
Who Regulates Blasting at Quarries?

Missouri Department of Natural Resources fact sheet
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The Department of Public Safety's Division of Fire Safety regulates blasting at quarries. They are responsible for the enforcement of the Missouri Blasting Safety Act, including the testing of blasters and to investigate violations of the act. The State Blasting Safety Board, appointed by the governor, has the duty to advise the state fire marshal in the development of application and registration forms, training, examinations, and setting fees for the filing of required applications, registrations and reports; approve or disapprove any examination for licensing of blasters; hold hearings upon appeals and notices of violation; approve any rule proposed by the Division of Fire Safety for the administration; and advise or assist the division in any other matter regarding administration or enforcement. Questions about blasting should be directed to the Division of Fire Safety by calling 573-751-0501. Additional information is available on their website at dfs.dps.mo.gov/programs/investigations/blasting.php.

What is the role of the Missouri Department of Natural Resources?

The Missouri Department of Natural Resources' Missouri Geological Survey's Land Reclamation Program issues mining permits to ensure land is reclaimed to a beneficial land when mining operations are complete. The Land Reclamation Program regulates permit boundaries and any other conditions identified in the operator's permit. The department's Division of Environmental Quality regulates concerns regarding water and air.

Does blasting damage surrounding structures?

Blasting is highly regulated to ensure no damage is done to surrounding structures. When a blast occurs, ground vibrations and air overpressure take place. Most of the rock located at the blast site absorbs the energy released from the blast. The remaining energy from the detonation weakens the farther away it travels from the point of detonation. Air overpressure is an acoustical soundwave that can be measured with a decibel meter. These soundwaves generally are referred to "air blasts." The effects of air blasts are dependent on weather conditions. The effects of an air blast will be more significant on an overcast day than on a clear day, even though the blasts are of the same intensity. Vibration felt after a detonation comprises a combination of air blasts and ground vibrations. A seismograph can measure acoustical and vibration levels. Acoustical or vibration limitations documented in Missouri blasting regulations are generously set to avoid damage to a residence or building.

Do notices have to be sent out to surrounding landowners prior to a blast?

If blasting is being conducted within a municipality, the blaster is required to notify landowners located within a scaled distance of 55, which is defined in the Missouri Blasting Safety Act at 11 CSR 40-7.010 (W) as, "... a value determined by dividing the linear distance, in feet, from the blast to a specified location, by the square root of the maximum weight of explosives, in pounds, to be detonated in any eight (8)-millisecond period". The Missouri Blasting Safety Act at 11 CSR 40-7.010(8)6.A, indicates "One (1) notification delivered by mail, by telephone, through the printed notification posted prominently on the premises or the property of the owner or occupant of the residence or business, or delivered in person to any such owner or occupant meets the requirements of this subsection."

Where are seismographs located in relation to my structure?

A seismograph is required to be placed at the nearest uncontrolled structure, which is a structure that is not owned by the mine operator conducting the blasting. The blaster has the option to place the seismograph closer to the blast site.

How long are seismograph records held?

Seismograph records are required to be held for three years. The blaster has 24 hours to submit seismograph data after a blast, if requested by the Division of Fire Safety.

What is the legal blasting limit?

The legal blasting limit is 133 decibels. According to Virginia Transportation Construction Alliance Aggregate Producers, 23 mph winds, a 35 percent humidity change, or a 27 degree temperature change will cause more damage to a structure than blasting.

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