



ADMINISTRATIVE RULES OF MONTANA

17.24.624 SURFACE BLASTING REQUIREMENTS

- (1) The department may limit the area covered, timing, and sequence of blasting, if such limitations are necessary and reasonable in order to protect the public health and safety or welfare.
- (2) All blasting must be conducted between sunrise and sunset except that:
 - (a) The department may specify more restrictive time periods, based on public requests or other relevant information, according to the need to adequately protect the public from adverse noise or seismic disturbances.
 - (b) Blasting may, however, be conducted between sunset and sunrise if:
 - (i) a blast that has been prepared during the afternoon must be delayed due to the occurrence of an unavoidable hazardous condition and cannot be delayed until the next day because a potential safety hazard could result that cannot be adequately mitigated;
 - (ii) in addition to the required warning signals, oral notices are provided to persons within 1/2 mile of the blasting site; and
 - (iii) a complete written report of blasting at night is filed by the operator with the department not later than three days after the night blasting. The report must include a description in detail of the reasons for the delay in blasting including why the blast could not be held over to the next day, when the blast was actually conducted, the warning notices given, and a copy of the blast record required by ARM 17.24.626.
- (3) Blasting must be conducted at times announced in the blasting schedule, except in those unavoidable hazardous situations, previously approved by the department in the permit application, whenever operator or public safety require unscheduled detonation. Any deviation from the times announced must be reported to the department not later than three days after the unavoidable blast. A complete description of the unavoidable hazardous situation must accompany the report.
- (4) Warning and all-clear signals of different character that are audible within a range of 1/2 mile from the point of the blast must be given. Each person within the permit area and each person who resides or regularly works within 1/2 mile of the permit area must be notified of the meaning of the signals through appropriate instructions. These instructions must be periodically delivered or otherwise communicated in a manner that can be reasonably expected to inform such persons of the meaning of the signals. The operator shall maintain signs in accordance with ARM 17.24.524.
- (5) Access to an area possibly subject to flyrock from blasting must be regulated to protect the public and livestock. Blasting must not eject flyrock onto property outside the permit area. Access to the

area must be controlled to prevent the presence of livestock or unauthorized personnel during blasting and until an authorized representative of the operator has reasonably determined:

- (a) that no unusual circumstances, such as imminent slides or undetonated charges, exist; and
- (b) that access to and travel in or through the area can be safely resumed.

(6)

- (a) Airblast must be controlled so that it does not exceed the values specified below at any dwelling, or public, commercial, community or institutional building, unless the structure is owned by the operator and is not leased to any other person. If a building owned by the operator is leased to another person, the lessee may sign a waiver relieving the operator from meeting the airblast limitations of this section.

<u>Lower Frequency limit of measuring</u>	<u>Maximum level in decibels (dB)</u>
<u>system, Hertz (Hz) (+3dB)</u>	
0.1 Hz or lower - flat response	134 peak.
2 Hz or lower - flat response	133 peak.
6 Hz or lower - flat response	129 peak.
C-weighted, slow response	105 peak dBC.

If necessary to prevent damage, the department shall specify lower maximum allowable airblast levels than those above.

- (b) In all cases, except the C-weighted, slow-response system, the measuring systems used must have a flat frequency response of at least 200 Hz at the upper end. The C-weighted system must be measured with a Type 1 sound level meter that meets the standard American national standards institute (ANSI) S 1.4-1971 specifications. The ANSI S 1.4-1971 is hereby incorporated by reference as it exists on April 1, 1980. Copies of this publication are on file with the Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901.
- (c) The operator may satisfy the provisions of this section by meeting any of the four specifications in the chart in (a).
- (d) The operator shall conduct periodic monitoring to ensure compliance with the airblast standards. The department may require an airblast measurement of any or all blasts, and may specify the location of such measurements, except as noted in (a).

(7) Except where lesser distances are approved by the department, based upon a preblasting survey, seismic investigation, or other appropriate investigation, blasting must not be conducted within:

- (a) 1,000 feet of any dwelling or public, commercial, community or institutional building;

- (b) 500 feet of facilities including, but not limited to, disposal wells, petroleum or gas storage facilities, municipal water storage facilities, fluid transmission pipelines, gas or oil collection lines, or water and sewage lines or any active or abandoned underground mine.
- (8) If otherwise approved, a blast design, including measures to protect the above facilities, must be submitted which contains the information required in ARM 17.24.310 and signed by a certified blaster.
- (9) Flyrock, including blasted material traveling along the ground, must not be cast from the blasting vicinity more than half the distance to the nearest dwelling or other occupied structure and in no case beyond the line of property owned or leased by the permittee, or beyond the area of regulated access required under (5).
- (10) Blasting must be conducted to prevent injury to persons, damage to public or private property outside the permit area, adverse impacts on any underground mine, and change in the course, channel, or availability of ground or surface waters outside the permit area.
- (11) In all blasting operations, except as otherwise authorized in this section, the maximum peak particle velocity must not exceed the following limits at the location of any dwelling, or public, commercial, community or institutional building:

Distance (D) from the blasting site, in feet	Maximum allowable peak particle velocity (V max) for ground vibration, in inches/second	Scaled-distance factor to be applied without seismic monitoring (Ds)
0 to 300	1.25	50
301 to 5,000	1.00	55
5,001 and beyond	0.75	65

- (a) Peak particle velocities must be recorded in three mutually perpendicular directions. The maximum peak particle velocity is the largest of any of the three measurements.
- (b) The department shall reduce the maximum peak velocity allowed, if it determines that a lower standard is required because of density of population or land use, age or type of structure, geology or hydrology of the area, frequency of blasts, or other factors.
- (12) If blasting is conducted in such a manner as to avoid adverse impacts on any underground mine and changes in the course, channel, or availability of ground or surface water outside the permit area, then the maximum peak particle velocity limitation of (11) does not apply at the following locations:
 - (a) at structures owned by the operator and not leased to another party; and
 - (b) at structures owned by the operator and leased to another party, if a written waiver by the lessee is submitted to the department prior to blasting.

- (13) An equation for determining the maximum weight of explosives that can be detonated within any eight-millisecond period is in (14). If the blasting is conducted in accordance with this equation, the peak particle velocity is deemed to be within the limits specified in (11).
- (14) The maximum weight of explosives to be detonated within any eight-millisecond period may be determined by the formula $W = (D/D_s)^2$ where W = the maximum weight of explosives, in pounds, that can be detonated in any eight-millisecond period; D = the distance, in feet, from the blast hole nearest to a dwelling, or public, commercial, community or institutional building, except as noted in (12); and D_s = the scaled distance factor, using the values identified in (11).

Authorizing statute(s): 82-4-205, MCA

Implementing statute(s): 82-4-231, MCA

History: NEW, 1980 MAR p. 725, Eff. 4/1/80; AMD, 1989 MAR p. 30, Eff. 1/13/89; AMD, 1990 MAR p. 936, Eff. 5/18/90; TRANS, from DSL, 1996 MAR p. 2852; AMD, 2004 MAR p. 2548, Eff. 10/22/04; AMD, 2024 MAR p. 258, Eff. 2/10/24.