

**ADOPTED REGULATION OF THE  
STATE ENVIRONMENTAL COMMISSION**

**LCB File No. R027-15**

Effective October 27, 2015

EXPLANATION – Matter in *italics* is new; matter in brackets ~~omitted material~~ is material to be omitted.

AUTHORITY: §§1-7, NRS 445B.210.

A REGULATION relating to air pollution; revising provisions related to standards of quality for ambient air; and providing other matters properly relating thereto.

**Legislative Counsel’s Digest:**

Existing law authorizes the State Environmental Commission to establish standards for air quality. (NRS 445B.210) This regulation revises provisions prescribing the minimum state and federal standards of quality for ambient air for certain particulate matter.

**Section 1.** Chapter 445B of NAC is hereby amended by adding thereto the provisions set forth as sections 2 and 3 of this regulation.

**Sec. 2.** *“PM<sub>2.5</sub> emissions” means PM<sub>2.5</sub> emitted directly from an air emissions source or activity. The term includes gaseous emissions emitted from a source or activity that condense to form particulate matter at ambient temperatures.*

**Sec. 3.** *“PM<sub>10</sub> emissions” means PM<sub>10</sub> emitted directly from an air emissions source or activity. The term includes gaseous emissions emitted from a source or activity that condense to form particulate matter at ambient temperatures.*

**Sec. 4.** NAC 445B.2203 is hereby amended to read as follows:

445B.2203 1. No person may cause or permit ~~the emission of~~ PM<sub>10</sub> *emissions* resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas:

(a) For maximum input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat.

(b) For maximum input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation:

$$Y = 1.02X^{-0.231}$$

(c) For maximum input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation:

$$Y = 17.0X^{-0.568}$$

2. For the purposes of paragraphs (b) and (c) of subsection 1:

(a) "X" means the maximum operating rate in million Btu's per hour.

(b) "Y" means the allowable rate of emission in pounds per million Btu's.

**Sec. 5.** NAC 445B.2207 is hereby amended to read as follows:

445B.2207 1. Except as otherwise provided in subsection 6:

(a) Burning in any incinerator other than the multiple-chamber type is prohibited.

(b) Incinerator burning which produces, for periods totaling 1 minute in 1 hour, a visible emission which is of an opacity equal to or greater than 20 percent is prohibited.

2. Incinerators used for the burning of pathological wastes, wet garbage or high moisture content material must be high temperature types with either grate or solid hearth construction, drying shelves for wet wastes and an auxiliary heating unit to ensure temperatures of 1400 degrees Fahrenheit (760 degrees Centigrade) for not less than 0.3 of a second. The hearth must be frequently cleaned at regular intervals to prevent buildup of residues and deposits.

3. The rated burning capacity, operating and maintenance procedures approved by the Director must be posted conspicuously at or near the incinerator.

4. Allowable PM<sub>10</sub> emissions from incinerators of less than 2,000 lb per hour rated burning capacity may not exceed 1.8 lb/ton of dry refuse charged.

5. Allowable PM<sub>10</sub> emissions from incinerators equal to or greater than 2,000 lb per hour burning capacity must be calculated using the following equation:

$$E = 0.6 (40.7 \times 10^{-5}C)$$

For the purposes of this subsection, “E” means the maximum allowable rate of ~~emission of~~ PM<sub>10</sub> *emissions* in pounds per hour and “C” means the rate of charge of dry refuse in pounds per hour.

6. Single-chamber incinerators may be used at single-family residences, in all areas of the State, except in and within 1 mile of the boundaries of Babbitt, Battle Mountain, Caliente, Carlin, Douglas County, East Ely, Elko Township, Ely, Fallon, Fernley, Gabbs, Hawthorne, Lovelock, McGill, Tonopah, Virginia City, Weed Heights, Wells, Winnemucca and Yerington, and inside

the limits of Carson City and in those portions of Lyon County that are within 1 mile of the Carson City line, unless otherwise prohibited by local ordinances or regulations.

**Sec. 6.** NAC 445B.22096 is hereby amended to read as follows:

445B.22096 1. The sources listed below must install, operate and maintain the following control measures which constitute BART and must not emit or cause to be emitted NO<sub>x</sub>, SO<sub>2</sub>, or PM<sub>10</sub> in excess of the following limits:

(a) For power-generating units numbers 1 and 2 of NV Energy’s Fort Churchill Generating Station, located in hydrographic area 108:

UNIT (Boiler)	NO <sub>x</sub>		SO <sub>2</sub>		PM <sub>10</sub>	
	Emission Limit (lb/10 <sup>6</sup> Btu, 12-month rolling average)	Control Type	Emission Limit (lb/10 <sup>6</sup> Btu, 24-hr average)	Control Type	Emission Limit (lb/10 <sup>6</sup> Btu, 3-hr average)	Control Type
1	0.20	Low NO <sub>x</sub> burners with flue gas recirculation	0.05	Pipeline natural gas and/or No. 2 fuel oil	0.03	Pipeline natural gas and/or No. 2 fuel oil
2	0.16		0.05		0.03	

(b) For power-generating units numbers 1, 2 and 3 of NV Energy’s Tracy Generating Station, located in hydrographic area 83:

UNIT (Boiler)	NO <sub>x</sub>		SO <sub>2</sub>		PM <sub>10</sub>	
	Emission Limit (lb/10 <sup>6</sup> Btu, 12-month rolling average)	Control Type	Emission Limit (lb/10 <sup>6</sup> Btu, 24-hr average)	Control Type	Emission Limit (lb/10 <sup>6</sup> Btu, 3-hr average)	Control Type
1	0.15	Low NO <sub>x</sub> burners with flue gas recirculation	0.05	Pipeline natural gas and/or No. 2 fuel oil	0.03	Pipeline natural gas and/or No. 2 fuel oil
2	0.12		0.05		0.03	
3	0.19	Low NO <sub>x</sub> burners with selective noncatalytic reduction	0.05		0.03	

(c) For power-generating units numbers 1, 2 and 3 of NV Energy’s Reid Gardner Generating Station, located in hydrographic area 218:

UNIT (Boiler)	NO <sub>x</sub>		SO <sub>2</sub>		PM <sub>10</sub>	
	Emission Limit (lb/10 <sup>6</sup> Btu, 30-day rolling average)	Control Type	Emission Limit (lb/10 <sup>6</sup> Btu, 24-hr average)	Control Type	Emission Limit (lb/10 <sup>6</sup> Btu, 3-hr average)	Control Type
1	0.20, averaged across all 3 units	Low NO <sub>x</sub> burners with over-fire air and selective noncatalytic reduction	0.15	Wet soda ash flue gas desulphurization	0.015	Fabric filter
2			0.15		0.015	
3			0.15		0.015	

(d) For power-generating units numbers 1 and 2 of Southern California Edison’s Mohave Generating Station, located in hydrographic area 213:

UNIT (Boiler)	NO <sub>x</sub>			SO <sub>2</sub>		PM <sub>10</sub>	
	Emission Limit (lb/10 <sup>6</sup> Btu, 12-month rolling average)	Mass Emission Rate (lb/hr, 1-hr average)	Control Type	Emission Limit (lb/10 <sup>6</sup> Btu, 30-day rolling average)	Control Type	Emission Limit (lb/10 <sup>6</sup> Btu, 3-hr average)	Control Type
1	0.15	788	Low NO <sub>x</sub> burners with over-fire air and conversion to pipeline natural gas only	0.0019	Conversion to pipeline natural gas only	0.0077	Conversion to pipeline natural gas only
2	0.15	788		0.0019		0.0077	

2. The control measures established in subsection 1 may be replaced or supplemented with alternative technologies approved in advance by the Director, provided that the emission limits in subsection 1 are met. The established or approved control measures must be installed and operating:

(a) For NV Energy’s Fort Churchill, Tracy and Reid Gardner generating stations:

(1) On or before June 30, 2016; or

(2) Not later than 5 years after approval of Nevada’s state implementation plan for regional haze by the United States Environmental Protection Agency Region 9,

↳ whichever occurs first.

(b) For Southern California Edison’s Mohave Generating Station, at the time that each unit resumes operation.

3. If the ownership of any BART regulated emission unit changes, the new owner must comply with the requirements set forth in subsection 2.

4. For purposes of this section, ~~emissions of~~ PM<sub>10</sub> *emissions* include the components of PM<sub>2.5</sub> *emissions* as a subset.

**Sec. 7.** NAC 445B.22097 is hereby amended to read as follows:

445B.22097 1. The table contained in this section lists the minimum standards of quality for ambient air.

		NEVADA STANDARDS <sup>A</sup>		NATIONAL STANDARDS <sup>B</sup>		
POLLUTANT	AVERAGING TIME	CONCENTRATION <sup>C</sup>	METHOD <sup>D</sup>	PRIMARY <sup>C, E</sup>	SECONDARY <sup>C, F</sup>	METHOD <sup>D</sup>
Ozone	8 hours	0.075 ppm	Chemiluminescence	0.075 ppm	Same as primary	Chemiluminescence
Ozone-Lake Tahoe Basin, #90	1 hour	0.10 ppm (195 µg/m <sup>3</sup> )	Ultraviolet absorption	--	--	--
Carbon monoxide less than 5,000' above mean sea level	8 hours	9 ppm (10,500 µg/m <sup>3</sup> )	Nondispersive infrared photometry	9 ppm (10 mg/m <sup>3</sup> )	None	Nondispersive infrared photometry
At or greater than 5,000' above mean sea level		6 ppm (7,000 µg/m <sup>3</sup> )				
Carbon monoxide at any elevation	1 hour	35 ppm (40,500 µg/m <sup>3</sup> )		35 ppm (40 mg/m <sup>3</sup> )		
Nitrogen dioxide	Annual arithmetic mean	0.053 ppm (100 µg/m <sup>3</sup> )	Gas phase chemiluminescence	53 ppb <sup>G</sup>	Same as primary	Gas phase chemiluminescence
	1 hour	100 ppb	--	100 ppb	None	
Sulfur dioxide	Annual arithmetic mean	0.030 ppm (80 µg/m <sup>3</sup> )	Ultraviolet fluorescence	0.03 ppm <sup>H</sup> (1971 standard)	None	Spectrophotometry (Pararosaniline method)
	24 hours	0.14 ppm (365 µg/m <sup>3</sup> )		0.14 ppm <sup>H</sup> (1971 standard)		
	3 hours	0.5 ppm (1,300 µg/m <sup>3</sup> )		None	0.5 ppm	
	1 hour	75 ppb		--	75 ppb	
Particulate matter as PM <sub>10</sub>	<del>Annual arithmetic mean</del>	<del>50 µg/m<sup>3</sup></del>	High volume PM <sub>10</sub> sampling	<del>None</del>	<del>None</del>	<del>+</del>
	24 hours	150 µg/m <sup>3</sup>		150 µg/m <sup>3</sup>	Same as primary	High or low volume PM <sub>10</sub> sampling
Particulate matter as PM <sub>2.5</sub>	Annual arithmetic mean	<del>15.0</del> 12.0 µg/m <sup>3</sup>	--	<del>15.0</del> 12.0 µg/m <sup>3</sup>	Same as primary	Low volume PM <sub>2.5</sub> sampling
	24 hours	35 µg/m <sup>3</sup>	--	35 µg/m <sup>3</sup>	Same as primary	

		NEVADA STANDARDS <sup>A</sup>		NATIONAL STANDARDS <sup>B</sup>		
POLLUTANT	AVERAGING TIME	CONCENTRATION <sup>C</sup>	METHOD <sup>D</sup>	PRIMARY <sup>C, E</sup>	SECONDARY <sup>C, F</sup>	METHOD <sup>D</sup>
Lead (Pb)	Rolling 3 mo. average	0.15 µg/m <sup>3</sup>	High volume sampling, acid extraction and atomic absorption spectrometry	0.15 µg/m <sup>3</sup>	Same as primary	High volume sampling, acid extraction and atomic absorption spectrometry
Hydrogen sulfide	1 hour	0.08 ppm (112 µg/m <sup>3</sup> ) <sup>1</sup>	Ultraviolet fluorescence	--	--	--

Notes:

Note A: The Director shall use the Nevada standards in considering whether to issue a permit for a stationary source and shall ensure that the stationary source will not cause the Nevada standards to be exceeded in areas where the general public has access. For the 2006 particulate matter as PM<sub>2.5</sub> 24-hour and annual standards, the 2010 nitrogen dioxide 1-hour standard and the 2010 sulfur dioxide 1-hour standard, the Director shall use the form of the standards set forth in 40 C.F.R. §§ 50.11, 50.13 and 50.17, as those provisions existed on June 23, 2014, to ensure that the Nevada standard is no more stringent than the National standard in determining whether the stationary source will comply with the Nevada standards in areas where the general public has access.

Note B: The National standards are used in determinations of attainment or nonattainment. The form of a National standard is the criteria which must be satisfied for each respective concentration level of a standard for the purposes of attainment. The form for each National standard is set forth in 40 C.F.R. Part 50 and may be viewed at

**<http://www.epa.gov/air/criteria.html>.**

Note C: Where applicable and except as otherwise described in Note G, concentration is expressed first in units in which it was adopted. Measurements of air quality that are expressed as mass per unit volume, such as micrograms per cubic meter, must be corrected to a reference temperature of 25 degrees Centigrade and a reference pressure of 760 mm of Hg (1,013.2

millibars), except measurements of particulate matter as PM<sub>2.5</sub> and lead (Pb), which are calculated in micrograms per cubic meter at local conditions; “ppb” in this table refers to parts per billion by volume, or nanomoles of regulated air pollutant per mole of gas; “ppm” refers to parts per million by volume, or micromoles of regulated air pollutant per mole of gas; “µg/m<sup>3</sup>” refers to micrograms per cubic meter.

Note D: Reference method as described by the EPA. Any reference method specified in accordance with 40 C.F.R. Part 50 or any reference method or equivalent method designated in accordance with 40 C.F.R. Part 53 may be substituted.

Note E: National primary standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.

Note F: National secondary standards are the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a regulated air pollutant.

Note G: The official National annual standard for nitrogen dioxide is 0.053 ppm. The National annual standard is identified in this table in equivalent units of parts per billion for the purpose of simplifying its comparison with the National 1-hour standard which is also identified in parts per billion.

Note H: The 1971 National sulfur dioxide standards remain in effect for an area until 1 year after the area is designated for the 2010 National sulfur dioxide standard, except that in an area designated nonattainment for the 1971 National sulfur dioxide standards, the 1971 standards remain in effect until an implementation plan to attain or maintain the 2010 National sulfur dioxide standards is approved.

Note I: The ambient air quality standard for hydrogen sulfide does not include naturally occurring background concentrations.



2. These standards of quality for ambient air are minimum goals, and it is the intent of the Commission in this section to protect the existing quality of Nevada's air to the extent that it is economically and technically feasible.

## **Permanent Regulation – Informational Statement**

A Regulation Relating to Air Quality Standards

Legislative Review of Adopted Regulations as Required  
by Administrative Procedures Act, NRS 233B.066

**State Environmental Commission (SEC)**  
**LCB File No: R027-15**

### **Regulation R027-15:**

Nevada Revised Statutes (NRS) 445B.210 establishes the authority of the State Environmental Commission (SEC) to adopt regulations to prevent, abate and control air pollution.

#### **SPECIFIC CHANGES:**

The regulation amends NAC 445B.22097, “*Standards of quality for ambient air.*” It revises the Nevada side of the ambient air quality standards table in NAC 445B.22097 to further align it with the national ambient air quality standards (NAAQS) currently in effect. The regulation revises the annual fine particulate matter (PM<sub>2.5</sub>) standard in the Nevada side of the standards table from 15.0 to 12.0 micrograms per cubic meter and removes the annual PM<sub>10</sub> standard. New definitions for PM<sub>2.5</sub> and PM<sub>10</sub> are also adopted to clarify that direct gaseous emissions from a source that condense to form particulate matter at ambient temperatures are included in those terms, as required by federal regulation.

### **1. Need for Regulation:**

These amendments are in response to a federal requirement. When the U.S. Environmental Protection Agency (USEPA) promulgates a new or revised NAAQS, states must submit a plan which provides for implementation, maintenance and enforcement of such standard. Clean Air Act § 110(a)(1). The amendments address the implementation of the USEPA’s December 14, 2012 PM<sub>2.5</sub> NAAQS revision, as well as clarify and simplify the particulate matter regulations.

### **2. A description of how public comment was solicited, a summary of public response and an explanation of how other interested persons may obtain a copy of the summary.**

On June 10, 2015 NDEP conducted a public workshop on proposed regulation R027-15. The workshop was held in Carson City teleconferenced in Las Vegas. The meeting location in Carson City was at the Bryan Building located at 901 S. Stewart Street (Great Basin Conference Room) and teleconferenced to the NDEP office, located at 2030 East Flamingo Road, Suite 230.

Fifteen (15) members of the public attended the workshop.

Questions from the public presented at the workshop were addressed by NDEP staff; summary minutes of the workshop are posted on the SEC website at:  
[http://www.sec.nv.gov/main/hearing\\_1015.htm](http://www.sec.nv.gov/main/hearing_1015.htm) .

Following the workshop, the SEC held a formal regulatory hearing on October 14, 2015 at the Nevada Legislative Building located at 401 South Carson Street, Room 2135. A public notice for the regulatory meeting was posted at the meeting location, at the State Library in Carson City, at the Office of the Division of Environmental Protection in Las Vegas, at the Division of Minerals in Carson City, at the Department of Wildlife, on the LCB website, on the Division of Administration website and on the SEC website.

Copies of the agenda, the public notice, and the proposed permanent regulation R027-15 were also made available at all public libraries throughout the state as well as to individuals on the SEC mailing list and the Bureau of Air Quality Planning electronic mailing list.

The public notice for the proposed regulation was published in the Las Vegas Review Journal and Reno Gazette Journal newspapers once a week for three consecutive weeks prior to the SEC regulatory meeting. Other information about this regulation was made available on the SEC website at: [http://www.sec.nv.gov/main/hearing\\_1015.htm](http://www.sec.nv.gov/main/hearing_1015.htm) .

**3. The number of persons who attended the SEC Regulatory Hearing:**

- (a) Attended October 8, 2014 hearing: 21 (approximately)
- (b) Testified on this Petition at the hearing: 0
- (c) Submitted to the agency written comments: 0

**4. A description of how comment was solicited from affected businesses, a summary of their response, and an explanation of how other interested persons may obtain a copy of the summary.**

Comments were solicited from affected businesses through e-mail, a public workshop and at the October 14, 2015 SEC hearing as noted in number 2 above.

**5. If the regulation was adopted without changing any part of the proposed regulation, a summary of the reasons for adopting the regulation without change.**

The regulation was adopted without change because the public was satisfied with the proposed amendments.

**6. The estimated economic effect of the adopted regulation on the business which it is to regulate and on the public.**

Regulated Business/Industry. The economic effect of this regulation can only be determined on a case-by-case basis for each affected business. If the environmental evaluation shows that the emissions from a business are expected to exceed the air quality standards, the business must

revise its operating procedures or install controls to reduce emissions. The cost will range from no cost to the cost of installing emission controls appropriate to the individual situation.

It is important to note that the adopted PM<sub>2.5</sub> standard is already a federal standard with which industry must comply regardless of whether the USEPA or the NDEP implements it. If USEPA must implement the standard, it will do so remotely, in a unilateral manner, with little experience of Nevada's industry and without the NDEP's commitment to support economic development. In contrast, the NDEP has active working relationships with the regulated industry and is well positioned to develop Nevada-specific implementation strategies with industry that are effective and as unobtrusive as possible.

The repeal of the PM<sub>10</sub> annual standard relieves the regulated industry from the burden of having to model for compliance with that standard in permit applications.

Public. The regulation will have beneficial effects in terms of improved health and welfare. In accordance with the Clean Air Act, the primary NAAQS are established to protect against adverse effects of polluted air on human health, including protection of "sensitive" populations such as asthmatics, children, and the elderly. The cleaner the emissions are the less health effects will be experienced by those persons downwind of the facility. In addition, the emissions reductions will also benefit public welfare. Public welfare protection includes protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

In California, for example, which is nonattainment for PM<sub>2.5</sub>, the costs of installing controls and changing operating procedures is estimated to be between \$53 million and \$350 million, while the corresponding benefits (decreased mortality rates, fewer hospital admissions) are estimated to be \$3.6 billion to \$8.2 billion.<sup>1</sup> The USEPA was unable to determine direct health benefits, but it did analyze the co-benefits derived from reducing NO<sub>2</sub> as a precursor to the formation of PM<sub>2.5</sub>. The USEPA estimates that the benefit-per-ton removed ranges from \$5,200-\$13,000/ton based on a discount rate of three percent.<sup>2</sup>

## **7. The estimated cost to the agency for enforcement of the adopted regulation.**

There will be an incremental cost to the agency of implementing the required federal regulation, but such cost is built in to the current fee structure of the Bureau of Air Pollution Control.

## **8. A description of any regulations of other state or government agencies which the proposed regulation overlaps or duplicates and a statement explaining why the duplication**

---

<sup>1</sup> Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter, USEPA, Office of Air Quality Planning and Standards, Health and Environmental Impacts Division (Feb. 28, 2013), available at <http://www.epa.gov/ttnecas1/regdata/RIAs/finalria.pdf>. (last viewed December 10, 2014).

<sup>2</sup> Final Regulatory Impact Analysis (RIA) for the NO<sub>2</sub> National Ambient Air Quality Standards (NAAQS), USEPA, Office of Air Quality Planning and Standards, Health and Environmental Impact Division, Air Benefit-Cost Group (January 2010) at 4-12, available at <http://www.epa.gov/ttnecas1/regdata/RIAs/FinalNO2RIAFullDocument.pdf>. (last viewed December 10, 2014).

**or overlapping is necessary. If the regulation overlaps or duplicates a federal regulation, the name of the regulating federal agency.**

The regulation does not overlap any other State regulations. They adopt a federal regulation into State regulation.

**9. If the regulation includes provisions which are more stringent than a federal regulation, which regulates the same activity, a summary of such provisions.**

The regulation is no more stringent than what is established by federal law.

**10. If the regulation provides a new fee or increases an existing fee, the total annual amount the agency expects to collect and the manner in which the money will be used.**

The regulation does not address fees.