

1 ENGROSSED HOUSE AMENDMENT
TO
2 ENGROSSED SENATE BILL NO. 370 By: Allen of the Senate
3 and
4 West (Rick) of the House
5
6

7 [mining - rules and regulations for explosives -
8 effective date]
9

10 AMENDMENT NO. 1. Replace the stricken title, enacting clause and
11 entire bill and insert

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

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

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

21 Section 753. A. The operator shall insure that explosives are
22 used only in accordance with existing state and federal law and the
23 regulations promulgated by the Department, which shall require:
24

1 1. Adequate advance written notice to local governments and
2 residents who might be affected by the use of such explosives by
3 publication of the planned blasting schedule in a newspaper of
4 general circulation in the locality, and by mailing a copy of the
5 proposed blasting schedule to every resident living within one-half
6 (1/2) mile of the proposed blasting site and by providing daily
7 notice to resident/occupiers in such areas prior to any blasting;

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

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

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

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

1 Department and a copy to the resident or owner making the request.
2 The area of the survey shall be decided by the Department; and

3 6. For the purposes of this section:

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

1 e. "blasting area" is defined as the area where flying
2 rock may be considered dangerous, which shall be
3 determined by the certified blaster.

4 B. Rules and procedures for the use of explosives are as
5 follows:

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

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

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

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

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

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

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

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

6 9. During the loading of holes, only the work activities
7 associated with the explosives operation will be permitted in the
8 blasting site;

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

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

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

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

1 14. Enclosed blasting shelters constructed of strong materials
2 shall be provided to protect all persons endangered by flying rock
3 from blasting;

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

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

10 17. Blasted materials shall be examined for undetonated
11 explosives after each blast and undetonated explosives found shall
12 be disposed of safely;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

15 37. Charging of holes shall be suspended and the persons
16 withdrawn to a safe location upon the approach of an electrical
17 storm;

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

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

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

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

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

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

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

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

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

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

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

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

4 SECTION 2. AMENDATORY 45 O.S. 2011, Section 911, is
5 amended to read as follows:

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

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

13 2. Separate magazines shall be provided for the storage of
14 detonators and for explosives;

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

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

20 5. Magazines shall be:

21 a. located in accordance with the current American Table
22 of Distances for Storage of Explosives,

23 b. detached structures located away from power lines,
24 fuel storage area and other possible sources of fire,

- c. constructed substantially of noncombustible material or covered with fire-resistant material,
- d. reasonably bullet-resistant,
- e. electrically bonded and grounded if constructed of 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;

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

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

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

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

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

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

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

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

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

1 4. Vehicles containing explosives or detonators shall not be
2 left unattended except in blasting areas where loading or charging
3 is in progress;

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

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

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

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

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

18 10. No person shall smoke while transporting or handling
19 explosives or detonators;

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

22 12. Explosives shall be transported promptly without undue
23 delays in transit;

24

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

4 14. Substantial nonconductive closed containers shall be used
5 to carry explosives to blasting sites.

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

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

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

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

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

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

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

- 1 7. Primers shall be made up at the time of charging and as
2 close to the blasting site as conditions allow;
- 3 8. Only wooden or other nonsparking devices shall be used to
4 punch holes in explosives cartridges;
- 5 9. Tamping poles shall be blunt and squared at one end and made
6 of wood or other nonsparking material;
- 7 10. No tamping shall be done directly on primer cartridges;
- 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,
12 against unauthorized entry. If blasting is done after dark, red
13 flashing lights shall be used at the approaches to the blasting
14 area;
- 15 13. When a blast is about to be fired, ample warning shall be
16 given to allow all persons to retreat to a safe place. Each mine
17 shall have a definite plan of warning signals that can be clearly
18 seen or heard by anyone in the blasting area. The operator shall
19 inform all employees at the local mine as to the established
20 procedure;
- 21 14. Enclosed blasting shelters constructed of strong materials
22 shall be provided to protect all persons endangered by flying rock
23 from blasting;
- 24

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

15 4. Pneumatic loading equipment shall not be grounded to water
16 lines, air lines, rails or other permanent electrical grounding
17 systems;

18 5. Hoses used in connection with pneumatic loading machines
19 shall be of the semiconductive type having a total resistance low
20 enough to permit the dissipation of static electricity and high
21 enough to limit the flow of stray electric currents to a safe level.
22 Wire-countered hose shall not be used because of the potential
23 hazard from stray electric currents; and
24

1 ENGROSSED SENATE
2 BILL NO. 370

By: Allen of the Senate

3 and

4 West (Rick) of the House

5
6 [mining - rules and regulations for explosives -
7 effective date]
8

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

10 SECTION 4. AMENDATORY 45 O.S. 2011, Section 753, is
11 amended to read as follows:

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

15 1. Adequate advance written notice to local governments and
16 residents who might be affected by the use of such explosives by
17 publication of the planned blasting schedule in a newspaper of
18 general circulation in the locality, and by mailing a copy of the
19 proposed blasting schedule to every resident living within one-half
20 (1/2) mile of the proposed blasting site and by providing daily
21 notice to resident/occupiers in such areas prior to any blasting;

22 2. Maintaining for a period of at least three (3) years and
23 making available for public inspection upon request a log detailing
24 the location of the blasts, the pattern and depth of the drill

1 holes, the amount of explosives used per hole, and the order and
2 length of delay in the blasts;

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

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

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

17 6. For the purposes of this section:

18 a. for blasting operations using electronic-blasting
19 detonators, a "loaded hole" is defined as one that
20 contains explosives or blasting agents with a primer
21 where the hole has been stemmed and has a short length
22 of connecting wire sticking out but does not have a
23 firing device connected,

24

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

18 B. Rules and procedures for the use of explosives are as
19 follows:

20 1. Persons who use explosives, blasting agents or detonators
21 shall be certified by the Oklahoma Mining Commission. Such persons
22 shall understand the hazards involved, and trainees shall do such
23 work only under the supervision of and in the immediate presence of
24 certified persons;

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

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

5 4. For blasting operations using electronic blasting
6 detonators, loaded holes shall be charged as near to blasting time
7 as practical and in compliance with the known physical limitations
8 and properties of the specific blasting materials and equipment
9 specified by the manufacturer. Unless authorized by the appropriate
10 regulatory authority, loaded holes shall be detonated within sixty
11 (60) days from the date of loading;

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

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

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

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

19 9. During the loading of holes, only the work activities
20 associated with the explosives operation will be permitted in the
21 blasting site;

22 10. During charging and firing, only the work activities
23 associated with the explosives operation will be permitted in the
24 blasting area;

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

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

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

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

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

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

21 17. Blasted materials shall be examined for undetonated
22 explosives after each blast and undetonated explosives found shall
23 be disposed of safely;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1 37. Charging of holes shall be suspended and the persons
2 withdrawn to a safe location upon the approach of an electrical
3 storm;

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

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

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

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

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

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

22 44. Power sources shall be suitable for the number of electric
23 detonators to be fired and for the type of circuits used;
24

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

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

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

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

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

15 SECTION 5. AMENDATORY 45 O.S. 2011, Section 911, is
16 amended to read as follows:

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

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

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

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

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

8 5. Magazines shall be:

- 9 a. located in accordance with the current American Table
10 of Distances for Storage of Explosives,
- 11 b. detached structures located away from power lines,
12 fuel storage area and other possible sources of fire,
- 13 c. constructed substantially of noncombustible material
14 or covered with fire-resistant material,
- 15 d. reasonably bullet-resistant,
- 16 e. electrically bonded and grounded if constructed of
17 metal,
- 18 f. made of nonsparking materials on the inside, including
19 floors,
- 20 g. provided with adequate and effectively screened
21 ventilation openings near the floor and ceiling,
- 22 h. kept securely locked when unattended,

23
24

- 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;

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

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

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

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

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

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

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

15 4. Vehicles containing explosives or detonators shall not be
16 left unattended except in blasting areas where loading or charging
17 is in progress;

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

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

23 7. Vehicles used to transport explosives other than Ammonium
24 Nitrate Fuel Oil (ANFO) mixtures shall have substantially

1 constructed bodies, no sparking metal exposed in the cargo space,
2 and the explosives shall not be piled higher than the side or end
3 enclosures;

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

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

8 10. No person shall smoke while transporting or handling
9 explosives or detonators;

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

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

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

17 14. Substantial nonconductive closed containers shall be used
18 to carry explosives to blasting sites.

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

22 1. Persons who use explosives, blasting agents or detonators
23 shall be certified by the ~~State Mining Board~~ Oklahoma Mining
24 Commission. Such persons shall understand the hazards involved, and

1 trainees shall do such work only under the supervision of and in the
2 immediate presence of certified persons;

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

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

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

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

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

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

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

18 9. Tamping poles shall be blunt and squared at one end and made
19 of wood or other nonsparking material;

20 10. No tamping shall be done directly on primer cartridges;

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

23 12. Approaches to areas in which charged holes are awaiting
24 firing shall be guarded, or barricaded and posted, or flagged,

1 against unauthorized entry. If blasting is done after dark, red
2 flashing lights shall be used at the approaches to the blasting
3 area;

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

10 14. Enclosed blasting shelters constructed of strong materials
11 shall be provided to protect all persons endangered by flying rock
12 from blasting;

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

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

19 17. Blasted materials shall be examined for undetonated
20 explosives after each blast and undetonated explosives found shall
21 be disposed of safely;

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

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

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

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

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

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

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

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

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

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

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

24

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

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

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

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

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

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

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

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

22 37. Charging of holes shall be suspended and the persons
23 withdrawn to a safe location upon the approach of an electrical
24 storm;

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

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

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

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

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

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

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

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

23 46. When instantaneous blasting is performed, trunklines in
24 multiple-row blasting shall make one (1) or more complete loops with

1 crossties between loops at intervals of not over two hundred (200)
2 feet;

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

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

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

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

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

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

18 3. Where pneumatic loading is employed, before any type of
19 blasting operation using blasting agents is put into effect, an
20 evaluation of the potential hazard of static electricity shall be
21 made. Adequate steps, including the grounding of the conductive
22 parts of pneumatic loading equipment, shall be taken to eliminate
23 the hazard of static electricity before blasting agent preparation
24 is commenced;

1 4. Pneumatic loading equipment shall not be grounded to water
2 lines, air lines, rails or other permanent electrical grounding
3 systems;

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

10 6. Plastic tubes shall not be used to protect pneumatically
11 loaded blasting agent charges against water unless a positive
12 grounding system is provided to drain electrostatic charges from the
13 holes.

14 SECTION 6. This act shall become effective November 1, 2017.

15 Passed the Senate the 22nd day of March, 2017.

16
17 _____
18 Presiding Officer of the Senate

19 Passed the House of Representatives the ____ day of _____,
20 2017.

21
22 _____
23 Presiding Officer of the House
24 of Representatives

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24