

1 **HOUSE OF REPRESENTATIVES - FLOOR VERSION**

2 STATE OF OKLAHOMA

3 1st Session of the 56th Legislature (2017)

4 COMMITTEE SUBSTITUTE
5 FOR ENGROSSED
6 SENATE BILL NO. 370

By: Allen of the Senate

and

West (Rick) of the House

8
9
10 COMMITTEE SUBSTITUTE

11 An Act relating to mining; amending 45 O.S. 2011,
12 Sections 753 and 911, which relate to rules and
13 regulations for explosives; defining terms; exempting
14 certain persons from act; updating references; adding
15 rules and procedures related to the use of explosives
16 in mines; and providing an effective date.

17 BE IT ENACTED BY THE PEOPLE OF THE STATE OF OKLAHOMA:

18 SECTION 1. AMENDATORY 45 O.S. 2011, Section 753, is
19 amended to read as follows:

20 Section 753. A. The operator shall insure that explosives are
21 used only in accordance with existing state and federal law and the
22 regulations promulgated by the Department, which shall require:

23 1. Adequate advance written notice to local governments and
24 residents who might be affected by the use of such explosives by

1 publication of the planned blasting schedule in a newspaper of
2 general circulation in the locality, and by mailing a copy of the
3 proposed blasting schedule to every resident living within one-half
4 (1/2) mile of the proposed blasting site and by providing daily
5 notice to resident/occupiers in such areas prior to any blasting;

6 2. Maintaining for a period of at least three (3) years and
7 making available for public inspection upon request a log detailing
8 the location of the blasts, the pattern and depth of the drill
9 holes, the amount of explosives used per hole, and the order and
10 length of delay in the blasts;

11 3. Limiting the type of explosives and detonating equipment,
12 the size, the timing and frequency of blasts based upon the physical
13 conditions of the site so as to prevent injury to persons, damage to
14 public and private property outside the permit area, adverse impacts
15 on any underground mine, and change in the course, channel, or
16 availability of ground or surface water outside the permit area;

17 4. All blasting operations be conducted by trained and
18 competent persons as certified by the Department; ~~and~~

19 5. Upon the request of a resident or owner of a man-made
20 dwelling or structure within one-half (1/2) mile of any portion of
21 the permitted area the applicant or permittee shall conduct a pre-
22 blasting survey of such structures and submit the survey to the
23 Department and a copy to the resident or owner making the request.
24 The area of the survey shall be decided by the Department; and

1 6. For the purposes of this section:

- 2 a. for blasting operations using electronic-blasting
3 detonators, a "loaded hole" is defined as one that
4 contains explosives or blasting agents with a primer
5 where the hole has been stemmed and has a short length
6 of connecting wire sticking out but does not have a
7 firing device connected,
- 8 b. for blasting operations not using electronic
9 detonators, a hole with explosives and a blasting cap
10 is considered a "loaded and charged hole",
- 11 c. for blasting operations using electronic-blasting
12 detonators, a "charged hole" is defined as one that
13 contains explosives or blasting agents with a primer
14 where the hole has been tamped with a short length of
15 connecting device sticking out and it does have a
16 firing device connected,
- 17 d. "blasting site" is defined as the area within fifty
18 (50) feet, or any alternative distance provided in the
19 blasting plan of the approved permit on file, of any
20 holes loaded with explosives, blasting agents or
21 detonators,
- 22 e. "blasting area" is defined as the area where flying
23 rock may be considered dangerous, which shall be
24 determined by the certified blaster.

1 B. Rules and procedures for the use of explosives are as
2 follows:

3 1. Persons who use explosives, blasting agents or detonators
4 shall be certified by the Oklahoma Mining Commission. Such persons
5 shall understand the hazards involved, and trainees shall do such
6 work only under the supervision of and in the immediate presence of
7 certified persons;

8 2. Blasting operations shall be under the direct control of
9 certified persons designated by the operator for that purpose;

10 3. Damaged or deteriorated explosives, blasting agents and
11 detonators shall be disposed of in a safe manner;

12 4. For blasting operations using electronic blasting
13 detonators, loaded holes shall be charged as near to blasting time
14 as practical and in compliance with the known physical limitations
15 and properties of the specific blasting materials and equipment
16 specified by the manufacturer. Unless authorized by the appropriate
17 regulatory authority, loaded holes shall be detonated within sixty
18 (60) days from the date of loading;

19 5. No person shall smoke within fifty (50) feet of explosives,
20 blasting agents or detonators;

21 6. Only wooden or other nonsparking devices shall be used to
22 punch holes in explosives cartridges;

23 7. Tamping poles shall be blunt and squared at one end and made
24 of wood or other nonsparking material;

1 8. No tamping shall be done directly on primer cartridges;

2 9. During the loading of holes, only the work activities
3 associated with the explosives operation will be permitted in the
4 blasting site;

5 10. During charging and firing, only the work activities
6 associated with the explosives operation will be permitted in the
7 blasting area;

8 11. Unused explosives and detonators shall be moved to a safe
9 location as soon as charging operations are completed;

10 12. Approaches to areas in which charged holes are awaiting
11 firing shall be guarded or barricaded and posted or flagged against
12 unauthorized entry;

13 13. When a blast is about to be fired, ample warning shall be
14 given to allow all persons to retreat to a safe place. Each mine
15 shall have a definite plan of warning signals that can be clearly
16 seen or heard by anyone in the blasting area. The operator shall
17 inform all employees at the local mine as to the established
18 procedure;

19 14. Enclosed blasting shelters constructed of strong materials
20 shall be provided to protect all persons endangered by flying rock
21 from blasting;

22 15. When safety fuse has been used, persons shall not return to
23 misfired holes for at least thirty (30) minutes;

1 16. When electric blasting caps have been used, persons shall
2 not return to misfired holes for at least fifteen (15) minutes.
3 Leading wires from the power source must be disconnected before
4 persons can be allowed to return to the blasting sites;

5 17. Blasted materials shall be examined for undetonated
6 explosives after each blast and undetonated explosives found shall
7 be disposed of safely;

8 18. Misfires shall be reported to the proper supervisor and
9 shall be disposed of safely before any other work is performed in
10 the blasting area;

11 19. Blast holes in hot-hole areas and holes that have been
12 sprung shall not be charged before tests have been made to insure
13 that the heat has been dissipated to a safe level;

14 20. If explosives are suspected of burning in a hole, all
15 persons in the endangered area shall move to a safe location until
16 the danger has passed;

17 21. Holes shall not be drilled where there is danger of
18 intersecting a charge or misfired hole;

19 22. Fuses and igniters shall be stored in a cool, dry place
20 away from oils or grease;

21 23. Fuses shall not be kinked, bent sharply or handled roughly;

22 24. Fuses shall be cut and capped in safe, dry locations posted
23 with "No Smoking" signs;
24

1 25. Blasting caps shall be crimped to fuses only with devices
2 designed for that specific purpose;

3 26. Fuses of less than forty-eight (48) inches in length shall
4 not be used for any purpose;

5 27. At least two persons shall be present when lighting fuses,
6 and no person shall light more than fifteen individual fuses. If
7 more than fifteen holes per person are to be fired, igniter cord and
8 connectors or electric blasting shall be used;

9 28. A safe interval of time shall be allowed to light a round
10 and evacuate the blasting area;

11 29. Fuses shall be ignited with hot-wire lighters, lead
12 spitters, igniter cord or other such devices designed for this
13 purpose;

14 30. Fuses shall not be ignited before the primer and the entire
15 charge are securely in place;

16 31. Electric detonators of different brands shall not be used
17 in the same round;

18 32. Electric detonators shall remain shunted until they are
19 being wired into the blasting circuit. Lead lines and wired rounds
20 shall be kept shunted until immediately before blasting;

21 33. Completely wired rounds shall be tested with a blasting
22 galvanometer before connections are made to the blasting line;

23 34. Lead wires and blasting lines shall not be strung across
24 power conductors, pipelines or within twenty (20) feet of bare power

1 lines. They shall be protected from sources of static or other
2 electrical contact;

3 35. Permanent blasting lines shall be properly supported,
4 insulated and kept in good repair;

5 36. Charging shall be stopped immediately when the presence of
6 static electricity or stray current is detected; the condition shall
7 be corrected before charging is resumed;

8 37. Charging of holes shall be suspended and the persons
9 withdrawn to a safe location upon the approach of an electrical
10 storm;

11 38. Safety switches and blasting switches shall be labeled,
12 encased in boxes and arranged so that the covers of the boxes cannot
13 be closed with the switches in closed position;

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

18 40. The key to a blasting switch shall be entrusted only to the
19 person designated to fire blasts;

20 41. Electric circuits from the blasting switches to the blast
21 area shall not be grounded;

22 42. At least a five-foot air gap shall be provided between the
23 blasting circuit and the power circuit;
24

1 43. Where electric blasting is to be performed, electric
2 circuits to equipment within twenty-five (25) feet of a hole that is
3 to be charged with an electric blasting cap shall be de-energized
4 before electric detonators are brought into the immediate area, or
5 the electric equipment shall be moved out of the immediate area;

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

8 45. When instantaneous blasting is performed, the double-
9 trunkline or loop system shall be used in detonating-cord blasting;

10 46. When instantaneous blasting is performed, trunklines in
11 multiple-row blasting shall make one or more complete loops with
12 crossties between loops at intervals of not over two hundred (200)
13 feet;

14 47. All detonating-cord knots shall be tight and all
15 connections shall be kept at right angles to the trunklines;

16 48. Delay connectors for firing detonating-cord shall be
17 treated and handled with the same safety precautions as blasting
18 caps and electric detonators; and

19 49. Detonating-cord shall not be kinked, bent or otherwise
20 handled in such a manner that the train of detonation may be
21 interrupted.

22 SECTION 2. AMENDATORY 45 O.S. 2011, Section 911, is
23 amended to read as follows:
24

1 Section 911. A. Rules and procedures ~~as follows shall be~~
2 ~~complied with~~ for storage of explosives shall be as follows:

3 1. Detonators and other cap-sensitive high explosives shall be
4 stored in magazines provided for that purpose. Blasting agents may
5 be stored in van-type trailers, provided they are well-ventilated,
6 kept clean and free of extraneous material that could create a fire
7 hazard;

8 2. Separate magazines shall be provided for the storage of
9 detonators and for explosives;

10 3. Detonators shall not be stored in the same magazine with
11 explosives or blasting agents;

12 4. Blasting agents, safety fuse or detonating cord may be
13 stored with explosives, but blasting agents must be kept physically
14 separated from the fuse, detonating cord and explosives;

15 5. Magazines shall be:

- 16 a. located in accordance with the current American Table
- 17 of Distances for Storage of Explosives,
- 18 b. detached structures located away from power lines,
- 19 fuel storage area and other possible sources of fire,
- 20 c. constructed substantially of noncombustible material
- 21 or covered with fire-resistant material,
- 22 d. reasonably bullet-resistant,
- 23 e. electrically bonded and grounded if constructed of
- 24 metal,

- f. made of nonsparking materials on the inside, including floors,
- g. provided with adequate and effectively screened ventilation openings near the floor and ceiling,
- h. kept securely locked when unattended,
- i. posted with suitable danger signs so located that a bullet passing through the face of a sign will not strike the magazine,
- j. used exclusively for storage of blasting agents, explosives, or detonators and kept free of all extraneous materials,
- k. kept clean and dry in the interior, and in good repair, and
- l. unheated, unless heated in a manner that does not create a fire or explosion hazard. Electrical heating devices shall not be used inside a magazine;

6. Only permissible lights, worn or carried, shall be used inside magazines;

7. Areas surrounding magazines not less than twenty-five (25) feet in all directions shall be kept free of rubbish and other combustibles;

8. Smoking and open flames shall not be permitted within twenty-five (25) feet of explosives and detonator storage magazines;

1 9. Cases of explosives shall be stored in such a manner as to
2 assure the use of the oldest stock first;

3 10. Ammonium nitrate fuel oil mixtures shall be physically
4 separated from dynamite stored in the same magazine and in such a
5 manner that oil does not contaminate the dynamite; and

6 11. Cases of explosives shall not be stored on case ends or
7 sides nor in stacks over six (6) feet high.

8 B. Rules and procedures as follows shall be complied with in
9 the transportation of explosives:

10 1. Explosives and detonators shall be transported in separate
11 vehicles unless separated by four (4) inches of hardwood or the
12 equivalent;

13 2. Self-propelled vehicles used to transport explosives or
14 detonators shall be equipped with suitable fire extinguishers and
15 marked with proper warning signs;

16 3. When vehicles containing explosives or detonators are
17 parked, the brakes shall be set, the motive power shut off when not
18 in use, and if parked on an incline, the vehicle shall be blocked
19 securely against rolling;

20 4. Vehicles containing explosives or detonators shall not be
21 left unattended except in blasting areas where loading or charging
22 is in progress;

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

1 6. Vehicles used to transport explosives or detonators shall be
2 maintained in good condition and shall be operated at a safe speed
3 and in accordance with recognized safe operating practices;

4 7. Vehicles used to transport explosives other than Ammonium
5 Nitrate Fuel Oil (ANFO) mixtures shall have substantially
6 constructed bodies, no sparking metal exposed in the cargo space,
7 and the explosives shall not be piled higher than the side or end
8 enclosures;

9 8. Explosives shall be transported at times and over routes
10 that endanger a minimum number of persons;

11 9. Other materials or supplies shall not be placed on or in the
12 cargo space of a conveyance containing explosives or detonators;

13 10. No person shall smoke while transporting or handling
14 explosives or detonators;

15 11. Only the necessary attendants shall ride on or in vehicles
16 containing explosives or detonators;

17 12. Explosives shall be transported promptly without undue
18 delays in transit;

19 13. Nonconductive containers with tight-fitting covers shall be
20 used to transport or carry capped fuses and electric detonators to
21 blasting sites; and

22 14. Substantial nonconductive closed containers shall be used
23 to carry explosives to blasting sites.
24

1 C. Rules and procedures as follows shall be complied with in
2 the use of explosives, with the exception of persons with a valid
3 coal permit issued by the Department of Mines:

4 1. Persons who use explosives, blasting agents or detonators
5 shall be certified by the ~~State Mining Board~~ Oklahoma Mining
6 Commission. Such persons shall understand the hazards involved, and
7 trainees shall do such work only under the supervision of and in the
8 immediate presence of certified persons;

9 2. Blasting operations shall be under the direct control of
10 certified persons designated by the operator for that purpose;

11 3. Damaged or deteriorated explosives, blasting agents and
12 detonators shall be disposed of in a safe manner;

13 4. Holes to be blasted shall be charged as near to blasting
14 time as practical, and such holes shall be blasted as soon as
15 practical after charging has been completed;

16 5. No person shall smoke within fifty (50) feet of explosives,
17 blasting agents or detonators;

18 6. Explosives and blasting agents shall be kept separated from
19 detonators until charging of holes is started;

20 7. Primers shall be made up at the time of charging and as
21 close to the blasting site as conditions allow;

22 8. Only wooden or other nonsparking devices shall be used to
23 punch holes in explosives cartridges;

- 1 9. Tamping poles shall be blunt and squared at one end and made
2 of wood or other nonsparking material;
- 3 10. No tamping shall be done directly on primer cartridges;
- 4 11. Unused explosives and detonators shall be moved to a safe
5 location as soon as charging operations are completed;
- 6 12. Approaches to areas in which charged holes are awaiting
7 firing shall be guarded, or barricaded and posted, or flagged,
8 against unauthorized entry. If blasting is done after dark, red
9 flashing lights shall be used at the approaches to the blasting
10 area;
- 11 13. When a blast is about to be fired, ample warning shall be
12 given to allow all persons to retreat to a safe place. Each mine
13 shall have a definite plan of warning signals that can be clearly
14 seen or heard by anyone in the blasting area. The operator shall
15 inform all employees at the local mine as to the established
16 procedure;
- 17 14. Enclosed blasting shelters constructed of strong materials
18 shall be provided to protect all persons endangered by flying rock
19 from blasting;
- 20 15. When safety fuse has been used, persons shall not return to
21 misfired holes for at least thirty (30) minutes;
- 22 16. When electric blasting caps have been used, persons shall
23 not return to misfired holes for at least fifteen (15) minutes.
24

1 Leading wires from the power source must be disconnected before
2 persons can be allowed to return to the blasting sites;

3 17. Blasted materials shall be examined for undetonated
4 explosives after each blast and undetonated explosives found shall
5 be disposed of safely;

6 18. Misfires shall be reported to the proper supervisor and
7 shall be disposed of safely before any other work is performed in
8 the blasting area;

9 19. Blast holes in "hot-hole" areas and holes that have been
10 sprung shall not be charged before tests have been made to insure
11 that the heat has been dissipated to a safe level;

12 20. If explosives are suspected of burning in a hole, all
13 persons in the endangered area shall move to a safe location until
14 the danger has passed;

15 21. Holes shall not be drilled where there is danger of
16 intersecting a charge or misfired hole;

17 22. Fuses and igniters shall be stored in a cool, dry place
18 away from oils or grease;

19 23. Fuses shall not be kinked, bent sharply or handled roughly;

20 24. Fuses shall be cut and capped in safe, dry locations posted
21 with "No Smoking" signs;

22 25. Blasting caps shall be crimped to fuses only with devices
23 designed for that specific purpose;

1 26. Fuses of less than forty-eight (48) inches in length shall
2 not be used for any purpose;

3 27. At least two ~~(2)~~ persons shall be present when lighting
4 fuses, and no person shall light more than fifteen ~~(15)~~ individual
5 fuses. If more than fifteen ~~(15)~~ holes per person are to be fired,
6 igniter cord and connectors or electric blasting shall be used;

7 28. A safe interval of time shall be allowed to light a round
8 and evacuate the blasting area;

9 29. Fuses shall be ignited with hot-wire lighters, lead
10 spitters, igniter cord or other such devices designed for this
11 purpose;

12 30. Fuses shall not be ignited before the primer and the entire
13 charge are securely in place;

14 31. Electric detonators of different brands shall not be used
15 in the same round;

16 32. Electric detonators shall remain shunted until they are
17 being wired into the blasting circuit. Lead lines and wired rounds
18 shall be kept shunted until immediately before blasting;

19 33. Completely wired rounds shall be tested with a blasting
20 galvanometer before connections are made to the blasting line;

21 34. Lead wires and blasting lines shall not be strung across
22 power conductors, pipelines or within twenty (20) feet of bare power
23 lines. They shall be protected from sources of static or other
24 electrical contact;

1 35. Permanent blasting lines shall be properly supported,
2 insulated and kept in good repair;

3 36. Charging shall be stopped immediately when the presence of
4 static electricity or stray current is detected; the condition shall
5 be corrected before charging is resumed;

6 37. Charging of holes shall be suspended and the persons
7 withdrawn to a safe location upon the approach of an electrical
8 storm;

9 38. Safety switches and blasting switches shall be labeled,
10 encased in boxes and arranged so that the covers of the boxes cannot
11 be closed with the switches in closed position;

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

16 40. The key to a blasting switch shall be entrusted only to the
17 person designated to fire blasts;

18 41. Electric circuits from the blasting switches to the blast
19 area shall not be grounded;

20 42. At least a five-foot air gap shall be provided between the
21 blasting circuit and the power circuit;

22 43. Where electric blasting is to be performed, electric
23 circuits to equipment within twenty-five (25) feet of a hole that is
24 to be charged with an electric blasting cap shall be de-energized

1 before electric detonators are brought into the immediate area, or
2 the electric equipment shall be moved out of the immediate area;

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

5 45. When instantaneous blasting is performed, the double-
6 trunkline or loop system shall be used in detonating-cord blasting;

7 46. When instantaneous blasting is performed, trunklines in
8 multiple-row blasting shall make one ~~(1)~~ or more complete loops with
9 crossties between loops at intervals of not over two hundred (200)
10 feet;

11 47. All detonating-cord knots shall be tight and all
12 connections shall be kept at right angles to the trunklines;

13 48. Delay connectors for firing detonating-cord shall be
14 treated and handled with the same safety precautions as blasting
15 caps and electric detonators; and

16 49. Detonating-cord shall not be kinked, bent or otherwise
17 handled in such a manner that the train of detonation may be
18 interrupted.

19 D. Rules and procedures as follows shall be complied with in
20 dealing with sensitized ammonium nitrate blasting agents:

21 1. When sensitized ammonium nitrate mixtures and blasting
22 agents are used, the same precautions shall be taken as for high
23 explosives;

1 2. Adequate priming shall be employed to guard against
2 misfires, increased toxic fumes and poor performance;

3 3. Where pneumatic loading is employed, before any type of
4 blasting operation using blasting agents is put into effect, an
5 evaluation of the potential hazard of static electricity shall be
6 made. Adequate steps, including the grounding of the conductive
7 parts of pneumatic loading equipment, shall be taken to eliminate
8 the hazard of static electricity before blasting agent preparation
9 is commenced;

10 4. Pneumatic loading equipment shall not be grounded to water
11 lines, air lines, rails or other permanent electrical grounding
12 systems;

13 5. Hoses used in connection with pneumatic loading machines
14 shall be of the semiconductive type having a total resistance low
15 enough to permit the dissipation of static electricity and high
16 enough to limit the flow of stray electric currents to a safe level.
17 Wire-counteracted hose shall not be used because of the potential
18 hazard from stray electric currents; and

19 6. Plastic tubes shall not be used to protect pneumatically
20 loaded blasting agent charges against water unless a positive
21 grounding system is provided to drain electrostatic charges from the
22 holes.

SECTION 3. This act shall become effective November 1, 2017.

COMMITTEE REPORT BY: COMMITTEE ON ENERGY AND NATURAL RESOURCES,
dated 04/10/2017 - DO PASS, As Amended.