

TITLE 20 ENVIRONMENTAL PROTECTION
CHAPTER 11 ALBUQUERQUE - BERNALILLO COUNTY AIR QUALITY CONTROL BOARD
PART 21 OPEN BURNING

20.11.21.1 ISSUING AGENCY: Albuquerque - Bernalillo County Air Quality Control Board. P.O. Box 1293, Albuquerque, NM 87103. Telephone: (505) 768-2601.
[6/14/71. . .12/1/95; 20.11.21.1 NMAC - Rn, 20 NMAC 11.21.I.1, 10/1/02; A, 7/11/11]

20.11.21.2 SCOPE:

A. 20.11.21 NMAC is applicable to sources within Bernalillo county.
B. Exempt: 20.11.21 NMAC does not apply to sources within Bernalillo county that are located on Indian lands over which the Albuquerque - Bernalillo county air quality control board lacks jurisdiction.
[12/1/95; 20.11.21.2 NMAC - Rn, 20 NMAC 11.21.I.2, 10/01/02; A, 12/31/03; A, 7/11/11]

20.11.21.3 STATUTORY AUTHORITY: 20.11.21 NMAC is adopted pursuant to the authority provided in the New Mexico Air Quality Control Act, NMSA 1978 Sections 74-2-4, 74-2-5.C; the Joint Air Quality Control Board Ordinance, Bernalillo County Ordinance 94-5 Sections 3 and 4; and the Joint Air Quality Control Board Ordinance, Revised Ordinances of Albuquerque 1994 Sections 9-5-1-3 and 9-5-1-4.
[6/14/71. . .12/1/95; 20.11.21.3 NMAC - Rn, 20 NMAC 11.21.I.3, 10/1/02; A, 12/31/03; A, 7/11/11]

20.11.21.4 DURATION: Permanent.

[12/1/95; 20.11.21.4 NMAC - Rn, 20 NMAC 11.21.I.4, 10/1/02]

20.11.21.5 EFFECTIVE DATE: December 1, 1995, unless a later date is cited at the end of a section.
[12/1/95; 20.11.21.5 NMAC - Rn, 20 NMAC 11.21.I.5 & A, 10/1/02]

20.11.21.6 OBJECTIVE: To ensure that all persons conduct open burning in a manner that prevents or abates emissions from fires in the open, which, as a general class, produce visible emissions and noxious byproducts of combustion.
[3/24/82. . .12/1/95; 20.11.21.6 NMAC - Rn, 20 NMAC 11.21.I.6, 10/1/02; A, 12/31/03]

20.11.21.7 DEFINITIONS: In addition to the definitions in Section 20.11.21.7 NMAC, the definitions in 20.11.1 NMAC apply unless there is a conflict between definitions, in which case the definition in 20.11.21 NMAC shall govern.

A. "Agricultural burning" means the burning of crop residues for field preparation or that is otherwise used for the production of a crop.

B. "Alternative to burning" means a treatment employing manual, mechanical, chemical, or biological methods to manage vegetation or fuel loads, or land management practices that treat vegetation (fuel) without using fire. A treatment or practice may only be considered an alternative if it has successfully been used to take the place of fire for at least three consecutive years. Suggested alternatives to burning are listed in Section 20.11.21.18 NMAC.

C. "Biomass utilization" means any method of removing and taking biomass material to a landfill, burn facility, a power generation facility, an ethanol production facility, a redistribution facility, a fiberboard or particleboard facility, using the material as compost or mulch, using it as animal bedding, for erosion control, etc.

D. "Broadcast burn" means the controlled application of fire to wildland fuels in their natural or modified state over a predetermined area. Broadcast burns do not include the burning of wildland fuels that have been concentrated in piles by manual or mechanical methods.

E. "Burn down" means that period of time, not to exceed three (3) hours, after a no-burn period is announced by the director, within which period a person operating a solid fuel heating device must cease combustion within any solid fuel heating device by withholding fuel or modifying the air-to-fuel ratio.

F. "Burner" means the person who is responsible for or in control of a prescribed fire project that is regulated under 20.11.21 NMAC.

G. "Burn project" means, in prescribed fires or in wildland fire use, a burn regulated by 20.11.21.15 NMAC on an area that is contiguous and is being treated or managed for the same land management objectives.

H. "Class I area" means all international parks, national wilderness areas which exceed 5,000 acres, national memorial parks which exceed 5,000 acres, and national park areas which exceed 6,000 acres in size and

which were in existence on the date of enactment of the Clean Air Act Amendments of 1977. The extent of the areas designated as class I shall conform to any changes in the boundaries of such areas, which occurred subsequent to the date of the enactment of the Clean Air Act Amendments of 1977 or 1990.

I. “Department” means the Albuquerque environmental health department, which is the administrative agency of the Albuquerque - Bernalillo county air quality control board.

J. “Director” means the administrative head of the Albuquerque environmental health department or a designated representative(s).

K. “Division” means the city of Albuquerque air quality division or its successor agency.

L. “Emission reduction technique” or “ERT” means a control strategy used to reduce smoke from a prescribed fire that results in less smoke than would have been produced if the emission reduction technique were absent. A control strategy used for a period of fewer than three years is an emission reduction technique; if the control strategy replaces fire for three consecutive years or more, the control strategy is an alternative to burning.

M. “Environmentally non-essential burning” means the open burning of any unwanted combustible material which could otherwise reasonably be altered, destroyed, reduced or removed to a suitable disposal site without the potential to cause environmental harm or damage.

N. “Environmentally poor burning substances” include but are not limited to: refuse, paper, rubbish, books, magazines, fiberboard, packaging, rags, fabrics, animal waste, waste oil, liquid or gelatinous hydrocarbons, tar, paints and solvents, chemically treated wood, plastic or rubber, office records, sensitive or classified wastes, hazardous or toxic substances, interiors of wrecked vehicle bodies or other materials which are difficult to burn without producing significant amounts of noxious or toxic fumes or dense smoke.

O. “Health alert” means an air pollution alert, warning or emergency issued by the department.

P. “Hot torch” means a wand or burner fueled by propane, butane or compressed natural gas.

Q. “Hot torch burning” means burning of individual weeds at the point of the hot torch.

R. “No-burn period” means a period of time, declared by the director, during which no person with authority or power to control the operation of a solid fuel heating device shall allow the operation of a solid fuel heating device to continue, following a burn down period, within the wood smoke impacted area, unless the device is a wood heater that has been emission certified by the EPA. Exemptions may be granted by the director per 20.11.22.2 NMAC. No-burn periods may be declared any time from October 1 through February 28. The director shall declare a no-burn period after reviewing available meteorological data, air pollution monitoring data and other relevant information and determining that expected atmospheric conditions will not adequately disperse wood smoke.

S. “Open burning” means the combustion of any substance which is not confined in a device having controllable fuel/air mixture capable of achieving nearly complete combustion, and from which combustion products are discharged into the open air without passing through a stack, duct, chimney, or vent.

T. “PB-I” or “level I prescribed burn” means a smoke management burn project that emits less than one ton of PM₁₀ emissions per day or burns less than 5,000 cubic feet pile volume of vegetative material per day.

U. “PB-II” or “level II prescribed burn” means a smoke management burn project that emits one ton or more of PM₁₀ emissions per day or burns 5,000 cubic feet or more pile volume of vegetative material per day.

V. “Pile” means vegetative materials that have been relocated and heaped together either by hand or machinery.

W. “Pile volume” means the gross volume of a pile, including the air space between solid constituents, as calculated from the overall dimensions and shape of the pile.

X. “PM₁₀ emissions” or “PM₁₀” means finely divided solid or liquid material, with an aerodynamic diameter less than or equal to a nominal 10 micrometers emitted to the ambient air, as measured by the reference method in 40 CFR Part 50, Appendix J, or equivalent method approved by the EPA.

Y. “Population” means the total number of individuals occupying an area. Locations for individuals within an area include, but are not limited to, open campgrounds, single-family dwellings, hospitals, schools in use, villages, and open places of employment.

Z. “Prescribed fire” or “prescribed burn” or “PB” means any fire ignited by any person to meet specific non-agricultural land management objectives. For the purposes of 20.11.21 NMAC, wildland fire use is considered a prescribed fire.

AA. “Public notification” means any method that communicates burn information to the burners, air regulators, Bernalillo county fire department, the local fire authority, and to the general public.

BB. “Research and development activities” means scientific experimentation using open burning to prove a concept or produce information useful in planning.

CC. “Vegetative material” means untreated wood and untreated wood products, including tree stumps (whole or chipped), trees, tree limbs (whole or chipped), bark, sawdust, chips, scraps, slabs, millings, shavings, grass, grass clippings, weeds, leaves, conifer needles, bushes, shrubs, clippings from bushes and shrubs, and agricultural plant residue.

DD. “Ventilation index” means a technical rating used to establish the potential for smoke or other pollutants to ventilate away from its source.

EE. “Ventilation index category” means a category in the ventilation index that is determined as provided in Section 20.11.21.17 NMAC and is rated as excellent, very good, good, fair or poor.

FF. “Wildfire” means an unplanned or unwanted fire that burns vegetative material in a natural or modified state.

GG. “Wildland” means an area in which there is minimal development, except for roads, railroads, power lines and similar utilities and transportation facilities. Structures, if any, are widely scattered.

HH. “Wildland fire use” means the management of wildfire within a wildland that is ignited by natural forces, such as by lightning or volcanic eruption, following a decision to allow the wildfire to burn to accomplish specific pre-stated resource objectives in predefined geographic areas, also known as fire use, wildfire use, prescribed natural fire, and fire for resource benefit.

II. “Winter pollution advisory season” or “no-burn season” means the period from October 1st through February 28th each year when no-burn calls are made. The no-burn call is a control strategy designed to protect the air quality in Bernalillo county. This strategy helps mitigate particulate matter and carbon monoxide build up during the colder months of the year when temperature inversions trap pollutants closer to ground level.

JJ. “Wood smoke impacted area” means that portion of Bernalillo county that is the most adversely affected by the burning of wood during atmospheric conditions that the director concludes may not adequately disperse wood smoke. The wood smoke impacted area is bounded on the north and south by the Bernalillo county line, on the west by the universal transverse meridian (UTM) line 337000mE and on the east by the UTM line 367000mE, Zone 13.

[1/3/85; . . .6/16/92, 12/1/95; 20.11.21.7 NMAC - Rn, 20 NMAC 11.21.I.7, 10/1/02; A, 12/31/03; A, 7/11/11]

20.11.21.8 VARIANCES: [Reserved]

[12/1/95; 20.11.21.8 NMAC - Rn, 20 NMAC 11.21.I.8, 10/1/02]

20.11.21.9 SAVINGS CLAUSE: Any amendment to 20.11.21 NMAC, that is filed with the state records center shall not affect actions pending for violation of a city or county ordinance or 20.11.21 NMAC. Prosecution for a violation under a prior statute, ordinance or regulation shall be governed and prosecuted under the statute, ordinance or regulation in effect at the time the violation was committed.

[12/1/95; 20.11.21.9 NMAC - Rn, 20 NMAC 11.21.I.9 & A, 10/1/02; A, 12/31/03; A, 7/11/11]

20.11.21.10 SEVERABILITY: If any section, paragraph, sentence, clause, or word of 20.11.21 NMAC or any federal standards incorporated herein is for any reason held to be unconstitutional or otherwise invalid by any court, the decision shall not affect the validity of remaining provisions of 20.11.21 NMAC.

[12/1/95; 20.11.21.10 NMAC - Rn, 20 NMAC 11.21.I.10, 10/1/02; A, 7/11/11]

20.11.21.11 DOCUMENTS: Documents incorporated and cited in 20.11.21 NMAC may be viewed at the Albuquerque environmental health department, 400 Marquette NW, Albuquerque, NM.

[12/1/95; 20.11.21.11 NMAC - Rn, 20 NMAC 11.21.I.11 & A, 10/1/02; A, 7/11/11]

20.11.21.12 OPEN BURNING PROHIBITED:

A. Open burning on private or public property (including burning of environmentally poor burning substances and vegetative materials), is prohibited in Bernalillo county unless authorized under Section 13, 14, or 15 of 20.11.21 NMAC. In addition to complying with 20.11.21 NMAC, every person who plans to conduct open burning shall obtain all applicable permits and comply with all applicable restrictions of the Bernalillo county fire department and the Albuquerque fire department, prior to burning.

B. Compliance with 20.11.21 NMAC shall not relieve any person from complying with all other applicable statutes, ordinances and regulations.

C. Open burning allowed under Sections 13, 14, or 15 of 20.11.21 NMAC shall be suspended during declared “no burn periods” during the winter pollution advisory season or when an air pollution health alert is

issued. A waiver from the no burn restriction may be granted for extenuating circumstances by following the process in Subsection D of 20.11.21.12 NMAC. A no burn waiver may be rescinded in the event of a health alert.

D. The burner may apply for a waiver by submitting a written application for waiver to the department at least two weeks prior to the planned burn event. The burner shall document the reasons for requesting the waiver in the application for a waiver. The department shall notify the burner no later than one week prior to the planned burn event whether the waiver is granted or denied, and, if denied, the reasons for the denial. The department shall consider each waiver request on a case-by-case basis. An applicant for a waiver may challenge the department's denial of a waiver by following the procedures established in 20.11.21.21 NMAC. A person adversely affected by the department's granting of a waiver may challenge the department's decision by following the procedures established in Subsection B of 20.11.21.21 NMAC.

[1/3/85, 12/1/95; 20.11.21.12 NMAC - Rn, 20 NMAC 11.21.I.12 & Repealed, 10/1/02; Rn, 20 NMAC 11.21.II.1, 10/1/02; A, 12/31/03; A, 7/11/11]

20.11.21.13 CONDITIONALLY ALLOWED OPEN BURNING WITH A PERMIT:

A. Open burning may be allowed for the purposes described in Table I if, prior to burning, an open burning permit has been obtained from: 1. the Albuquerque environmental health department (as required by Subsections B and C of 20.11.21.13 NMAC); and 2. the Bernalillo county fire department or the Albuquerque fire department as applicable.

**Table I
OPEN BURNING PERMITS FOR MULTIPLE AND SINGLE EVENTS**

| Permit Basis | | Purpose and Conditions |
|------------------|-------------------------|---|
| Multiple Event | Single Event | |
| X | X | 1. Timber and forest management (permit required for burns one-quarter acre through 10 acres in size, or up to 1000 cubic feet of pile volume per day). |
| | X | 2. Disease control of dead animals and plants. |
| X | X | 3. Research and development activities (single-event permit required for burns of 2,000 gallons or more liquid fuel or 5,000 pounds or more solid fuel). |
| Up to 2,000 lbs | Greater than 2,000 lbs | 4. Disposal of explosives by burning, to avoid hazards of transport or handling. |
| Up to 2,000 lbs | Greater than 2,000 lbs | 5. <i>Above-ground</i> detonation of more than 20 pounds of explosives. |
| Up to 35,000 lbs | Greater than 35,000 lbs | 6. <i>Below-ground</i> detonation of more than 20 pounds of explosives. |
| X | X | 7. Ignition of rocket motors containing more than 4,000 pounds fuel (single-event permit required for motors containing more than 8,000 pounds fuel). |
| X | | 8. Fire fighter and rescue training (fuel and conditions appropriate for the activity). No environmentally poor burning substances may be burned unless essential to simulate the needed training conditions. Training burns shall comply with 20.11.64.11 NMAC and 40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants, Subpart M, <i>National Emission Standard for Asbestos</i> . |
| X | X | 9. Hot torch burning of weeds along ditches, channels, public rights of way, or other <i>public property</i> . |
| X | X | 10. Agricultural burning (permit required for burns one-quarter acre |

| Permit Basis | | Purpose and Conditions |
|----------------|--------------|--|
| Multiple Event | Single Event | |
| | | through 10 acres in size, or up to 1000 cubic feet of pile volume per day). |
| | X | 11. Any special condition which would otherwise be prohibited but for which there is an unusual need where burning would best serve the public interest overall. |

B. A person seeking a multiple or single event permit for the purposes described in Table I shall deliver the following information to the department in letter form or by a department approved electronic notification method at least five business days in advance of the single or multiple event burn:

- (1) the requestor's name, address, and telephone number;
- (2) location where burning is to be conducted;
- (3) type and quantity of ignitable material and fuel; and
- (4) additional required information:
 - (a) date(s) when the burning is to be conducted;
 - (b) for multiple burn events, the estimated number, character, and schedule of fires to be

conducted;

- (c) general description of method to ignite, maintain, control, and terminate the burning;
- (d) reasons why the requestor believes the burning is necessary;
- (e) what alternatives to burning have been considered and why they were not chosen instead of burning; and

(f) for multiple event permits, the number and character of similar fires conducted during the previous permit cycle for which renewed approval is sought.

(5) In the event of an emergency necessitating a single event permit, the above process may be handled by telephone if the department is in agreement and the information is promptly delivered to the department in writing. In case of such emergency, the five-business-day notice requirement may be waived at the discretion of the department. Information supplied to the department relative to planned burning shall be construed to be part of the conditions of the permit issued pursuant thereto. Any later need to deviate from the original plan must be reported to and approved by the department in order to maintain the validity of the permit.

C. Upon receipt of a request for a single event or multiple event open burning permit, the department shall evaluate the application and decide whether to grant the permit, deny the permit or grant the permit with additional conditions that the department believes to be in the best interest of the local community and consistent with the board's intent, to eliminate "environmentally non-essential burning". Multiple event permits shall only be renewed by the department following a re-evaluation of all the information provided in the renewal request. The department shall consider the need to burn, anticipated atmospheric conditions and other factors the department determines are relevant.

D. After evaluation of the applicant's request, the department shall respond to the applicant at least 24 hours in advance of the scheduled open burn event in writing or by a department-approved electronic notification method advising the applicant of its findings, including any additional conditions deemed necessary. In an emergency, preliminary information regarding the department's decision should first be telephoned to the applicant if possible, to expedite issues of immediate need.

E. If an applicant for a permit under 20.11.21.13 NMAC is not satisfied with either the conditions or denial of the applicant's request, the applicant may request an administrative hearing on the merits before the board consistent with 20.11.21.21 NMAC.

F. Any multiple or single event permit issued under this 20.11.21.13 NMAC may be revoked or suspended if the applicant fails to comply with the permit provisions therein, and the permittee may be subject to enforcement actions.

G. For permits issued pursuant to 20.11.21.13 NMAC: Single-event permits shall only be valid for one month and multiple-event permits shall only be valid for one year, unless stipulated otherwise in the permit. [12/1/95; 20.11.21.13 NMAC - Rn, 20 NMAC 11.21.II.2, 10/1/02; A, 12/31/03; A, 7/11/11]

20.11.21.14 CONDITIONALLY ALLOWED OPEN BURNING NOT REQUIRING A PERMIT FROM THE ENVIRONMENTAL HEALTH DEPARTMENT: Open burning is allowed for the purposes set forth in Table II if: 1. the burn complies with the time requirements specified in Table II; and 2. prior to burning, the person planning to conduct open burning obtains all permits and complies with all restrictions required by the Bernalillo county fire department and the Albuquerque fire department, as applicable (e.g. 25 feet from any structure; pile size no greater than three feet in diameter and two feet high; no offensive or objectionable smoke or odor emissions; atmospheric conditions or local circumstances that make such fires hazardous, etc.).

**Table II
CONDITIONALLY ALLOWED OPEN BURNING**

| Type of Burning | Time Restrictions |
|---|---|
| 1. Cooking food. | No limit on time of day |
| 2. Recreational or ceremonial bonfires. | |
| 3. Dead and dry weed removal on private residential, commercial or industrial property, and hot torch weed control on private residential property. | 11 AM to 3 PM October through March 6 AM to 5 PM April through September |
| 4. Small-scale fire extinguisher training (fewer than 50 participants). | No limit on time of day |

[1/3/85. . .12/1/95; 20.11.21.14 NMAC - Rn, 20 NMAC 11.21.II.3, 10/1/02; A, 12/31/03; A, 7/11/11]

20.11.21.15 SMOKE MANAGEMENT; PRESCRIBED BURNS; WILDLAND FIRE USE; WILDFIRES UNDER SUPPRESSION: 20.11.21.15 NMAC applies to all persons who intend to use prescribed fire to burn more than 10 acres or more than 1,000 cubic feet of pile volume of vegetative material per day. Specified portions of 20.11.21.15 NMAC also apply to the land manager or owner of property on which a wildfire occurs.

A. Materials allowed to be burned: Only vegetative material shall be burned, with the following exceptions:

- (1) auxiliary fuel or incendiary devices may be used to start the burning authorized by 20.11.21.15 NMAC, provided that:
 - (a) no oil heavier than No. 2 diesel shall be used; and
 - (b) no more than the minimum amount of auxiliary fuel necessary to start the fire shall be used.
- (2) Polyethylene sheeting may be burned with the vegetative materials, provided that:
 - (a) the sheeting has been covering piled vegetative material for at least one month prior to burning;
 - (b) the amount of sheeting burned is no more than the minimum necessary to cover the pile;
 - (c) removal of the sheeting before burning is impractical; and
 - (d) the burner is able to provide evidence, such as purchase records or package labeling, that establish the sheeting is polyethylene and not some other form of plastic.

B. Requirements for PB-I: For any burn project expected to produce less than one ton of PM₁₀ emissions per day or burn less than 5,000 cubic feet pile volume per day, all of the following requirements shall apply.

- (1) The burner shall burn only under appropriate dispersion conditions. In order to accomplish this objective, the burner shall follow either Subparagraph (a) or (b) of Paragraph (1) of Subsection B of 20.11.21.15 NMAC.
 - (a) The burner shall:
 - (i) ignite burns only during the hours from one hour after sunrise until one hour before sunset; the burner may apply for a waiver of this requirement by submitting a written application for waiver to the department at least two weeks prior to the planned burn project; the burner shall document the reasons for requesting the waiver in the application for a waiver; the department shall notify the burner no later than one week prior to the planned burn project whether the waiver is granted or denied, and, if denied, the reasons for the denial; the department shall consider each waiver request on a case-by-case basis; and
 - (ii) conduct burn projects at least 300 feet from any occupied dwelling, workplace, or place where people congregate, which is on property other than the burn project location; the burner may apply for a waiver of this requirement by submitting a written application for waiver to the department at least two weeks prior to the planned burn project; the burner shall document the reasons for requesting the waiver in the application for a waiver; the department shall notify the burner no later than one week prior to the planned burn project whether the

waiver is granted or denied, and, if denied, the reasons for the denial; and the department shall consider each waiver request on a case-by-case basis; **or**

(b) The burner shall:

(i) only burn during times when the ventilation index category is rated “good” or better, as determined by using the methodology outlined in 20.11.21.17 NMAC, unless a waiver has been granted by the department; the burner may apply for a waiver of this requirement by submitting a written application for waiver to the department no later than 10:00 a.m. one business day prior to the planned burn project; the burner shall document the reasons for requesting the waiver in the application for a waiver; the department shall notify the burner no later than 3:00 p.m. one business day prior to the planned burn project whether the waiver is granted or denied, and, if denied, the reasons for the denial; the department shall consider each waiver request on a case-by-case basis; and

(ii) conduct visual monitoring and document the results in writing; the results shall evaluate the smoke dispersion by recording characteristics of the smoke (e.g., color, density), including the general compass direction of dispersion, the patterns of vertical dispersion, and the duration of the smoke plume(s), and corresponding time-of-day information; use of onsite instruments to record the wind speed and direction is encouraged; no later than six months after the burn project, the burner shall submit records of these results to the department; for burn projects planned to be conducted within a one mile radius of a population, the department may require the burner to notify the department no later than two business days prior to the planned burn project so that the department may determine whether to conduct instrument monitoring, in addition to the visual monitoring conducted by the burner; and the need for instrument monitoring by the department shall be determined by the department on a case-by-case basis.

(2) The burner shall notify the local fire authorities prior to igniting a burn.

(3) The burner shall register the burn project with the department (on a registration form obtained from the department), no later than 10:00 a.m. one business day prior to the planned ignition of the burn project. The department shall provide the burner with a registration number for the burn project. Prior to igniting the burn project, if the burner has not received the registration number, the burner shall make a good faith effort to contact the department to obtain the registration number. If the burner is not able to obtain a registration number before igniting the burn, the burner shall obtain a registration number from the department as soon as possible. For burn projects longer than seven consecutive days, the burner shall notify the department every seven days when burning is to be conducted under that burn project registration. The burner shall not burn more area or volume than the burner has included in the registration form submitted to the department.

(4) The burner shall submit a completed burn project tracking form to the department (on a tracking form obtained from department), no later than two weeks following completion of the burn project.

(5) For burn projects conducted within a one-mile radius of a population, the burner shall comply with the following additional requirements:

(a) the burner shall conduct visual monitoring and document the results; the results shall evaluate the smoke dispersion by recording characteristics of the smoke (e.g., color, density), including the general compass direction of dispersion, the patterns of vertical dispersion, the duration of the smoke plume(s), and corresponding time-of-day information; use of onsite instruments to record the wind speed and direction is encouraged; documentation through use of photographs, with the date, time, and other relevant information noted on the photographs, is also encouraged; and no later than six months after the burn project, the burner shall submit records of these results to the department; and

(b) The burner shall conduct public notification of any population(s) within a one-mile radius of the burn project at least two days prior to, but no earlier than 30 days in advance of igniting a burn project; and the method of notification shall be an advertisement in a newspaper of general circulation in the area where the burn will take place, or other means, as approved by the department to ensure that adequate notice is provided to the affected public.

(6) An applicant for a waiver may challenge the department’s denial of a waiver by following the procedures established in 20.11.21.21 NMAC. A person adversely affected by the department’s granting of a waiver may challenge the department’s decision by following the procedures established in Subsection B of 20.11.21.21 NMAC.

C. Requirements for PB-II: For any burn project expected to produce emissions greater than or equal to one ton of PM₁₀ emissions per day or expected to burn 5,000 cubic feet pile volume per day or more, all of the following requirements shall apply.

(1) The burner shall review smoke management educational material supplied by the department or complete a department-approved smoke management training program prior to initiating burning.

(2) The burner shall consider alternatives to burning and shall document the alternatives considered and the rationale for not utilizing alternatives provided in 20.11.21.18 NMAC on a form obtained from department.

(3) The burner shall implement at least one emission reduction technique included in 20.11.21.19 NMAC and shall document the techniques implemented on a form obtained from the department. The burner may apply for a waiver of this requirement by submitting a written application to the department at least two weeks prior to the planned burn project. The burner shall document the reasons for requesting the waiver in the application for a waiver. The department shall notify the burner no later than 10:00 a.m. one week prior to the planned burn project whether the waiver is granted or denied, and, if denied, the reasons for the denial. The department shall consider each waiver request on a case-by-case basis.

(4) The burner shall only burn during times when the ventilation index category is "good" or better, as determined by using the methodology outlined in 20.11.21.17 NMAC, unless a waiver has been granted by the department. The burner may apply for a waiver of this requirement by submitting a written application to the department no later than 10:00 a.m. one business day prior to the planned burn. The burner shall document the reasons for requesting the waiver in the application for a waiver. The department shall notify the burner no later than 3:00 p.m. one business day prior to the planned burn whether the waiver is granted or denied, and, if denied, the reasons for the denial. The department shall consider each waiver request on a case-by-case basis.

(5) The burner shall conduct visual monitoring and shall document the results. The results shall evaluate the smoke dispersion by recording characteristics of the smoke (e.g., color, density), including the general compass direction of dispersion, the patterns of vertical dispersion, and the duration of the smoke plume(s). Use of onsite instruments to record the wind speed and direction is encouraged. Documentation through use of photographs, with the date, time, and other relevant information noted on the photographs, is also encouraged. No later than six months after the burn project, the burner shall submit records of these results to the department.

(6) The burner shall notify the local fire authorities prior to igniting a burn.

(7) The burner shall register a burn project with the department on a registration form obtained from the department at least two weeks prior to planned ignition of the burn. The department shall provide the burner with a registration number for the burn project. Prior to igniting the burn project, if the burner has not received the registration number, the burner shall make a good faith effort to contact the department to obtain the registration number. If the burner is not able to obtain a registration number before igniting the burn, the burner shall obtain a registration number from the department as soon as possible. For burn projects longer than seven consecutive days, the burner shall notify the department every seven days when burning is to be conducted under that burn project registration. The burner shall not burn more area or volume than the burner has included in the registration form submitted to the department.

(8) The burner shall notify the department of the intent to burn on a specific date no later than 10:00 a.m. one business day prior to the planned burn project. The notification may be made up to a seven days prior to igniting the burn. The department shall notify the burner of the receipt of the notification by 11:00 a.m. on the day the department receives the notification. If the department has not notified the burner by 11:00 a.m., and prior to igniting the burn, the burner shall make a good faith effort to contact the department to verify that the department received the notification. The burner shall not burn more area or volume than the burner included in the registration. The department shall notify the burner no later than 3:00 p.m. one business day prior to the start of the burn project if a modification of the burn is being required by the department.

(9) The burner shall complete and submit to the department a fire activity tracking form, using a form obtained from the department no later than two weeks following the end of the burn project.

(10) The department may require the burner to notify the department no later than two business days prior to the planned burn so the department may determine whether to conduct instrument monitoring in addition to visual monitoring conducted by the burner. The need for instrument monitoring by the department shall be determined by the department on a case-by-case basis.

(11) The burner shall conduct public notification at least two business days prior to, and no earlier than 30 days prior to igniting a burn. The method of notification shall be an advertisement in a newspaper of general circulation in the area where the burn will take place, or other means, as approved by the department to ensure that adequate notice is provided to the affected public.

(12) An applicant for a waiver may challenge the department's denial of a waiver by following the procedures established in 20.11.21.21 NMAC. A person adversely affected by the department's granting of a waiver may challenge the department's decision by following the procedures established in Subsection B of 20.11.21.21 NMAC.

D. Wildland fire use: For wildland fire use exceeding 10 acres in size, the following requirements shall apply:

(1) The burner shall register the burn project with the department on forms obtained from the department no later than one business day following the decision to manage a wildland fire use burn. The department shall provide the burner with a registration number for the burn project. Each day the wildland fire use burn project is burning, the burner shall notify the department daily by 10:00 a.m. on the status of the burn project.

(2) The burner shall notify the local fire authorities of the decision to manage a wildland fire use burn. For wildland fire use burns within Bernalillo county, the burner shall conduct public notification no later than one calendar day after the decision to manage the burn as a wildland fire use burn. The notification shall be appropriate to the population being notified.

(3) The burner shall conduct visual monitoring and shall document the results. The results shall evaluate the smoke dispersion by recording characteristics of the smoke (e.g., color, density), including the general compass direction of dispersion, the patterns of vertical dispersion, and the duration of the smoke plume(s). Use of onsite instruments to record the wind speed and direction is encouraged. Documentation through use of photographs, with the date, time, and other relevant information noted on the photographs, is also encouraged. No later than six months after the burn project, the burner shall submit records of these results to the department.

(4) The burner shall complete and submit to the department a fire activity tracking form obtained from the department no later than two weeks following the end of the burn project.

E. Wildfire under suppression: For all wildfires exceeding 100 acres in size, the land manager or owner of property on which the wildfire occurs shall complete a fire activity tracking form obtained from the department and submit it to the department no later than six weeks following the cessation of fire fighting activities on the wildfire.

[20.11.21.15 NMAC - N, 12/31/03; A, 7/11/11]

20.11.21.16 CALCULATION OF PM₁₀ EMISSIONS FOR PRESCRIBED BURNS: To determine whether a prescribed burn has the potential to produce more than one ton of PM₁₀ emissions per day, use the emission factors listed below (adapted from AP-42) or any alternative method approved in writing by the department.

A. To calculate the quantity of PM₁₀ emissions in tons generated by a prescribed burn project or a wildfire, multiply the number of acres estimated to be burned:

- (1) by 0.04348 tons per acre for forest; and
- (2) by 0.02941 tons per acre for shrub land; and
- (3) by 0.01 tons per acre for grass land; and
- (4) by 0.01538 tons per acre for field crops.

B. For shrub and forest piles, multiply the number of cubic feet of piled material estimated to be burned by 0.0002 tons per cubic foot.

C. For all other prescribed burn projects or a wildfire uses that do not fall into the categories listed in this section, contact the department for assistance in determining a methodology to estimate emissions that is consistent with EPA methodologies.

[20.11.21.16 NMAC - N, 12/31/03]

20.11.21.17 DETERMINATION OF VENTILATION INDEX CATEGORY:

A. PB-I and PB-II prescribed burns are allowed to be ignited only with a ventilation index category rated "good" or better, unless a waiver has been granted by the department. The ventilation index category may be obtained by contacting the department, or the burner may make the determination by calculating and documenting the ventilation index category using the following methodology:

(1) using a computer with internet access, enter the national weather fire forecast website at <http://www.srh.noaa.gov/abq/?n=forecasts-fireweather> or successor universal resource locator (URL) internet address;

(2) select the appropriate zone for the location of the burn project within the New Mexico map showing the various zones;

(3) examine the forecast and find the reference elevation to be used to determine the general ventilation index category for the Bernalillo county zone (e.g., Albuquerque - 5,300 feet above mean sea level or Mountainair - 6,500 feet above mean sea level);

(4) record the mixing height for "today" or "tomorrow" as appropriate;

(5) calculate the mixing height at the burn location by adding the forecasted mixing height and the reference elevation obtained above. From the sum of these two items, subtract the elevation of the burn location; and

(6) calculate the ventilation index for the prescribed burn by multiplying the mixing height at the burn location by the average forecasted transport wind speed.

B. Once the ventilation index for the prescribed burn has been calculated, refer to the following table to see if the ventilation index for the burn project is acceptable to ignite the burn:

| Category | Knot-Feet |
|------------------------|----------------------------------|
| Excellent - Acceptable | Greater than or equal to 150,000 |
| Very Good - Acceptable | 100,000 - 149,999 |
| Good - Acceptable | 60,000 - 99,999 |
| Fair - Not Acceptable | 40,000 - 59,999 |
| Poor - Not Acceptable | Less than or equal to 40,000 |

[20.11.21.17 NMAC - N, 12/31/03; A, 7/11/11]

20.11.21.18 ALTERNATIVES TO BURNING: As required by Subsection C of 20.11.21.15 NMAC, burners engaged in PB-II prescribed burns are required to consider the use of alternatives to burning, which include department-approved alternatives, as well as those listed in 20.11.21.18 NMAC. An effort will be made by the department to remove administrative barriers to the utilization of alternatives to burning.

A. Manual/handwork - Handwork involves picking up and moving limbs and brush, as well as cutting downed and standing materials using hand tools or chainsaws. Manual work involves lifting, cutting, and carrying forest materials, and is generally limited to materials of roughly nine inches or less in diameter. Larger materials can be handled, but efficiency, production rate and safety decrease rapidly as size increases. If the fuels requiring treatment exceed the nine-inch-diameter threshold, handwork is not a good option.

(1) **Cut and scatter** - Hand crews cut and scatter material to change the vertical and horizontal continuity of the fuel load. This technique increases the surface fuel load by redistributing ladder fuels onto the ground surface. It is appropriate where stand density is generally low and existing surface fuels are shallow.

(2) **Pile** - Cut material is piled, redistributing the fuel load rather than reducing it. Piling can be used in denser stand conditions than scattering can, because the piles can be situated to avoid fuel-loading problems. Drawbacks to piling include: slower decomposition than when scattered, labor intensive and dense stand conditions can result in a high number of piles.

B. Mechanical treatments - Employ equipment as the primary means of modifying or removing fuels. Generally, treatment areas must be within one-quarter mile of a road and have slopes less than 40 percent.

(1) **Pile** - Cut material is piled, redistributing the fuel load rather than reducing it.

(2) **Fuel modification** - Machinery is used to process the material into smaller pieces that can then be redistributed on the ground surface or removed from the site. Because materials processed in this fashion can be much more densely packed than materials that are scattered by hand or piled by hand, the available oxygen supply is reduced, thereby inhibiting spread of fire and flame height.

(i) **Masticate/mow** - Mastication involves the processing of standing or downed material where it occurs. Mastication is more suitable for denser stand conditions than is scattering or piling, and the redistributed fuel load decomposes more rapidly. It is most appropriate for treating both green and dead ladder fuels and the higher surface fuels. Mowing is primarily appropriate to treat grassland and light shrub land habitats. Like mastication, mowing processes the vegetation material on site and in place.

(ii) **Chip/grind/cut** - Material is placed into a piece of equipment and discharged, often through a chute. Because of this feature, material can be processed more selectively and transported off site for either disposal or utilization. It is the method of choice when biomass utilization is an option.

(iii) **Crush** - Another form of mastication; this technique is useful primarily for shrub land habitats dominated by brittle species.

(3) **Tree removal** - Numerous approaches to tree removal have been developed as the timber industry has evolved to operate in a variety of habitats and under myriad political and economic constraints.

(i) **Bole removal** - This is traditional harvesting. Trees are felled either by hand or mechanically and removed from the site for processing. Bole removal eliminates the vertical continuity of the fuel load, but increases surface fuels with the addition of leaf/needle and limb materials. Overall biomass is reduced.

(ii) **Whole tree yarding** - Trees are felled either by hand or mechanically. The entire tree is then brought intact to a staging area where they are processed. This method removes the vertical continuity of the fuel load, removes biomass, and adds very little to the surface fuel load. Moreover, the removal of leaf/needle and limb material is more important than bole removal in the context of fire behavior. Only suitable for trees 9-18

inches in diameter in order to avoid damage to soil and water quality caused by felling trees greater than 18 inches in diameter.

(iii) **Cut-to-length logging** - Utilizes specialized equipment to cut and process entire trees on site in the forest. While much of the biomass either remains onsite or must be addressed through secondary treatments, an important advantage of this technique is its efficacy in treating material of very small diameter.

C. Chemical - Chemical treatments entail the application of herbicides. Chemical treatments do not remove fuel, but kill existing vegetation or inhibit growth (i.e. maintenance of defensible fuel profile zones).

D. Grazing - Involves the use of livestock, primarily cattle and goats, to manage the growth and composition of brush and grasses. While it is of limited utility in forested habitats, it can be an effective technique in rural residential areas, in the wild land-urban interface and in selected grassland and shrub land habitats. [20.11.21.18 NMAC - N, 12/31/03; A, 7/11/11]

20.11.21.19 EMISSIONS REDUCTION TECHNIQUES: Emissions reductions techniques (ERTs) are control strategies that help reduce smoke from prescribed fires. ERTs are used in conjunction with fire and do not replace fire. In addition to department-approved ERTs, other ERTs are included below.

A. Reducing the area burned.

(1) **Burn concentrations** - Sometimes concentrations of fuels can be burned rather than using fire on 100 percent of an area requiring treatment. The fuel loading of the areas burned using this technique tends to be high.

(2) **Isolate fuels** - Large logs, snags, deep pockets of duff, sawdust piles, squirrel middens or other fuel concentrations that have the potential to smolder for long periods of time can be isolated from burning. Eliminating these fuels from burning is often faster, safer and less costly than mop-up, and allows targeted fuels to remain following the prescribed burn. This can be accomplished by several techniques including:

- (a) constructing a fireline around fuels of concern;
- (b) not lighting individual or concentrated fuels;
- (c) using natural barriers or snow;
- (d) scattering the fuels; and
- (e) spraying with foam or other fire retardant material.

(3) **Mosaic burning** - Landscapes often contain a variety of fuel types that are noncontinuous and vary in fuel moisture content. Prescribed fire prescriptions and lighting patterns can be assigned to use this fuel and fuel moisture non-homogeneity to mimic natural wildfire and create patches of burned and non-burned areas or burn only selected fuels. Areas or fuels that do not burn do not contribute to emissions.

B. Mechanical treatments - Mechanically removing fuels from a site reduces emissions proportionally to the amount of fuel removed. Treatments may include but are not limited to the following methods.

(1) **Firewood sales** - Firewood sales may result in sufficient removal of woody debris making on site burning unnecessary. This technique is particularly effective for piled material where the public has easy access.

(2) **Whole tree harvesting** - Whole trees can be removed through harvesting or thinning techniques and virtually eliminate the need for burning.

(3) **Mulch/chips** - Mechanical processing of dead and live vegetation into wood chips or shredded biomass is effective in reducing emissions if the material is removed from the site or biologically decomposed.

(4) **Fuel for power generation** - Vegetative biomass can be removed and used to provide electricity in regions with cogeneration facilities.

(5) **Biomass utilization** - Vegetative material can be used for many miscellaneous purposes including pulp for paper, methanol/ethanol production, wood pellets, garden bedding, furniture, specialty crafts, compost, mulch and fiberboard/particleboard.

C. Chemical pre-treatments - Broad spectrum and selective herbicides can be used to reduce or remove live vegetation, or alter species diversity respectively. Herbicides can be applied before burning to kill vegetation, which can create a much drier fuel, which in turn burns more efficiently.

D. Site conversion - Natural site productivity can be decreased by changing the vegetation composition.

E. Land use change - Changing wildlands / shrublands / rangelands / croplands to another land use category may result in elimination of the need to burn and vice versa.

F. Reduce fuel loading - Some or all of the fuel can be permanently removed from the site, biologically decomposed, or prevented from being produced. Overall, emissions can be reduced when fuel is permanently excluded from burning.

- (1) **Mechanically removing fuel** - Mechanically removing fuels from a site reduces emissions proportionally to the amount of fuel removed.
 - (2) **Burn more frequently at low intensity** - This method prevents the fuels from building up and causing greater emissions.
 - (3) **Schedule burning before green up** - Burning in cover types with a grass or herbaceous fuel bed component can produce fewer emissions if burning takes place before these fuels green-up for the year.
 - (4) **Under burn before fall leaf drop** - When deciduous trees and shrubs drop their leaves, this ground litter contributes extra volume to the fuel bed.
 - (5) **Ungulates** - Grazing and browsing live grassy or brushy fuels by sheep, cattle or goats can reduce fuels prior to burning or reduce the burn frequency.
 - (6) **Isolating pockets of fuel** - See explanation under reducing the area burned.
- G. Reduce fuel consumption** - Emission reductions can be achieved when significant amounts of fuel are at or above the moisture of extinction, and therefore are unavailable for combustion.
- (1) **Having high moisture content in non-target fuels** - This can result in only the fuels targeted being dry enough to burn.
 - (2) **High moisture in large woody fuels** - Burning when large-diameter woody fuels (three- plus inch diameter or greater) are wet can result in lower fuel consumption and less smoldering.
 - (3) **Moist litter or duff** - The organic layer that forms from decayed and partially decayed material on the forest floor often burns during the inefficient smoldering phase. Consequently, reducing the consumption of this material can be effective at reducing emissions.
 - (4) **Mass ignition/shortened fire duration/aerial ignition** - “Mass” ignition can occur through a combination of dry fine-fuels and rapid ignition, which can be achieved using a helitorch. The conditions necessary to create a true mass ignition situation include rapid ignition of a large open area with continuous dry fuels.
 - (5) **Burn before large fuels cure** - Living trees contain very high internal fuel moistures, which take a number of months to dry after harvest. If an area can be burned within 3-4 drying months of timber harvest, many of the large fuels will still contain a significant amount of live fuel moisture.
 - (6) **Rapid mop-up** - Rapidly extinguishing a fire can reduce fuel consumption and smoldering emissions somewhat, although this technique is not particularly effective at reducing total emissions and can be expensive.
 - (7) **Burn before precipitation** - Scheduling a prescribed fire before a precipitation event will often limit the consumption of large woody material, snags, stumps, and organic ground matter, thus reducing the potential for a long smoldering period and reducing the average emission actor.

H. Minimizing emissions by minimizing the emission factor - Using burning techniques that create a more efficient burn.

- (1) **Burning fuels in piles or windrows** - Keeping piles dry and free of dirt and other debris generates greater heat and therefore, the piles burn more efficiently. The piles or windrows can be made mechanically or by hand.
- (2) **Utilizing a backing fire** - Flaming combustion is cleaner than smoldering combustion. A backing fire takes advantage of this relationship by causing more fuel consumption to take place in the flaming phase than would occur if a heading fire were used.
- (3) **Rapid mop-up** - See above.
- (4) **Mass ignition/shortened fire duration/aerial ignition** - See above.
- (5) **Dry conditions** - Burning under dry conditions increases combustion efficiency and fewer emissions may be produced.

I. Air curtain incinerator (ACI) - Use of an air curtain incinerator improves combustion and reduces emissions by introducing high velocity air into a combustion environment. As the air continuously rotates in and over the environment, a “curtain” is created over the fire thus trapping smoke and particulate matter. Constant airflow into and over the combustion environment allows temperatures to remain high, resulting in relatively complete combustion of all emission products. ACIs can burn a wider variety of materials from green fuel to red slash and produce lower smoke emissions as compared to pile or broadcast burning. They also reduce risk of an escaped fire since the fire is contained and can be quickly extinguished if necessary.
[20.11.21.19 NMAC - N, 12/31/03; A, 7/11/11]

20.11.21.20 AMBIENT AIR QUALITY STANDARD EXCEEDENCE: The director shall have the authority to suspend any open burning allowed under 20.11.21 NMAC in the event of ongoing or projected violations of the federal, state, or local ambient air quality standards.

[20.11.21.20 NMAC - Rn, 20.11.21.15 NMAC & A, 12/31/03; A, 7/11/11]

20.11.21.21 REVIEW MEETING, HEARING ON THE MERITS REGARDING PERMIT APPLICATIONS AND PERMITS:

A. If a permit applicant is adversely affected by or disagrees with the division's proposed decision regarding the applicant's permit application, the applicant may request an informal review meeting to discuss the division's proposed decision. The request shall be in writing or on a form obtained from the division. Within 15 working days of the applicant receiving the proposed decision, the applicant shall deliver the request to the director and the division manager. Unless a timely request for an informal review meeting is received by the director, the division's proposed decision regarding the permit application shall be final. Within 10 working days after receiving the request, the director shall hold an informal review meeting with the applicant and a division representative (e.g., division manager or the person issuing the proposed decision regarding the permit application) in an attempt to resolve disagreements. Within two working days after the informal review meeting, the division representative shall issue a final decision regarding the permit application. If the permit applicant or permittee is adversely affected by the final decision made by the division representative, the permit applicant or permittee may follow the procedures described in Subsection B of 20.11.21.21 NMAC.

B. A person adversely affected by the decision of the division regarding a permit application or permit ("petitioner") may file a petition for a hearing on the merits before the board as provided by 20.11.81 NMAC, *Adjudatory Procedures - AQCB*. Unless a timely petition for a hearing on the merits is received by the director, the decision of the division regarding the permit application or permit shall be final.

[20.11.21.21 NMAC - N, 12/31/03; A, 7/11/11]

HISTORY OF 20.11.21 NMAC:

Pre-NMAC History: The material in this part was derived from that previously filed with the commission of public records - state records center and archives.

Resolution No. 1, Air Pollution Control Regulations of the Albuquerque Bernalillo County Air Quality Control Board, 8/6/71;

Regulation No. 1, Air Pollution Control Regulations, 6/6/73;

Regulation No. 1, Air Pollution Control Regulations, 7/19/73;

Regulation No. 1, Air Pollution Control Regulations, 3/21/77;

Regulation No. 3, Open Burning, 3/24/82;

Regulation No. 3, Open Burning, 1/3/85;

Regulation No. 3, Open Burning, 6/16/92.

History of Repealed Material: [Reserved]

Other History: Regulation No. 3, Open Burning, filed 6/16/92 was renumbered and reformatted into first version of the New Mexico Administrative Code as 20 NMAC 11.21, Open Burning, filed 10/27/95.

20 NMAC 11.21, Open Burning, filed 10/27/95 was renumbered, reformatted, amended and replaced by 20.11.21 NMAC, Open Burning, effective 10/1/02.