

PUBLIC CHAPTER NO. 231

SENATE BILL NO. 2201

By Kyle, Harper, Henry, Haynes, Marrero, Johnson

Substituted for: House Bill No. 2256

By Sontany, Odom, Mike Turner, Gilmore, West, Hawk

AN ACT to amend Tennessee Code Annotated, Title 68, Chapter 105, relative to blasting and explosives.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF TENNESSEE:

SECTION 1. Tennessee Code Annotated, Section 68-105-102, is amended by adding the following as new, appropriately designated subsections:

() "Airblast" means a pressure wave from a blast traveling through the atmosphere;

() "Blast hole" means a hole drilled in rock or other material for the placement of explosives;

SECTION 2. Tennessee Code Annotated, Section 68-105-102, is amended by deleting subdivision (13) in its entirety and by substituting instead the following:

(13) "Handler" means a person qualified by reason of training, knowledge, experience and registration to accept custody and possession of explosives in blasting operations;

SECTION 3. Tennessee Code Annotated, Section 68-105-103, is amended by deleting subsections (b) and (d) in their entirety and redesignating the following subsections accordingly.

SECTION 4. Tennessee Code Annotated, Section 68-105-104, is amended by deleting the section in its entirety and by substituting instead the following:

(a) In all blasting operations, except as hereinafter otherwise provided, the maximum ground vibration at any dwelling, public building, school, church, or commercial or institutional building normally occupied adjacent to the blasting site shall not exceed the limitations specified in the following table:

TABLE 1

PEAK PARTICLE VELOCITY LIMITS

Distance from blasting site	Maximum allowable peak particle velocity ¹
0 to 300 ft (91.4 m)	1.25 in/sec (31.75 mm/sec)

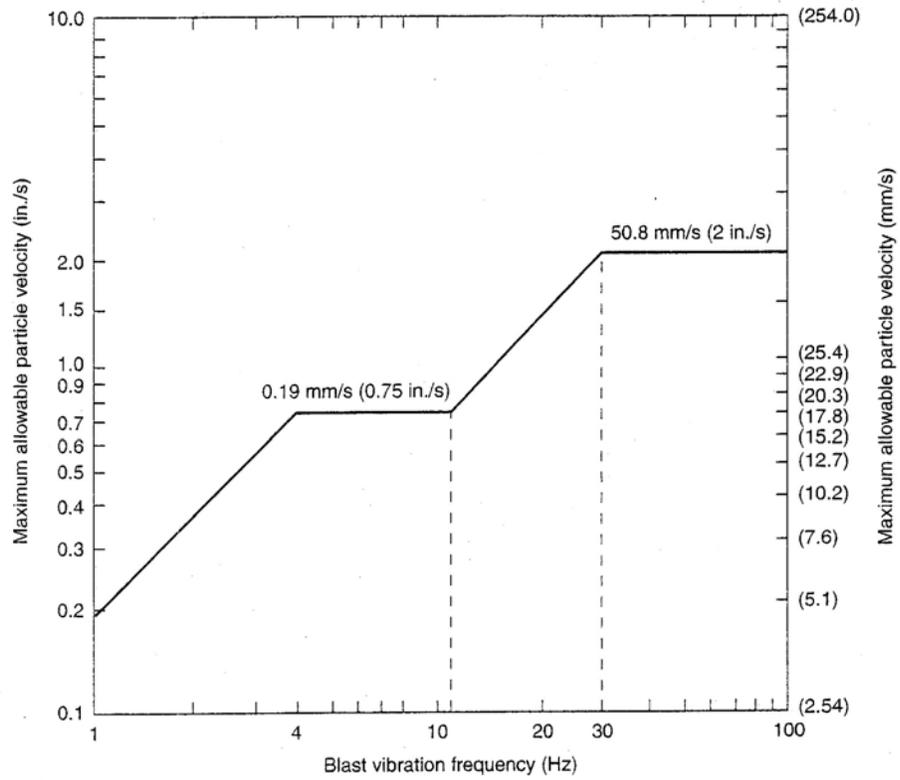
301 to 5000 ft (91.5 m to 1524 m) 1.00 in/sec (25.4 mm/sec)

5001 ft (1525 m) and beyond 0.75 in/sec (19 mm/sec)

¹ Peak particle velocity must be measured in three mutually perpendicular directions and the maximum allowable limits shall apply to each of these measurements.

(b) In lieu of Table 1, a blaster shall have the option to use the graph shown in Figure A to limit peak particle velocity based upon the frequency of the blast vibration.

Figure A



Maximum allowable particle velocity vs. blast vibration frequency graph.

(c) Unless a blaster uses a seismograph to monitor a blast to ensure compliance with Table 1 or Figure A, the operation shall comply with the scaled distance equations shown in Table 2.

TABLE 2

SCALED DISTANCE EQUATIONS

Distance from Blasting Site	Scaled Distance Equation
0 to 300 ft (91.4 m)	Standard Table of Distance (see below)
301 to 5000 ft (92 m to 1524 m)	$W \text{ (lbs)} = (d \text{ (ft)}/55)^2$ or $W \text{ (kg)} = (d \text{ (m)}/24.9)^2$
5001 ft (1524 m) and beyond	$W \text{ (lbs)} = (d \text{ (ft)}/65)^2$ or $W \text{ (kg)} = (d \text{ (m)}/29.4)^2$

Key:

W = The maximum weight of explosives in pounds (or kilograms) that can be detonated per delay interval of 8 milliseconds or greater.

d = The distance in feet (or meters) from the blast site to the nearest dwelling, public building, school, church, commercial, or institutional building normally occupied not owned, leased, or contracted by the blasting operation, or on property where the owner has not given a written waiver to the blasting operation.

Note: To convert English Units of scaled distances (ft/lb²) to metric units (m/kg²) divide by a factor of 2.21.

STANDARD TABLE OF DISTANCE (0 to 300 feet (91.4 m))

<u>Distance in Feet</u> <u>Pounds</u>	<u>Weight in</u>
0-10	1/8
11-15	1/4
16-20	1/2
21-25	3/4
26-30	1.00
40	2.25
50	3.50
60	4.75
70	6.00
80	7.25
90	8.50
100	9.75
110	11.00
130	13.50
150	16.00
170	18.50
190	21.00
210	23.50
230	26.00
250	28.50
270	31.00
290	33.50
300	34.75

(d) Airblast resulting from blasting activities shall not exceed 140dB at the location of any dwelling, public building, school, church, or commercial or institutional building that is not owned or leased by the person engaged in the blasting operation, or on property for which the owner has not provided a written waiver to the person engaged in the blasting operation.

(e) In estimating the peak particle velocity at a particular position, the following formula shall be used:

$$V = V_0 (D_0/D)^{1.5}$$

where V_0 is the maximum ground particle velocity at the seismograph, D_0 is the distance of the seismograph from the blasting, and D is the distance from the blast to the position in question and in the same general direction. The distance D_0 may not be greater than D , and D cannot be more than five (5) times D_0 .

(f) Blasting operations at permanent sites will be considered as being within the limits set forth in this section if at specified locations, on at least five (5) blasts, instrumentation has shown the peak particle velocity and frequency to be within the limits of Figure A. Periodic seismic monitoring will be employed to ensure compliance with applicable law.

SECTION 5. Tennessee Code Annotated, Section 68-105-105, is amended by deleting the section in its entirety and by substituting instead the following:

At any dwelling house, public building, school, church, commercial or institutional building normally occupied within three hundred feet (300') of any blast hole, the responsible blasting firm will offer the owner or occupant a pre-blast survey at no charge. This requirement will apply only in cases where the standard table of distance is exceeded. The offer will be made in writing by the blasting firm at least seventy-two (72) hours prior to commencement of the blasting operation. All surveys requested during the offer period must be completed prior to the commencement of the blasting operation. Complete documentation of surveys, including all photographs, may be requested from the blasting firm by each owner or occupant in writing. Documentation will be provided by the blasting firm in a timely manner. Each survey will document all structural and cosmetic flaws noted at that time. Nothing contained in this section shall apply to permanent blasting operations.

SECTION 6. Tennessee Code Annotated, Section 68-105-106(b), is amended by deleting subdivision (2) in its entirety and by substituting instead:

(2) A Tennessee handler's or blaster's registration, or a blaster's license issued by another state or jurisdiction, provided the applicant for registration based on possession of a blaster's license issued by another state or jurisdiction has possessed such licensure for at least one (1) year prior to applying for licensure in this state; and

SECTION 7. Tennessee Code Annotated, Section 68-105-106, is amended by deleting subsection (c) in its entirety and by substituting instead:

(c) No person shall be eligible for registration as a blaster or limited blaster who is not at least twenty-one (21) years of age. No person shall be eligible for registration as a handler who is not at least eighteen (18) years of age.

SECTION 8. Tennessee Code Annotated, Section 68-105-107(b), is amended by adding the following as new, appropriately designated subdivisions:

- () Name of driller;
- () Type of material blasted and any anomalous or unusual conditions encountered during drilling;
- () Location of holes not loaded or those requiring non-typical loading;
- () Documentation of measures taken to compensate for anomalous or unusual conditions.

SECTION 9. Tennessee Code Annotated, Section 68-105-115, is amended by deleting the section in its entirety and substituting instead the following language:

Notwithstanding any other law to the contrary, a registered blaster or limited blaster who is not a full time employee of a registered firm shall have a current liability insurance policy, which includes blasting coverage, in the minimum amount of one million dollars (\$1,000,000) during all blasting operations for the use and benefit of any person who may be aggrieved by a wrongful act or omission of the blaster.

SECTION 10. Tennessee Code Annotated, Section 68-105-120, is amended by adding the following language as a new, appropriately designated subsection:

- () Personnel of law enforcement entities, so long as these persons are acting within their official capacities and in the performance of their official duties;

SECTION 11. For purposes of effectuating the intent of this act, the state fire marshal is authorized to promulgate rules by public necessity pursuant to the Uniform Administrative Procedures Act, compiled in Title 4, Chapter 5.

SECTION 12. This act shall take effect immediately upon becoming law for the purposes of rulemaking and shall take effect on January 1, 2008, for all other purposes, the public welfare requiring it.

PASSED: May 10, 2007



RON RAMSEY
SPEAKER OF THE SENATE



JIMMY NAIFEH, SPEAKER
HOUSE OF REPRESENTATIVES

APPROVED this 24th day of May 2007



PHIL BREDESEN, GOVERNOR