided in A.R.S. § 41-1001.
 - I.** To the extent that the provisions of this rule are in conflict with the provisions of any statute providing for rehearing of decisions of the Office of State Mine Inspector, such statutory provisions shall govern.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

ARTICLE 2. EXPLOSIVES AND BLASTING

The Rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305, and 27-321 through 27-325.

R11-1-211. Smoking, matches, open flames prohibited in specified areas

Smoking, matches, open flames, spark-producing devices and carrying of firearms or ammunition shall be prohibited in or within 50 feet of the following areas:

1. Explosive and blasting supply magazines.
2. Blasting agent and oxidizer storage sites.
3. Blasting agent mixing plants (fixed or mobile).
4. Vehicles transporting explosives, blasting agents or oxidizers.
5. Blasting sites, except for approved means of firing blasts.

Historical Note

Former Rule 2:11.

R11-1-212. Transporting explosives

No persons shall drive, load, or unload a vehicle transporting explosives, blasting agents, or oxidizers in a careless or reckless manner.

Historical Note

Former Rule 2:12.

R11-1-213. Precautions governing use, transportation and handling

The precautions, rules and regulations governing the use, transportation and handling of explosives shall apply to all blasting agents except as otherwise expressly provided herein.

Historical Note

Former Rule 2:13.

R11-1-214. Repair of vehicles containing explosives

Vehicles containing explosives or detonators shall not be taken to a repair garage or shop for any purpose.

Historical Note

Former Rule 2:14.

R11-1-215. Unattended vehicles containing detonators or other explosives

Vehicles containing detonators or explosives, other than blasting agents, shall not be left unattended except in blasting areas where loading or charging is in progress.

Historical Note

Former Rule 2:15.

R11-1-216. Notification to men responsible for operating hoists and cagers

Men responsible for operating the hoist and cagers shall be notified whenever explosives or detonators are being transported in a shaft conveyance.

Historical Note
Former Rule 2:16.

R11-1-217. Hoisting stopped

Hoisting in adjacent shaft compartments shall be stopped when explosives or detonators are being handled.

Historical Note
Former Rule 2:17.

R11-1-218. Reserved

R11-1-219. Reserved

R11-1-220. Reserved

R11-1-221. Definitions -- explosives

A. "Blasting agent": Shall mean any material or mixture consisting of a fuel and oxidizer, intended for blasting, not otherwise classified as an explosive, and of which none of the ingredients are classified as an explosive, provided that the finished product, as mixed and packaged for use or shipment, cannot be detonated when unconfined by means of a No. 8 test blasting cap. This test should be conducted at a temperature range between 70° and 75° F.

Note 1. A No. 8 test blasting cap is one containing two grams of a mixture of 80% mercury fulminate and 20% potassium chlorate, or a cap of equivalent strength.

Note 2. Nitro carbo nitrate. This term applies to any blasting agent which has been classified as nitro carbo nitrate under the Department of Transportation regulations, and which is packaged and shipped in compliance with the regulations of the Department of Transportation.

B. "Explosives": The term "explosive" or "explosives" shall mean any chemical compound, mixture or device, the primary or common purpose of which is to function by explosion, i.e., with substantially instantaneous release of gas and heat, unless such compound, mixture or device is otherwise specifically classified by the Department of Transportation. The term "explosives" shall include all material which is classified as Class A, Class B, and Class C explosives by the Department of Transportation.

Note 1. Classification of explosives by the United States Department of Transportation is as follows:

1. "Class A explosives": Possessing detonating hazards; such as dynamite, nitroglycerin, TNT, black powder blasting caps and cast detonating primers and boosters.
2. "Class B explosives": Possessing flammable hazard; such as propellant explosives, including some smokeless propellants.
3. "Class C explosives": Includes certain types of manufactured articles which contain Class A or Class B explosives, or both, as components but in restricted quantities.
4. "Fuel": A fuel is a substance which may react with the oxygen in the air or with the oxygen yield by an oxidizer to produce combustion.
5. "Magazine": Shall mean any building or structure, other than an explosives manufacturing building, approved for the storage of explosives.
6. "Oxidizer": An oxidizer is a substance such as a nitrate that yields oxygen readily to stimulate the combustion of organic matter or other fuel.

Historical Note
Former Rule 2:21.

R11-1-222. Repealed

Historical Note
Former Rule 2:22; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-223. Repealed

Historical Note
Former Rule 2:23; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-224. Reserved

R11-1-225. Reserved

R11-1-226. Reserved

R11-1-227. Reserved

R11-1-228. Reserved

R11-1-229. Reserved

R11-1-230. Reserved

R11-1-231. Storage of explosives

- A. All Class A, Class B, Class C explosives shall be kept in magazines which meet the requirements of this Section. This shall not be construed as applying to fuse lighters, fuse igniters, and safety fuses (slow-burning type containing a core of black powder).
- B. Detonators shall not be stored in the same magazine with other explosive materials.

Historical Note

Former Rule 2:31; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-232. Classification of magazines

- A. Magazines as required by this Chapter shall be of two classes; namely Class I magazines and Class II magazines.
- B. Class I magazines shall be required where the quantity of explosives stored is more than 250 lbs.
- C. Class II magazines may be used where the quantity of explosives stored is 250 lbs. or less.

Historical Note

Former Rule 2:32.

R11-1-233. Location of magazines

Magazines shall be detached structures located away from power lines, fuel storage areas, possible sources of fire and from inhabited buildings, public highways, passenger railways and other magazines in conformity with the American Table of Distances for Storage of Explosives as Revised and Approved by The Institute of Makers of Explosives.

Historical Note

Former Rule 2:33; Former Section R11-1-233 repealed, new Section R11-1-233 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-234. Construction of magazines

- A. Magazines shall be constructed in conformity with the provisions of this Section or may be of substantially equivalent construction. Magazines for the storage of Class A explosives, other than black powder, shall be reasonably bullet-resistant, weather-resistant, fire-resistant, theft-resistant and ventilated.
- B. Magazines shall be posted with warning signs so located that a bullet passing through the face of the sign will not strike the magazine.
- C. Ground around magazines shall slope away for drainage. The land surrounding magazines shall be kept clear of brush, dried grass, leaves and other combustible materials for a distance of at least 25 feet, and other unnecessary combustible materials for a distance of not less than 50 feet.
- D. Field magazines shall not be provided with heat or artificial lights, except that if artificial lights are necessary, an electric safety flashlight or safety lantern shall be used.
- E. Magazines shall not be grounded but have an overhead lightning protective system that is in no way connected to the magazine.

Historical Note

Former Rule 2:34; Amended effective April 7, 1976 (Supp. 76-2). Amended effective August 18, 1980 (Supp. 80-4).

R11-1-235. Construction of Class I magazines

- A. Class I magazines shall be of masonry or wood covered with sheet metal, or of metal construction; or a combination of these types. Hollow masonry units used in construction required to be bullet-resistant shall have all hollow spaces filled with a dry sand/cement mix or well-tamped sand. Wood-constructed walls required to be bullet resistant shall have at least a six-inch space between interior and exterior sheathing and the space between sheathing shall be filled with well-tamped sand or sand/cement mix. Metal wall construction, when required to be bullet-resistant, shall be lined with at least a four-inch thickness of brick, masonry, hardwood or sand.
- B. Floors and roofs of masonry magazines may be of wood construction. Wood floors shall be tongue-and-grooved lumber having a minimum thickness of 3/4 inch. Roofs required to be bullet-resistant shall be protected by four inches of hardwood or by a sand tray located at line of eaves and covering the entire area except that necessary for ventilation. Sand in the sand tray shall be maintained at a depth of not less than four inches.
- C. All wood at the exterior of magazines, excluding eaves, shall be protected by being covered with black or galvanized steel or aluminum metal of thickness of not less than No. 26 gauge. All nails exposed to the interior of magazines shall be well countersunk.
- D. Foundations for permanent magazines shall be of substantial construction and arranged to provide good cross ventilation.
- E. Magazines shall be ventilated sufficiently to minimize dampness and heating of stored explosives. Ventilation openings shall be screened to prevent the entrance of sparks.
- F. Openings to magazines shall be restricted to that necessary for the placement and removal of stocks of explosives. Doors for magazines for Class A explosives shall be bullet-resistant.
- G. Magazines shall be provided with two substantial locks, and magazine doors shall be kept locked except during the time of placement and removal of stocks of explosives.
- H. Provisions shall be made to prevent the piling of stocks of explosives directly against the walls; such protection, however, shall not interfere with proper ventilation at interior of side and end walls.
- I. Full and semi-trailers are acceptable for the storage of explosives when modified to comply with Class I magazine construction.

Historical Note

Former Rule 2:35; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-236. Construction of Class II magazines

- A. Class II magazines shall be of wood or metal construction or a combination thereof.
- B. Wood magazines of this class shall have sides, bottom and cover constructed of two-inch hardwood boards well braced at corners and protected by being entirely covered with sheet metal of not less than No. 20 gauge. All nails exposed to interior of magazine shall be well countersunk. All metal magazines of this class shall have sides, bottom and cover constructed of 12-gauge metal and shall be lined with 3/8-inch plywood or the equivalent. Edges of metal covers shall overlap sides at least one inch.
- C. Covers for both wood- and metal-constructed magazines of this class shall be provided with substantial strap hinges and shall be provided with substantial means of locking. Covers shall be kept locked except during the placement or removal of explosives. Second class magazines, containing explosives, left at locations where no one is in attendance, shall be adequately secured to prevent theft; or the explosives shall be removed from the magazine when unattended.
- D. Magazines of this class shall be painted red and shall bear lettering in white, on all sides and top, at least three inches high, "Explosives -- Keep Fire Away". Where necessary due to climatic conditions, Class II magazines shall be ventilated.
- E. Underground detonator-storage magazines shall be of the same construction as explosives-storage magazines and shall be separated by at least 25 feet from explosive-storage magazines.

Historical Note

Former Rule 2:36; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-237. Storage within magazines

- A. Containers of explosives shall be laid flat with top side up. Corresponding grades and brands shall be stored together in such a manner that brand and grade marks show. All stocks shall be stored so as to be easily counted and checked. Containers of explosives shall be piled in a stable manner. When any kind of explosive is removed from a magazine for use, the oldest explosive of that particular kind shall be removed first.
- B. Only fiberboard containers of explosives may be opened in a magazine. Opened containers of explosives shall be securely reclosed when stored in a magazine.
- C. Tools used for opening containers of explosives shall be constructed of non-sparking materials, except that metal slitters may be used for opening fiberboard containers. A wood wedge and fiber, rubber, or wood mallet shall be used for opening or closing wood containers of explosives.
- D. Magazines shall be used for the storage of explosives, blasting agents, and oxidizers only. Metal tools, other than non-sparking transfer conveyors, shall not be stored in a magazine.
- E. Magazine floors shall be regularly swept, kept clean, dry, free of grit, paper, empty used packages, and rubbish. Brooms and other cleaning equipment shall not have any spark-producing metal parts. Sweepings from floors of magazines shall be disposed of properly. Stained magazine floors shall be cleaned according to instruction obtained from the explosives manufacturer. When any explosive has deteriorated to an extent that it is in a dangerous condition, or if liquid leaks from any explosive, then the person in possession of such explosive shall destroy such explosive in accordance with the instructions obtained from the manufacturer. Only experienced persons shall direct the work of destroying explosives.
- F. When magazines need inside repairs, all explosives shall be removed therefrom and the floors cleaned. In making outside repairs, if there is a possibility of causing sparks or fire, the explosives shall be removed from the magazine. Explosives removed from a magazine under repair shall either be placed in another magazine or placed a safe distance from the magazine where they shall be properly guarded and protected until repairs have been completed, when they shall be returned to the magazine.
- G. Ammonium nitrate fuel oil blasting agents shall be physically separated from other explosives, safety fuse, or detonating cord stored in the same magazine, in such a manner that oil does not contaminate the other explosives, safety fuse or detonating cord.

Historical Note

Former Rule 2:37.

R11-1-238. Reserved

R11-1-239. Reserved

R11-1-240. Reserved

R11-1-241. Transportation of explosives -- transportation vehicles

- A. Vehicles used for transporting explosives shall be strong enough to carry the load without difficulty and be in good mechanical condition. All vehicles used for the transportation of explosives shall have tight floors and any exposed spark-producing metal on the inside of the body shall be covered with wood or other non-sparking material to prevent contact with containers of explosives. Vehicles used to transport blasting agents shall have neither zinc nor copper exposed in the cargo space. Containers of explosives shall not be loaded above the sides of an open body vehicle.
- B. Motor vehicles transporting explosives shall be marked with appropriate placards or lettering.
- C. Motor vehicles transporting explosives must be equipped with not less than two suitable fire extinguishers, each having a rating of at least 10 B:C.
- D. Vehicles transporting explosives shall only be driven by and be in charge of a duly licensed driver who is physically fit, careful, capable, reliable and:
 - 1. Able to read and write English.
 - 2. Not addicted to or under the influence of intoxicants or narcotics.
 - 3. Not less than 21 years of age.

- 4. Familiar with all applicable laws, rules, regulations and policies governing the transportation and handling of explosives.
- E. When explosives and detonators are hauled by trolley locomotives, covered, electrically insulated cars shall be used.
- F. Explosives and detonators shall be transported in separate vehicles unless separated by four inches of hardwood or the equivalent.
- G. When vehicles containing explosives or detonators are parked, the brakes shall be set, the motive power shut off, and the vehicles shall be blocked securely against rolling.
- H. Explosives or detonators shall not be transported on mantrips.
- I. Substantial nonconductive containers shall be used to carry explosives to blasting sites.
- J. Explosives or detonators shall not be transported on locomotives.

Historical Note

Former Rule 2:41; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-242. Transportation of explosives -- miscellaneous

- A. No spark-producing metal tools, oils, matches, firearms, ammunition, electric storage batteries, flammable substances, acids, oxidizing materials, or corrosive compounds shall be carried in the body of any motor truck or vehicle transporting explosives unless the loading of such dangerous articles and the explosives comply with Department of Transportation regulations.
- B. Unauthorized persons or passengers must not ride on a motor vehicle transporting explosives.
- C. Hoisting of ore, muck, or other material in adjacent shaft compartments shall be stopped while explosives are being handled unless the compartment in which the explosives are being handled is adequately separated.

Historical Note

Former Rule 2:42.

R11-1-243. Reserved

R11-1-244. Reserved

R11-1-245. Reserved

R11-1-246. Reserved

R11-1-247. Reserved

R11-1-248. Reserved

R11-1-249. Reserved

R11-1-250. Reserved

R11-1-251. Water gels or slurry explosives and blasting agents -- general provisions

Unless otherwise set forth in this Section, water gels shall be transported, stored, and used in the same manner as explosives or blasting agents in accordance with the classification of the product.

Historical Note

Former Rule 2:51.

R11-1-252. Premixed water gels

- A. Premixed water gels containing a substance in itself classified as an explosive shall be classified as an explosive and manufactured, transported, stored, and used as specified for explosives in this Code.
- B. Premixed water gels containing no substance in itself classified as an explosive and which are cap-sensitive as defined in R11-1-221 under Blasting Agent, shall be classified as an explosive and manufactured, transported, stored, and used as specified for explosives in this Code.
- C. Premixed water gels containing no substance in itself classified as an explosive and which are not cap-sensitive as defined in R11-1-221 under Blasting Agent shall be classified as blasting agents and manufactured, transported, stored, and used as specified for blasting agents in this Code.

Historical Note

Former Rule 2:52.

R11-1-253. On-site mixed water gels

- A. Ingredients for on-site mixed water gells shall be stored as set forth in this Section.
 - 1. Ingredients in themselves classified as Class A or Class B explosives shall be stored in conformity with this Code.
 - 2. Prilled, grained, or granulated ammonium nitrate shall be stored in accordance with R11-1-262 of this Code. If ammonium nitrate is stored in the vicinity of explosives or blasting agents, the separation distances specified in R11-1-262 of this Code shall be observed.
 - 3. Liquid ammonium nitrate or ammonium nitrate-sodium nitrate solutions shall be stored in tank cars, tank trucks, or permanent tanks. Spills or leaks which may contaminate combustible materials shall be cleaned up immediately.
- B. If electric power is used, it may be furnished by cable from an outside source or by a self-contained motor generator. In the case of a self-contained power source, it shall be located at the end of the storage container opposite that at which the blasting agent is discharged. It shall have adequate capacity for the loads to be expected and be equipped with suitable overload protection devices.

- C. Electric wiring carrying voltages greater than 12 volts shall be in armored cable or in conduit and, if dry ingredients are employed, the wiring shall conform to the requirements of Class II, Division 2 of the National Electrical Code. The materials protecting the electric wiring must be of such composition that they will not be chemically attacked by the ingredients being processed.
- D. Mixing equipment for on-site mixed water gels shall comply with the requirements of this Section:
 1. All electric motors, electrically operated proportioning devices, etc., shall be electrically bonded.
 2. All electric motors, electrically operated proportioning devices, etc., used for dry ingredients shall conform to the requirements of Class II, Division 2 of the National Electrical Code.
 3. The entire loading and mixing equipment shall be cleaned periodically to ensure against accumulations of ingredients.

Historical Note
Former Rule 2:53.

- R11-1-254. Reserved**
- R11-1-255. Reserved**
- R11-1-256. Reserved**
- R11-1-257. Reserved**
- R11-1-258. Reserved**
- R11-1-259. Reserved**
- R11-1-260. Reserved**

R11-1-261. Dry ammonium nitrate-fuel compositions, “mixing plant”

“Mixing plant” refers to any fixed installation or mobile equipment used in conjunction with a mine, for the processing of various non-explosive materials to produce and/or package a blasting agent for use in a mine.

Historical Note
Former Rule 2:61.

R11-1-262. “Mixing plant,” located on mine property

- A. At each mining operation where field-mixed ammonium nitrate-fuel oil blasting agents are being used, all mixing shall be done under the supervision of competent personnel, duly instructed in the proper mixing of the blasting agent involved.
- B. Mixing plants shall conform to the requirements of this Section unless otherwise specifically approved by the Inspector.
- C. Mixing plants shall be located, with respect to the inhabited buildings, passenger railroads, and public highways, in accordance with the American Table of Distances. One-half the quantity of unmixed ammonium nitrate shall be included with the quantity of finished product, the total of which shall be considered as explosive, for determining the proper distances.
- D. A mixing plant building shall be of noncombustible construction or sheet metal on wood studs.
- E. The layout of a mixing plant building shall be such as to provide physical separation between the finished product storage and the mixing and packaging operations.
- F. Floors in a mixing plant building shall be of concrete. Concrete floors must have at least one inch of finished cement, Terra Cotta finish, or other material approved by the Inspector. Floors shall be constructed so as to eliminate open floor drains and piping into which molten materials could flow and be confined in case of fire. The floors and equipment of the mixing and packaging room shall be washed down or cleaned when necessary to prevent accumulation of oxidizers or fuels and other sensitizers.
- G. Isolated fuel storage shall be provided at fixed plants to avoid contact between molten oxidizer and fuel in case of fire.
- H. The mixing plant shall be well ventilated.
- I. Heat, if needed, shall be provided exclusively from a unit outside the building.
- J. All electric switches, controls, motors, and lights, if located in the mixing or blasting agent storage area, must conform to the requirements of Class II, Division 2, of the most recent edition of the National Electrical Code. The frame of the mixer and all other equipment that may be used must be electrically bonded together and be provided with a continuous path to ground which is separate from the ground provided for power equipment.
- K. The design of the mixer shall minimize the possibility of frictional heating, compaction, and especially confinement. All bearings and gears should be mounted outside the mixer and protected against the accumulation of product dust. All surfaces must be accessible for easy cleaning.
- L. Mixing and packaging equipment shall be constructed of materials compatible with the ammonium nitrate composition.
- M. All discarded empty ammonium nitrate bags and other trash must be disposed of daily by burning outdoors.
- N. All sacks or containers used for storage of blasting agents must be properly marked and must show the mixing date.
- O. Blasting agents used underground shall be mechanically mixed in order to ensure a homogeneous mixture of the proper composition, but the mixing shall not be done underground.

Historical Note
Former Rule 2:62.

R11-1-263. Composition of blasting agents

- A. No hydrocarbon liquid fuel with a flash point lower than that of No. 2 diesel fuel oil (125° F minimum or legal) shall be used.
- B. Crude oil and crankcase oil shall not be used.

- C. No unusual compositions of blasting agents or a composition containing an ingredient classed as high explosive shall be attempted in mixing operations. The finished product shall be tested regularly to determine that it falls within the classification "Blasting Agent". Peroxides, chlorates or perchlorates shall not be used under any conditions.
- D. If a blasting agent is used underground, its fuel oil content shall range between 5.5% and 6.5% by weight, except where other carbonaceous material is added, in which case a proper oxygen balance shall be maintained.

Historical Note
Former Rule 2:63.

R11-1-264. Surface storage of materials

- A. Unmixed materials:
 - 1. Unmixed ammonium nitrate shall be kept in a clean, well-ventilated building or bin, using good warehouse practice. Floor drains into which molten nitrate could run during a fire should be eliminated. Bagged ammonium nitrate shall not be stacked close to any source of heat which might ignite the combustible material of the bags. Bulk ammonium nitrate shall be stored in clean, dry bins. When stored in warehouses, it shall be stored on dry, clean floors which are of noncombustible construction which is protected against impregnation with ammonium nitrate. Warehouses or other storage facilities shall have adequate ventilation or be of construction that will be self-ventilating to permit escape of products of decomposition and heat in the event of fire.
 - 2. Ammonium nitrate shall not be stored with or near flammable liquids, corrosive acid, chlorates, nitrates, permanganates, sulphur, or finely divided metals.
 - 3. When unmixed ammonium nitrate is stored with blasting agents or high explosives in a high-explosive magazine, one-half the quantity of unmixed ammonium nitrate shall be taken into consideration in computing the total quantity in warehouse or magazine for compliance with the American Table of Distances.
 - 4. Spilled ammonium nitrate shall be cleaned up promptly and removed safely.
 - 5. Dynamite or other explosives shall not be used to break up caked ammonium nitrate.
 - 6. Fuses and igniters shall be stored in a cool, dry place away from oils or grease.
- B. Mixed materials (without explosives):
 - 1. Permanent storage of blasting agents shall be in a fire- and weather-resistant, well-ventilated, magazine or warehouse. Temporary storage may be in vans, truck trailers, railroad cars, etc.
 - 2. The location of magazine or warehouse shall comply with the American Table of Distances.
 - 3. Interior of storage buildings shall be kept clean and be maintained in good housekeeping order.
 - 4. Blasting agents shall not be stored with flammable liquids, corrosive acids, chlorates, nitrates, permanganates, sulphur or finely divided metals.
- C. Mixed materials (with explosives): All rules and regulations that apply to the storage of explosives shall apply to the storage of blasting agents when stored with explosives.

Historical Note
Former Rule 2:64.

R11-1-265. Loading of blasting agents

General:

- 1. All fittings used in the construction of the hopper and pickup equipment and hose connections of loading equipment must be constructed of materials compatible with the ammonium nitrate composition.
- 2. Blasting agents shall not be blown into boreholes that contain electrically nonconductive liners, even if the primer is not inserted until after the blowing has been completed.
- 3. Primers which contain a blasting cap, electric blasting cap or delay electric blasting cap shall not be handled by persons who have previously been operating pneumatic loading devices unless that person has grounded himself to bleed off any static charges.
- 4. Loading in boreholes containing electric blasting caps, delay electric blasting caps, or blasting caps:
 - a. All pneumatic and air-pressure equipment used for loading blasting agents must be adequately grounded to dissipate static electric charges that may cause premature initiation of the detonator. The machine or hopper, discharge hose, fittings, discharge tube, and loading tube must form a continuous electrically conductive path to a ground. The system ground conductor and loading tube shall have a resistance high enough to prevent hazards from stray currents, yet low enough to adequately maintain static electricity energy below hazardous levels.
 - b. Water lines, air lines, fan lines, rails, or the permanent grounding system shall not be used as a ground for pneumatic loading equipment.
 - c. Loading equipment mounted on a car and rails must be thoroughly insulated from the car and rails and grounded by a separate, static-dissipating ground.
 - d. When loading over electric blasting cap wires, contact between any metal parts of the loader and cap leg wires shall be avoided.
 - e. Metal or other low electrical resistance loading tubes shall not be used.
 - f. All loading equipment must be removed from the area before leg wire shunts are removed and the loaded holes are tied in for blasting.
 - g. Ventilation -- When ammonium nitrate blasting agents are used, Section 27-411 of the Arizona Mining Code shall apply.

Historical Note
Former Rule 2:65.

R11-1-266. Reserved

R11-1-267. Reserved

R11-1-268. Reserved

R11-1-269. Reserved

R11-1-270. Reserved

R11-1-271. Use of explosives and blasting agents, general provisions

- A.** The handling of explosives may be performed by the person designated to use explosives or by other employees under his direct supervision provided that such employees are at least 18 years of age. Persons who use or handle explosives or detonators shall be experienced men who understand the hazards involved; trainees shall do such work only under the supervision of and in the immediate presence of experienced men. Blasting operations shall be under the direct control of authorized persons.
- B.** Containers of an approved type shall be used for taking detonators and other explosives from storage magazines to the blasting area.
- C.** Persons authorized to prepare explosive charges or conduct blasting operations shall use every reasonable precaution, including but not limited to warning signals, flags, barricades or blasting mats to ensure the safety of mine personnel.
- D.** Due precautions shall be taken to prevent accidental discharge of electric blasting caps from current induced by radio transmitters, lightning, dust storms, or other sources of extraneous electricity. All surface, shaft sinking, and tunneling blasting operations shall be suspended and persons removed from blasting area during the ominous approach and progress of an electrical storm, when electric detonators are used.
- E.** Empty containers and paper and fiber packing materials which have previously contained high explosives shall not be used again for any purpose but shall be destroyed by burning out-of-doors, and no person shall be nearer than 100 feet after the burning has started.
- F.** Explosives, blasting supplies, or blasting accessories that are obviously deteriorated or damaged shall be destroyed in a safe manner under the instructions of the explosives or blasting agent manufacturer or its designated agent.
- G.** Explosives or blasting supplies shall not be abandoned. While temporarily unattended, they shall be marked with red flags or some other suitable means of warning persons.
- H.** Capped primers shall be made up at the time of charging and as close to the blasting site as conditions allow.
- I.** Fuses shall be cut and capped in safe, dry locations posted with "No Smoking" signs.
- J.** Fuse shall not be ignited before the primer and the entire charge are securely in place.
- K.** If any part of a blast is connected in parallel and is to be initiated from powerlines or lighting circuits, the time of current flow shall be limited to a maximum of 25 milliseconds by incorporating a control device in the blasting circuit or by interrupting the circuit with an explosive charge attached to one or both lead lines and initiated by a zero-delay electric blasting cap.
- L.** Black blasting powder should not be used for blasting except when a desired result cannot be obtained with another type of explosive such as in quarrying certain types of dimension stone.
- M.** Explosives shall be kept separate from detonators until charging is started.
- N.** Electric circuits from the blasting switches to the blast area shall not be grounded.
- O.** Lead wires and blasting lines shall not be strung across power conductors, pipelines, railroad tracks, or within 20 feet of bare powerlines. They shall be protected from sources of static or other electrical contact.

Historical Note

Former Rule 2:71; Amended effective April 7, 1976 (Supp. 76-2). Amended effective August 18, 1980 (Supp. 80-4).

R11-1-272. Loading of explosives (blasting)

- A.** All drill holes shall be sufficiently large to admit freely the insertion of the cartridges of explosives.
- B.** Drilling shall not be started until all butts (bootlegs) of old holes are examined. Wash down the face and wash out the butts (bootlegs). If any misfires are found they shall be handled only by, or under the direction of, a competent and experienced person.
- C.** No person shall be allowed to deepen drill holes which have contained explosives.
- D.** After loading for a blast is completed, all excess explosives and detonators shall be returned immediately to their separate storage magazines.
- E.** Double priming with fuse in a drill hole is prohibited.
- F.** No tamping shall be done directly on a capped primer.
- G.** Holes shall not be collared in bootlegs.
- H.** Holes to be blasted shall be charged as near to blasting time as practical and such holes shall be blasted as soon as possible after charging has been completed. In no case shall the time elapsing between completion of charging to the time of blasting exceed 72 hours unless prior approval has been obtained from the State Mine Inspector.

Historical Note

Former Rule 2:72.

R11-1-273. Initiating blasts

- A.** When fuse is used, the blast cap shall be securely attached to the safety fuse with a standard ring-type (or other approved) cap crimper.
- B.** No primers shall be assembled or fuse capped closer than 50 feet from any magazine.
- C.** Only wooden or non-sparking tools shall be used for making holes in a cartridge of explosives.
- D.** Explosives shall not be extracted from a hole that has once been charged or has misfired unless it is impossible to detonate the unexploded charge by insertion of a fresh additional primer.

- E. If there are any misfires while using cap and fuse, all persons shall remain away from the charge for at least one hour. On electrical misfires, all persons shall remain away from the charge for at least 15 minutes. Electrical misfires shall be handled under the direction of the person in charge of the blasting and all wires shall be carefully traced and search made for unexploded charges.
- F. Blasters, when testing circuits to charged holes, shall use only blasting galvanometers designed for this purpose.
- G. Only the man who makes the leading wire connections in electrical firing shall fire the shot. All connections should be made progressively from borehole back to the source of firing current, and the leading wires shall remain shorted and not be connected to the blasting machine or other source of current until the charge is to be fired.
- H. Blasts in shafts or winzes shall be initiated from a safe location outside the shaft or winze.
- I. When blasting electrically, the electric blasting cap leg wire shunt shall not be removed from the leg wires until loading operations have been completed.
- J. When firing from 1 to 15 blastholes with safety fuse ignited individually using hand-held lighters, the fuses shall be of such lengths to provide the minimum burning time specified in the following table for a particular size round:

| Number of Holes in a Round | Minimum Burning Time, Minutes |
|----------------------------|-------------------------------|
| 1 | 2 |
| 2-5 | 2 2/3 |
| 6-10 | 3 1/3 |
| 11-15 | 5 |

In no case shall any 40-second-per-foot safety fuse less than 36 inches long or any 30-second-per-foot safety fuse less than 48 inches long be used.

- K. Not over 15 fuses shall be spit by each blaster if being individually ignited. At least two men shall be present when lighting fuses, and no man shall light more than 15 individual fuses. To avoid an unsafe delay in the operation, all men shall carry out the lighting of fuses simultaneously. If more than 15 holes per man are to be fired, igniter cord and connectors or electric blasting shall be used.
- L. No fuse shall be used that burns faster than one foot in 30 seconds or slower than one foot in 55 seconds. The burning rate of every shipment of fuse received at a mine shall be determined. If a shipment of fuse lasts more than 60 days, the burning rate must be rechecked each 60 days. The burning rate of the safety fuse in use at any time shall be measured, posted in conspicuous locations, and brought to the attention of all men concerned with blasting.
- M. Fuse shall be ignited with hot wire lighters, lead spitters, igniter cord or other such approved type device as designed for this purpose. Carbide lights shall not be used to light fuses.
- N. Where electric blasting is to be performed, electric circuits to equipment in the immediate area to be blasted shall be de-energized before electric detonators are connected to the blasting circuit; the power shall not be turned on until after the shots are fired or the blast is deactivated by removing or shunting each electric detonator.
- O. Trunklines, in multiple-row blasts initiated by detonating cord, shall make one or more complete loops, with crossies between loops at intervals of not over 200 feet.

Historical Note
Former Rule 2:73.

R11-1-274. Explosives stored underground

Explosives stored in a mine shall be so located that, should they explode or burn, escape of the men will not be cut off.

Historical Note
Former Rule 2:74.

R11-1-275. Underground magazines, construction

Underground magazines shall be well constructed but need not comply with the standards set by Class I or Class II magazines.

Historical Note
Former Rule 2:75.

R11-1-276. Warning required

No blast shall be fired until the person in charge has made certain that all surplus explosives are in a safe place, all persons and equipment are at a safe distance or under sufficient cover, and that an adequate warning signal has been given.

Historical Note
Former Rule 2:76.

R11-1-277. Permanent blasting lines

Permanent blasting lines shall be properly supported, insulated and kept in good repair.

Historical Note
Former Rule 2:77.

R11-1-278. Location of safety switches

If branch circuits are used when blasts are fired from power circuits, safety switches located at safe distances from the blast area shall be provided in addition to the main blasting switch.

Historical Note
Former Rule 2:78.

R11-1-279. Blasting switches

Blasting switches shall be locked in the open position except when closed to fire the blast. Lead wires shall not be connected to the blasting switch until the shot is ready to be fired.

Historical Note
Former Rule 2:79.

R11-1-280. Detonating cord knots and connections

All detonating cord knots shall be tight and all connections shall be kept at right angles to the trunk lines. No trunk lines shall be tied in until all equipment is moved out of the area within 50' of the blast.

Historical Note
Former Rule 2:80; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-281. Misfires

Misfires shall be disposed of by the following methods:

1. Re-attempting to fire the holes if leg wires are exposed.
2. Washing the stemming and the charge from the borehole with water.
3. Inserting new primers after the stemming has been washed out.

Historical Note
Former Rule 2:81.

R11-1-282. Compressed air

Compressed air shall not be used to remove explosives from misfires.

Historical Note
Former Rule 2:82.

R11-1-283. Electric detonators

Electric detonators of different brands shall not be used in the same round.

Historical Note
Former Rule 2:83.

R11-1-284. Power sources

Power sources shall be suitable for the number of electric detonators to be fired and for the type of circuits used.

Historical Note
Former Rule 2:84.

R11-1-285. Use of black blasting powder

In the use of black blasting powder:

1. Containers shall not be opened in, or within 50 feet of any magazine; within any building in which a fuel-fired or exposed-element electric heater is in operation; where electrical or incandescent-particle sparks could result in power ignition; or within 50 feet of any open flame.
2. Granular powder shall be transferred from containers only by pouring. Spills of granular powder shall be cleaned up promptly with non-sparking equipment; contaminated powder shall be put into a container of water and its content disposed of promptly after the granules have disintegrated, or the spill area shall be flushed with a copious amount of water to completely disintegrate the granules.
3. Containers of powder shall be kept securely closed at all times other than when the powder is being transferred from or into a container.
4. Containers of powder transported by vehicles shall be in a wholly enclosed cargo space.
5. Misfires shall be disposed of by:
 - a. Washing the stemming and powder charge from the borehole, and
 - b. Removal and disposal of the initiator as a damaged explosive.
6. Boreholes of shots that fire but fail to break, or fail to break properly, shall not be recharged for at least 12 hours.

Historical Note
Former Rule 2:85.

R11-1-286. Explosives burning in hole, move from area

If explosives are suspected of burning in a hole, all persons in the endangered area shall move to a safe location and no one shall return to the hole until the danger has passed, but in no case within one hour.

Historical Note
Former Rule 2:86.

ARTICLE 3. FIRE PREVENTION AND CONTROL

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305 and 27-311.

R11-1-301. Fire fighting equipment

Fire fighting equipment shall not be tampered with or removed by any person except for its authorized use.

Historical Note

Former Rule 3:01.

R11-1-302. Smoking or use of open flame prohibited

- A. No person shall smoke or use an open flame where flammable solvents, liquids, fluids or other flammable materials are stored, transported, handled or used, nor within an unsafe distance of any area or place where such practices may cause a fire or explosion, or where the temperature of the air can be elevated to a temperature above a solvent's flash point.
- B. Signs warning against such smoking and open flames shall be posted.

Historical Note

Former Rule 3:02; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-303. Use of carbon tetrachloride

The use of carbon tetrachloride (CCl₄) in fire extinguishers or for cleaning purposes is prohibited.

Historical Note

Former Rule 3:03.

R11-1-304. Fire extinguisher -- maintenance

Fire extinguishers and fire suppression devices shall be:

- 1. Of the appropriate type for the particular fire hazard involved.
- 2. Adequate in number and size for the particular fire hazard involved.
- 3. Recharged or replaced after any discharge is made from the extinguisher or device.
- 4. Inspected, tested, and maintained at regular intervals according to the manufacturer's recommendations, and a record showing the date of same be kept by the operator for a period of one year and be made available for review by the inspector.
- 5. Approved by the Underwriter's Laboratories, Inc.

Historical Note

Former Rule 3:04; Former Section R11-1-304 repealed, new Section R11-1-304 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-305. Tanks, pipes, other containers -- made safe before welding

All tanks, pipes, or other containers which have held flammable, explosive or corrosive material shall be vented, cleaned, purged, and tested for safe and non-explosive atmosphere before entering, burning, cutting, or welding on them is permitted.

Historical Note

Former Rule 3:05.

R11-1-306. Flammable liquids -- storage

Flammable liquids shall be stored in accordance with standards of the National Fire Protection Association or other recognized agencies approved by the Inspector. Small quantities of flammable liquids drawn from storage shall be kept in appropriately labeled safety cans.

Historical Note

Former Rule 3:06.

R11-1-307. Fuel lines -- valves

Fuel lines shall be equipped with valves to cut off fuel at the source and shall be located and maintained to minimize fire hazards.

Historical Note

Former Rule 3:07.

R11-1-308. Insulation of power lines and cables

Power wires and cables shall be adequately insulated where they pass through doors or walls or where they present a fire hazard.

Historical Note

Former Rule 3:08.

R11-1-309. Valves on oxygen and acetylene tanks

Valves on oxygen and acetylene tanks shall be kept closed when the contents are not being used.

Historical Note

Former Rule 3:09.

R11-1-310. Flammable liquids' storage when not buried

Gasoline, diesel fuel, liquefied petroleum gases, and other flammable liquids, when not buried, shall not be stored within 100 feet of the following:

1. Mine openings.
2. Buildings or snowsheds connected to mine openings.
3. Fan installations or housings.
4. Hoist houses.

Historical Note
Former Rule 3:10.

R11-1-311. Abandoned electrical circuits

Abandoned electrical circuits shall be de-energized and isolated so that they cannot become energized inadvertently.

Historical Note
Former Rule 3:11.

R11-1-312. Solvents with flash points lower than 100° F

Solvents with flash points lower than 100° F (38° C) shall not be used for cleaning.

Historical Note
Former Rule 3:12.

R11-1-313. Oxygen cylinders -- storage

Oxygen cylinders shall not be stored near oil or grease.

Historical Note
Former Rule 3:13.

R11-1-314. Gauges and regulators used with oxygen or acetylene cylinders

Gauges and regulators used with oxygen or acetylene cylinders shall be kept clean and free from oil and grease.

Historical Note
Former Rule 3:14.

R11-1-315. All heat sources capable of combustion, insulated or isolated

All heat sources, including lighting equipment, capable of producing combustion shall be insulated or isolated from combustible materials.

Historical Note
Former Rule 3:15.

R11-1-316. Battery charging stations

Battery charging stations shall be located in well ventilated areas.

Historical Note
Former Rule 3:16.

R11-1-317. When welding or cutting safety precautions

When welding or cutting, suitable precautions shall be taken to ensure that smoldering metal or sparks do not result in a fire. Fire extinguishing equipment shall be immediately available at the site.

Historical Note
Former Rule 3:17.

R11-1-318. Internal combustion engines -- refueling

Internal combustion engines, except diesels above ground, shall be shut off and stopped before being fueled.

Historical Note
Former Rule 3:18.

R11-1-319. Drip pans, etc.

Drip pans shall be provided to catch leakage or spillage when oil or flammable liquids are dispensed in a place or manner which may create a hazard.

Historical Note
Former Rule 3:19.

R11-1-320. Fire alarm systems

Fire alarm systems shall be provided and maintained in operating condition or adequate fire alarm procedures shall be established to warn promptly all persons endangered by fire.

Historical Note
Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-321. Fuel stored underground

Fuel stored underground will be in a return air split provided with adequate firefighting equipment. No oil line shall be allowed to pass down the shaft.

Historical Note

Former Rule 3:21.

R11-1-322. Tightly sealed containers used for combustible materials

Oil, grease or diesel fuel stored underground shall be kept in suitable tightly sealed containers in fire-resistant areas at safe distances from explosives, magazines, electrical installations and shaft stations.

Historical Note

Former Rule 3:22.

R11-1-323. Fire control -- underground diesel units

A fire extinguisher of suitable type and size must be carried at all times with each diesel powered unit. In addition, a fire control system shall be installed in each piece of equipment operating underground regardless of make and model. The system shall be approved by the Inspector for automatic, remote, pneumatic, push button or lever control.

Historical Note

Former Rule 3:23; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-324. Starting mechanism of the diesel engine

The starting mechanism of the diesel engine shall be powered by electricity, air or some other source considered safe. The use of gasoline powdered starters for underground diesel equipment is specifically prohibited.

Historical Note

Former Rule 3:24.

R11-1-325. Underground refueling stations

Underground refueling stations must be well ventilated and separate from any underground equipment repair areas. Diesel fuel must be carried in tight containers.

Historical Note

Former Rule 3:25.

R11-1-326. Supply of diesel fuel allowed underground

Only a day's supply of diesel fuel will be allowed underground at any time and this must be stored in tight containers in a cool, well-ventilated place. The container will be set in a sufficient amount of suitable absorbent material to absorb all of the fuel being stored or shall be set in an area which is curbed or otherwise blocked off so that the fuel cannot spread beyond the storage area.

Historical Note

Former Rule 3:26.

R11-1-327. Fires prohibited underground

Fires shall not be built underground; open-flame torches and candles shall not be left underground.

Historical Note

Former Rule 3:27.

R11-1-328. Approved mine rescue apparatus -- maintenance

Approved mine rescue apparatus shall be properly maintained for immediate use. The equipment shall be tested at least once a month and records kept of the tests.

Historical Note

Former Rule 3:28.

R11-1-329. Diesel fuel storage areas

No smoking is permitted in or around diesel fuel storage areas. No open lights are permitted in diesel storage or refueling areas. There must be adequate firefighting equipment at all refueling stations and storage tanks for diesel fuel.

Historical Note

Former Rule 3:29.

R11-1-330. Gasoline storage or use in underground operations prohibited

Gasoline shall not be taken, stored or used in underground operations.

Historical Note

Former Rule 3:30; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-331. Use of liquefied petroleum gases

The use of liquefied petroleum gases shall be limited to maintenance work.

Historical Note
Former Rule 3:31.

R11-1-332. Fuel used in underground diesel equipment

Fuel used in underground diesel equipment must conform to the manufacturer's specifications for viscosity pour point, cetane number, carbon residue and water. The flash point must not be less than 150° Fahrenheit and sulphur content must not be greater than 0.2% by weight.

Historical Note
Former Rule 3:32.

R11-1-333. Renumbered

Historical Note

Former Rule 3:33; Former Section R11-1-333 renumbered as Section R11-1-412 effective August 18, 1980 (Supp. 80-4).

R11-1-334. Mine rescue station

A mine rescue station equipped with at least ten sets of suitable and properly maintained two-hour minimum capacity self-contained breathing apparatus, adequate supplies, and spare parts shall be maintained at mines employing 75 or more persons underground or, in lieu thereof, the mine shall be affiliated with a central mine rescue station.

Historical Note
Former Rule 3:34; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-335. Mine rescue crews

At mines employing 75 or more persons underground, at least two rescue crews (ten persons) shall be trained at least annually in the use, care, and limitations of self-contained breathing and firefighting apparatus and in mine-rescue procedures. Other mines shall have at least one person so trained for each ten persons employed underground.

Historical Note
Former Rule 3:35; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-336. Repealed

Historical Note
Former Rule 3:36; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-337. Reserved

R11-1-338. Fire protection for timbered mine entrances

Timber in mine entrances shall be fire retardant for at least 200 feet inside the mine portal or collar, or the mine entrance shall be provided with fire protection adequate to control a fire for at least 200 feet inside the mine portal or collar.

Historical Note
Former Section R11-1-1183 renumbered and amended as Section R11-1-338 effective August 18, 1980 (Supp. 80-4).

R11-1-339. Reserved

R11-1-340. Reserved

R11-1-341. Fire extinguisher -- mobile equipment

Suitable fire extinguishers shall be provided on self-propelled mobile equipment with enclosed cabs, used in surface operations.

Historical Note
Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-342. Reserved

R11-1-343. Reserved

R11-1-344. Reserved

R11-1-345. Reserved

R11-1-346. Reserved

R11-1-347. Reserved

R11-1-348. Reserved

R11-1-349. Reserved

R11-1-350. Reserved

R11-1-351. Accumulation of flammable materials

Flammable and combustible waste materials, grease, lubricants or flammable liquids shall not be allowed to accumulate where they can create a fire hazard.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-352. Reserved

R11-1-353. Fire protection sensor for underground stationary diesel equipment

Where there is a potential for exposure of workers to a fire hazard, unattended stationary diesel equipment used in underground operations shall be provided with a thermal sensor which automatically stops the diesel engine should overheating occur.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-354. Fire protection sensor for belt conveyors

Where there is a potential for exposure of workers to a fire hazard, unattended belt conveyors shall be provided with a thermal sensor which automatically stops the drive pulley should excessive slippage create an ignition of the belt.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

ARTICLE 4. AIR QUALITY, VENTILATION AND RADIATION, AND PHYSICAL AGENTS

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305, 27-365, 27-368, 27-371 through 27-373, 27-411, and 27-412.

R11-1-401. Discharge of exhaust pipe

The discharge of any exhaust pipe for an internal combustion engine used for fans, power plant or engine driven compressor shall be located and so arranged that the exhaust fumes from this engine cannot under any conditions get into the intake air of the mine or the intake air of the compressors.

Historical Note

Former Rule 4:01.

R11-1-402. Dust suspected of being explosive

Dust suspected of being explosive shall be tested for explosability. If tests prove positive, appropriate control measures shall be taken.

Historical Note

Former Rule 4:02.

R11-1-403. Air intake of compressors

The air intake of all compressors must be located so that no hazardous fumes or smoke can get into the air intake. The use of compressors that have a common crankcase with the internal combustion engine used to drive it is prohibited except for modern machines specifically designed to eliminate the hazard.

Historical Note

Former Rule 4:03.

R11-1-404. Airborne contaminants

Except as permitted by R11-1-406:

1. Except as provided in subsection (2) the exposure to airborne contaminants shall not exceed, on the basis of a time-weighted average, the threshold limit values adopted by the American Conference of Governmental Industrial Hygienists. Excursions above the listed thresholds shall not be of a greater magnitude than is characterized as permissible by the conference.
2. Employees shall be withdrawn from areas where there is present an airborne contaminant given a "C" designation by the conference and the concentration exceeds the threshold limit value listed for that contaminant.
3. The eight-hour time weighted average airborne concentration of asbestos dust to which employees are exposed shall not exceed two fibers per millimeter greater than 5 microns in length, as determined by the membrane filter method at 400-450 magnification (4 millimeter objective) phase contrast illumination. No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers longer than 5 micrometers, per milliliter of air as determined by the membrane filter method over a minimum sampling time of 15 minutes. "Asbestos" is a generic term for a number of hydrated silicates that, when crushed or processed, separate into flexible fibers made of fibrils. Although there are many asbestos minerals, the term "asbestos" as used herein is limited to the following minerals: Chrysolite, Amosite, Crocidolite, Anthophyllite, Tremolite, and Actinolite.

Historical Note

Former Rule 4:04; Amended effective April 7, 1976 (Supp. 76-2). Amended effective August 18, 1980 (Supp. 80-4).

R11-1-405. Dust, gas, mist, and fume surveys

Dust, gas, mist, and fume surveys shall be conducted as frequently as necessary to determine the adequacy of control measures.

Historical Note
Former Rule 4:05.

R11-1-406. Control of employees' exposure to harmful airborne contaminants

Control of employees' exposure to harmful airborne contaminants shall be, insofar as feasible, by prevention of contamination, removal by exhaust ventilation, or by dilution with uncontaminated air. However, where accepted engineering control measures have not been developed or when necessary by the nature of the work involved (for example, while establishing controls or occasional entry into hazardous atmospheres to perform maintenance or investigation), employees may work for reasonable periods of time in concentrations of airborne contaminants exceeding permissible levels if they are protected by appropriate respiratory protective equipment. Whenever respiratory protective equipment is used a program for selection, maintenance, training, fitting, supervision, cleaning, and use shall meet the following minimum requirements:

1. Respirators which are applicable and suitable for the purpose intended shall be furnished, and employees shall use the protective equipment in accordance with training and instruction.
2. A respirator program consistent with the requirements of "American National Standard Practices for Respiratory Protection," which is hereby incorporated by reference and made a part thereof. This publication may be examined in the Arizona State Mine Inspector's office.
3. When respiratory protection is used in atmospheres immediately harmful to life, the presence of at least one other person, with backup equipment and rescue capability shall be required in the event of failure of the respiratory equipment.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2). Amended effective August 18, 1980 (Supp. 80-4).

R11-1-407. Air quality at underground working places

Air at all active underground working places shall contain at least 19.5 volume percent oxygen.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2). Former Section R11-1-407 repealed, new Section R11-1-407 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-408. Construction of underground ventilation doors

Ventilation doors shall be:

1. Substantially constructed.
2. Covered with fire-retardant materials, if constructed of wood.
3. Maintained in good condition.
4. Self-closing, if manually operated.
5. Equipped with audible or visual warning devices, if mechanically operated.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-409. Keeping ventilation doors closed

When ventilation control doors are opened as a part of the normal mining cycle, they shall be closed as soon as possible to re-establish normal ventilation to working places.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-410. Reserved

R11-1-411. Reserved

R11-1-412. Fan housings and air ducts

Fan housings and air ducts connecting main fans to underground openings shall be fire resistant.

Historical Note

Former Section R11-1-333 renumbered as Section R11-1-412 effective August 18, 1980 (Supp. 80-4).

R11-1-413. Reserved

R11-1-414. Reserved

R11-1-415. Reserved

R11-1-416. Reserved

R11-1-417. Reserved

R11-1-418. Reserved

R11-1-419. Reserved

R11-1-420. Reserved

R11-1-421. Use of underground diesel equipment

Pursuant to A.R.S. § 27-365, the underground use of any internal combustion engine is unlawful unless the Inspector has approved the equipment. In addition to the approval of the Inspector for use of the equipment, the equipment shall conform in all respects to the requirements of the rules set forth in this Article.

Historical Note
Former Rule 4:21.

R11-1-422. Underground diesel-powered equipment -- toxic gas diluting device

Underground diesel-powered equipment shall be equipped with a stainless steel exhaust system including conditioner and satisfactory diluting device, which will reduce toxic gases to a minimum before they are released into the mine atmosphere. (Except if limestone and water are used, scrubbers may be carbon steel.)

Historical Note
Former Rule 4:22.

R11-1-423. The conditioner specifications

The conditioner must not increase the engine back pressure above 18 inches of water or 1 1/2 inches of mercury when the diesel equipment is developing its rated horsepower. The conditioner must hold sufficient water for four hours of operation without replenishing and at the end of four hours of operation, the exhaust temperature again must not exceed (180°) Fahrenheit. Water to be completely drained and replenished once each shift. The conditioner must be checked, serviced, and cleaned once each week. Any other conditioner approved by the Arizona State Mine Inspector may be used.

Historical Note
Former Rule 4:23.

R11-1-424. Inspection of diesel engine and gas conditioner

At least once each week an inspection of the diesel engine and the gas conditioner MUST be made and a written report of its condition be put on file for examination by the Mine Inspector or his deputies.

Historical Note
Former Rule 4:24.

R11-1-425. Use of flexible tubing

When flexible tubing is used on exhaust from diesel motor to the air conditioner or scrubber, it must be the type that will withstand back pressure and not leak.

Historical Note
Former Rule 4:25.

R11-1-426. Use of diesel-powered equipment shall be restricted

The use of diesel-powered equipment shall be restricted to haulageway or other working places where positive ventilation is maintained by mechanical means. If possible, the ventilation in places where diesel equipment is used shall be arranged so that the air carrying exhaust gases from the engine are returned to the main air exhaust ways so as not to traverse working places.

Historical Note
Former Rule 4:26.

R11-1-427. Operation of diesel engines -- toxic gases

Diesel engines must not be operated when the atmosphere adjacent to its engine contains toxic gases above the tolerance set by the United States Bureau of Mines as listed below:

| | | |
|-------------------------|---------|---------|
| Carbon dioxide | 0.5% | by vol. |
| Carbon monoxide | 0.01% | by vol. |
| Nitrogen dioxide | 0.0005% | by vol. |
| Oxygen must be at least | 19.5% | by vol. |

Historical Note
Former Rule 4:27; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-428. Diesel engine in underground mine operations -- ventilation

When a diesel engine is used in underground mine operations, all dead-end headings shall be separately ventilated by auxiliary ventilation with a minimum air velocity of not less than 50 linear feet per minute in the working face itself. The intake of the auxiliary system must be so located that air entering it will not be contaminated by exhaust gases from the diesel engine when operating between the intake and the face of the working area. When any portion of the primary or auxiliary exhaust system is not functioning, no diesel engine shall be allowed to operate in the area of no ventilation.

Historical Note

Former Rule 4:28.

R11-1-429. Diesel equipment other than approved by U.S. Bureau of Mines

If diesel equipment other than that approved by U.S. Bureau of Mines is utilized, 150 C.F.M. per brake horsepower is the required ventilating air for safe operation.

Historical Note

Former Rule 4:29.

R11-1-430. Repealed

Historical Note

Former Rule 4:30; Amended effective April 7, 1976 (Supp. 76-2). Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-431. Suitable lights and audible warning devices, installation, maintenance

Suitable lights and audible warning devices shall be installed and maintained in good working condition on all mobile diesel equipment operated underground.

Historical Note

Former Rule 4:31.

R11-1-432. Reserved

R11-1-433. Fuel leaks -- diesel equipment

All diesel equipment must be checked for fuel leaks and any leaks found must be noted and reported.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-434. Diesel engine air cleaners

All connections and tubing from air cleaner to the intake manifold must be closely checked for cracks, breaks, or loose connections. The intake manifold must be secure and properly gasketed to cylinder heads and be free of holes and cracks.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-435. Reserved

through

R11-1-469. Reserved

R11-1-470. Sampling for radon daughters

In all underground mines at least one sample shall be taken each year in exhaust mine air by a competent person to determine if concentrations of radon daughters are present. If concentrations of less than 0.1 WL are found:

1. Where uranium is not mined, no further exhaust mine air sampling is required during that year.
2. Where uranium is mined, at least one sample shall be taken in the exhaust air each month.
3. Results of these tests shall be recorded and retained at the operation and be made available for inspection.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-471. Exposure of radon daughters

No employee shall be permitted to receive an exposure of radon daughters in excess of 4 WLM in any calendar year.

Historical Note

Former Rule 4:71; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-472. Concentration of radon daughters

When radon daughters concentrations between 0.1 and 0.3 WL are found in an active working area, measurements representative of worker's breathing zone shall be determined as follows:

1. Where uranium is not mined -- at least three months at random times until concentrations are below 0.1 WL and annually thereafter.
2. Where uranium is mined -- at least every two weeks at random times at all areas where persons work, travel or congregate. If concentrations are found in excess of 0.3 WL in an active working area, radon daughters concentrations shall be determined weekly until such time as the weekly determinations have been 0.3 WL or less for five consecutive weeks.
3. Sample date, locations and results obtained shall be recorded and retained at the mine office for at least two years and shall be made available for inspection.

Historical Note

Former Rule 4:72; Former Section R11-1-472 repealed, new Section R11-1-472 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-473. Smoking prohibited

Smoking is prohibited where uranium is mined.

Historical Note

Former Rule 4:73.

R11-1-474. Repealed

Historical Note

Former Rule 4:74; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-475. Noise control

A. No employee shall be permitted an exposure to noise in excess of that specified in the table below. Noise level measurements shall be made using a sound level meter meeting specifications contained in "American National Standard Specification for Sound Level Meters," which is hereby incorporated by reference and made a part hereof, or by a dosimeter with similar accuracy. This publication may be examined in the Arizona State Mine Inspector's office.

PERMISSIBLE NOISE EXPOSURES

| Duration Per Day Hours of Exposure | Sound Level Dba Slow Response |
|------------------------------------|-------------------------------|
| 8 | 90 |
| 6 | 92 |
| 4 | 95 |
| 3 | 97 |
| 2 | 100 |
| 1 1/2 | 102 |
| 1 | 105 |
| 1/2 | 110 |
| 1/4 or less | 115 |

No exposure shall exceed 115 dBA. Impact or impulsive noises shall not exceed 140 dB, peak sound pressure level.

NOTE: When the daily exposure is composed of two or more periods of noise exposure at different levels, their combined effect shall be considered rather than the individual effect of each. If the sum(C_1/T_1) + (C_2/T_2) + . . . (C_n/T_n) exceeds unity, then the mixed exposure shall be considered to exceed the permissible exposure. C_n indicates the total time of exposure at a specified noise level, and T_n indicates the total time of exposure permitted at that level. Interpolation between tabulated values may be determined by the following formula: $\log T = 6.322 - 0.0602 SL$ There T is the time in hours and SL is the sound level dBA

B. When employees' exposure exceeds that listed in the above table, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce exposure to within permissible levels, personal protective equipment shall be provided and used to reduce sound levels to within the levels of the table.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2). Amended effective August 18, 1980 (Supp. 80-4).

R11-1-476. Heat stress control

A. Persons repeatedly exposed to hot environments will be suitably trained to recognize heat disorders and to render first aid for heat disorders.

B. Work requirements will be adjusted to reduce the risk of heat disorders.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

ARTICLE 5. MAINTENANCE AND USE OF EQUIPMENT

(Compressors, Mucking Machines, Belts & Guards, Mobile Equipment)

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305, 27-313, 27-367, and 27-424.

R11-1-501. Employees operating mobile equipment -- unauthorized personnel

Employees operating equipment shall not allow unauthorized personnel to operate or ride on equipment to which they have been assigned.

Historical Note
Former Rule 5:01.

R11-1-502. Mounting and dismounting mobile equipment

All employees shall use steps, handrails and/or grab irons when mounting and dismounting mobile equipment.

Historical Note
Former Rule 5:02.

R11-1-503. Precautions before starting machinery

Employees operating equipment shall take appropriate precautions to ensure that everyone is in the clear before starting machinery or moving equipment.

Historical Note
Former Rule 5:03.

R11-1-504. Starting and stopping devices

Starting and stopping devices on all machinery and equipment shall be clearly marked and readily accessible.

Historical Note
Former Rule 5:04.

R11-1-505. Design of guards

Guards shall be properly designed and sufficiently strong to provide the required protection and withstand the wear of normal operation.

Historical Note
Former Rule 5:05.

R11-1-506. Speed of mobile equipment

Mobile equipment shall be operated at a speed which will not endanger any person or property.

Historical Note
Former Rule 5:06.

R11-1-507. Mobile equipment shall be secured when without operator

Mobile equipment shall be secured against accidental movement whenever the equipment operator leaves the equipment.

Historical Note
Former Rule 5:07.

R11-1-508. Mobile equipment shall be secured while repair work is being performed

All equipment and parts of equipment shall be blocked or otherwise secured so that it cannot be accidentally moved while repair work is being performed.

Historical Note
Former Rule 5:08.

R11-1-509. Cabs of mobile equipment -- housekeeping

Cabs of mobile equipment shall be kept free of extraneous materials.

Historical Note
Former Rule 5:09.

R11-1-510. Compressed-air receivers

- A. Compressed-air receivers and other unfired pressure vessels shall be constructed, installed and maintained according to manufacturers recommendations; and
- B. Shall be inspected at regular intervals by a competent person, and a record of such inspection shall be made available to the Inspector for examination.

Historical Note
Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-511. Compressed air

Compressed air shall be bled from air tools and hoses not equipped with automatic air cutoff devices before disconnecting the hoses or leaving the tools unattended. Repairs involving the pressure system of compressors, receivers, or compressed-air-powered equipment shall not be attempted until the pressure has been bled off.

Historical Note
Former Rule 5:11.

R11-1-512. Mobile equipment utilizing air brakes

All mobile equipment utilizing air brakes shall have an operating air pressure gauge.

Historical Note
Former Rule 5:12.

R11-1-513. Repealed

Historical Note

Former Rule 5:13; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-514. Compressed air receivers -- safety devices

Each compressed air receiver shall be equipped with a pressure gauge, a pop-off valve and a blow-off valve at its lowest point.

Historical Note

Former Rule 5:14.

R11-1-515. Pipelines from air receivers

All pipelines from air receivers shall be adequately supported.

Historical Note

Former Rule 5:15.

R11-1-516. Quick-close type air valve provided on pneumatic- powered equipment

A quick-close type air valve shall be provided on each piece of pneumatic-powered loading, hauling, and dumping equipment. The valve shall be closed except when the equipment is being operated.

Historical Note

Former Rule 5:16; Former Section R11-1-516 repealed, new Section R11-1-516 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-517. Air valves on mucking machines

The air valves on the mucking machines must be kept in a closed position when the machine is not being used.

Historical Note

Former Rule 5:17.

R11-1-518. Reserved

R11-1-519. Reserved

R11-1-520. Reserved

R11-1-521. Welding operations shielded and properly ventilated

Welding operations shall be shielded and properly ventilated.

Historical Note

Former Rule 5:21; Amended effective April 7, 1976 (Supp. 76-2). Amended effective August 18, 1980 (Supp. 80-4).

R11-1-522. Guarding of moving parts

- A. Moving parts such as gears, sprockets, or chain drive, head, tail and take-up pulleys, flywheels, couplings, shafts, fan inlets, and similar exposed moving machine parts which may be contacted by persons and which may cause injury to persons must be guarded.
- B. Guards at conveyor-drive, conveyor-head and conveyor-tail pulleys shall extend a distance sufficient to prevent a person from reaching behind the guard and becoming caught between the belt and pulley.

Historical Note

Former Rule 5:22; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-523. Safety devices for air hoses

All air hoses with an inside diameter of 3/4 inch or larger shall have suitable safety devices set inside or attached to those hoses such that accidental disconnection will not flail hose ends.

Historical Note

Former Rule 5:23.

R11-1-524. Men working on a piece of mobile equipment

Men shall not work from or on a piece of mobile equipment in a raised position until it is blocked in place securely. This does not preclude the use of equipment specifically designed as elevated mobile work platforms.

Historical Note

Former Rule 5:24.

R11-1-525. Drive belts

Drive belts shall not be shifted while in motion unless the machines are provided with mechanical shifters.

Historical Note

Former Rule 5:25.

R11-1-526. Guiding belts, chains, ropes on moving pulleys

Belts, chains, ropes will not be guided on power-driven moving pulleys, sprockets or drums with the hands except on slow-moving equipment especially designed for hand feeding.

Historical Note

Former Rule 5:26.

R11-1-527. Power off when working on machinery

No work shall be performed on machinery until the power is off and the machinery is blocked against motion, except where machinery motion is necessary to make adjustments.

Historical Note

Former Rule 5:27.

R11-1-528. Belt dressings

Belt dressings shall not be applied manually where belts are in motion unless an aerosol-type dressing is used.

Historical Note

Former Rule 5:28.

R11-1-529. Lubricating machinery while in motion

Machinery shall not be lubricated while in motion or when hazard exists unless equipped with standard fitting or cups.

Historical Note

Former Rule 5:29.

R11-1-530. Guarding protruding set screw keys

Protruding set screw keys on revolving parts shall be guarded.

Historical Note

Former Rule 5:30.

R11-1-531. Unsafe equipment or machinery

Unsafe equipment or machinery presenting an immediate danger must either be repaired immediately or be otherwise rendered not subject to further use until repaired.

Historical Note

Former Rule 5:31.

R11-1-532. Renumbered

Historical Note

Former Rule 5:32; Former Section R11-1-532 renumbered as Section R11-1-660 effective August 18, 1980 (Supp. 80-4).

R11-1-533. Directing compressed air

At no time shall compressed air be directed toward a person. When compressed air is used, all necessary precautions shall be taken to protect persons from injury.

Historical Note

Former Rule 5:33.

R11-1-534. Overhead belts guarded

Overhead belts shall be guarded if the whipping action from a broken line would be hazardous to persons below.

Historical Note

Former Rule 5:34.

R11-1-535. Reserved

R11-1-536. Welding, cutting or soldering performed by a competent person

Welding, cutting, or soldering shall be performed by a competent person.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-537. Reserved

R11-1-538. Reserved

R11-1-539. Reserved

R11-1-540. Reserved

R11-1-541. Renumbered

Historical Note

Former Rule 5:41; Former Section R11-1-541 renumbered and amended as Section R11-1-1315 effective August 18, 1980 (Supp. 80-4).

R11-1-542. Renumbered

Historical Note

Former Rule 5:42; Former Section R11-1-542 renumbered as Section R11-1-1310 effective August 18, 1980 (Supp. 80-4).

R11-1-543. Renumbered

Historical Note

Former Rule 5:43; Former Section R11-1-543 renumbered and amended as Section R11-1-1311 effective August 18, 1980 (Supp. 80-4).

R11-1-544. Renumbered

Historical Note

Former Rule 5:44; Former Section R11-1-544 renumbered as Section R11-1-1312 effective August 18, 1980 (Supp. 80-4).

R11-1-545. Renumbered

Historical Note

Former Rule 5:45; Former Section R11-1-545 renumbered as Section R11-1-1313 effective August 18, 1980 (Supp. 80-4).

R11-1-546. Renumbered

Historical Note

Former Rule 5:46; Former Section R11-1-546 renumbered and amended as Section R11-1-1314 effective August 18, 1980 (Supp. 80-4).

R11-1-547. Reserved

R11-1-548. Reserved

R11-1-549. Reserved

R11-1-550. Reserved

R11-1-551. Safety devices on stationary grinding machines other than special bit grinders

Stationary grinding machines other than special grinders shall be equipped with:

1. Peripheral hoods (less than 90° throat openings) capable of withstanding the force of a bursting wheel.
2. Adjustable tool rests set as close as practical to the wheel.
3. Safety washers.

Historical Note

Former Rule 5:51.

R11-1-552. Operation of grinding wheels

Grinding wheels shall be operated within the specifications of the manufacturer of the wheel.

Historical Note

Former Rule 5:52.

ARTICLE 6. LOADING, HAULING, AND DUMPING

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305, 27-345, 27-367, and 27-423.

R11-1-601. Flying switches prohibited

Flying switches are prohibited on all rail equipment.

Historical Note

Former Rule 6:01.

R11-1-602. Operator of a crane

Only one designated employee shall direct the operator of a crane at a given time.

Historical Note

Former Rule 6:02.

R11-1-603. Roll-over protection for surface mobile equipment

- A. Self-propelled scrapers, front-end loaders, dozers, and tractors, manufactured after June 30, 1969, used in surface mining operations shall be equipped with suitable roll-over protection structures (ROPS).
- B. Each ROPS shall have the following information permanently affixed to the structure:
 1. Manufacturer's or fabricator's name and address; and

2. ROPS model number, if any; and
 3. Make and model numbers of the equipment on which the ROPS is designed to fit.
 4. For equipment already in use as of February 4, 1977, a satisfactory substitute for the above-required information will be a certificate from either the manufacturer of the ROPS or a registered professional engineer to the effect that the ROPS does meet the performance standards and is appropriate for the piece of equipment upon which it is installed.
- C.** Any alteration, repair, or welding of the ROPS and ROPS-to-vehicle frame mounts shall be performed only with prior approval and with instructions from the ROPS manufacturer or under the instructions of a registered professional engineer; and the manufacturer, or engineer as the case may be, shall decide what qualifications the welders involved in this operation must have.
- D.** Nothing in this rule shall preclude the issuance of an order because of imminent danger.
- E.** Fork-lift trucks, front-end loaders, and dozers shall be provided with substantial canopies when necessary to protect the operator.

Historical Note

Former Rule 6:03; Former Section R11-1-603 repealed, new Section R11-1-603 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-604. Protection of truck cabs by substantial shields

The top and backs of all haulage truck cabs working under shovels or under similar hazardous conditions shall be protected by substantial shields.

Historical Note

Former Rule 6:04.

R11-1-605. Haulage equipment shall be kept in gear when moving

Haulage equipment shall be kept in gear or appropriate drive range at all times when moving and shall be put in the proper designated gear or range before starting down grade.

Historical Note

Former Rule 6:05.

R11-1-606. Dust control of roadways and banks

Haulage roadways and banks where equipment is working shall be properly maintained and adequate provisions shall be taken to control dust.

Historical Note

Former Rule 6:06.

R11-1-607. Demounting vehicle tires

Haulage vehicle tires shall be deflated to a safe pressure before they are demounted from the vehicle.

Historical Note

Former Rule 6:07.

R11-1-608. Inflating tires

Adequate safety devices and/or procedures appropriate to the vehicle shall be used when inflating tires.

Historical Note

Former Rule 6:08.

R11-1-609. Lights on both ends of vehicles operating at night

All trucks, front-end loaders, graders and dozers that are operated at night must have lights on both ends as required for safe operations.

Historical Note

Former Rule 6:09.

R11-1-610. Lower moving parts of machinery when not in use

Dippers, buckets, scrapper blades and similar movable parts shall be lowered to the ground when not in use.

Historical Note

Former Rule 6:10.

R11-1-611. Stop cords on unguarded conveyors with walkways

Unguarded conveyors with walkways shall be equipped with emergency stop devices or cords along their full length.

Historical Note

Former Rule 6:11.

R11-1-612. Operators shall sound warning before starting trains

Operators shall sound warning before starting trains, when trains approach crossings, persons, or other trains on adjacent tracks and where vision is obscured.

Historical Note

Former Rule 6:12; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-613. Cab windows

Cab windows shall be of safety glass or equivalent in good condition and shall be kept clean.

Historical Note
Former Rule 6:13.

R11-1-614. Adequate back stops or brakes on inclined conveyor drive units

Adequate backstops or brakes shall be installed on inclined conveyor drive units to prevent conveyors from running in reverse if a hazard to personnel would be caused.

Historical Note
Former Rule 6:14.

R11-1-615. Getting on or off equipment, notification to operator

When an operator is present, men shall notify him before getting on or off equipment.

Historical Note
Former Rule 6:15.

R11-1-616. Switch throws

Switch throws shall be installed so as to provide adequate clearance for switchmen.

Historical Note
Former Rule 6:16.

R11-1-617. Equipment traveling between work areas

When traveling between work areas, the equipment shall be secured in the travel position.

Historical Note
Former Rule 6:17.

R11-1-618. Persons riding mobile equipment for transportation

Persons shall not be transported:

1. In or on buckets (except shaft buckets), clamshells, dippers, forks, beds of ore haulage trucks, beds of dump trucks.
2. On top of loaded haulage equipment.
3. Outside the cabs and beds of mobile equipment, except trains.
4. Between cars of trains.
5. In conveyances equipped with unloading devices unless means are provided to prevent accidental starting of the unloading mechanism.
6. On loads being moved by cranes or derricks, nor shall they ride the hoisting hooks unless such method eliminates a greater hazard.
7. On locomotives or trains unless authorized.
8. On flat cars except when the flat cars contain special equipment requiring attention; in this case the motor shall proceed very slowly.
9. On the front platform of a motor moving forward.
10. On the draw-head of a car when it is backing.
11. In rail cars or other vehicles or conveyances with tools, materials, and equipment unless means have been provided to make such transportation safe.

Historical Note
Former Rule 6:18; Former Section R11-1-618 repealed, new Section R11-1-618 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-619. Electrically powered mobile equipment left unattended

Electrically powered mobile equipment shall not be left unattended unless the master switch is in the off position, all operating controls are in neutral position, and the brakes are set or equivalent precautions are taken against rolling.

Historical Note
Former Rule 6:19.

R11-1-620. Getting on or off moving equipment

Persons shall not get on or off moving equipment, except trainmen may get on or off slowly moving trains.

Historical Note
Former Rule 6:20; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-621. Equipment to be hauled prevented from sliding or spillage

Equipment which is to be hauled should be loaded and protected so as to prevent sliding or spillage.

Historical Note
Former Rule 6:21.

R11-1-622. Rail cars on side tracks

Rail cars shall not be left on side tracks unless ample clearance is provided for traffic on adjacent tracks.

Historical Note
Former Rule 6:22.

R11-1-623. Motorman recognizing brakeman's signals

The inability of a motorman to clearly recognize his brakeman's signals when the train is under the direction of the brakeman shall be construed by the motorman as a stop signal.

Historical Note
Former Rule 6:23.

R11-1-624. Preventing overtravel and overturning at dumping locations

Berms, bumper blocks, and safety hooks or similar means shall be provided to prevent overtravel and overturning at dumping locations.

Historical Note
Former Rule 6:24.

R11-1-625. Location of spotters, when used

If spotters are used, they shall be well in the clear when trucks are backing into dumping position and dumping. Lights should be used at night to direct trucks.

Historical Note
Former Rule 6:25.

R11-1-626. Public and permanent railroad crossings, posted or guarded

Public and permanent railroad crossings shall be posted with warning signs or signals or shall be guarded when trains are passing and shall be planked or otherwise filled between the rails.

Historical Note
Former Rule 6:26.

R11-1-627. At least 30 inches continuous clearance for moving railroad equipment

Where possible, at least 30 inches continuous clearance from the widest projection of moving railroad equipment shall be provided on at least one side of the track. At all places where it is not possible to provide 30-inch clearance, it shall be marked conspicuously.

Historical Note
Former Rule 6:27.

R11-1-628. Makeshift couplings

Makeshift couplings shall not be used.

Historical Note
Former Rule 6:28.

R11-1-629. Protection from runaway or moving railroad equipment

Positive-acting stopblocks, derail devices, track skates, or other adequate means shall be installed wherever necessary to protect persons from runaway or moving railroad equipment.

Historical Note
Former Rule 6:29.

R11-1-630. Parked railcars securely blocked

Parked railcars, unless held effectively by brakes, shall be blocked securely.

Historical Note
Former Rule 6:30.

R11-1-631. Effective brake shoes for railroad cars

Railroad cars with braking systems, when in use, shall be equipped with effective brake shoes.

Historical Note
Former Rule 6:31.

R11-1-632. Warning devices posted for parked equipment

Lights, flares, or other warning devices shall be posted when parked equipment creates a hazard to vehicular traffic.

Historical Note
Former Rule 6:32.

R11-1-633. Rocks too large to be handled safely

Rocks too large to be handled safely shall be broken before loading.

Historical Note
Former Rule 6:33.

R11-1-634. Reserved

R11-1-635. Reserved

R11-1-636. Ground conditions at dumpsite

Where there is evidence that the ground at a dumping place may fail to support the weight of a vehicle, loads shall be dumped back from the edge of the bank.

Historical Note
Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-637. Loading haulage equipment

Haulage equipment shall be loaded in a manner to minimize spillage during haulage.

Historical Note
Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-638. Posting traffic rules

Traffic rules including speed, signals, and warning signs shall be posted.

Historical Note
Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-639. Reserved

R11-1-640. Reserved

R11-1-641. Reserved

R11-1-642. Reserved

R11-1-643. Reserved

R11-1-644. Reserved

R11-1-645. Reserved

R11-1-646. Reserved

R11-1-647. Reserved

R11-1-648. Reserved

R11-1-649. Reserved

R11-1-650. Reserved

R11-1-651. Supplies, materials, etc., not transported with men

Supplies, materials and tools other than small hand tools shall not be transported with men on mantrip cars. Mantrips shall be operated independently of ore and supply trips.

Historical Note
Former Rule 6:51.

R11-1-652. Warning from chute pulling operations

Ample warning shall be given to men who may be affected by a draw or otherwise exposed to danger from chute pulling operations.

Historical Note
Former Rule 6:52.

R11-1-653. Danger from chute being pulled

Workers shall not stand on broken rock or ore over draw points if there is danger that the chute will be pulled. Suitable platforms or safety lines shall be provided when work must be done in such areas.

Historical Note
Former Rule 6:53; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-654. Boarding and leaving moving mantrip cars

Where mantrips are used, discharge and boarding points shall be designated. Men shall not board or leave moving mantrip cars.

Historical Note
Former Rule 6:54.

R11-1-655. Movement of rock or material trains during shift changes

In underground mines during shift changes, the movement of rock or material trains shall be limited to areas where such trains could not present a hazard to men coming on or going off shift.

Historical Note

Former Rule 6:55.

R11-1-656. Repealed

Historical Note

Former Rule 6:56; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-657. Warning where overhead clearance restricted

Where overhead clearance is restricted, warning devices shall be installed and the restricted area shall be conspicuously marked.

Historical Note

Former Rule 6:57.

R11-1-658. Stockpile and muckpile faces trimmed

Stockpile and muckpile faces shall be trimmed to prevent hazards to personnel.

Historical Note

Former Rule 6:58.

R11-1-659. Position of signalman during slushing operations

When a signalman is used during slushing operations, he shall be positioned in a safe place.

Historical Note

Former Rule 6:59.

R11-1-660. Slushers in excess of 10 horsepower

Unless the operator is otherwise protected, slushers in excess of 10 horsepower shall be provided with backlash guards. All slushers shall be equipped with rollers and drum covers and anchored securely before slushing operations are started.

Historical Note

Former Section R11-1-532 renumbered as Section R11-1-660 effective August 18, 1980 (Supp. 80-4).

R11-1-661. Walking or riding on a moving conveyor prohibited

Walking or riding on a moving conveyor is prohibited unless it is designed for the transportation of persons. Suitable crossovers shall be provided where it is necessary to cross conveyors.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-662. Reserved

R11-1-663. Crossovers -- substantial, provided with handrails, well maintained

Crossovers, elevated walkways, elevated ramps, and stairways shall be of substantial construction, provided with handrails, and maintained in good condition. Where necessary, toeboards shall be provided.

Historical Note

Former Section R11-1-703 renumbered as Section R11-1-663 effective August 18, 1980 (Supp. 80-4).

R11-1-664. Railed walkways where persons walk along conveyors

Walkways with outboard railings shall be provided wherever persons are required to walk alongside elevated conveyor belts. Inclined railed walkways shall be nonskid or provided with cleats.

Historical Note

Former Section R11-1-704 renumbered and amended as Section R11-1-664 effective August 18, 1980 (Supp. 80-4).

R11-1-665. Cleaning pulleys of conveyors

Pulleys of conveyors shall not be cleaned manually while the conveyor is in motion.

Historical Note

Former Section R11-1-706 renumbered as Section R11-1-665 effective August 18, 1980 (Supp. 80-4).

R11-1-666. Before starting conveyor

When the entire length of a conveyor is visible from the starting switch, the conveyor operator shall visually check to make certain that all persons are in the clear before starting the conveyor. When the entire length of a conveyor is not visible from the starting switch, a positive audible or visible warning system shall be installed and operated to warn persons that the conveyor will be started.

Historical Note

Former Section R11-1-707 renumbered as Section R11-1-666 effective August 18, 1980 (Supp. 80-4).

ARTICLE 7. TRAVELWAYS AND ESCAPEWAYS

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305, and 27-341 through 27-343.

R11-1-701. Repealed

Historical Note

Former Rule 7:01; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-702. Repealed

Historical Note

Former Rule 7:02; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-703. Renumbered

Historical Note

Former Rule 7:03; Former Section R11-1-703 renumbered as Section R11-1-663 effective August 18, 1980 (Supp. 80-4).

R11-1-704. Renumbered

Historical Note

Former Rule 7:04; Former Section R11-1-704 renumbered and amended as Section R11-1-664 effective August 18, 1980 (Supp. 80-4).

R11-1-705. Repealed

Historical Note

Former Rule 7:05; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-706. Renumbered

Historical Note

Former Rule 7:06; Former Section R11-1-706 renumbered as Section R11-1-665 effective August 18, 1980 (Supp. 80-4).

R11-1-707. Renumbered

Historical Note

Former Rule 7:07; Former Section R11-1-707 renumbered as Section R11-1-666 effective August 18, 1980 (Supp. 80-4).

R11-1-708. Reserved

R11-1-709. Reserved

R11-1-710. Reserved

R11-1-711. Fire and evacuation procedures

All employees involved in the escape and evacuation plan for an underground operation shall be instructed at least once each calendar year on current escape and evacuation plans, fire alarm signals, and applicable procedures to be followed in case of fire or other emergency. New employees shall receive such instructions before going underground. Whenever an employee is assigned to work in another area of the mine, he shall be instructed on the escapeway for that area at the time of such assignment. However, employees who normally work in more than one area of the mine shall be instructed at least once each calendar year in the location of escapeways for all areas of the mine in which they normally work or travel. Whenever a change is made in escape and evacuation plans and procedures for any area of the mine, all affected employees shall be instructed of such change. Records of instruction shall be kept for two years.

Historical Note

Former Rule 7:11.

R11-1-712. Refuge areas

Any refuge area shall be:

1. Of fire resistant construction, preferably in untimbered areas of the mine.
2. Large enough to accommodate readily the normal number of men in the particular area of the mine.
3. Constructed so they can be made gas tight.
4. Provided with compressed air lines, water lines, suitable hand tools and stopping materials.

Historical Note

Former Rule 7:12.

R11-1-713. Posting evacuation information in underground mines

In underground mines, information shall be posted and made available showing escape routes, directions of principal air flow, locations of telephones, fire doors and ventilation doors.

Historical Note

Former Rule 7:13.

R11-1-714. Telephone or other voice communications provided underground

Telephone or other voice communications shall be provided between the surface in any underground refuge chambers and such systems shall be independent of the mine power supply.

Historical Note

Former Rule 7:14.

R11-1-715. Designated escapeways inclined more than 30° shall be equipped with stairways, etc.

Designated escapeways inclined more than 30 degrees horizontal shall be equipped with stairways, ladders, cleared walkways or emergency hoisting facilities.

Historical Note

Former Rule 7:15.

R11-1-716. Underground mine evacuation drills

Underground mine evacuation drills shall be held for each shift once every six months. These evacuation drills shall involve all employees on each shift and shall include:

1. Activation of fire alarm system.
2. Evacuation of all men from their work areas to the surface of designated central evacuation points at some time other than shift change.

Records of such drills, showing the time and date, shall be kept for at least two years after each drill.

Historical Note

Former Rule 7:16.

R11-1-717. Underground escape and evacuation plan

A specific escape and evacuation plan and revisions thereof suitable to the conditions and mining system of the mine and showing assigned responsibilities of all key personnel in the event of an emergency shall be developed by the operator and set out in written form. Within 45 calendar days after promulgation of this standard, a copy of the plan and revisions thereof shall be available to the Mine Inspector or his authorized representative. Also, copies of the plans and revisions thereof shall be posted at locations convenient to all persons on the surface and underground. Such a plan shall be updated as necessary and shall be reviewed jointly by the operator and the inspector or his authorized representative at least once every six months from the date of the last review. The plan shall include:

1. Mine maps or diagrams showing directions of principal air flow, location of escape routes and locations of existing telephones, primary fans, primary fan controls, fire doors, ventilation doors, and refuge chambers. Appropriate portions of such maps or diagrams shall be posted at all shaft stations and in underground shops, lunchrooms, and elsewhere in working areas where men congregate.
2. Procedures to show how the miners will be notified of emergency.
3. An escape plan for each working area in the mine to include instructions showing how each working area should be evacuated. Each such plan shall be posted at appropriate shaft stations and elsewhere in working areas where men congregate.
4. A fire fighting plan.
5. Surface procedure to follow in an emergency, including the notification of proper authorities, preparing rescue equipment, and other equipment which may be used in rescue and recovery operations.
6. A statement of the availability of emergency communication and transportation facilities, emergency power and ventilation and location of rescue personnel and equipment.
7. Evacuation routes shall be posted with conspicuous signs.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2). Amended effective August 18, 1980 (Supp. 80-4).

R11-1-718. Self-rescue devices made available

A suitable and properly maintained one-hour minimum capacity self-rescue device shall be made available by the operator to all personnel underground.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2). Amended effective August 18, 1980 (Supp. 80-4).

R11-1-719. Self-rescue devices to be worn underground

- A. Except as provided in subsections (B) and (C) of this Section, self-rescue devices meeting the requirements of standard R11-1-718 shall be worn or carried by all persons underground.
- B. Where the wearing or carrying of self-rescue devices meeting the requirements of standard R11-1-718 is hazardous to a person, such self-rescue devices shall be located at a distance no greater than 25 feet from such person.
- C. Where a person works on or around mobile equipment, self-rescue devices may be placed in a readily accessible location on such equipment.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-720. Emergency training

- A. All persons who are required to perform services underground shall be instructed on an annual basis in the Mine Safety and Health Administration approved course in Mine Emergency Training. The instruction to be given by persons who are certified by the Mine Safety and Health Administration Division of Education and Training Operations to give such instruction.
- B. Records of all instruction shall be available for review by the Inspector.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2). Former Section R11-1-720 repealed, new Section R11-1-720 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-721. Non-slip safety shoes for portable ladders

Portable ladders other than stepladders shall be equipped with non-slip safety shoes. Whenever practical, ladders should be secured against tipping or falling.

Historical Note

Former Rule 7:21.

R11-1-722. Scaffolding, staging or temporary work platforms

All scaffolding, staging or temporary work platforms shall be adequate in strength and design and shall be secured against tipping or falling.

Historical Note

Former Rule 7:22.

R11-1-723. Adequate ladders provided

Adequate ladders and ladderways shall be provided wherever necessary. All fixed ladders shall be securely fastened and shall provide at least three inches of toe clearance. Ladders shall extend at least three feet above the top landings or substantial handholds shall be provided above the landings.

Historical Note

Former Rule 7:23.

R11-1-724. Tops of manways and open holes covered

Tops of manways and open holes shall be adequately covered or guarded.

Historical Note

Former Rule 7:24.

R11-1-725. Regularly used walkways and travelways

Regularly used walkways and travelways should be sanded, salted or cleared of snow and ice as soon as practical.

Historical Note

Former Rule 7:25.

R11-1-726. Trap doors or adequate guarding for ladderways

Trap doors or adequate guarding shall be provided in ladderways at each level. Doors shall be kept operable.

Historical Note

Former Rule 7:26.

R11-1-727. Adequate protection for surface ladders

Fixed ladders 70 degrees to 90 degrees from the horizontal and 30 feet or more in length shall have backguards, cages or equivalent protection, starting at a point not more than seven feet from the bottom of the ladders.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

ARTICLE 8. ELECTRICITY

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305 and 27-314.

R11-1-801. New electrical equipment

New electrical equipment shall be installed, maintained and used in accordance with the National Electrical Code.

Historical Note

Former Rule 8:01.

R11-1-802. Electrical equipment maintenance

All electrical equipment shall be maintained so as to reduce the accident hazard so far as is reasonably possible.

Historical Note

Former Rule 8:02; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-803. Performing electrical work

Electrical work shall be performed or supervised by qualified persons.

Historical Note

Former Rule 8:03.

R11-1-804. Removal of “lock on switch” from electric drills or other electrically operated hand rotating tools

Electric drills or other electrically operated hand rotating tools shall have the electric switch constructed so as to break the circuit when the hand releases the switch or shall be equipped with friction or safety devices, and shall be properly grounded.

Historical Note

Former Rule 8:04.

R11-1-805. Repealed

Historical Note

Former Rule 8:05; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-806. “Tag out” necessary prior to work on lines or equipment

Switches which are open to permit work on lines or equipment must be tagged with warning signs and no persons, other than the person placing these signs or his supervisor may remove them. These warning signs must be signed and dated (including the time of day) by the person placing them.

Historical Note

Former Rule 8:06.

R11-1-807. Electrical equipment properly grounded

- A. All electrical equipment, motors, switch boxes, controllers, cable casings, both underground and surface, must be properly grounded.
- B. Equipment operating off portable A.C. power supply shall be frame grounded back to the generator.

Historical Note

Former Rule 8:07; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-808. Switches and electric controls on electrical equipment

Electrical equipment and circuits shall be provided with switches or other controls. Said switches or controls shall be of approved design and construction and shall be properly installed.

Historical Note

Former Rule 8:08.

R11-1-809. Trailing cables of mobile equipment

Individual overload protection or short circuit detection shall be provided for the trailing cables of mobile equipment.

Historical Note

Former Rule 8:09.

R11-1-810. Trailing cable and power cable connections

Trailing cable and power cable connections to junction boxes shall not be made or broken under load.

Historical Note

Former Rule 8:10.

R11-1-811. Installation of high potential transmission cables

High potential transmission cables shall be covered, insulated, or placed according to acceptable electrical codes to prevent contact with low potential circuits.

Historical Note

Former Rule 8:11.

R11-1-812. Moving shovel trailing cables

Shovel trailing cables shall not be moved with the shovel dipper unless cable slings or sleds are used.

Historical Note

Former Rule 8:12.

R11-1-813. Repealed

Historical Note

Former Rule 8:13; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-814. Transformer enclosures kept locked

Transformer enclosures shall be kept locked against unauthorized entry.

Historical Note

Former Rule 8:14.

R11-1-815. Principal power switches shall be labeled

Principal power switches shall be labeled to show which units they control unless identification can be made readily by location.

Historical Note

Former Rule 8:15.

R11-1-816. Provisions for shock hazards at switchboards and power control switches

Dry wooden platforms, insulating mat or other electrical nonconductive material shall be kept in place at all switchboards and power control switches where shock hazards exist. However, metal plates on which a person normally would stand and which are kept at the same potential as the grounded metal, noncurrent carrying parts of the power switches to be operated may be used.

Historical Note

Former Rule 8:16.

R11-1-817. Posting danger signs

Suitable danger signs shall be posted at all major electrical installations.

Historical Note

Former Rule 8:17.

R11-1-818. Grounding metal buildings, metal fencing and switch gear

Metal fencing and metal buildings enclosing transformers and switch gear shall be grounded.

Historical Note

Former Rule 8:18.

R11-1-819. Circuits de-energized

Circuits shall be de-energized before fuses are removed or replaced. Fuse tongs or hot-line tools shall be used when fuses are removed or replaced in high potential circuits.

Historical Note

Former Rule 8:19; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-820. Switches and starting boxes

Switches and starting boxes shall be of safe design and capacity.

Historical Note

Former Rule 8:20.

R11-1-821. Precautions taken for moving equipment under energized power lines

When equipment must be moved under energized power lines and the clearance is less than ten feet, the power lines shall be de-energized or other precautions shall be taken.

Historical Note

Former Rule 8:21.

R11-1-822. Power circuits de-energized, switches “locked out”

Power circuits shall be de-energized before work is done on such circuits unless hot-line equipment is used. Switches shall be locked out or other measures taken which shall prevent the power circuits from being energized without the knowledge of the individuals working on them. Such locks, signs, or preventive devices shall be removed only by the person who installed them or by authorized personnel.

Historical Note

Former Rule 8:22.

R11-1-823. Hand-held electric tools

Hand held electric tools shall not be operated at high potential voltages.

Historical Note

Former Rule 8:23.

R11-1-824. Guy wires of poles

Guy wires of poles supporting high-voltage transmission lines shall meet the requirements for grounding or insulator protection of the National Electrical Safety Code.

Historical Note

Former Rule 8:24.

R11-1-825. Telegraph, telephone or signal wires installed

Telegraph, telephone, or signal wires shall not be installed on the same crossarm with power conductors. When carried on poles supporting power lines, they shall be installed as specified by the National Electrical Safety Code.

Historical Note

Former Rule 8:25.

R11-1-826. Electrical connections and resistor grids guarded

Electrical connections and resistor grids that are difficult or impractical to insulate shall be guarded unless protection is provided by location.

Historical Note

Former Rule 8:26.

R11-1-827. Continuity and resistance of grounding systems tested

Continuity and resistance of grounding systems shall be tested by a competent person after installation, repair and modification; and annually thereafter, and records of the resistance measured during the most recent tests shall be made available for examination by the inspector.

Historical Note

Former Rule 8:27; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-828. Inspection and cover plates

Inspection and cover plates on electrical equipment and junction boxes shall be kept in place at all times except during testing and repairs.

Historical Note

Former Rule 8:28; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-829. Reserved

R11-1-830. Reserved

R11-1-831. Protection against short circuits and lightning

Power lines, including trolley wires and telephone circuits shall be protected against short circuits and lightning.

Historical Note

Former Rule 8:31.

R11-1-832. Guarding and de-energizing lines from metallic tools or equipment

Where metallic tools or equipment can come in contact with trolley wires or bare power lines, the lines shall be guarded or de-energized.

Historical Note

Former Rule 8:32.

R11-1-833. Separating and insulating power lines from water lines, etc.

Power lines shall be well separated or insulated from water lines, telephone lines, and air lines.

Historical Note

Former Rule 8:33.

R11-1-834. Transformers -- enclosed, 8 ft. above ground, or otherwise protected

Transformers shall be totally enclosed or shall be placed at least 8 feet above the ground, or installed in a transformer house, or surrounded by a substantial fence at least 6 feet high and at least three feet from any energized parts, casings, or wiring.

Historical Note

Former Rule 8:34.

R11-1-835. Handling energized shovel or drill power cable

No employee shall take hold of energized shovel or energized drill power cable without suitable equipment designed for such a job.

Historical Note

Former Rule 8:35.

ARTICLE 9. PERSONAL PROTECTION

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305 and 27-312.

R11-1-901. Suitable protection against falling

Suitable protection against falling shall be provided for any work required above ground or floor level.

Historical Note

Former Rule 9:01.

R11-1-902. Safety belts and lines shall be worn

Safety belts and lines shall be worn when men work where there is danger of falling. A second person shall tend the lifeline when bins, tanks or other dangerous areas are entered. Life jackets or belts shall be worn where there is danger from falling into water.

Historical Note
Former Rule 9:02.

ARTICLE 10. MATERIALS STORAGE AND HANDLING

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304 and 27-305.

R11-1-1001. Storage of materials that can create hazards

Materials that can create hazards if accidentally liberated from their container shall be stored in a manner that minimizes the dangers.

Historical Note
Former Rule 10:01.

R11-1-1002. Storage of hazardous materials, labeling of containers

Hazardous materials shall be stored in containers of the type approved for such use by recognized agencies. Such containers shall be labeled appropriately.

Historical Note
Former Rule 10:02.

R11-1-1003. Securing compressed and liquid gas cylinders

Compressed and liquid gas cylinders shall be secured in a safe manner.

Historical Note
Former Rule 10:03.

R11-1-1004. Valves on compressed gas cylinders

Valves on compressed gas cylinders shall be protected by covers when being transported or stored, and by a safe location when the cylinders are in use.

Historical Note
Former Rule 10:04.

R11-1-1005. Suspended loads

Men shall stay clear of suspended loads.

Historical Note
Former Rule 10:05.

R11-1-1006. Operator-carrying overhead cranes

Operator-carrying overhead cranes shall be provided with:

1. Bumpers at the end of each rail.
2. Automatic switches to halt uptravel of the blocks before they strike the hoist.
3. Effective audible warning signals within easy reach of the operator.
4. A means to lock out the disconnect switch.

Historical Note
Former Rule 10:06.

ARTICLE 11. HOISTS AND SHAFTS

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305, 27-348, 27-351 through 27-354, and 27-356 through 27-359.

R11-1-1101. Construction of headframes and material used

The construction of any headframes and the material used therein shall be sufficiently strong and durable to assure its withstanding any working stress put upon it.

Historical Note
Former Rule 11:01.

R11-1-1102. Design of headframes

All headframes shall be so designed that they will withstand a greater load than the calculated breaking strength of all hoisting attachments.

Historical Note
Former Rule 11:02.

R11-1-1103. Headframes constructed of flammable material

Any headframes which are constructed of flammable material must be provided with adequate fire protection.

Historical Note
Former Rule 11:03.

R11-1-1104. The sheave wheel platform and stairway

The ladder or stairway leading to the sheave wheel platform shall have a handrail or other guarding as needed and the platform at the sheave wheel shall be protected with guard rails and toe boards.

Historical Note
Former Rule 11:04.

R11-1-1105. Reserved

R11-1-1106. Maintenance of information contained in Rope Record Book for friction hoists

A. The manager shall keep, or cause to be kept, at the mine, a book called the Rope Record Book in which shall be recorded the following information on friction hoist ropes:

1. A history of the rope, giving the date on which the rope was first put on.
2. Dates of shortening.
3. Dates and results of inspection and tests.
4. Date and reason for taking out of service for each occasion the rope is put into and taken out of service.

B. When a rope is put into service, the following information shall be entered into the Rope Record Book:

1. Name of person from whom purchased.
2. Date of purchase.
3. Date put on in present location.
4. Identification number of rope.
5. Name of shaft or winze and compartment in which rope is used.
6. Weight of shaft conveyance.
7. Weight of material carried, or weight or tension applied to guide or rubbing rope.
8. Maximum length of rope in service below sheave, or total length of guide or rubbing rope.
9. Maximum length of rope in service below sheave, or total weight of guide or rubbing rope.
10. Static factors of safety at conveyance suspension and on head sheave with rope fully let out, or at guide or rubbing rope suspension.
11. Date put in and removed from previous location, if any.

A copy of such entries shall be made available to the Mine Inspector at the hoisthouse.

C. No hoisting rope, tail rope, guide rope, or rubbing rope shall be used that is not accompanied by a certificate from the manufacturer giving the following information which shall be entered in the Rope Record Book:

1. Name and address of manufacturer.
2. Manufacturer's rope number.
3. Date of manufacture.
4. Diameter of rope in inches.
5. Weight per foot in pounds.
6. Rope construction.
7. Class of core.
8. Trade name of interior rope lubricant.
9. Number of wires in strands.
10. Grade of steel.
11. Diameter of wires in decimals of an inch.
12. Breaking stress of steel of which the wire is made in pounds per square inch.
13. Standard torsion test of wires.
14. Actual breaking load of rope, as provided by certificate by a recognized testing laboratory.
15. Length of rope.

Historical Note
Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1107. Safety factors for friction hoist ropes, tail ropes, and guide and rubbing ropes

- A.** Hoisting rope installed on a friction hoist shall have a factor of safety of not less than that determined from the following formula: F of $S = 8.0 - .0005d$, where "d" is the maximum length of rope suspended below the head sheave in feet.
- B.** For friction hoists, the factor of safety in the hoisting ropes shall be not less than 5.5 for any depth of shaft when the ropes are installed.
- C.** The factor of safety of tail ropes shall be not less than 7 when installed.
- D.** The factor of safety of guide and rubbing ropes shall be not less than 5 when installed.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1108. Use of hoisting rope, tail rope, guide or rubbing rope on friction hoist

- A. No hoisting rope on a friction hoist shall be used in a shaft or winze of a mine where, in any part of the rope:
1. The existing strength has decreased to less than 90% of the original strength of the rope.
 2. The extension of a test piece has decreased to less than 60% of its original extension when tested to destruction.
 3. The number of broken wires in any section of the rope equalling the length of one lay of the rope exceeds six.
 4. Marked corrosion occurs.
 5. The rate of stretch in a friction hoisting rope begins to show a rapid increase over the normal stretch noted during its service.
- B. No tail rope, guide or rubbing rope shall be used in shaft where, in any part of the rope:
1. The existing strength has decreased to less than 75% of the original strength of the rope.
 2. The extension of a test piece has decreased to less than 60% of its original extension when tested to destruction.
 3. The number of broken wires in any section of the rope equalling the length of one lay exceeds six.
 4. Marked corrosion occurs.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1109. Drum diameter of friction hoist

The drum diameter of every friction hoist shall not be less than 80 times the diameter of the rope in use.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1110. Design of friction hoist drives, controls, and brakes

Friction hoist drives, controls, and brakes shall be so designed and maintained that slippage of the rope on the drum will not occur under normal operating conditions.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1111. Inspection of friction hoist rope treads

Friction rope treads shall be inspected regularly and maintained in good condition.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1112. Installation of tapered guides or other approved installations on friction hoists

Friction hoist installations shall be equipped with tapered guides or other approved devices which shall be installed above and below the limits of regular travel of the conveyance and arranged so as to brake and stop an overwind or overtravel occurring in the event of failure of the device.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1113. Emergency stopping device for friction hoists

A device shall be provided which will initiate emergency stopping to bring the drum to rest in the event of occurrence of slip between the hoisting rope or ropes and the hoist drum, such as might occur with a conveyance or counterweight jammed in the shaft or caught at the end of the travel.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1114. Emergency stopping device provided for friction hoists when tail rope is used

A device shall be provided which will initiate emergency stopping action in the event of abnormal movement of the tail rope loop when a tail rope is used.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1115. Means provided to adjust depth indicator on friction hoist

Means shall be provided on a friction hoist to adjust the depth indicator and protective device on the hoist to the position of the conveyance in the shaft.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1116. Level of water and spillage in shaft sump when friction hoist used

Water and spillage in a shaft sump in mine shall be kept at such a level at all times that:

1. Tail ropes have clear passage.
2. Guide and rubbing rope connections and tension devices are clear.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1117. Positions of hoisting ropes within clamps, for friction hoists, examined

On friction hoist installations, after every six months of service, the positions of the hoisting rope within the clamps shall be changed, if practicable, or that portion of the rope within the clamps shall be thoroughly cleaned and examined.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1118. Manufacturer shall provide certificate giving maximum rated unbalanced load and maximum rated suspended load for friction hoist

Every friction hoist shall be accompanied by a certificate from the manufacturer, or an independent person approved by the Mine Inspector, giving the maximum rated unbalanced load and the maximum rated suspended load of the hoist, and the hoist shall not be located beyond the maximum loads so specified.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1119. Alterations of friction hoist capacity prohibited

No alterations designed to increase the hoisting capacity shall be made to a friction hoist unless approval is given by its manufacturers or an independent person approved by the Mine Inspector.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1120. Determination of maximum material load allowed on conveyance of friction hoist

The maximum material allowed on the conveyance of a friction hoist shall be determined from the lesser of the following calculations:

1. Maximum allowable suspended load on the hoist, less the weight of the hoisting ropes, less the weight of tail ropes, less the weight of the conveyances and attachments.
2. The breaking strength of the rope, divided by the required factor of safety, minus the maximum weight of rope suspended in one compartment, minus the weight of the conveyance and attachments in that compartment; and where multiple ropes are used, the lowest breaking strength at any rope shall be used for all ropes in load calculations.
3. The unbalanced load on the hoist as rated by the manufacturer, which shall not be exceeded.
4. The maximum allowable load on any conveyance, which shall not be greater than that for which the conveyance was rated by the manufacturer.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1121. Inspection of shafts used for hoisting or lowering men

All compartments of shafts used for hoisting or lowering men shall be inspected at least once every two weeks and a record of such inspection shall be kept.

Historical Note

Former Rule 11:21.

R11-1-1122. Protection from falling ground

In shaft sinking, adequate protection from falling ground must be provided. The timber, steel, roof bolts, concrete or any device used for restraining ground must be kept a reasonable distance from the bottom of the shaft.

Historical Note

Former Rule 11:22.

R11-1-1123. Repealed

Historical Note

Former Rule 11:23; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-1124. Platform suspended by wire ropes in shaft sinking

In shaft sinking where a platform is suspended by wire ropes, such ropes shall have an approved rate for the suspended load.

Historical Note

Former Rule 11:24.

R11-1-1125. Rope guides

Where rope guides are used in shafts, they shall be of locked coil construction.

Historical Note

Former Rule 11:25.

R11-1-1126. Substantial platforms required for shaft inspection and repair work

Shaft inspection and repair work in vertical shafts shall be performed from substantial platforms equipped with bonnets or equivalent over-head protection.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1127. Use of crane in shaft sinking operations

In shaft sinking operations where a crane is used, the allowable depth shall be 125 feet from shaft collar.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1128. Reserved

R11-1-1129. Reserved

R11-1-1130. Reserved

R11-1-1131. Mine hoist drives

All mine hoists shall consist of one of the following drives:

1. V-belt driven and not less than four V-belts with a designed safety factor of 10.
2. Gear driven. Fiber gears shall not be used.
3. Friction driven.
4. Direct drive.

There shall be no chain-driven hoists used for underground operations. All hoists other than automatic hoists must have hand-operated brakes and the brakes must be on the drum.

Historical Note

Former Rule 11:31; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-1132. Rated capacities of hoists

Hoists shall have rated capacities consistent with the loads handled and the recommended safety factor of the ropes used.

Historical Note

Former Rule 11:32.

R11-1-1133. Automatic hoists

Automatic hoists shall be provided with devices that automatically apply the brakes in the event of power failure.

Historical Note

Former Rule 11:33.

R11-1-1134. Flanges on drums

Flanges on drums should extend radially a minimum of three rope diameters beyond the last wrap.

Historical Note

Former Rule 11:34.

R11-1-1135. Maximum fleet angle

The maximum fleet angle shall not exceed one and one-half degrees for smooth drums and two degrees for grooved drums.

Historical Note

Former Rule 11:35.

R11-1-1136. Brakes on man hoists

Any hoist used to hoist men shall be equipped with a brake or brakes fully capable of holding a fully loaded cage, skip or bucket at any point in the shaft.

Historical Note

Former Rule 11:36.

R11-1-1137. Lock mechanism on hoists to prevent accidental clutch withdrawal

The operating mechanism of the clutch of every man hoist's drum shall be provided with a lock mechanism, or be interlocked electrically or mechanically with the brake to prevent accidental withdrawal of the clutch.

Historical Note

Former Rule 11:37.

R11-1-1138. Devices for man hoists to prevent overtravel

Man hoists shall be provided with devices to prevent overtravel and overspeed and shall be anchored securely.

Historical Note

Former Rule 11:38.

R11-1-1139. Indicator of cage, skip bucket or cars

An accurate and reliable indicator of the position of the cage, skip bucket or cars in the shaft shall be provided.

Historical Note

Former Rule 11:39.

R11-1-1140. Placement of hoist controls

Hoist controls shall be placed or housed so that the noise from machinery or other sources will not prevent hoistmen from hearing signals.

Historical Note

Former Rule 11:40.

R11-1-1141. Physical examination for hoisting engineers and trainees

The hoisting engineers and hoistmen trainees, at the beginning of employment, and annually thereafter, shall be given a physical examination by a competent physician to determine their physical ability to safely operate such hoists. A certificate or letter, attesting to the currency of such examinations, shall be posted in the hoist house for examination by the State Mine Inspector.

Historical Note

Former Rule 11:41; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-1142. Hoisting engineer's duties while hoist in motion

Only authorized persons shall be in hoist rooms. The hoisting engineer shall hold no conversation with anyone while the hoist is in motion or while attending to signals.

Historical Note

Former Rule 11:42; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-1143. Due caution while hoist in motion

The hoisting engineer shall familiarize himself with all signals and use due caution at all times especially when men are being hoisted or lowered.

Historical Note

Former Rule 11:43.

R11-1-1144. Hoisting engineer report all defects

The hoisting engineer shall report all defects in the shaft, hoist or bell cord to his supervisor as soon as possible.

Historical Note

Former Rule 11:44.

R11-1-1145. Hoisting engineer must understand signal

The hoisting engineer shall not move the cage, skip or bucket until a signal is received and he completely understands the signal.

Historical Note

Former Rule 11:45.

R11-1-1146. If hoist down for eight hours

If for any reason the hoist has been down for eight hours or more, the engineer shall run his cage through the shaft before hoisting or lowering men.

Historical Note

Former Rule 11:46.

R11-1-1147. Hoisting engineer qualifications

The hoisting engineer must be able to read, write and speak the English language.

Historical Note

Former Rule 11:47.

R11-1-1148. Experienced hoistmen shall operate hoist

Only experienced hoistmen shall operate the hoist except in cases of emergency and in the training of new hoistmen.

Historical Note

Former Rule 11:48.

R11-1-1149. Hoisting engineer shall familiarize himself with all signals

The hoisting engineer shall familiarize himself with all signals and use due caution at all times, especially when men are being hoisted or lowered.

Historical Note

Former Rule 11:49.

R11-1-1150. Notification to hoisting engineer when men are working in compartment

Hoistmen shall be informed when men are working in a compartment affected by the hoisting operation and a “Men Working in Shaft” sign shall be posted at the hoist, at the shaft collar and at all devices controlling hoisting operations that may endanger such men.

Historical Note
Former Rule 11:50.

R11-1-1151. Renumbered

Historical Note

Former Rule 11:51; Former Section R11-1-1151 renumbered and amended as Section R11-1-148 effective August 18, 1980 (Supp. 80-4).

R11-1-1152. Hoist ropes inspected

Hoist ropes must be inspected regularly and a record of these inspections kept.

Historical Note
Former Rule 11:52.

R11-1-1153. Discarding of wire cable or rope used for hoisting

All wire cable or rope which is used for hoisting or lowering employees or other persons shall be discarded for such use when:

1. There are six broken wires in pitch length of cable or rope.
2. The wires on the crown are worn 65% or more of their original diameter.
3. More than three wires which have been reduced by wear more than 30% in cross section are broken in one strand of the cable or rope lay.
4. Marked corrosion appears.
5. The minimum safety factor falls below approved specifications.

Historical Note
Former Rule 11:53.

R11-1-1154. Splicing wire cable or hoisting rope

It is strictly forbidden to splice any wire cable or rope which is used in hoisting or lowering employees.

Historical Note
Former Rule 11:54.

R11-1-1155. Static-load safety factors for selecting ropes for hoisting men

The following static-load safety factors shall be used for selecting ropes to be used for hoisting men and for determining when such ropes shall be removed from man hoists:

| Length of rope in shaft feet | Minimum factor of safety (new rope) | Minimum factor of safety (remove) |
|------------------------------|-------------------------------------|-----------------------------------|
| 500 or less | 8 | 6.4 |
| 501 - 1,000 | 7 | 5.8 |
| 1,001 - 2,000 | 6 | 5.0 |
| 2,001 - 3,000 | 5 | 4.3 |
| 3,001 - or more | 4 | 3.6 |

Historical Note
Former Rule 11:55.

R11-1-1156. Attaching the rope to the load

The rope shall be attached to the load by the thimble-and-clip method, the socketing method, or other approved method. If the socketing method is employed, zinc or its equivalent shall be used. The use of Babbit metal or lead for socketing wire ropes is prohibited. If the thimble-and-clip method is used, the following shall be observed:

1. The rope shall be attached to the load by passing one end around an oval thimble that is attached to the load bending the end back so that it is parallel to the long or “live” end of the rope and fastening the two parts of the rope together with clips.
2. The U-bolt of each clip shall encircle the short or “dead” end of the rope and the distance between clips shall not be less than the figures given in the accompanying table.

3. As a minimum the following number of clips or equivalent shall be used for various diameters of six-strand 19-wire plow steel ropes (follow manufacturer's recommendations for other kinds of wire rope and clips):

| Diameter of rope inches | Number of clips | Center-to-center spacing of clips, inches |
|-------------------------|-----------------|---|
| 3/4 | 4 | 4 1/2 |
| 7/8 | 4 | 5 1/4 |
| 1 | 4 | 6 |
| 1 1/8 | 5 | 6 3/4 |
| 1 1/4 | 5 | 7 1/2 |
| 1 3/8 | 6 | 8 1/4 |
| 1 1/2 | 6 | 9 |
| 1 5/8 | 6 | 9 3/4 |
| 1 3/4 | 7 | 10 1/2 |
| 1 7/8 | 8 | 11 1/4 |
| 2 | 8 | 12 |
| 2 1/8 | 8 | 13 |
| 2 1/4 | 8 | 14 |

4. For all ropes less than three-quarter inch in diameter, at least four clips or equivalent shall be used.
 5. When special conditions require the attachment of a sling to the hoisting cable to handle equipment in the shaft, the sling shall be attached by clips or equivalent in accordance with the table in subsection (3) of this standard.

Historical Note
 Former Rule 11:56.

R11-1-1157. Inspection of materials

Hoist and rigging materials, cables, slings and hooks shall be inspected for defects as often as is necessary to ensure adequate safety for the operation and personnel involved.

Historical Note
 Former Rule 11:57.

R11-1-1158. Use of emergency chains

Emergency chains shall be used from the cable to the cage in case of a breakage in the king bolt or clevis pin; and also between the upper and lower decks in case of a breakage of the connecting pins for these decks.

Historical Note
 Former Rule 11:58.

R11-1-1159. Signal by the cager

The cager shall, when men are being hoisted and lowered, see that the gates are closed before giving the signal to move the cage and shall be responsible for their closing.

Historical Note
 Former Rule 11:59.

R11-1-1160. Cagers shall report all defects

The cagers shall keep a careful watch over the cage during their shift's work and immediately report all defects for repair.

Historical Note
 Former Rule 11:60.

R11-1-1161. Getting on cages

Employees shall not crowd or rush while getting on cages.

Historical Note
 Former Rule 11:61.

R11-1-1162. After signal given to move cage

No person shall attempt to enter or leave the cage after a signal to move the cage has been given.

Historical Note
 Former Rule 11:62.

R11-1-1163. Signal to move cage

To release the cage, the signal shall be given while standing upon the station and not upon the cage.

Historical Note
 Former Rule 11:63.

R11-1-1164. Use of metal bonnet

Man cages and skips used for hoisting or lowering employees or other persons in any vertical shaft or any inclined shaft with an angle or inclination of 45% from the horizontal shall be covered with a metal bonnet.

Historical Note

Former Rule 11:64.

R11-1-1165. Providing means for blocking cars when hoisted

Where mine cars are hoisted by cage or skip, means for blocking cars shall be provided at all landings and also on the cage.

Historical Note

Former Rule 11:65.

R11-1-1166. Reporting materials or tools dropped in shaft

If an employee drops any materials or tool down the shaft, he shall immediately report the same to the hoisting engineer, who will have the shaft inspected before continuing regular work.

Historical Note

Former Rule 11:66.

R11-1-1167. Hoisting materials or tools

When hoisting or lowering tools, timber or other material in the shaft, the ends, if projecting above the top of the cage of the bucket, shall be securely lashed to the cable or to the upper part of the cage; and tools, timbers or other materials loaded erectly upon a cage shall be securely lashed before being hoisted or lowered.

Historical Note

Former Rule 11:67.

R11-1-1168. Testing of safety devices

- A. The safety dogs on any conveyance used to lower or hoist men must be tested at least once every 24 hours during regular operation. If the mine is shut down for more than eight hours, the safety dogs must be tested before lowering men. A record of such inspection shall be kept and signed by the person making the test.
- B. Hoistmen shall examine their hoists and shall test overtravel, position indicators, and braking mechanisms at the beginning of each shift. A record of such inspection shall be kept in the hoisthouse and must be signed by the person making the test.

Historical Note

Former Rule 11:68; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-1169. Smoking on conveyance used to lower or hoist men, ore or equipment

No person shall smoke on any conveyance used to lower or hoist men, ore or equipment.

Historical Note

Former Rule 11:69.

R11-1-1170. No open hooks used to hoist

No open hooks shall be used to hoist equipment or materials in any shaft.

Historical Note

Former Rule 11:70.

R11-1-1171. Use of buckets to hoist men

Buckets shall not be used to hoist men except during the shaft sinking operations, inspection, maintenance and repair.

Historical Note

Former Rule 11:71.

R11-1-1172. Buckets to hoist men during shaft sinking

Buckets used to hoist men during vertical shaft sinking operations shall have:

1. Crossheads equipped with safety devices and protective bonnets when the shaft depth exceeds 50 feet.
2. Devices to prevent accidental dumping.
3. Sufficient depth to transport men safely in a standing position.

Historical Note

Former Rule 11:72.

R11-1-1173. Lowering of conveyances

Conveyances shall not be lowered by the brakes alone except in emergencies.

Historical Note

Former Rule 11:73; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-1174. Hoisting materials and men in same shaft

Rocks or supplies shall not be hoisted in the same shaft as men during shift changes unless the compartments and dumping bins are partitioned to prevent spillage into the cage compartment.

Historical Note

Former Rule 11:74.

R11-1-1175. Lowering and hoisting buckets

- A. Buckets shall be stopped about 15 feet from the bottom to await a signal from one of the crew on the bottom for further lowering. After the bucket is loaded, it shall be raised about three feet from the bottom of the shaft and stabilized before the second signal is given.
- B. After hoisting signal is given, hoisting to the crosshead shall be at a slow or minimum speed. The signaling device shall be attended constantly until a bucket reaches the guides. When persons are hoisted, the signaling devices shall be attended until the crosshead has been reached.

Historical Note

Former Rule 11:75; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-1176. Approved methods of signaling

There shall be at least two effective approved methods of signaling between each of the shaft stations and hoist room, one of which shall be a telephone or speaking tube.

Historical Note

Former Rule 11:76.

R11-1-1177. Gates for shaft landings

Shaft landing shall be equipped with substantial safety gates, so constructed that materials will not go through or under them. Gates shall be closed except when loading or unloading shaft conveyances.

Historical Note

Former Rule 11:77.

R11-1-1178. Stop blocks

Positive stop blocks or a derail switch shall be installed on all tracks leading to a shaft collar or landing.

Historical Note

Former Rule 11:78.

R11-1-1179. Getting on or off moving cage

No employee shall get on or off a moving cage, bucket or crosshead, nor shall he open cage doors while the cage is moving.

Historical Note

Former Rule 11:79.

R11-1-1180. Method provided to signal hoist operator from cage

A method shall be provided to signal the hoist operator from cages or other conveyances at any point in the shaft.

Historical Note

Former Rule 11:80.

R11-1-1181. Reserved

R11-1-1182. Diesel or fuel-injection engine used to power hoist

Where any diesel or similar fuel-injection engine is used to power a hoist, the engine shall be equipped with a damper or other cutoff in its air intake system. The control handle shall be clearly labeled to indicate that its intended function is for emergency stopping only.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1183. Renumbered

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2). Former Section R11-1-1183 renumbered and amended as Section R11-1-338 effective August 18, 1980 (Supp. 80-4).

R11-1-1184. Cable secured to hoist drum

The end of the rope at the drum shall make at least one full turn on the drum shaft, or a spoke of the drum in the case of a free drum, and shall be fastened securely by means of rope clips or clamps. There shall be three full turns of cable or rope on the hoisting drum when the cable or rope is extended to its maximum working length. This rule does not apply to friction hoists.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-1185. Location of hoisting signal devices during shaft sinking

Hoisting signal devices shall be positioned within easy reach of persons on the shaft bottom or constantly attended by a person stationed on the lower deck of the sinking platform.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-1186. Construction of loading pockets

Dumping facilities and loading pockets shall be constructed so as to minimize spillage into the shaft.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-1187. Reserved

R11-1-1188. Reserved

R11-1-1189. Reserved

R11-1-1190. Elevator inspection

- A. Every elevator located at mining operations shall be installed and maintained under the provisions of the “American National Standard Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks”.
- B. Every elevator shall have an identification number for recordkeeping purposes. Such number shall be on a tag so located as to be available for inspection.
- C. Every elevator shall be inspected at time of installation and then at least once each year.
- D. A Certificate of Inspection shall be issued at such time elevator has been inspected and approved and shall be posted in a place determined by the Inspector.
- E. The Inspector shall be notified prior to any installation, relocation or alteration of any elevator under his jurisdiction.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

ARTICLE 12. UNDERGROUND OPERATIONS

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305, 27-344, 27-345, 27-349, 27-350, and 27-366.

R11-1-1201. Grizzlies kept in good repair

Grizzlies shall be kept in good repair.

Historical Note

Former Rule 12:01.

R11-1-1202. Upon entering work area check for hazards

Upon entering a working place employees shall check carefully for hazards such as loose ground and loose timber, bootlegs and missed holes, shall check muck piles for unexploded powder and caps and shall wet down the working area if the ground conditions permit.

Historical Note

Former Rule 12:02.

R11-1-1203. Transformer stations to be enclosed

Transformer stations shall be enclosed to prevent persons from unintentionally or inadvertently contacting energized parts.

Historical Note

Former Rule 12:03.

R11-1-1204. Use of grizzlies

Grizzlies shall be used, or adequate guards provided, where muck is dumped or slushed into a raise.

Historical Note

Former Rule 12:04.

R11-1-1205. Carrying material on shoulder

No employee shall carry any material on his shoulder while walking under trolley wires.

Historical Note

Former Rule 12:05.

R11-1-1206. Ventilation procedures in case of mine fire

In the event of a mine fire, no employee shall attempt any change in ventilation procedures unless so authorized.

Historical Note

Former Rule 12:06.

R11-1-1207. Roof bolting in unstable ground

Employees engaged in roof bolting in unstable ground shall use stulls and headboards to protect themselves until such time as the bolts are installed and properly tightened.

Historical Note

Former Rule 12:07.

R11-1-1208. Winze or raise in direct line with haulage drift

No winze or raise shall be in a direct line with a haulage drift unless such a location is essential to the usage to which the winze or raise is to be put. In such exceptions, guards and protective covering must be provided so that hazards of personnel are no greater than would exist if the winze or raise was not in a direct line with haulage drift.

Historical Note

Former Rule 12:08.

R11-1-1209. Access to unattended underground mine openings

Access to unattended underground mine openings shall be restricted by gates or doors and the openings shall be fenced and posted.

Historical Note

Former Rule 12:09.

R11-1-1210. Loading and drilling at same time

Loading and drilling at the same time in the same working place is prohibited.

Historical Note

Former Rule 12:10.

R11-1-1211. Chute tapping

A bar used in chute tapping must be blunt on one end.

Historical Note

Former Rule 12:11; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-1212. Repealed

Historical Note

Former Rule 12:12; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-1213. Taking "short cuts"

All workmen shall be forbidden to take "short cuts" across or through dangerous places and shall travel the regular passageway provided for such purpose.

Historical Note

Former Rule 12:13.

R11-1-1214. Throwing tools or material down a manway

No workman shall throw tools or material down a manway or raises unless there is a person at the bottom instructed to warn other employees.

Historical Note

Former Rule 12:14.

R11-1-1215. Scaling or barring-down

Where manual scaling may be required at a work place, a scaling bar of sufficient length to place the user out of danger of falling material shall be provided. The scaling bar shall be blunt on the end held by the user. Picks or other short tools shall not be used for scaling when their use places the user in danger of falling material.

Historical Note

Former Rule 12:15; Former Section R11-1-1215 repealed, new Section R11-1-1215 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-1216. Removing bits from drill steel

Only a tool constructed for this purpose shall be used to remove bits from drill steel.

Historical Note

Former Rule 12:16.

R11-1-1217. Dangerous places fenced

All dangerous places shall be properly fenced off and proper danger signals shall be so hung on such fencings that they may be plainly seen.

Historical Note

Former Rule 12:17.

R11-1-1218. Collars of open draw holes kept free

Collars of open draw holes shall be kept free of muck and material.

Historical Note

Former Rule 12:18.

R11-1-1219. Removing men to safe places before blasting

In areas where dangerous accumulations of water, gas, mud, or fire atmosphere could be encountered, men shall be removed to safe places before blasting.

Historical Note

Former Rule 12:19.

R11-1-1220. Renumbered

Historical Note

Former Rule 12:20; Former Section R11-1-1220 renumbered as Section R11-1-149 effective August 18, 1980 (Supp. 80-4).

R11-1-1221. Repealed

Historical Note

Former Rule 12:21; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-1222. Headlight, reflector or tail light on trains

The headlight on the front end of the motor shall be kept lighted at all times when the motor is in use. A reflector or tail light must be on the last car of the train.

Historical Note

Former Rule 12:22.

R11-1-1223. Workmen shall never walk alongside any moving train

Workmen shall never walk alongside any train or motor while same is in motion; workmen stationing themselves alongside a drift when a train is passing should do so in such a manner that they are protected in case of derailments.

Historical Note

Former Rule 12:23.

R11-1-1224. Train speed when passing men in drifts

Train speed shall be reduced when train is passing men in drifts.

Historical Note

Former Rule 12:24.

R11-1-1225. Repealed

Historical Note

Former Rule 12:25; Repealed effective August 18, 1980 (Supp. 80-4).

R11-1-1226. Impaired overhead clearance

Where impaired overhead clearance exists, no person may ride or be placed on top of a motor.

Historical Note

Former Rule 12:26.

R11-1-1227. Train shall be pulled

Trains shall be pulled when practical rather than pushed.

Historical Note

Former Rule 12:27.

R11-1-1228. Plugging of the trolley locomotives or battery motors

Plugging of the trolley locomotives or battery motors not designed for this method of operation shall be permissible IN CASE OF EMERGENCY ONLY.

Historical Note

Former Rule 12:28.

R11-1-1229. While car is in motion

No one shall sit or stand on the car edge while it is in motion.

Historical Note
Former Rule 12:29.

R11-1-1230. No one shall climb over cars while moving

No one shall climb over cars without first making sure the train is not going to move. No one shall climb over trains where there is a live trolley wire.

Historical Note
Former Rule 12:30.

R11-1-1231. Pulling plugs on Mancha battery motors

Plugs must be pulled on Mancha battery motors when operator leaves cab.

Historical Note
Former Rule 12:31.

R11-1-1232. Men working in haulage drifts

Men working in haulage drifts must keep the drifts clear of obstruction.

Historical Note
Former Rule 12:32.

R11-1-1233. Operating a motor while out of the cab

No one shall attempt to operate a motor while out of the cab.

Historical Note
Former Rule 12:33.

R11-1-1234. Men pulling chutes in safe location

Chute loading installations shall be designed so that men pulling chutes are not required to assume hazardous positions while loading cars.

Historical Note
Former Rule 12:34.

R11-1-1235. A motor man shall receive a signal from his swamper or loader before moving train

When coupling, uncoupling, re-railing cars, backing into a drift where men are working, or when spotting cars under chutes, a motor man shall not move his train or motor without first receiving a signal from his swamper or loader.

Historical Note
Former Rule 12:35.

R11-1-1236. Cars shall not be coupled or uncoupled by hand

Cars shall not be coupled or uncoupled by hand where there is not ample room for a person to stand between sides of cars and side of drift. Cars shall not be coupled or uncoupled by hand while a train is in motion.

Historical Note
Former Rule 12:36.

R11-1-1237. Transportation of tools, materials and equipment on top of motors and locomotives

Tools, materials and equipment, except properly secured rerailling devices, shall not be carried on top of locomotives or motors unless permanently installed boxes have been provided for that purpose.

Historical Note
Former Rule 12:37; Former Section R11-1-1237 repealed, new Section R11-1-1237 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-1238. Speed of mantrips

Mantrips shall be operated at speeds consistent with the condition of tracks and equipment used.

Historical Note
Former Rule 12:38.

ARTICLE 13. OPEN PITS

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305, 27-421, 27-422, 27-424, and 27-425.

R11-1-1301. Warning devices on mobile equipment

Mobile equipment assigned to a working place shall be provided with:

1. Suitable warning devices visible at all times to the operator of the highest mobile equipment.

2. When the operator of heavy duty mobile equipment has an obstructed view to the rear, the equipment shall have either an automatic reverse signal alarm which is audible above the surrounding noise level, or an observer to signal when it is safe to back up.

Historical Note

Former Rule 13:01; Amended effective April 7, 1976 (Supp. 76-2). Former Section R11-1-1301 repealed, new Section R11-1-1301 adopted effective August 18, 1980 (Supp. 80-4).

R11-1-1302. Dumping over edge not permitted

Dumping over the edge of an undercut stockpile or undercut dumps shall not be permitted.

Historical Note

Former Rule 13:02.

R11-1-1303. Berms or guards shall be provided

Berms or guards shall be provided on the outer banks of elevated roadways. A higher berm must be built from beginning of curve to end of curve, where applicable.

Historical Note

Former Rule 13:03; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-1304. Men shall not work between equipment and pit wall

Men shall not work between equipment and the pit wall or bank where the equipment may hinder escape from falls or slide of the bank.

Historical Note

Former Rule 13:04.

R11-1-1305. Drill holes covered and guarded

Drill holes large enough to constitute a hazard shall be covered and guarded.

Historical Note

Former Rule 13:05.

R11-1-1306. Drilling near loaded blast holes

No drilling shall be done within 50 feet of loaded blast holes.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1307. Emergency signaling device on drill rigs

An emergency signaling device shall be available on rotary drill rigs.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1308. Repair of heavy truck tires (1300 x 24 in. size and over)

- A. All persons who work with tires and rims must fully understand the primary hazards of "Blow-Out" and "Blow-Off".
- B. Tire roll-in cages to restrain possible blow-outs and blow-offs while inflating tires shall not be used on tires over 1300 x 24 in. size.
- C. When tire mounting, lock rings, flanges, and ring cutter shall be cleaned with a wire brush or buffer and inspected for the following defects: Distorted rims, distorted and twisted rings, rim or ring bent out of round, bent rims or ring bead, hair cracks in wheel at ring gutter area.
- D. Deflate tires to 20 PSI before loosening wheel nuts.
- E. Lock ring must be properly seated before tire is inflated to 20 PSI.
- F. The air control valve shall be located some distance from the tire.
- G. All personnel shall stand away from restraining device during inflation.
- H. Tires, rims, and lock rings shall visually be inspected daily while in service. Any suspected part should be checked by magnetic-particle or dry-check methods.
- I. A tire that has run flat shall never be inflated until it has been unmounted first.
- J. Tire pressure shall be released by removing the valve core before making adjustments to ring and flange.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1309. Loose material stripped from top of pit walls

Loose, unconsolidated material shall be stripped for a safe distance, but in no case less than 10 feet, from the top of pit or quarry walls.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

R11-1-1310. Moving a drill

When a drill is being moved from one drilling area to another, drill steel, tools and other equipment shall be secured and the mast placed in a safe position.

Historical Note

Former Section R11-1-542 renumbered as Section R11-1-1310 effective August 18, 1980 (Supp. 80-4).

R11-1-1311. Drill controls during a power failure

In the event of power failure, drill controls shall be placed in the neutral position until power is restored.

Historical Note

Former Section R11-1-543 renumbered and amended as Section R11-1-1311 effective August 18, 1980 (Supp. 80-4).

R11-1-1312. Straightening a crossed cable on a reel

The drill stem shall be resting on the bottom of the hole or on the platform with the stem secured to the mast before attempts are made to straighten a crossed cable on a reel.

Historical Note

Former Section R11-1-544 renumbered as Section R11-1-1312 effective August 18, 1980 (Supp. 80-4).

R11-1-1313. Drills in operation

While in operation, drills shall be attended at all times.

Historical Note

Former Section R11-1-545 renumbered as Section R11-1-1313 effective August 18, 1980 (Supp. 80-4).

R11-1-1314. Holding drill steel while collaring hole

Persons other than the operator shall not hold the drill steel while collaring holes or rest their hands on the chunk or centralizer while drilling.

Historical Note

Former Section R11-1-546 renumbered and amended as Section R11-1-1314 effective August 18, 1980 (Supp. 80-4).

R11-1-1315. Drill bit in operation

Persons shall not be on a mast while the drill-bit is in operation. Drill crews and others shall stay clear of augers or drill stems that are in motion. A person shall not pass under or step over a moving stem or auger.

Historical Note

Former Section R11-1-541 renumbered and amended as Section R11-1-1315 effective August 18, 1980 (Supp. 80-4).

ARTICLE 14. SAND AND GRAVEL OPERATIONS

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304, 27-305 and 27-441.

R11-1-1401. Sand and Gravel Operations Subject to Statutes and Rules

All sand and gravel operations shall be subject to all statutes and rules generally applicable to operations subject to the jurisdiction of the Mine Inspector, together with all statutes and rules applicable to open pit.

Historical Note

Former Rule 14:01.

R11-1-1402. Aggregate Mining Operation Community Notice Fee

The application fee for a community notice for a new aggregate mining operation or for a major modification of an approved community notice filed pursuant to A.R.S. § 27-442 is \$1,000.

Historical Note

Former Rule 14:02 repealed effective August 18, 1980 (Supp. 80-4). New Section made by exempt rulemaking at 9 A.A.R. 3140, effective June 25, 2003 (Supp. 03-2).

R11-1-1403. Repealed

Historical Note

Former Rule 14:03 repealed effective August 18, 1980 (Supp. 80-4).

R11-1-1404. Repealed

Historical Note

Former Rule 14:04 repealed effective August 18, 1980 (Supp. 80-4).

R11-1-1405. Repealed

Historical Note

Former Rule 14:05 repealed effective August 18, 1980 (Supp. 80-4).

R11-1-1406. Repealed

Historical Note

Former Rule 14:06 repealed effective August 18, 1980 (Supp. 80-4).

R11-1-1407. Repealed

Historical Note

Former Rule 14:07 repealed effective August 18, 1980 (Supp. 80-4).

R11-1-1408. Repealed

Historical Note

Former Rule 14:08 repealed effective August 18, 1980 (Supp. 80-4).

R11-1-1409. Repealed

Historical Note

Former Rule 14:09 repealed effective August 18, 1980 (Supp. 80-4).

ARTICLE 15. ACID PLANTS AND LEACHING

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304 and 27-305.

R11-1-1501. Instruction on use of personal protective equipment to employees

All employees who work with sulfuric acid or other strong chemicals shall be taught the correct use of personal protective equipment available and be required to wear this equipment when handling sulfuric acid or other strong chemicals.

Historical Note

Former Rule 15:01.

R11-1-1502. Storage and distribution of acid

Acid shall be stored in properly vented steel tanks, drums or other approved containers. All distribution lines shall be of recommended size and approved material. (See REFERENCES at end of Article.)

Historical Note

Former Rule 15:02.

R11-1-1503. Persons working on or with acid storage or distribution shall wear approved eye and body protectors

Approved eye protection, such as chemical safety goggles (dust tight), shall be worn by employees working on or with acid storage or distribution and shall be required for normal repair work. For a very hazardous job, additional approved type protection shall be provided such as full length face shield, boots, gloves and up to complete protective suits and hoods for maximum exposure.

Historical Note

Former Rule 15:03.

R11-1-1504. Open lights, flames, etc., forbidden near acid storage

Open lights, flames and spark-producing tools and equipment are forbidden in the vicinity of acid storage vessels and distribution lines where their use might cause an explosion.

Historical Note

Former Rule 15:04.

R11-1-1505. Welding, burning or cutting restrictions on acid storage tanks, etc.

All acid storage tanks, drying towers, absorption towers, and lines shall be vented, cleaned, purged and tested for explosive mixture before welding, burning or cutting on them is permitted.

Historical Note

Former Rule 15:05.

R11-1-1506. Acid spillage shall be removed immediately

Acid spillage shall be removed immediately by flushing the contaminated area with water or by neutralizing the chemical with soda ash, limestone, quicklime or some other absorbent material.

Historical Note

Former Rule 15:06.

R11-1-1507. Authorized personnel

Only authorized personnel will be permitted to operate any equipment in an acid plant.

Historical Note

Former Rule 15:07.

R11-1-1508. Personal protective clothing cleaned up after each use

Personal protective clothing (except disposable clothing which must be discarded), tools and equipment must be thoroughly cleaned up and cared for after each use.

Historical Note

Former Rule 15:08.

R11-1-1509. Before work started on acid storage tanks, inspection procedure approved

The hazardous nature of inspection, cleaning or repair of large acid storage tanks requires that specific procedures be formulated in advance and approved by the responsible supervisor before work is started.

Historical Note

Former Rule 15:09.

R11-1-1510. Potable water immediately available

Potable water shall be immediately available at the site where acid handling or work on the acid system is being carried on. This will require hauling water where showers and hoses are not conveniently located.

Historical Note

Former Rule 15:10.

R11-1-1511. Safety showers and eye wash fountains; emergency water

- A. Readily accessible, well marked, rapid action safety showers and eye wash fountains must be available in the areas where acid is being handled. Showers shall have deluge type heads, easily accessible, plainly marked and controlled by quick opening valves of the type that stay open. They should be capable of supplying large quantities of water. Eye wash fountains shall be immediately available for eye irrigation. This equipment shall be inspected and tested at regular intervals, preferably daily during freezing weather, to make sure it is in good working condition at all times.
- B. When safety showers and water hoses are not conveniently located, emergency water shall be immediately available at the site where acid handling or work on acid systems is being carried on.

Historical Note

Former Rule 15:11; Amended effective August 18, 1980 (Supp. 80-4).

R11-1-1512. First-aid procedures must be posted

First aid must be started immediately in all cases of contact with sulfuric acid. First-aid procedures must be posted at each unloading or loading site.

Historical Note

Former Rule 15:12.

R11-1-1513. Flush acid from eyes

Flush acid from eyes by irrigating for at least 15 minutes with a slow stream of water. This is mandatory. There is no alternative.

Historical Note

Former Rule 15:13.

R11-1-1514. Medical aid

Medical attention shall be obtained as soon as possible after first-aid measures have been carried out. Ambulances should contain first-aid kits for the treatment of acid burns.

Historical Note

Former Rule 15:14.

R11-1-1515. Maintenance of plant equipment used in any acid service

The maintenance of plant equipment used in any acid service shall be the responsibility of designated supervisors who shall make periodic inspections of acid facilities.

Historical Note

Former Rule 15:15.

R11-1-1516. Reporting suspected leaks or equipment failure

Each employee is responsible for reporting to his immediate supervisor all suspected leaks or equipment failure.

Historical Note

Former Rule 15:16.

R11-1-1517. Tank trucks, general

DOT Regulations (Section 177.834) require that tank motor vehicles be attended during loading and unloading. If it becomes necessary for the attendants to leave the operation, transfer of the acid must be stopped. There must be a signaling device which is easily activated in case of emergency.

Historical Note

Former Rule 15:17.

R11-1-1518. Fittings and other equipment (See REFERENCES at end of Article)

- A. The packing and lubricant for pumps, glands, etc., must be of a material recommended for acid handling.
- B. The pump glands, flanged fittings, and valve stems will be provided with splash shields or collared in cases where personnel would be exposed to acid leaks or sprays if acid should escape. The use of colored shields will assist personnel in detecting incipient leaks before they become serious.
- C. Where access to the top of the tank truck is needed, the spot will be provided with stairs and platform. Non-combustible construction is preferred. Overhead loading lines will be counterweighted with a pulley and weight system or equivalent.
- D. Storage tanks shall be clearly marked with the wording "Sulfuric Acid" or "Hydrochloric Acid," etc. (preferably painted yellow).
- E. Approved volume gauges shall be provided for storage tanks.
- F. Hose being used to convey acid in loading and unloading will be inspected regularly and replaced or repaired immediately if it becomes worn or a leak appears.

Historical Note
Former Rule 15:18.

R11-1-1519. Unloading

- A. Tank trucks will be visually inspected for leaks before they are allowed to enter the plant.
- B. Unloading should be performed only during daylight hours. When it is necessary to unload at night, proper and adequate lighting should be provided around the tank truck and the working areas involved in the operation.
- C. It is mandatory that the truck pad be arranged so liquid spillage will drain away from the truck and exposed structures. The pad will be of sufficient length to allow the truck and trailer a minimum of four-foot clearance at each end of two-foot clearance on each side. Because of the hazard of backing equipment into roadways and the possible need to move a truck quickly from the unloading place, it will be so arranged that the truck can be driven away in a forward direction.
- D. Only qualified and properly instructed employees will operate the truck and make the hook-up of the hose from the tank truck to the receiving tank.
- E. Before connecting for unloading, the truck engine will be stopped and not started again during the entire unloading operation until it is necessary to operate the pump by power take-off or to use the truck engine to operate compressors as a source of air for air pressure unloading.
- F. Truck parking brakes will be set and, where necessary, the wheels blocked.
- G. A sign will be placed at all areas where acid is loaded and unloaded, calling attention to the hazard.
- H. Whether unloading by pump or air, the piping will, if possible, be arranged so the acid will drain toward the storage tank when the pump is shut down or when the discharge valve is closed.
- I. When unloading line must be run across a walkway, suitable warning signs will be provided to denote the hazard.
- J. Before starting to vent or connect, a water hose will be connected and ready for emergency use and the emergency shower and eye bath will be tested.
- K. Wherever practicable, unloading will be accomplished by pumping. Whether pumping or unloading by air pressure, observe the following procedure:
 - 1. Operate the relief valve to vent the tank.
 - 2. Remove blind flange from air inlet line.
 - 3. Leave this line open during pumping.
 - 4. After making certain there is no air pressure, remove blind flange from standpipe and connect unloading line to standpipe.
- L. If transfer is by means of air pressure, connect air line and apply air slowly until there is a normal flow of acid into the storage tank. Between the reducing valve and tank truck there shall be a safety valve set at not to exceed 25 lbs. pressure. If unloading by gravity, the reducing valve will be set at 10 lbs. pressure and at 20 lbs. pressure if not unloading by gravity. When the tank truck is empty, shut off the air and operate the relief valve to vent off the pressure. After pressure has been vented, disconnect the air line. Do not disconnect the acid unloading line until the tank truck is at atmospheric pressure and the tank truck standpipe drained. After disconnecting the acid unloading line, replace blind flanges on standpipe and air line.
- M. Safety chains shall be used at all acid hose connections where the hose would whip if it came loose.

Historical Note
Former Rule 15:19.

R11-1-1520. Applying air to a tank truck

The applying of air to a tank truck and then moving the truck to another location for unloading will not be permitted.

Historical Note
Former Rule 15:20.

R11-1-1521. Storage tanks lower than unloading site

Where practical, storage tanks shall be lower than the unloading site.

Historical Note
Former Rule 15:21.

REFERENCES ON H₂SO₄:

"Handling and Storage of Hazardous Materials -- Sulfuric Acid," Accident Prevention Manual for Industrial Operations (4th Edition), Chapter 18, Section 18-15.
"Dangerous Properties -- Storage & Handling of H₂SO₄," Erving Sax Handbook of Dangerous Materials (3rd Edition), Section 7, Page 208.
Dangerous Chemical Code (Fire Department, Los Angeles, California, Parker & Company).
Manufacturing Chemists Association (1625 I Street, N.W., Washington, D.C.), Manual Sheets, No. 1, "Unloading Hazardous Material from Tank Cars," Page 195; No. 2, "T.C.I. Tank Cars, D.O.T. Specification" No. 103-A, "Unloading Cars Filled With H₂SO₄"; No. 3, "SD-20 Sulfuric Acid Revised Sheet".
Manufacturing Chemists Association, "Guide for Safety in Laboratories"; Manual FD-20, Sheets T-7, T-7A, T-8.
National Safety Council, "Storage & Shipping (corrosive materials)," Vol. 1, Data Sheets No. 325.

ARTICLE 16. SMELTERS

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304 and 27-305.

R11-1-1601. Walking or standing directly on reverb arch

No one shall walk or stand directly on the reverb arch or any part of the flue system, while in operation, except in an emergency situation. In such event, adequate safeguards and supervision will be provided to assure safety.

Historical Note

Former Rule 16:01; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-1602. Avoid splashing or exploding of molten material

Avoid anything that will cause molten material to splash or explode; keep water away from molten material except where water is required by the process.

Historical Note

Former Rule 16:02.

R11-1-1603. Employees shall be adequately protected

Employees engaged in tapping, charging or skimming operations or any similar procedure shall be adequately protected from the hazards of the work by proper shielding if practical or, in its absence, by adequate individual protective covering. It is the duty of all such persons to use the shields and appliances provided.

Historical Note

Former Rule 16:03; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-1604. Employees shall stand clear of furnace operations

Employees shall stand clear of furnace operations such as skimming, tapping, charging, refining, and casting, unless actually engaged in the work or suitably protected.

Historical Note

Former Rule 16:04.

R11-1-1605. Employees shall not enter area unless authorized

Employees shall not enter any flue, dust chamber, furnace, tank or tunnel unless authorized and properly equipped.

Historical Note

Former Rule 16:05.

R11-1-1606. Transporting material with a crane, audible signal sounded

Separate and distinctive signals shall be sounded when rolling converters and when transporting hot metal.

Historical Note

Former Rule 16:06; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-1607. Dumping slag in a new place

Before dumping slag in a new place, care shall be taken to see that no employee, person or persons will be endangered by the hot slag and that no explosion hazard exists at the dumping place.

Historical Note

Former Rule 16:07.

R11-1-1608. Wet bars

Wet bars shall not be put in molten matte.

Historical Note

Former Rule 16:08.

R11-1-1609. Newly cleaned and mudded matte launders

Extreme caution should be used around newly cleaned and mudded matte launders when matte first starts to flow. Verbal notice shall be given person or persons when tapping newly cleaned launders.

Historical Note

Former Rule 16:09; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-1610. Employees working at the burner end of the reverb furnace

Employees working at the burner end of the reverb furnace should be on the alert for returning converter slag.

Historical Note

Former Rule 16:10.

R11-1-1611. Employees alert of crane movement

Employees should be on the alert and observe direction of crane movement at all times.

Historical Note

Former Rule 16:11.

R11-1-1612. Employees should stay out of the converter aisle

Employees should stay out of the converter aisle while loads are being hauled by the crane, unless their work requires that they be there. Supervisors shall take proper measures to assure the safety of persons required to stay working in converter aisle.

Historical Note

Former Rule 16:12; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-1613. When in converter aisles, avoid slag spouts

When in converter aisles, employees should not stand under or near slag spouts, or in any location where there is danger of dripping metal or falling objects.

Historical Note

Former Rule 16:13.

R11-1-1614. Employees shall not overfill ladles

Employees shall not overfill slag, matte or molten copper ladles. Supervision shall take precautions for the safety of employees in the area for all overfills caused by runways beyond the control of employees.

Historical Note

Former Rule 16:14; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-1615. Authorized persons in crane cab

Only authorized persons shall be allowed in the crane cab.

Historical Note

Former Rule 16:15.

R11-1-1616. Ladles carefully poured

Ladles should be carefully poured to minimize spills. Every ladle or slag pot shall be examined before molten material is placed therein.

Historical Note

Former Rule 16:16; Amended effective April 7, 1976 (Supp. 76-2).

R11-1-1617. Breaking material on skull breaker and trimming bullion bars

Appropriate goggles or face shields shall be provided and used when breaking material on the skull breaker and when trimming bullion bars.

Historical Note

Former Rule 16:17.

R11-1-1618. Coupling and uncoupling cars

Cars should be coupled and uncoupled carefully. Feet shall not be used to align couplings.

Historical Note

Former Rule 16:18.

R11-1-1619. Trains stopped before uncoupling

Trains should be stopped before they are uncoupled. The wheels of slag pot cars left behind should be blocked to prevent runaways.

Historical Note

Former Rule 16:19.

R11-1-1620. During electrical storms, slag trains kept inside

Trolley operated slag trains should be kept in the smelter building during electrical storms and trolley pole removed from trolley wire.

Historical Note

Former Rule 16:20.

R11-1-1621. Access to converter aisle limited

Access to the converter aisle must be limited to people authorized by the company.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1622. Equipment in converter aisle

Equipment shall not enter the converter aisle or slag tap area unless authorization has been secured from the supervisor in charge of the area.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1623. Reserved

R11-1-1624. Hoist cable on cranes

Hoist cable on all cranes shall conform to the American National Standards, ANSI-D-30.9-1971.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1625. Detection equipment, breathing apparatus and portable resuscitating apparatus made available

There shall be maintained in all plants, at designated places, N.I.O.S.H.-approved breathing apparatus, detection equipment and resuscitating equipment, all readily available to trained personnel for use where the atmosphere may contain dangerous concentrations of gases or vapors which may be hazardous to life.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1626. Reserved

R11-1-1627. Shielding and protective clothing shall be provided

Where required, proper shielding and protective clothing shall be used, particularly when working in extreme heat conditions, flue dust, or open fires.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1628. Signalmen shall be assigned when mechanical signals fail

Alternate signaling procedures shall be established to cover mechanical failures where needed.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1629. Cabs pressurized and ventilated

All cabs on hot metal crane shall be pressurized or have suitable ventilating air meeting the requirements of R11-1-404.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1630. Converter cranes equipped with safety glass

All converter cranes shall be equipped with safety glass or equivalent.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1631. Reserved

R11-1-1632. Entry into hot vessels, precautions

When extreme heat conditions exist, sufficient cooling time shall be allowed before persons are allowed to enter converters, roasters, and reactors. Protective clothing shall be used when applicable. A supervisor shall be present when workers are in the vessel and determine when the vessel has cooled sufficient to allow safe access.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1633. When gassy conditions exist

When heavy dust, smoke or greasy conditions exist in any area, only those workers who are properly equipped with personal protective devices will be allowed into the area.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1634. Spout doors

Spout doors must be maintained in an operable condition.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1635. Environmental hazards monitoring

- A. Where there is a potential for exposure of workers to specific environmental hazards which may adversely effect safety or health, those hazards shall be periodically monitored by the mine operator. The operator shall promptly initiate appropriate action to correct unfavorable conditions.
- B. A record that hazard monitoring was conducted shall be kept by the operator for a period of one year and shall be made available for review by the Inspector.

Historical Note

Adopted effective August 18, 1980 (Supp. 80-4).

ARTICLE 17. AERIAL TRAMWAYS

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304 and 27-305.

R11-1-1701. Guard nets or other suitable protection

Guard nets or other suitable protection shall be provided where aerial tramways pass over roadways, walkways or buildings.

Historical Note

Former Rule 17:01.

R11-1-1702. Riding aerial tramways

Persons other than maintenance men shall not ride aerial tramways unless the following features are provided:

- 1. Two independent brake feet capable of holding the maximum load.
- 2. Power drives with emergency power available in case of primary power failure.
- 3. Men shall not ride loaded buckets or aerial tramways.
- 4. Direct communication between terminals.
- 5. Buckets equipped with positive locks to prevent accidental tripping or dumping.

Historical Note

Former Rule 17:02.

R11-1-1703. Starting aerial tramways

Where possible, aerial tramways shall not be started until the operator has ascertained that everyone is in the clear.

Historical Note

Former Rule 17:03.

ARTICLE 18. GASSY MINES

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304 and 27-305.

R11-1-1801. Gassy mines operated in accordance with mandatory standards

Gassy mines shall be operated in accordance with all mandatory standards in this part. Such mines shall also be operated in accordance with the mandatory standards in this Section. The standards in this Section apply only to underground operations.

Historical Note

Former Rule 18:01.

R11-1-1802. Classifying mines gassy

A mine shall be deemed gassy and thereafter operated as a gassy mine if:

- 1. The State Mine Inspector classifies the mine as gassy; or
- 2. Flammable gas emanating from the orebody or the strata surrounding the orebody has been ignited in the mine; or
- 3. A concentration of 0.25% or more, by air analysis, of flammable gas emanating only from the orebody or the strata surrounding the orebody has been detected not less than 12 inches from the back, face, or ribs in any open working; or
- 4. The mine is connected to a gassy mine.

Historical Note

Former Rule 18:02.

R11-1-1803. Flammable gases detected

Flammable gases detected while unwatering mines and similar operations shall not be used to class a mine gassy.

Historical Note

Former Rule 18:03.

R11-1-1804. Men shall not smoke or carry smoking materials underground

Men shall not smoke or carry smoking materials, matches or lighters underground. The operator shall institute a reasonable program to ensure that persons entering the mine do not carry smoking materials, matches, or lighters. A "reasonable program" means, at the least, a personal search on an irregular basis by mine officials.

Historical Note

Former Rule 18:04.

R11-1-1805. Use of open flames

Except when necessary for welding or cutting, open flames shall not be used in other than fresh air or in places where flammable gases are present or may enter the air current.

Historical Note

Former Rule 18:05.

R11-1-1806. Welding or cutting underground

Welding or cutting with arc or flame underground in other than fresh air or in places where flammable gases are present or may enter the air current shall be under the direct supervision of a qualified person who shall test for flammable gases before and frequently during such operations.

Historical Note

Former Rule 18:06.

R11-1-1807. Welding or cutting in atmospheres containing more than 1.0% of flammable gases

Welding or cutting shall not be performed in atmospheres containing more than 1.0% of flammable gases. The concentration of flammable gases is to be determined by a device (approved by the Inspector) other than a permissible flame safety lamp.

Historical Note

Former Rule 18:07.

R11-1-1808. Ventilation, main fans -- installation

Main fans shall be:

1. Installed on the surface.
2. Powered electrically from a circuit independent of the mine power circuit. Internal combustion engines shall be used only for standby power or where electrical power is not available.
3. Installed in fireproof housing provided with fireproof air ducts.
4. Offset not less than 15 feet from the nearest side of the mine opening and equipped with ample means of pressure relief unless:
 - a. The opening is not in direct line with forces which would come out of the mine should an explosion occur, and
 - b. Another opening not less than 15 feet nor more than 100 feet from the fan opening is equipped with a weak-wall stopping or explosion doors in direct line with the forces which would come out of the mine should an explosion occur.
5. Installed to permit prompt reversal of airflow.
6. Attended constantly, or provided with automatic devices to give alarm when the fans slow down to stop. Such devices shall be replaced so that they will be seen or heard by responsible persons.

Historical Note

Former Rule 18:08.

R11-1-1809. Ventilation, main fans -- operation

Main fans should be:

1. Operated continuously except when the mine is shut down for an extended period.
2. Provided with pressure-recording gauges.
3. Inspected daily each day during which the fan is operated and records kept of such operations and of fan maintenance.

Historical Note

Former Rule 18:09.

R11-1-1810. Main intake and return air currents

The main intake and return air currents in mines should be in separate shafts, slopes, or drifts.

Historical Note

Former Rule 18:10.

R11-1-1811. Single shafts used for intake and return

When single shafts are used for intake and return the curtain wall or partition shall be constructed of reinforced concrete or equivalent and provided with pressure relief devices.

Historical Note

Former Rule 18:11.

R11-1-1812. When main fan fails or stops

When a main fan fails or stops and ventilation is not restored in a reasonable time, and in no event more than 15 minutes, action shall be taken to cut off the power to the areas affected and to withdraw all men from such areas.

Historical Note

Former Rule 18:12.

R11-1-1813. When there has been a failure of ventilation

When there has been a failure of ventilation and ventilation has been restored in a reasonable time, all active workings and travelways where flammable gas may have accumulated should be examined by qualified persons and determined to be free of flammable gas before power is restored and work resumed.

Historical Note

Former Rule 18:13.

R11-1-1814. When ventilation is not restored in a reasonable time

When ventilation is not restored in a reasonable time, and in no event more than 15 minutes, all men shall be removed from the areas affected and after ventilation has been restored, the areas affected shall be examined by qualified persons for gas and other hazards and made safe before power is restored and before men other than the examiners and other authorized persons return to the areas affected. The word "safe" as used in this rule means that the flammable gas concentration is not more than 1% and other hazards are no more hazardous than those experienced in routine normal mining operations.

Historical Note

Former Rule 18:14.

R11-1-1815. When main fan or fans have been shut down

When the main fan or fans have been shut down with all men out of the mine, no person, other than those qualified to examine the mine, or other authorized persons, shall go underground until the fans have been started and the mine examined for gas and other hazards and declared safe.

Historical Note

Former Rule 18:15.

R11-1-1816. Booster fans -- operation

Booster fans shall be:

1. Operated by permissible drive units maintained in permissible condition.
2. Operated only in air containing not more than 1% flammable gas.

Historical Note

Former Rule 18:16.

R11-1-1817. Booster fans -- inspection, equipment

Booster fans shall be:

1. Inspected by a qualified person at least once each shift during which the fan has been operated or provided with automatic devices to give alarm when the fan has slowed down or stopped.
2. Equipped with devices that automatically cut off the power in areas affected if the fans slow down or stop, when the fans are not provided with automatic alarm devices.
3. Provided with air locks, the doors of which open automatically if the fan stops operating.

Historical Note

Former Rule 18:17.

R11-1-1818. Auxiliary fans -- operation

Auxiliary fans shall be:

1. Operated by permissible drive units maintained in permissible condition.
2. Operated only in air conditioning not more than 1.0% flammable gas.

Historical Note

Former Rule 18:18.

R11-1-1819. Auxiliary fans -- inspection

Auxiliary fans should be:

1. Inspected by competent persons at least twice each shift.

Historical Note

Former Rule 18:19.

R11-1-1820. When auxiliary or booster fans slow down or stop

Men shall be withdrawn from areas affected by auxiliary or booster fans when such fans slow down or stop.

Historical Note

Former Rule 18:20.

R11-1-1821. Volume and velocity of the current of air

The volume and velocity of the current of air coursed through all active areas shall be sufficient to dilute and carry away flammable gases, smoke and fumes.

Historical Note

Former Rule 18:21.

R11-1-1822. Quantity of air

The quantity of air coursed through the last open crosscuts in pairs or sets of entries or through other ventilation openings nearest the face shall be at least 6,000 cubic feet a minute.

Historical Note

Former Rule 18:22.

R11-1-1823. Measuring quantity of air at least once a week

At least once each week, a qualified person shall measure the volume of air entering the main intakes and leaving the main returns, the volume of the intake and return of each split, and the volume through the last open crosscuts or other ventilation openings nearest the active faces. Records of such measurements shall be kept in a book on the surface.

Historical Note

Former Rule 18:23.

R11-1-1824. Permanently installed battery-charging and transformer stations

Permanently installed battery-charging and transformer stations should be ventilated by separate splits of air conducted directly to return air courses.

Historical Note

Former Rule 18:24.

R11-1-1825. Intake air

Electrically operated pumps, compressors, and portable substations should be in intake air.

Historical Note

Former Rule 18:25.

R11-1-1826. Changes in ventilation

Changes in ventilation that materially affect the main air current of any split thereof and may affect the safety of persons in the mine shall be made only when no work is being done in the mine other than that necessary to effect the ventilation change. Only those persons engaged in making such changes shall be permitted in the mine during the change. Power shall be removed from the areas affected by the change before work starts and not restored until the effect of the change has been ascertained and the affected areas determined to be safe by a qualified person.

Historical Note

Former Rule 18:26.

R11-1-1827. Flammable gas in excess of 1.0%

If flammable gas in excess of 1.0% by volume is detected in the air not less than 12 inches from the back, face, and rib of an underground working place, or in air returning from a working place or places, adjustments shall be made in the ventilation immediately so that the concentration of flammable gas in such air is reduced to 1.0% or less.

Historical Note

Former Rule 18:27.

R11-1-1828. Flammable gas in excess of 1.5%

If 1.5% or higher concentration of flammable gas is detected in air returning from an underground working place or places, the men shall be withdrawn and the power cut off to the portion of the mine endangered by such flammable gas until the concentration of such gas is reduced to 1.0% or less.

Historical Note

Former Rule 18:28.

R11-1-1829. Air containing 0.25% or more of flammable gas

Air that has passed by an opening of any unsealed abandoned area and contains 0.25% or more of flammable gas shall not be used to ventilate working areas. Examinations of such air shall be conducted during the preshift examination required by R11-1-1847.

Historical Note

Former Rule 18:29.

R11-1-1830. Air inaccessible for inspection shall not be used for ventilation

Air that has passed through an abandoned panel or area which is inaccessible for inspection shall not be used to ventilate any active face workings in such mine. No air which has been used to ventilate an area from which the pillars have been removed shall be used to ventilate any active face workings in such mine, except that such air may be used to ventilate enough advancing working places or rooms immediately adjacent to the line of retreat to maintain an orderly sequence of pillars recovery on a set of entries.

Historical Note

Former Rule 18:30.

R11-1-1831. Abandoned areas shall be sealed or ventilated

Abandoned areas shall be sealed or ventilated; areas that are not sealed shall be barricaded and posted against unauthorized entry.

Historical Note

Former Rule 18:31.

R11-1-1832. Seals shall be of substantial construction

Seals shall be of substantial construction. Exposed surfaces shall be made of fire-resistant material such as gunite-covered wood or material, asbestos sheeting, masonry, concrete or reinforced concrete, and steel or covered steel. If a commodity mined is combustible, seals should be made of incombustible material.

Historical Note

Former Rule 18:32.

R11-1-1833. Sampling of atmosphere and measurement of pressure

One or more seals of every sealed area shall be fitted with a pipe and a valve or cap to permit sampling of the atmosphere and measurement of the pressure behind such seals.

Historical Note

Former Rule 18:33.

R11-1-1834. Crosscuts

Crosscuts shall be made at intervals not in excess of 100 feet between entries and between rooms.

Historical Note

Former Rule 18:34.

R11-1-1835. Crosscuts closed

Crosscuts should be closed where necessary to provide adequate face ventilation.

Historical Note

Former Rule 18:35.

R11-1-1836. Line brattice or other suitable devices

Line brattice or other suitable devices shall be installed from the last open crosscut to a point near the face to assure positive air flow to the face of every active underground working place, unless the Inspector or his authorized representative permits an exception to this requirement.

Historical Note

Former Rule 18:36.

R11-1-1837. Brattice cloth

Brattice cloth should be of fire-resistant material.

Historical Note

Former Rule 18:37.

R11-1-1838. Damaged brattices

Damaged brattices shall be repaired promptly.

Historical Note

Former Rule 18:38.

R11-1-1839. Crosscuts provided

Crosscuts should be provided, where practicable, at or near the faces of entries and rooms before they are abandoned.

Historical Note

Former Rule 18:39.

R11-1-1840. Entries or rooms shall not be started off entries

Entries or rooms shall not be started off entries beyond the last open crosscuts, except that room necks and entries not to exceed 18 feet in depth may be turned off entries beyond the last open crosscuts if such room necks or entries are kept free of accumulations of flammable gas by use of line brattice or other adequate means.

Historical Note

Former Rule 18:40.

R11-1-1841. Stoppings in crosscuts between intake and return airways

Stoppings in crosscuts between intake and return airways, on entries other than room entries, should be built of solid, substantial material; exposed surfaces should be made of fire-resistant material such as gunite-covered wood or material, asbestos sheeting, masonry, concrete or reinforced concrete, and steel or covered steel. If the material mined is combustible, stoppings should be made of incombustible material.

Historical Note

Former Rule 18:41.

R11-1-1842. Stoppings airtight

Stoppings should be reasonably airtight.

Historical Note

Former Rule 18:42.

R11-1-1843. Main ventilation

The main ventilation shall be so arranged by means of air locks, overcasts, or undercasts that the passage of trips or persons does not cause interruptions of air currents. Where air locks are impracticable, single doors may be used if they are attended constantly while the areas of the mine affected by the doors are being worked, unless they are operated mechanically or are self-closing.

Historical Note

Former Rule 18:43.

R11-1-1844. Air locks shall be ventilated sufficiently

Air locks shall be ventilated sufficiently to prevent accumulations of flammable gas in concentrations greater than 1% inside the locks.

Historical Note

Former Rule 18:44.

R11-1-1845. Doors shall be kept closed

Doors shall be kept closed except when men or equipment are passing through the doorways.

Historical Note

Former Rule 18:45.

R11-1-1846. Overcasts and undercasts

Overcasts and undercasts should be:

1. Constructed tightly of incombustible material.
2. Of sufficient strength to withstand possible falls from the back.
3. Kept clear of obstructions.

Historical Note

Former Rule 18:46.

R11-1-1847. Preshift examinations

Preshift examinations shall be made of all working areas by qualified persons within three hours before any workmen, other than the examiners, enter the mine.

Historical Note

Former Rule 18:47.

R11-1-1848. Qualified examiners

Only qualified examiners and persons authorized to correct the dangerous conditions shall enter places or areas where danger signs are posted.

Historical Note

Former Rule 18:48.

R11-1-1849. Danger signs shall not be removed

Danger signs shall not be removed until the dangerous conditions have been corrected.

Historical Note

Former Rule 18:49.

R11-1-1850. Examinations for dangerous conditions

Examinations for dangerous conditions, including tests for flammable gas with a device approved by the Inspector should be made at least once each week, and at intervals of not more than seven days, by the mine foreman or other designated mine official, except during weeks in which the mine is idle for the entire week. The foreman or other designated mine official should:

1. Examine and make tests:
 - a. In the return of each split where it enters the main return,
 - b. On accessible pillar falls,
 - c. At seals,
 - d. In the main return,
 - e. In at least one entry of each intake and return airway in its entirety,
 - f. In idle workings,
 - g. In abandoned workings, insofar as conditions permit.
2. Mark his initials and the date at the place examined.
3. Report dangerous conditions, promptly to the mine operator or other designated person.
4. Record the results of his examination with ink or indelible pencil in a book kept for that purpose at a designated place on the surface of the mine.

Historical Note

Former Rule 18:50.

R11-1-1851. Prompt action to correct dangerous conditions

The mine foreman or other designated mine official should read and countersign promptly the reports of daily and weekly examinations by qualified persons and should take prompt action to have dangerous conditions corrected.

Historical Note

Former Rule 18:51.

R11-1-1852. Diesel-powered equipment

Diesel-powered equipment shall not be taken into or operated in places where flammable gas exceeds 1.0% at any point not less than 12 inches from the back, face, and rib.

Historical Note

Former Rule 18:52.

R11-1-1853. Trolley wires and trolley feeder wires

Trolley wires and trolley feeder wires shall be on intake air and shall not extend beyond the last open crosscut or other ventilation opening. Such wires shall be kept at least 150 feet from pillar workings.

Historical Note

Former Rule 18:53.

R11-1-1854. Only permissible equipment maintained

Only permissible equipment maintained in permissible condition shall be used beyond the last open crosscut or in places where dangerous quantities of flammable gases are present or may enter the air current.

Historical Note

Former Rule 18:54.

R11-1-1855. Only permissible distribution boxes shall be used

Only permissible distribution boxes shall be used in working places and other places where dangerous quantities of flammable gas may be present or may enter the air current.

Historical Note

Former Rule 18:55.

R11-1-1856. Electrical equipment

No electric equipment shall be taken into or operated in places where flammable gas can be detected in the amount of 1.0% or more at any point not less than 12 inches from the back, face, and rib.

Historical Note

Former Rule 18:56.

R11-1-1857. Illumination

Only permissible electric lamps shall be used for portable illumination underground.

Historical Note

Former Rule 18:57.

R11-1-1858. Explosives not designated permissible by Bureau of Mines

Explosives not designated as permissible by the Bureau of Mines shall not be used in any underground gassy mine until the Bureau of Mines and State Inspector of Mines have given written approval for each such specific explosive to be used.

Historical Note

Former Rule 18:58.

R11-1-1859. Granting approval of unpermissible explosives

The Bureau of Mines and the State Inspector of Mines, in granting approval referred to in R11-1-1858 above, shall provide the operator with a written list of conditions for using the specific explosives covered by the approval and adapted to the mining operation.

Historical Note

Former Rule 18:59.

R11-1-1860. Blasts in gassy mines shall be initiated electrically

Blasts in gassy mines shall be initiated electrically, and multiple-shot blasts shall be initiated only with millisecond-delay detonators. Permissible blasting units of capacity suitable for the number of holes in a round to be blasted shall be used unless the round is fired from the surface when all men are out of the mine.

Historical Note

Former Rule 18:60.

R11-1-1861. Boreholes stemmed

Boreholes shall be stemmed as prescribed for the explosives used.

Historical Note

Former Rule 18:61.

R11-1-1862. Examinations for flammable gas

Examinations for flammable gas shall be made immediately before and after firing each shot or round.

Historical Note

Former Rule 18:62.

R11-1-1863. Shots or rounds shall not be fired

Shots or rounds shall not be fired in places where flammable gas can be detected with a permissible flame safety lamp, or where 1.0% or more of flammable gas can be detected by any other Bureau of Mines approved device or method, at a point not less than 12 inches from the back, face, and rib.

Historical Note

Former Rule 18:63.

R11-1-1864. Shots or rounds should be fired by qualified persons

Shots and rounds should be fired by qualified persons.

Historical Note

Former Rule 18:64.

ARTICLE 19. MISCELLANEOUS PROVISION

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes, and A.R.S. §§ 27-304 and 27-305.

R11-1-1901. Failure of a water or silt retaining dam

If failure of a water or silt retaining dam will create a hazard, it shall be of substantial construction and inspected at regular intervals.

Historical Note

Former Rule 19:01.

R11-1-1902. Renumbered

Historical Note

Former Rule 19:02; Former Section R11-1-1902 renumbered as Section R11-1-130 effective August 18, 1980 (Supp. 80-4).

R11-1-1903. Prior notification of inspection

No employee of the State Mine Inspector's office shall advise or notify an operator of a mine, any employee of a mine, or a representative of the employee of a mine, that a health and safety inspection, or industrial hygiene study or survey, of a mine is imminent or about to be made, or the date on which such inspection, survey or study will be made.

Historical Note

Adopted effective April 7, 1976 (Supp. 76-2).

R11-1-1904. Repealed

Historical Note

Adopted effective Dec. 21, 1976 (Supp. 76-5). Repealed effective August 18, 1980 (Supp. 80-4).

ARTICLE 20. STORAGE AND MIXING OF REAGENTS IN CONCENTRATORS

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes and A.R.S. §§ 27-304 and 27-305.

R11-1-2000. Chemicals, general

CHEMICALS IN ANY FORM CAN BE SAFELY STORED, HANDLED OR USED IF THE PHYSICAL, CHEMICAL AND HAZARDOUS PROPERTIES ARE FULLY UNDERSTOOD AND THE NECESSARY PRECAUTIONS, INCLUDING THE USE OF PROPER SAFEGUARDS AND PERSONAL PROTECTIVE EQUIPMENT ARE OBSERVED.

Hazardous chemicals: The following list of chemicals shall be classified as hazardous and rules shall so stipulate. The following list shall not be limited to the below mentioned chemicals:

| Name | Threshold Limit Value |
|--------------------------|----------------------------------|
| Ammonium Sulfide | 1 Mg/M ³ of air |
| Butyl Alcohol | 100 P.P.M. |
| Calcium Cyanide | |
| Carbon Disulfide | 20 P.P.M. |
| Chlorine | 1 P.P.M. |
| Cresylic Acid | 5 P.P.M. |
| Hydrogen | |
| Hydrogen Sulfide | 10 P.P.M. |
| Methyl Isobutyl Carbinol | 25 P.P.M. |
| Peroxide (+45% Strength) | 1 P.P.M. |
| Phosphorous Pentasulfide | 1 Mg/M ³ of air |
| Sodium Cyanide | 5 Mg/M ³ of air |
| Sodium Hydrosulfide | None, Liberates H ₂ S |
| Sodium Hydroxide | 2 Mg/M ³ of air |
| Sodium Metabisulfite | |
| Sulphur Dioxide | 5 P.P.M. |
| Sulfuric Acid | 1 Mg/M ³ of air |

R11-1-2001. Good housekeeping

Good housekeeping is a must in reagent storage, mixing and use.

Historical Note

Former Rule 20:01.

R11-1-2002. Personal protective equipment

Personal protective equipment shall be available for use in hazardous reagent mixing area.

Historical Note

Former Rule 20:02.

R11-1-2003. Safety showers and eye wash fountains

Safety showers and eye wash fountains shall be located in those areas where exposure to reagents could create a hazard to personnel.

Historical Note

Former Rule 20:03.

R11-1-2004. Adequate fire protection

Adequate fire protection shall be provided for storage and mixing areas.

Historical Note

Former Rule 20:04.

R11-1-2005. Self-contained breathing equipment in mills where hazardous reagents are present

Mills where hazardous reagents are present shall have self-contained breathing equipment available. Men on each shift shall be trained in the use of this equipment.

Historical Note

Former Rule 20:05.

R11-1-2006. Distinctive warning device

A distinctive warning device will be installed in all areas of mills where the production of toxic or noxious fumes or gases is possible. Such a device is to alert personnel of the need to evacuate the building.

Historical Note

Former Rule 20:06.

R11-1-2007. Error or omission in these rules and regulations

No error or omission in these rules and regulations shall be construed as permitting an unsafe, unhealthy or unsanitary condition to exist.

Historical Note
Former Rule 20:07.

R11-1-2008. Reserved

R11-1-2009. Reserved

R11-1-2010. Reserved

R11-1-2011. Reserved

R11-1-2012. Reserved

R11-1-2013. Reserved

R11-1-2014. Reserved

R11-1-2015. Tanks labeled

All tanks must be labeled as to contents.

Historical Note
Former Rule 20:15.

R11-1-2016. Tanks provided with means of measuring

All tanks shall be provided with a safe means of measuring content level.

Historical Note
Former Rule 20:16.

R11-1-2017. Tanks labeled as to contents

All reagent containers must be labeled as to contents and stored in designated areas.

Historical Note
Former Rule 20:17.

R11-1-2018. Liquid storage tanks, suitable means of disposal

All liquid storage tanks shall be supplied with suitable means of containment or disposal to provide safe disposal of contents in event of tank failure. Liquid storage tanks must also be equipped with overfill piping to contain overflow to a suitable and safe disposal area.

Historical Note
Former Rule 20:18.

R11-1-2019. Storage tanks vented

All storage tanks must be vented except those under pressure.

Historical Note
Former Rule 20:19.

R11-1-2020. Reagent containers stored

Reagent containers shall be stored so as to protect the contents from the effects of weather if such exposure would create a hazardous situation.

Historical Note
Former Rule 20:20.

R11-1-2021. Oxidizing agents stored

Oxidizing agents shall not be stored adjacent to reducing agents or flammable material where container failure could allow combining of materials.

Historical Note
Former Rule 20:21.

R11-1-2022. Warning signs at reagent storage areas

Suitable warning signs shall be posted at all reagent storage areas limiting entry and smoking, where a hazard exists.

Historical Note
Former Rule 20:22.

R11-1-2023. Reagent tanks emitting toxic vapor

Reagent tanks capable of emitting toxic vapor shall be either located outside the mill building or positively vented to the outside.

Historical Note
Former Rule 20:23.

R11-1-2024. Reagent stocks rotated

Reagent stocks should be rotated on a first-in, first-out basis.

Historical Note
Former Rule 20:24.

R11-1-2025. Stacking reagent containers

Stacking of reagent containers shall not present a hazard.

Historical Note
Former Rule 20:25.

R11-1-2026. Disposal obsolete reagents

Disposal of obsolete reagents should be accomplished according to safe procedure.

Historical Note
Former Rule 20:26.

R11-1-2027. Broken containers or spilled reagents

Broken containers or spilled reagents must be cleaned up immediately.

Historical Note
Former Rule 20:27.

R11-1-2028. Reagent storage facilities well drained

Reagent storage facilities shall be well drained. Storage facilities should be constructed of fire-resistant material if reagents stored therein are flammable or corrosive to wood.

Historical Note
Former Rule 20:28.

R11-1-2029. Heat applied to storage tanks

Heat shall not be applied to storage tanks except in compliance with recognized Trade Association Handling Code.

Historical Note
Former Rule 20:29.

R11-1-2030. Reserved

R11-1-2031. Hazardous reagents mixed

Hazardous reagents shall be mixed in areas that minimize personnel exposure.

Historical Note
Former Rule 20:31.

R11-1-2032. Personnel mixing reagents

All personnel mixing reagents must be trained in the mixing procedure.

Historical Note
Former Rule 20:32.

R11-1-2033. Phosphorous pentasulfide

Phosphorous pentasulfide shall be added slowly to the sodium hydroxide solution from a container large enough to hold just the amount needed for one bath. This conveyor shall be constructed of spark-resistant materials, driven by an explosion-proof motor, thermostatically controlled at a safe mixing solution temperature. The container shall be electrically bonded and grounded or constructed of non-sparking material.

Historical Note
Former Rule 20:33.

R11-1-2034. Men designated for hazardous reagent mixing certified

Men designated for hazardous reagent mixing must be certified by the mill superintendent and a copy of such names filed in the office of the mill superintendent and available to the Arizona Mine Inspector.

Historical Note
Former Rule 20:34.

R11-1-2035. Mixing tanks and holding tanks labeled

All mixing tanks and holding tanks shall be labeled as to contents.

Historical Note
Former Rule 20:35.

R11-1-2036. Mixing tanks used for different reagents

If a mixing tank is used for different reagents, and if a hazard exists, the tank and distribution lines should be flushed after mixing each reagent.

Historical Note

Former Rule 20:36.

R11-1-2037. Reagent mixes with exothermic reaction

Reagent mixes with exothermic reaction shall be subject to positive temperature control if such reaction can create a hazard.

Historical Note

Former Rule 20:37.

R11-1-2038. Adequate ventilation in mixing area

Hazardous reagent mixing areas must have adequate ventilation.

Historical Note

Former Rule 20:38.

R11-1-2039. Suitable warning signs at mixing area

Suitable warning signs shall be posted at all reagent mixing areas, limiting entry and smoking where a hazard exists.

Historical Note

Former Rule 20:39.

R11-1-2040. Hydrogen storage

Hydrogen shall be stored in an open area which shall be roofed to prevent direct sunlight from heating the containers. The area shall be posted with "No Smoking" or "Open Flame" signs.

ARTICLE 21. ASSAY AND METALLURGICAL LABORATORIES

The rules in this Article are adopted in accordance with the provisions of Article VII, Chapter 3, Title 27, Arizona Revised Statutes and A.R.S. §§ 27-304 and 27-305.

R11-1-2101. Mixing or heating of chemicals producing noxious fumes or gases

All mixing or heating of chemicals that may produce noxious fumes or gases must be performed under a hood or performed in adequately ventilated enclosures.

Historical Note

Former Rule 21:01.

R11-1-2102. Hoods ventilated

Hoods must be positively ventilated to the outside.

Historical Note

Former Rule 21:02.

R11-1-2103. Velocity of air moving through the hood

There shall be sufficient velocity of air moving through the hood to remove all fumes or gas produced in the hood.

Historical Note

Former Rule 21:03.

R11-1-2104. When hood fails to exhaust properly

When a hood fails to exhaust properly, it will be promptly reported to maintenance and repaired before being used again.

Historical Note

Former Rule 21:04.

R11-1-2105. No unplanned recirculation of exhaust air

A means shall be provided to assure that no unplanned recirculation of exhaust air occurs.

Historical Note

Former Rule 21:05.

R11-1-2106. Involving the use of perchloric acid

Hoods and ducts that are to be used in the digestion and/or evaporation, involving the use of perchloric acid must be made of chemically inert, non-combustible material and so constructed and designed that they can be thoroughly washed with water. The exhaust system shall discharge to a safe location and the fans be accessible for cleaning.

Historical Note

Former Rule 21:06.

ARTICLE 22. CYANIDE LEACH OPERATIONS

R11-1-2201. Reserved

R11-1-2202. Cyanide Safety Training

- A. Supervisors working in an area where cyanide is used or stored shall successfully complete a cyanide safety course conducted by the State Mine Inspector prior to starting a cyanide leaching operations.
- B. Employees working in an area where cyanide is used or stored shall be indoctrinated in safety rules and safe work procedures by the supervisor during the first work shift.
- C. Employees working in an area where cyanide is used or stored shall complete a cyanide safety course conducted by the Arizona State Mine Inspector as soon as possible but no later than 30 days after the start of employment.
- D. Supervisors and employees working in an area where cyanide is used or stored shall possess a cyanide training certificate indicating the course completed and the date of completion. A copy of current certification shall be made available to the State Mine Inspector upon request.
- E. Supervisors and employees shall receive training required by this Section at least once every 12 months.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2203. Posting of Emergency Procedures

Cyanide first-aid emergency procedures shall be posted and visible at the operations main office and at each first-aid station and in all areas where cyanide is handled.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2204. Emergency Provisions, Cyanide Antidote Kits

- A. Approved cyanide antidote kits for treatment of cyanide poisoning shall be made available at workplaces where cyanide is used, stored, or handled or where there is a potential for exposure to hydrogen cyanide gas or dry or solution cyanide contamination.
- B. An approved cyanide antidote kit is one containing:
 - 1. Two dozen current amyl nitrite pearls for inhalation;
 - 2. Two ampules of sterile sodium nitrite solution for injection (10 milliliters of a 3% solution in each);
 - 3. Two ampules of sterile sodium thiosulfate for injection (50 milliliters of a 25% solution in each);
 - 4. Two sterile 10-milliliter syringes and one sterile 50-milliliter syringe with sterile intravenous needles;
 - 5. One tourniquet to facilitate the administration of injectable medications;
 - 6. One stomach tube to wash swallowed solutions from the stomach.
- C. Contents of cyanide antidote kits shall be administered only by trained persons during a medical emergency and for the purpose of first-aid procedures only. A trained person is one who has completed a cyanide safety course conducted by the Arizona State Mine Inspector.
- D. In no case shall there be less than two cyanide antidote kits on the property unless removed during a medical emergency.
- E. Cyanide antidote kits contents shall be replaced and stored according to manufacturer's instructions and shall contain complete instructions for use.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2205. Conditions for Employee Working Alone

No employee shall be assigned or permitted to work alone in any area where hazardous conditions exist or may exist that would endanger the worker's safety unless the worker can communicate with others in the immediate vicinity or can be visually observed at all times.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2206. Attendance

No cyanide leaching operation shall be left unattended while cyanide is present in dry or solution form.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2207. Safety Showers and Eyewash Facilities, Emergency Water

Safety showers and eye wash fountains shall be available in the areas where cyanide, caustics, or acids are used or stored. Eye wash equipment shall be inspected and tested at regular intervals daily.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2208. Reserved

R11-1-2209. Fire protection

Adequate fire protection and fire suppression apparatus shall be provided for all storage and mixing areas.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4).

R11-1-2210. Reserved

R11-1-2211. Personal Protective Equipment

- A. Persons handling cyanide salts or solutions during the operation, mixing, maintenance, and leaching procedures shall wear appropriate protective equipment consisting of, but not limited to, eye protection, water-resistant gloves, water-resistant body protection, water-resistant footwear, and a full-face chemical cartridge respirator, with a high efficiency filter, that is used for acid gas and that is approved by the Mine Safety and Health Administration (MSHA) and the National Institute of Occupational Safety and Health (NIOSH) according to the requirements of 30 CFR 11, Subparts A-G and L (10-1-92 edition and no later editions), incorporated herein by reference and on file with the Arizona State Mine Inspector's Office and the Office of the Secretary of State.
- B. All personal protective equipment shall be washed, cleaned, or replaced after use and otherwise maintained in a safe, usable condition.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2212. Instruction on Use of Personal Protective Equipment

All persons handling cyanide salts, solutions, or open containers or other hazardous chemicals shall be instructed in the proper use of personal protective equipment prior to use.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2213. Spillage

Chemical spills shall be immediately returned to circuit or rendered harmless in a way consistent with standards of the industry.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2214. Reporting Spills or Leaks to State Mine Inspector

- A. Any unplanned release of a cyanide solution that may pose a threat to the health or safety of any employee or the general public shall be reported to the State Mine Inspector as soon as possible.
- B. Any release of HCN gas of 50 ppm or more shall be reported as soon as possible to the State Mine Inspector.
- C. All spills or releases shall be documented on a form provided by the State Mine Inspector. A copy of this form is included as Appendix A at the end of this Article.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2215. Reporting Suspected Leaks or Equipment Failure

Employees shall immediately report to their supervisor any leaks or spills of cyanide and any equipment failure within the cyanide circuit. The supervisor shall take immediate remedial action.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2216. Circuit Identification and Posting

- A. All lines and valves in cyanide circuits shall be identified.
- B. Potable water containers, sources, or outlets shall be identified.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2217. "Lock, Tag, and Test" Prior to Work on Electrical Circuit

Prior to or during any maintenance or repair work on any portion of the system, the disconnect switch shall be locked out, tagged, and the system tested. No persons other than the person placing the locks shall remove them.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2218. HCN Detection Instrument

When cyanide solution is utilized inside an enclosed structure, an audible and visual HCN warning device shall be installed and set to activate at an HCN concentration of 10 ppm.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2219. Ventilation

Ventilation capable of keeping the HCN concentration at or below 10 ppm shall be provided in all enclosed structures where cyanide, either dry or in solution, is used or stored.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2220. Reserved

R11-1-2221. Mixing Tank

The mixing tank shall be constructed in such a manner as to minimize any dust or gas generation.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2222. Reserved

R11-1-2223. Reserved

R11-1-2224. Maintaining pH and Records

- A. The "make-up"/mixing solution shall be maintained at a pH of 12.0 or higher. The leaching solution shall be maintained at a pH of 10.5 or higher.
- B. A shift record shall be kept of pH levels and cyanide concentrations. These records shall be available upon request for inspection by the State Mine Inspector.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2225. Dry Cyanide Storage

- A. Cyanide storage containers shall be stored in a secure and ventilated area.
- B. The secured storage area shall be posted with signs clearly indicating the hazard potential and safety precautions.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2226. Separated Container Storage

Cyanide shall not be stored or transported where it may become exposed to or mixed with acidic agents, nitrates, peroxides, or chlorates, or any agent capable of creating a hazardous reaction.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2227. Fencing

Leach pads, ponds, and open tanks containing cyanide solutions and any portion of an operation containing hazardous amounts of cyanide or other chemicals shall be fenced to restrict unauthorized entry by persons or entry by animals.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2228. Warning Signs

- A. Suitable warning signs shall be posted at all gates and other points of entry to any cyanide leach operation.
- B. Signs shall be posted on fencing at a minimum of 100-foot intervals and at each corner and shall be clearly visible and maintained so they may be easily seen and identified from a distance of 50 feet.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2229. Drum Disposal

Empty, nonreturnable cyanide containers shall be flushed at least three times with a large volume of water and flushing shall continue until no cyanide remains in the drum. Drum labels shall be removed or obliterated and drums destroyed. The flush water shall be returned to the circuit.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2230. Reserved

R11-1-2231. Cyanide circuit protection

- A. Cyanide leach pads, solution ponds and other areas which may contain cyanide solutions within the circuit shall have an impervious liner of a material that will prevent its penetration by the cyanide solution.
- B. An overflow safety pond or similar solution retention area shall be constructed to receive and contain all potential overflow from the leach pad and pregnant solution pond.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4).

R11-1-2232. Waste Lines

All lines from emergency shower, wash areas, or other cyanide waste sources shall be returned to the circuit.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2233. Inspections and maintenance

All leach pads and solution ponds shall be inspected and maintained so as to prevent any accidental cyanide solution release outside the protected circuit.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4).

R11-1-2234. Reserved

R11-1-2235. Operator Responsibility - Shutdown

- A. The operator shall give written notice to the State Mine Inspector prior to:
 - 1. Abandoning the property, and/or
 - 2. Suspending operations for more than 30 days, or
 - 3. Closing the operation.
- B. The operator shall be responsible for treating and testing all pads, ponds or other cyanide use areas. Test results of free cyanide shall be forwarded to the State Mine Inspector upon completion and shall be available for inspection upon request.

Historical Note

Adopted effective August 2, 1985 (Supp. 85-4). Amended effective July 6, 1993 (Supp. 93-3).

R11-1-2236. Receipt, Off-loading, Storage of Liquid Cyanide Solution

- A. Tank trucks will be visually inspected for leaks before they are allowed to enter the plant.
- B. Off-loading shall be performed only when lighting is available.
- C. The off-loading pad shall be constructed of an impervious base material and be arranged so liquid spillage will drain away from the truck and exposed structures and into the storage tank containment area. The pad shall be of sufficient length to allow the truck and trailer a minimum of four-foot clearance at each end and a minimum of two-foot clearance on each side. The vehicle must be positioned in a manner to allow forward movement away from off-loading pad.
- D. Only qualified and properly trained employees shall operate the truck and make the off-loading or loading hook-up. A qualified and properly trained employee is one who has an Arizona commercial driver's license with a current endorsement authorizing operation of a motor vehicle transporting hazardous materials, hazardous substances, or hazardous waste as defined by A.R.S. § 28-2401, or the equivalent license and endorsement from another state.
- E. Truck parking brakes shall be set and, where necessary, the wheels blocked during off-loading and loading.
- F. Warning signs shall be placed at all areas where cyanide is loaded and off-loaded.
- G. Piping shall be arranged so the cyanide will drain toward the storage tank when the discharge valve is closed.
- H. All pump packing and thrust seals at shaft shall be provided with splash guards in cases where personnel would be exposed to cyanide leaks or sprays.
- I. Safety chains shall be used at all cyanide hose connections.
- J. All storage tanks shall be adequately bermed, diked, or otherwise protected, with an impervious base material, designed to hold the maximum capacity of the tank in the event of a spill or rupture.

Historical Note

Adopted effective July 6, 1993 (Supp. 93-3).

Appendix A. Cyanide Spill Release Form

OFFICE OF STATE MINE INSPECTOR

1700 West Washington, Suite 403

Phoenix, Arizona 85007

(602) 542-5971

CYANIDE SPILL RELEASE FORM

STATE ID# _____

MSHA ID# _____

COMPANY _____

MAIL ADDR. _____

CITY _____ STATE _____ ZIP _____

MINE/PLANT NAME _____

LOCATION - RANGE _____ TOWNSHIP _____ SECTION _____

DATE SPILL OCCURRED _____

TIME SPILL OCCURRED _____

TIME STATE MINE INSPECTOR'S _____

LOCATION OF SPILL _____

OFFICE NOTIFIED OF SPILL _____

TYPE OF MINING OPERATION _____

TYPE & BRAND OF CYANIDE _____

WHERE OBTAINED _____

AMOUNT SPILLED _____

HOW DID SPILL OCCUR? HOW MANY PEOPLE WERE PRESENT AT TIME OF SPILL AND WAS ANYONE INJURED? IF SO, HOW WERE THEY TREATED AND HOW WAS AREA MADE STABLE?

PERSON SUBMITTING REPORT _____ DATE _____

TITLE _____ PHONE # _____

Historical Note

Adopted effective July 6, 1993 (Supp. 93-3).

TITLE 11. MINES

**CHAPTER 2. STATE MINE INSPECTOR
MINED LAND RECLAMATION**

ARTICLE 1. DEFINITIONS

Article 1, consisting of Section R11-2-101, adopted effective January 6, 1997 (Supp. 97-1).

| Section | Page |
|------------------------------|------|
| R11-2-101. Definitions | R-1 |

ARTICLE 2. GENERAL REGULATORY PROVISIONS

Article 2, consisting of Sections R11-2-201 through R11-2-207, adopted effective January 6, 1997 (Supp. 97-1).

| Section | |
|--|-----|
| R11-2-201. Document Submittals | R-1 |
| R11-2-202. Preservation of Documents | R-1 |
| R11-2-203. Extension of Time for Submittal of Plan | R-2 |
| R11-2-204. Supersedure by Federal Plan | R-2 |
| R11-2-205. Extension of Time for Initiation of Reclamation | R-2 |
| R11-2-206. Variance | R-2 |
| R11-2-207. Cessation of Mining Activity | R-2 |

**ARTICLE 3. EXPLORATION OPERATION
RECLAMATION PLAN**

Article 3, consisting of Sections R11-2-301 and R11-2-302, adopted effective January 6, 1997 (Supp. 97-1).

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| R11-2-302. Annual Renewal | R-3 |

**ARTICLE 4. EXPLORATION OPERATION
RECLAMATION STANDARDS**

Article 4, consisting of Sections R11-2-401 and R11-2-402, adopted effective January 6, 1997 (Supp. 97-1).

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| R11-2-401. Restricted Access | R-3 |
| R11-2-402. Trash Removal | R-3 |

ARTICLE 5. MINING UNIT RECLAMATION PLAN

Article 5, consisting of Sections R11-2-501 through R11-2-504, adopted effective January 6, 1997 (Supp. 97-1).

| | |
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| R11-2-503. Multiple Post-mining Land Uses | R-3 |
| R11-2-504. Annual Status Report | R-4 |

ARTICLE 6. MINING UNIT RECLAMATION STANDARDS

Article 6, consisting of Sections R11-2-601 through R11-2-603, adopted effective January 6, 1997 (Supp. 97-1).

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| R11-2-602. Erosion Control and Topographic Contouring | R-4 |
| R11-2-603. Roads | R-4 |

ARTICLE 7. REVEGETATION AND SOIL STANDARDS

Article 7, consisting of Sections R11-2-701 through R11-2-705, adopted effective January 6, 1997 (Supp. 97-1).

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ARTICLE 8. FINANCIAL ASSURANCE

Article 8, consisting of Sections R11-2-801 through R11-2-822, adopted effective January 6, 1997 (Supp. 97-1).

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ARTICLE 1. DEFINITIONS

R11-2-101. Definitions

In this Chapter and the Act, unless the context otherwise requires:

“Act” means the Arizona Mined Land Reclamation Act, enacted in 1994, A.R.S. § 27-901 et seq., as amended.

“Approved reclamation plan” means the owner’s or operator’s plan for reclaiming surface disturbances after approval by the State Mine Inspector.

“Backfill” means earth, overburden, mine development rock, or imported material used to replace material removed during mining.

“Commodities in commerce” means commodities that are mined for use or conversion into a salable or usable product.

“Completion” or “Completing” means the permanent discontinuance of mining activity of an exploration operation or mining unit without the intent to resume operation.

“Growth media” means substances or materials that promote or support vegetation.

“Inspection” means a visual review of an exploration operation or mining unit to assure compliance with the Act, this Chapter, or any condition of an approved reclamation plan.

“Institutional controls” means mechanisms that guide, manage, or exercise restraint or direction, including deed restrictions to protect public safety, fencing districts, and physical control of access.

“Mining activity” means any activity directly involved in mineral exploration, development, or production at or on an exploration operation or a mining unit.

“Operator” means any person who is legally responsible for directing mining activity at an exploration operation or a mining unit.

“Owner” means any person who owns land with surface disturbances subject to the Act and this Chapter.

“Person” means an individual, corporation, governmental subdivision or agency, business trust, estate, trust, partnership, association, or any other legal entity.

“Showing of good cause” means a demonstration by the owner or operator of a reason beyond the owner’s or operator’s control which prevents or limits the ability to act within required time limits or a demonstration by the owner or operator that the owner or operator is making good faith efforts toward the coordination and submittal of a reclamation plan.

“Subsidence” means the measurable lowering of a portion of the earth’s surface or substrata.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

ARTICLE 2. GENERAL REGULATORY PROVISIONS

R11-2-201. Document Submittals

- A. An owner or operator shall submit to the State Mine Inspector by certified mail (return receipt requested), express mail (with a receipt), or by hand delivery the following:
1. Reclamation plans and amendments (1 original and 4 copies);
 2. Certificates of disclosure;
 3. Financial assurance mechanisms;
 4. Notices of transfer;
 5. Applications, petitions or requests for or objections to substantial changes, variances, notices of proposed changes, amendments, releases of financial assurance mechanisms; or
 6. Any other matter that may require action by the State Mine Inspector.
- B. All submittals shall be dated and signed by the owner or operator or by a person who has legal authority to sign on behalf of the owner or operator. All submittals shall include the names and addresses of the owner and operator and any individuals who will be regulatory contacts.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-202. Preservation of Documents

An owner or operator shall retain a copy of the current approved reclamation plan, reclamation plans for areas for which reclamation has been completed, and the most recent annual status report until all reclamation measures have been completed. These documents shall be available for examination by the inspector.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-203. Extension of Time for Submittal of Plan

The owner or operator may request 1 or more extensions of time for submittal of a reclamation plan for an existing exploration operation or an existing mining unit. If the State Mine Inspector grants an extension of time to submit a reclamation plan for an existing exploration operation or an existing mining unit, the extension shall not exceed 90 days. For each subsequent extension, the owner or operator shall submit a revised request which indicates any changes in the relevant factors for consideration shown in the previous request for extension.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-204. Supersedure by Federal Plan

- A. The owner or operator of an exploration operation or a mining unit which is located in part or in whole on land administered by a federal agency may submit to the State Mine Inspector a request for supersedure pursuant to A.R.S. § 27-932. Such a request shall include a copy of the federal reclamation plan and the financial assurance mechanism.
- B. Within 30 days after receiving a request for supersedure, the State Mine Inspector shall determine in writing whether the federal reclamation plan and financial assurance mechanism are consistent with and shall supersede the requirements of the Act and this Chapter. If the State Mine Inspector denies the request to supersede, the State Mine Inspector shall provide an explanation of the reasons for denial in the written determination.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-205. Extension of Time for Initiation of Reclamation

- A. The owner or operator of an exploration operation or mining unit shall submit a written request for an extension of time to begin reclamation under A.R.S. § 27-926(B) at least 45 days before the time to begin reclamation under A.R.S. § 27-926.
- B. The State Mine Inspector shall evaluate and either approve or deny the request within 30 days. If the State Mine Inspector fails to act on the request within 30 days after receipt, the request shall be considered approved. If the State Mine Inspector denies the request for an extension, the State Mine Inspector shall state the reasons for denial in writing.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-206. Variance

- A. In addition to information required by the Act or elsewhere in this Chapter, a request for variance submitted pursuant to A.R.S. § 27-931(A) shall include:
 - 1. Identification by owner or operator and mine name, if any, of the exploration operation or mining unit for which the variance is sought;
 - 2. A descriptive location of the property on which the exploration operation or mining unit is located;
 - 3. Identification of the Section of this Chapter or requirement or condition of the approved reclamation plan from which the variance is sought;
 - 4. The justification for the variance; and
 - 5. Alternative methods or measures to be used.
- B. Within 30 days after receiving a variance request pursuant to A.R.S. § 27-931(A), the State Mine Inspector shall grant a conditional order authorizing the variance or deny the request in writing. The State Mine Inspector shall state the reasons for the determination.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2- 207. Cessation of Mining Activity

- A. The cessation of mining will be considered to have occurred if any of the following occur:
 - 1. The person conducting the mining activity has gone out of business and there is no succeeding legal entity;
 - 2. No mining activity has taken place within 1 year from the date the most recent annual status report was filed with the State Mine Inspector and no staffed office remains on the site;
 - 3. The extension of the time to begin reclamation requested by the owner or operator and approved by the State Mine Inspector under R11-2-205 has expired and no other extension has been granted, or
 - 4. The State Mine Inspector has made a written determination that the mine has been temporarily or permanently abandoned.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

**ARTICLE 3. EXPLORATION OPERATION
RECLAMATION PLAN**

R11-2-301. Exploration Operation Reclamation Plan Content

- A. In addition to the content requirements found in A.R.S. § 27-951(A), the reclamation plan shall also include a sketch of the layout of the exploration project, showing the locations, nature, and acreage of each disturbance. The owner or operator shall not be required to include specific survey coordinates, identifying exact topographic features, or exact geographic locations.
- B. For existing exploration operations, the owner or operator shall include the estimated costs to perform the reclamation measures to determine financial assurance requirements under Article 5 of the Act and Article 8 of this Chapter.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-302. Annual Renewal

- A. Every owner or operator with an approved reclamation plan shall annually, within 60 days after the anniversary date of the approved reclamation plan, submit to the State Mine Inspector a request for annual renewal pursuant to A.R.S. § 27-955. The request shall:
1. Provide the status of the exploration operation reclamation;
 2. Include the total number of acres of surface disturbances, the number of acres reclaimed during the reporting year, and the number of acres of surface disturbances which have not yet been reclaimed; and
 3. Include any modifications to the approved reclamation plan.
- B. The State Mine Inspector shall renew the approved reclamation plan, including modifications, if the renewal includes modifications that are consistent with the criteria of the Act and this Chapter and if additional financial assurance required by the Act has been submitted to the State Mine Inspector. If the renewal includes modifications to the approved plan that constitute a substantial change, the State Mine Inspector shall renew the approved reclamation plan under the procedures of A.R.S. §§ 27-927 and 27-929 or deny the proposed substantial change.
- C. If the State Mine Inspector fails to provide the owner or operator with a written renewal determination within 60 days after receipt of the request for annual renewal, the approved reclamation, including modifications that do not constitute substantial changes, shall be deemed renewed.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

ARTICLE 4. EXPLORATION OPERATION RECLAMATION STANDARDS

R11-2-401. Restricted Access

Under A.R.S. § 27-953(5), access to those portions or places of open pits or trenches in places frequented by the public shall be restricted by measures including fencing and the posting of visible warning signs.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-402. Trash Removal

The owner or operator shall remove trash and other materials and structures incidental to exploration that pose a threat to public safety, create a public nuisance, or are inconsistent with an approved reclamation plan.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

ARTICLE 5. MINING UNIT RECLAMATION PLAN

R11-2-501. Mining Unit Reclamation Plan Content

- A. In addition to the proposed reclamation measures that are necessary to achieve the post-mining land use found under A.R.S. §§ 27-971(B)(9)(a) through (d), the reclamation plan shall include procedures to aid in the development of vegetation consistent with the proposed post-mining land use objective for surface disturbances where the post-mining land use objective is grazing, wildlife habitat, or forestry. The type, density, and diversity of vegetation proposed shall depend on what is technically and economically practicable given site-specific characteristics such as climate and the availability and quality of soil.
- B. Maps of the existing or proposed surface disturbances submitted pursuant to A.R.S. § 27-971(B)(8) for mining units shall indicate the following:
1. Existing and proposed post-mining and post-reclamation physical topography;
 2. Natural features, including surface water;
 3. Surface disturbances, pits, excavations, and building sites;
 4. Development rock piles, tailings dams and impoundments, heaps for leaching, spoil, soil or growth media storage piles, overburden stockpiles, and other piles of unconsolidated material;
 5. Solution ponds, settling ponds, and non-tailings impoundments;
 6. Roads, buildings, structures, and stationary equipment;
 7. Final post-mining land use objectives for each portion of the surface disturbance; and
 8. Boundaries of the mining unit.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-502. Life of Approved Reclamation Plan

An approved reclamation plan, along with any approved substantial changes, shall remain in effect until reclamation is complete and all financial assurance is released.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-503. Multiple Post-Mining Land Uses

An owner or operator may list multiple post-mining land uses for a mining unit if the reclamation plan shows the post-mining land use for each area and each use satisfies the requirements of the Act and this Chapter.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-504. Annual Status Report

- A. An owner or operator with an approved reclamation plan shall submit an annual status report for the preceding year to the State Mine Inspector within 60 days after the anniversary date of reclamation plan approval. The status report shall:
 - 1. Provide the status of the mining unit;
 - 2. Include a map, an aerial photograph, or both, identifying the location of the surface disturbance and reclaimed area and the year in which the surface disturbance and reclamation was completed. If there have been no changes in the previous year, then neither new maps nor new aerial photographs are necessary, and the owner or operator shall state there have been no changes in the annual status report; and
 - 3. Include the total number of acres of surface disturbances, the number of acres reclaimed during the reporting year, and the number of acres of surface disturbances which have not yet been reclaimed.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

ARTICLE 6. MINING UNIT RECLAMATION STANDARDS

R11-2-601. Public Safety Standards

- A. Reclamation activities at mining units shall be designed to reduce hazards to public safety to the extent technically and economically practicable by measures, including:
 - 1. Removal of scrap metal, wood, trash, and other debris that pose a threat to public safety, or create a public nuisance, or are inconsistent with an approved reclamation plan; and
 - 2. Regrading slopes as prescribed under R11-2-602.
- B. The owner or operator shall maintain structures, equipment, and excavations at the reclamation site in a safe manner and shall restrict access to provide for public safety. Where hazards to public safety cannot be adequately reduced through reclamation measures; where buildings, structures, and excavations remain as part of the approved post-mining land use; or where a mining unit has been exempted from reclamation under A.R.S. § 27-975(A), any hazard to public safety shall be reduced by:
 - 1. Constructing berms, fences, barriers, or any combination of these measures to restrict public access when technically and economically practicable; and
 - 2. Posting visible warning signs in locations where public access is available.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-602. Erosion Control and Topographic Contouring

- A. Mining units shall be reclaimed to a stable condition for erosion and seismic activity.
- B. Grading and other topographic contouring methods shall be conducted, as necessary, to establish final land forms which are:
 - 1. Suitable for the post-mining land use objective in the approved reclamation plan.
 - 2. Stable under static and dynamic conditions as certified by a qualified engineer considering the following:
 - a. Site-specific seismic conditions;
 - b. Safety consistent with good engineering practices; and
 - c. The hazard to public safety, if failure occurs.
- C. Site-specific grading, revegetation, or other proposed erosion-control measures shall be conducted, as necessary, to address erosion so that permanent piles of mine development rock, overburden, and tailings shall not restrict surface drainages in a manner that contributes to excessive erosion or which compromises the stability of the reclaimed facility.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-603. Roads

- A. Reclamation of a road that is not included in the approved reclamation plan as part of the approved post-mining land use shall begin once the road is no longer needed for operations, reclamation, or monitoring.
- B. The following reclamation measures shall be conducted, as necessary, to achieve the post-mining land use included in the approved reclamation plan:
 - 1. Vehicular traffic shall be controlled on the reclamation area to achieve the reclamation objectives;
 - 2. Surface drainage patterns shall be restored to pre-mining conditions or new patterns shall be established;
 - 3. All bridges and culverts shall be removed or stabilized in place;
 - 4. Bridges and culverts left in place shall be protected from erosion with rock, concrete, or riprap; and

5. Roadbeds shall be ripped, plowed, and scarified and revegetated, as necessary, to achieve the post-mining land use.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

ARTICLE 7. REVEGETATION AND SOIL STANDARDS

R11-2-701. Revegetation Provisions

- A. If revegetation is part of the proposed reclamation plan, the plan shall describe the:
 1. Season of revegetation,
 2. Species and amounts per acre of seeds or flora, and
 3. Planting methods.
- B. If the proposed reclamation plan includes mulching, irrigation, pest control, disease control, or growth management measures, the proposed reclamation plan shall specifically describe the techniques, methods, controls, or measures to be used.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-702. Revegetation Standards

- A. Where surface disturbances result in compaction of the soil, ripping, disking, or other means shall be used in areas to be revegetated to reduce compaction and to establish a suitable root zone in preparation for planting.
- B. Revegetation shall be conducted to establish plant species that will support the approved post-mining land use. The establishment of vegetation species, density, or diversity which is different than pre-existing conditions or on adjacent lands shall constitute successful reclamation if any of the following apply:
 1. The post-mining land use is different than the pre-mining land use or the use of adjacent lands;
 2. The site-specific nature of the surface disturbance, including soil conditions and topography, is such that the establishment of pre-existing or adjacent conditions is not technically or economically practicable; or
 3. The establishment of different species is preferable for control of erosion.
- C. Planting shall be conducted during the most favorable period of the year for plant establishment.
- D. Soil stabilizing practices or irrigation measures, or both, may be used to establish vegetation.
- E. This Section only applies if vegetation or revegetation measures are included in the approved reclamation plan.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-703. Soil Conservation

If soil conservation is required by A.R.S. § 27-974, any stockpiles of conserved soil shall be marked with legible signs that identify the stockpile as "SOIL." A soil stockpile shall be stabilized, if necessary, to prevent excessive losses from erosion.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-704. Redistribution of Soil

Before redistribution of soil, the regraded land shall be treated, if necessary, to reduce the potential for slippage of the redistributed material or to enhance root penetration, or both. Soil and other materials shall be redistributed in a manner that prevents excess compaction and achieves a thickness consistent with the approved post-mining land use.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-705. Off-site Soil

Soil may be brought in from an off-site location, and may include any growth media that will support vegetation, will provide a stable growing surface, and will not create a hazard to public safety.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

ARTICLE 8. FINANCIAL ASSURANCE

R11-2-801. Definitions

- A. Unless expressly defined in the Act or this Chapter, the terms used in this Article have the same meanings as understood pursuant to generally accepted accounting principles and practices.
- B. In addition to the definitions provided in A.R.S. § 27-901, the following definitions apply to this Article:
 - "ICPA" means Independent Certified Public Accountant.
 - "Parent corporation" means a corporation which directly owns at least 50% of the voting stock of the corporation which is the owner or operator. Any latter corporation is considered a "subsidiary" of the parent corporation.
 - "Substantial business relationship" means the extent of a business relationship which is necessary, under applicable state law, to make a guarantee contract (issued on the basis of that relationship) valid and enforceable. A "substantial business relationship"

shall arise from a pattern of recent or ongoing business transactions, so that a currently existing business relationship between guarantor and the owner or operator is shown to the satisfaction of the State Mine Inspector.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-802. Amount of Financial Assurance

- A.** In estimating the cost of executing the reclamation plan, all activities in the reclamation plan shall be addressed, including, if applicable:
1. Earth moving, regrading, and stabilization of surface disturbances included in the reclamation plan;
 2. Revegetation, preparation of seedbed, and planting;
 3. Demolition of buildings and other structures;
 4. For new exploration operations, removal of trash and other materials and structures incidental to exploration;
 5. Any ongoing or long-term activities which are required to maintain the effectiveness of reclamation or are necessary in place of reclamation, including periodic clean-out of sediment basins or maintenance of berms and fences which are used to prevent access to areas which pose a threat to public safety;
 6. Equipment mobilization and demobilization;
 7. Contractor profit; and
 8. Administrative overhead.
- B.** In addition to submitting the estimated costs to perform each of the proposed reclamation measures required under A.R.S. § 27-971(B)(11) or R11-2-301(B), the owner or operator of a mining unit or existing exploration operation shall submit to the State Mine Inspector:
1. Documentation for the calculation of the estimated costs, and
 2. The source of the estimated costs.
- C.** The State Mine Inspector shall review the owner's or operator's estimate of the cost for reclamation and determine if the estimate is adequate to complete all required reclamation.
- D.** If the State Mine Inspector determines the estimated cost of executing the reclamation plan is not adequate to complete all required reclamation, the reclamation plan shall be considered incomplete under A.R.S. §§ 27-952 or 27-972.
- E.** If an owner or operator submits a written request for a reduction of financial assurance, along with a demonstration of sufficient financial ability pursuant to A.R.S. § 27-992(B), the State Mine Inspector shall grant or deny the request in writing within 30 days after receiving the request.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-803. Blanket Financial Assurance

- A.** A single financial assurance mechanism covering 2 or more mining units or facilities may be provided by an owner or operator instead of separate financial assurances for each unit or facility. If an owner or operator provides a single financial assurance mechanism, it shall demonstrate the financial ability to fulfill the aggregate reclamation costs of the mining units or facilities covered by the single financial assurance mechanism.
- B.** If an additional unit or facility is to be covered under a single financial assurance mechanism previously provided to the State Mine Inspector, the owner or operator shall provide an updated financial assurance mechanism which demonstrates the financial ability to fulfill the aggregate reclamation costs of the mining units or facilities covered by the single financial assurance mechanism.
- C.** A single financial assurance mechanism covering 2 or more exploration operations may be provided by the owner or operator pursuant to A.R.S. § 27-993.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-804. Surety Bonds

An owner or operator may provide the State Mine Inspector with a surety bond as financial assurance for reclamation. The surety bond shall be an indemnity agreement in a sum certain payable to the state of Arizona, executed by the owner or operator as principal and shall be supported by the performance guarantee of a corporation licensed to do business as a surety in the state of Arizona.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-805. Certificates of Deposit

- A.** An owner or operator may provide the State Mine Inspector with a certificate of deposit which shows funds are available for reclamation of surface disturbances. The certificate of deposit shall name the state of Arizona as beneficiary. The financial institution issuing the certificate of deposit shall be a Federal Deposit Insurance Corporation-insured entity whose operations are regulated by a federal or state agency.
- B.** The owner or operator may redeem the certificate of deposit if alternative financial assurance that meets the requirements of the Act and this Chapter is substituted.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-806. Trust Funds

- A. An owner or operator may satisfy the requirements of this Article by establishing a trust fund that meets the requirements of the Act and this Chapter. The trust fund shall name the state of Arizona as the primary beneficiary. The trustee shall be an entity which has the authority to act as trustee and whose trust operations are regulated and examined by a federal or state agency.
- B. An owner or operator may satisfy the requirements of the trust fund by establishing a trust fund with a pay-in period that meets the requirements of the Act and this Chapter and by submitting an original signed duplicate of the trust agreement to the State Mine Inspector.
- C. A copy of the trust agreement shall be placed in the facility's operating record.
- D. The trust fund shall be initially funded in an amount at least equal to the costs estimated in the approved reclamation plan for reclamation of existing surface disturbances covered by the Act and any surface disturbances to occur in the 1st year of the trust fund.
- E. Payments into the trust fund, other than the initial funding, shall be made annually, at a minimum, with subsequent payments made not later than 30 days after each annual anniversary of the date of the 1st payment by the owner or operator. Annual payments shall be in an amount adequate to pay all costs of reclamation for land to be disturbed in that annual period.
- F. If the property owner or operator establishes a trust fund after having used 1 or more alternate mechanisms specified in this Article, the initial payment into the trust fund shall be at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to the specifications of this Section.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-807. Letters of Credit

- A. An owner or operator may satisfy the requirements of this Article by obtaining an irrevocable stand-by letter of credit. The letter of credit shall be effective to receive financial assurance approval. The issuing institution shall be an entity which has the authority to issue letters of credit, is federally insured, and whose letter-of-credit operations are regulated and examined by a federal or state agency.
- B. The letter of credit shall be irrevocable and issued for a period set to exceed 1 year by at least 90 days and in an amount at least equal to the costs estimated in the approved reclamation plan for reclamation. The letter of credit shall provide that the expiration date will automatically renew as approved by the State Mine Inspector for a period of at least 1 year, unless the issuing institution has canceled the letter of credit by sending notice of cancellation by certified mail to the owner or operator and to the State Mine Inspector 120 days in advance of cancellation. If the letter of credit is canceled by the issuing institution, the owner or operator shall obtain alternate financial assurance that meets the requirements of the Act and this Chapter within 120 days after the notice of cancellation.
- C. The letter of credit shall indicate the conditions on which the state of Arizona may draw on the letter of credit.
- D. The property owner or operator may, with notification to the State Mine Inspector, cancel the letter of credit if alternate financial assurance that meets the requirements of the Act and this Chapter is substituted or if the owner or operator is released from the requirements of this Article under A.R.S. § 27-996, R11-2-817, or R11-2-822.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-808. Insurance

- A. An owner or operator may show financial assurance for reclamation by obtaining insurance that meets the requirements of this Section. At a minimum, the insurer shall be a non-captive insurance company licensed to transact the business of insurance by the Department of Insurance, or eligible to provide insurance as an excess or surplus lines insurer in the state of Arizona.
- B. The reclamation insurance policy shall guarantee funds will be available to reclaim all disturbed lands and be available when the operation fails to comply with the approved reclamation plan. The policy shall also guarantee that, once reclamation begins, the insurer will be responsible for payment up to an amount equal to the face amount of the policy, under the direction of the State Mine Inspector to the party specified by the State Mine Inspector.
- C. A policyholder may, with notification to the State Mine Inspector, receive partial payment for reclaimed areas. The insurance policy shall provide that requests for payment will be granted by the insurer only if the remaining value of the policy is adequate to cover the remaining costs of reclamation. The policyholder shall notify the State Mine Inspector that payment has been received.
- D. The insurance policy shall provide that the insurer may not cancel, terminate, or fail to renew the policy except for the failure to pay the premium. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. The insurance policy shall provide that if there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the policyholder and to the State Mine Inspector 120 days in advance of the action. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect if, before the date of expiration, the premium due is paid.
- E. The insured may cancel the insurance policy, with notification to the State Mine Inspector, if alternate financial assurance that meets the requirements of the Act and this Chapter is substituted.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-809. Certificates of Self-insurance

- A. An owner or operator may use self insurance in combination with a guarantee only if, to meet the requirement of the financial test under this Article, the financial statements of the owner or operator are not consolidated with the financial statements of the guarantor.

- B.** An owner or operator, and/or guarantor, may satisfy the requirements of this Article upon successful completion of the financial test specified in this Section. Successful completion is determined by meeting the criteria of subsection (C) or (D) based on year-end financial statements for the latest completed fiscal year.
- C.** The criteria of this subsection for successful completion of the financial test are:
 - 1. The owner or operator, and/or guarantor, shall have a tangible net worth of at least 10 times the costs estimated in the approved reclamation plan for reclamation.
 - 2. The owner or operator, and/or guarantor, shall have a tangible net worth of at least \$10 million.
 - 3. The owner or operator, and/or guarantor, shall submit to the State Mine Inspector a letter signed by the chief financial officer showing compliance with this Section.
 - 4. The owner or operator, and/or guarantor, shall either:
 - a. File financial statements annually with the U.S. Securities and Exchange Commission; or
 - b. Report annually the firm's tangible net worth to Dun and Bradstreet, and Dun and Bradstreet shall have assigned the firm a financial-strength rating of 4A or 5A.
 - 5. The firm's year-end financial statements, if independently audited, cannot include an adverse auditor's opinion, a disclaimer of opinion, or a "going concern" qualification.
- D.** The criteria of this subsection for successful completion of the financial test are:
 - 1. The owner or operator, and/or guarantor, shall meet the financial test requirements of R11-2-811.
 - 2. The fiscal year-end financial statements of the owner or operator, and/or guarantor, shall be examined by an Independent Certified Public Accountant (ICPA) and included with the ICPA's report of the examination.
 - 3. The firm's year-end financial statements cannot include an adverse opinion, a disclaimer of opinion, or a "going concern" qualification.
 - 4. The owner or operator, and/or guarantor, shall submit to the State Mine Inspector a letter signed by the chief financial officer demonstrating compliance with this Section.
 - 5. If the financial statements of the owner or operator, and/or guarantor, are not submitted annually to the U.S. Securities and Exchange Commission, the owner or operator, and/or guarantor, shall obtain a special report by an ICPA saying:
 - a. The ICPA has compared the data (which the letter from the chief financial officer specifies) as having been derived from the latest year-end financial statements of the owner or operator, and/or guarantor, with the amounts in the financial statements; and
 - b. No matters caused the ICPA to believe the specified data should be adjusted.
- E.** If an owner or operator using the test to provide financial assurance finds the requirements of the financial test are no longer met, based on the year-end financial statements, the owner or operator shall obtain alternate financial assurance that meets the requirements of the Act and this Chapter within 120 days after the end of the year for which financial statements have been prepared.
- F.** The State Mine Inspector may require reports of financial condition, at any time, from the owner or operator, and/or guarantor. If the State Mine Inspector makes a written finding, on the basis of the reports or other information, that the owner or operator, and/or guarantor, no longer meets the financial test requirements of subsection (C) or (D), the owner or operator shall obtain alternate financial assurance that meets the requirements of the Act and this Chapter within 120 days after notification of this written finding.
- G.** After the initial submission of the items specified in subsection (C) or (D), the owner or operator shall send updated information to the State Mine Inspector within 90 days after the close of each succeeding fiscal year. This information shall consist of all items specified in subsection (C) or (D).

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-810. Cash Deposits

- A.** An owner or operator may use a receipt of deposit with the State Treasurer for the estimated costs of reclamation. The receipt of deposit shall show funds are available for reclamation costs. The owner or operator shall complete a treasurer's financial warranty deposit under the State Mine Inspector's instructions. The deposit shall be in the name of the state of Arizona.
- B.** The owner or operator may cancel the deposit with the State Treasurer, with notification to the State Mine Inspector, if alternate financial assurance that meets the requirements of the Act and this Chapter is substituted.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-811. Corporate Financial Tests

An owner or operator may satisfy the requirements of this Section upon successful completion of a financial test specified in subsection (A) or (B). Successful completion is determined by meeting the criteria of subsection (C):

- A.** The owner or operator shall have:
 - 1. 2 of the following 3 ratios: a ratio of total liabilities to net worth of less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; or a ratio of current assets to current liabilities greater than 1.5;
 - 2. Net working capital and tangible net worth each at least 6 times the costs estimated in the approved reclamation plan for reclamation;
 - 3. Tangible net worth of at least \$10 million; and

4. Assets located in the United States amounting to at least 90% of total assets or at least 6 times the costs estimated in the approved reclamation plan for reclamation.
- B.** The owner or operator shall have all of the following:
1. A current rating for the most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's;
 2. Tangible net worth at least 6 times the sum of the costs estimated in the approved reclamation plan for reclamation;
 3. Tangible net worth of at least \$10 million; and
 4. Assets located in the United States amounting to at least 90% of total assets or at least 6 times the costs estimated in the approved reclamation plan for reclamation.
- C.** To show successful completion of the corporate financial test, the owner or operator shall submit the following to the State Mine Inspector:
1. A letter signed by the owner's or operator's chief financial officer demonstrating compliance with this Section;
 2. A copy of the ICPA's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and
 3. A special report from the owner's or operator's ICPA to the owner or operator saying:
 - a. The ICPA has compared the data (which the letter from the chief financial officer specified) as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in the financial statements; and
 - b. No matters caused the ICPA to believe the specified data should be adjusted.
- D.** After the initial submission of items specified in subsection (C), the owner or operator shall send updated information to the State Mine Inspector within 90 days after the close of each succeeding fiscal year. This information shall consist of all items specified in subsection (C).
- E.** If the owner or operator no longer meets the requirements of subsection (A) or (B), the owner or operator shall send notice of intent to establish alternative financial assurance to the State Mine Inspector. The notice shall be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide the alternative financial assurance that meets the requirements of the Act and this Chapter within 120 days after the end of the fiscal year.
- F.** The State Mine Inspector may, based on reasonable belief that the owner or operator may no longer meet the requirements of subsection (A) or (B), require reports of financial condition by written request, at any time, from the owner or operator, in addition to those specified in subsection (C). If the State Mine Inspector makes a written finding, on the basis of the reports or other information, that the owner or operator no longer meets the requirements of subsection (A) or (B), the owner or operator shall provide alternate financial assurance that meets the requirements of the Act and this Chapter within 120 days after notification of this written finding.
- G.** The State Mine Inspector may disallow use of this test on the basis of qualifications in the opinion expressed by the ICPA in the report on examination of the owner's or operator's financial statements. An adverse opinion or a disclaimer of opinion will be cause for disallowance. The State Mine Inspector will evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance that meets the requirements of the Act and this Chapter within 120 days after notification of this disallowance.
- H.** The owner or operator is no longer required to submit the items specified in subsection (C) when:
1. An owner or operator substitutes alternate financial assurance that meets the requirements of the Act and this Chapter; or
 2. The State Mine Inspector releases the owner or operator's financial assurance under the Act and this Chapter.
- I.** An owner or operator may meet the requirements of this Section by obtaining a written guarantee. The guarantor shall be the direct or higher-tier parent corporation of the owner or operator, a group of legal entities which are controlled through stock ownership by a common parent corporation, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a substantial business relationship with the owner or operator. The guarantor shall meet the requirements for owners or operators in subsections (A) through (I) and shall comply with the terms of the guarantee. The certified copy of the guarantee shall accompany the items sent to the State Mine Inspector as specified in subsection (C). One of these items shall be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a substantial business relationship with the owner or operator, this letter shall describe this substantial business relationship and the value received in consideration of the guarantee. The terms of the guarantee shall provide that:
1. If the owner or operator fails to perform the reclamation covered by the guarantee under the approved reclamation plan, the guarantor will do so or establish a trust fund as specified in the Act and this Chapter in the name of the owner or operator.
 2. The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the State Mine Inspector. Cancellation may not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the State Mine Inspector, as evidenced by the return receipts.
 3. If the owner or operator fails to provide alternate financial assurance that meets the requirements of the Act and this Chapter within 120 days after the owner or operator and the State Mine Inspector receive notice of cancellation of the corporate guarantee from the guarantor, the guarantor shall provide the alternate financial assurance in the name of the owner or operator.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-812. Annuities

- A. An owner or operator may provide the State Mine Inspector an annuity as financial assurance for reclamation. The annuity shall name the state of Arizona as the beneficiary. The financial institution, if any, shall be licensed to do business in the state of Arizona. Any incremental or annual payment shall be in an amount adequate to pay all costs of reclamation for land disturbed in that incremental or annual period.
- B. The owner or operator may cancel the annuity only if alternate financial assurance that meets the requirements of the Act and this Chapter is provided.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-813. Final Action on Financial Assurance Mechanisms

The State Mine Inspector shall take final action on the financial assurance mechanism within 30 days after its receipt.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-814. Incremental Financial Assurance

If financial assurance is provided on an incremental basis as permitted under A.R.S. § 27-995, the amount shall be equal to or greater than the estimated cost of reclamation for surface disturbances created during that increment.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-815. Financial Assurance Funding

Except where limited by statute or this Article, financial assurance provided by the owner or operator may be funded by the owner, the operator, by any 3rd party, or by any combination of persons or entities.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-816. Limited Individual Financial Assurance for Single Unit

Whenever 2 or more persons or entities are named as owners or operators in a single exploration operation or mining unit, the owners or operators may limit the scope of their individual financial assurances so long as their financial assurances, in total, assure performance of all conditions and requirements of the Act, this Chapter, and the approved reclamation plan.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-817. Application for Release of Financial Assurance

- A. The financial assurance shall not be released until all conditions and requirements of the Act and this Chapter have been satisfied.
- B. Within 60 days after receiving a request for release of a financial assurance, the State Mine Inspector, or a designated agent, shall inspect the exploration operation or mining unit to determine whether the owner or operator has fulfilled the requirements of the approved reclamation plan and either:
 - 1. Approve the release of the financial assurance or portion thereof; or
 - 2. Notify the owner and operator in writing that the financial assurance or portion thereof will not be released, the reasons why, and the measures necessary to satisfy the requirements of the approved reclamation plan.
- C. If a request to release is denied, the owner or operator may appeal the decision as provided by 12 A.A.C. 7, Article 6.
- D. The 60 days within which the State Mine Inspector, or a designated agent, shall respond to a request to release a financial assurance may be extended by mutual agreement if conditions prevent an inspection of the reclaimed land.
- E. The State Mine Inspector shall release the transferor's financial assurance mechanism upon receipt of alternate financial assurance that meets the requirements of the Act and this Chapter from the transferee.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-818. Forfeiture Criteria/Forfeiture of Financial Assurance

- A. A financial assurance mechanism filed with the State Mine Inspector or state agency is subject to forfeiture if any of the following exist:
 - 1. An exploration operation or mining unit has been completed, abandoned, or temporarily closed for a period greater than allowed by the Act or this Chapter without initiating reclamation;
 - 2. An exploration operation or mining unit has been completed, abandoned, or temporarily closed for a period greater than allowed by the Act or this Chapter and the owner or operator stops or suspends any ongoing reclamation as determined by the State Mine Inspector;
 - 3. The operator stops conducting business in the state of Arizona and does not transfer the approved reclamation plan and financial assurance to a new operator under A.R.S. § 27-928.
 - 4. The operator stops conducting business due to insolvency, bankruptcy, receivership, or misconduct, under A.R.S. § 27-905;
 - 5. The operator fails to comply with the conditions of the financial assurance mechanism; or

6. The owner or operator fails to reclaim the surface disturbances under the approved reclamation plan, the Act, or this Chapter.
- B. Where the financial assurance has been filed with an agency of the federal government, the State Mine Inspector shall notify that agency and request forfeiture action to be taken.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-819. Notification of Forfeiture Action

At least 30 days before exercising forfeiture, the State Mine Inspector shall notify both the owner and operator and all principals and sureties by certified mail (return receipt requested), express mail (with a receipt), and hand delivery the financial assurance is subject to forfeiture and advise the owner and operator of the right to a hearing under A.R.S. Title 41, Chapter 6.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-820. Avoidance of Forfeiture

The State Mine Inspector shall advise both the owner and operator and all principals and sureties subject to R11-2-818 of the conditions under which forfeiture may be avoided. The conditions may include:

1. An agreement by the owner and operator or another party to perform reclamation operations under a compliance schedule, determined by the State Mine Inspector, which meets the conditions of the Act, this Chapter, and the approved reclamation plan.
2. A surety bond to complete the reclamation or a portion of the reclamation applicable to the financial assurance increment if the surety can show an ability to complete the reclamation under the Act, this Chapter, and the approved reclamation plan.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-821. Notice of Exercise of Forfeiture

The State Mine Inspector shall provide written notice by certified mail (return receipt requested) of any exercise of forfeiture of financial assurance to both the owner and operator and all principals and sureties.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).

R11-2-822. Full Release of Financial Assurance

The full release of financial assurance pursuant to A.R.S. § 27-996(B), or as otherwise provided by the Act and this Chapter, shall be evidence the owner or operator has reclaimed as required by the Act, this Chapter, and the approved reclamation plan.

Historical Note

Adopted effective January 6, 1997 (Supp. 97-1).