

SECTION 400 - AMBIENT AIR STANDARDS - FORWARD

- 400.1 In the interest of the people within the jurisdiction of the NWCAA, it is the objective of the NWCAA to obtain and maintain the cleanest air possible, consistent with the highest and best practicable control technology.
- 400.2 In the areas where existing concentrations of air contaminants are lower than concentrations allowed by the standards enumerated below, degradation of the atmosphere should be minimized. The highest and best practicable control technology should be applied to all sources unless it is specifically determined that lesser technology is justified. Ambient air standards are set at levels which, according to latest knowledge, will not cause damage to health, plants or animals or degrade materials.

SECTION 401 - SUSPENDED PARTICULATE STANDARDS (PM₁₀)

- 401.1 The concentration in the ambient air of particulate matter with an aerodynamic diameter of less than ten (10) micrometers (PM₁₀) shall not exceed:
- 401.11 One hundred and fifty (150) micrograms per cubic meter of air as a 24 hour average more than once a year.
- 401.12 Fifty (50) micrograms per cubic meter of air as an annual arithmetic mean.
- 401.2 Sampling and analysis for suspended particulates shall be conducted according to the method outlined in Section 180.

AMENDED: October 13, 1982, April 14, 1993

SECTION 402 - PARTICULATE FALLOUT STANDARDS

- 402.1 Particle fallout shall not exceed the standards enumerated below at the conditions stated:
- 402.11 The particle fallout rate measured at an ambient air monitoring station shall not exceed:
- 402.111 Ten (10) grams per square meter per month in an industrial area, or
- 402.112 Five (5) grams per square meter per month in an industrial area if visual observations show a presence of wood waste and the volatile fraction of sample exceeds seventy percent.
- 402.113 Five (5) grams per square meter per month in residential and commercial areas.

402.114 Three and one half (3.5) grams per square meter per month in residential and commercial areas if visual observations show the presence of wood waste and the volatile fraction of the sample exceeds seventy percent.

402.12 Measurement for particle fallout shall be in approved jars or their equivalent as stipulated by the Control Officer or the WDOE.

402.2 Sampling and analysis for particle fallout shall be conducted according to methods outlined in Section 180.

AMENDED: October 13, 1982

SECTION 403 - PARTICULATE STANDARDS (PM_{2.5})

403.1 The concentration in the ambient air of particulate matter with an aerodynamic diameter of less than two point five (2.5) microns (PM_{2.5}) shall not exceed:

(A) Sixty five (65) micrograms per cubic meter of air as a 24 hour average based on the 3-year average of the 98th percentile of 24-hour PM_{2.5} concentrations.

(B) Fifteen (15) micrograms per cubic meter of air as an annual arithmetic mean based on the 3-year average of the annual arithmetic mean PM_{2.5} concentrations.

403.2 Sampling and analysis for particulates shall be conducted in accordance with Appendix A of this Regulation.

PASSED: July 14, 2005

SECTION 410 - SULFUR OXIDE STANDARDS

410.1 It shall be unlawful for any person to cause or permit sulfur oxides to be emitted into the ambient air, calculated as sulfur dioxide, measured at an ambient air monitoring station averaged over the specified time periods to exceed:

410.11 2,096 micrograms per cubic meter (eight-tenths (0.800) ppm by volume) for any five (5) minute average, not to be exceeded more than once per year.

410.12 1,048 micrograms per cubic meter (four-tenths (0.400) ppm by volume) average for any one (1) hour not to be exceeded more than once per year.

410.13 655 micrograms per cubic meter (twenty-five one hundredths (0.250) ppm by volume) average for any one (1) hour not to be exceeded more than two (2) times in any consecutive seven (7) days.

410.14 260 micrograms per cubic meter (one-tenth (0.100) ppm by volume) average for any one day (24 hours), not to be exceeded more than once per year.

410.15 53 micrograms per cubic meter (two one-hundredths (0.020) ppm by volume) average for any one (1) year (annual arithmetic mean).

410.2 Sampling and analysis to determine compliance with this Regulation shall be as outlined in Section 180 or equivalent as approved by the Control Officer or the WDOE.

AMENDED: October 13, 1982, April 14, 1993

SECTION 420 - CARBON MONOXIDE STANDARDS

420.1 Carbon monoxide measured at an ambient air monitoring station shall not exceed:

420.11 10 milligrams per cubic meter (9.0 ppm) eight (8) hour average concentration more than once per year at any location where people would be exposed to such concentration for eight (8) hours or more.

420.12 40 milligrams per cubic meter (35.0 ppm) one (1) hour average concentration more than once per year.

420.2 Sampling and analysis to determine compliance with this Section shall be as outlined in Section 180 or equivalent as determined by the Control Officer.

AMENDED: October 13, 1982, April 14, 1993

SECTION 422 - NITROGEN OXIDE STANDARDS

422.1 Nitrogen Dioxide. The annual arithmetic means of nitrogen dioxide measured at an ambient air monitoring station shall not exceed: 100 micrograms per cubic meter (0.050 ppm).

422.2 Sampling and analysis for nitrogen oxides shall be as outlined in Section 180.

AMENDED: October 13, 1982, April 14, 1993

SECTION 424 - OZONE STANDARD

424.1 The average eight hour concentration of ozone measured at an ambient air monitoring station shall not exceed 0.080 ppm (157 micrograms per cubic meter) as determined under the following conditions:

424.11 The 3-year average of the annual fourth highest daily maximum 8-hour average concentrations shall be used to determine compliance with this standard;

424.12 All hourly measurements must start on the clock hour.

AMENDED: October 13, 1982, April 14, 1993, July 14, 2005

SECTION 426 - HYDROCARBONS

426.1 Hydrocarbons (less methane) measured at an ambient air monitoring station during the hours and months specified shall not exceed an average concentration of 160 micrograms per cubic meter (0.24 ppm) for any three (3) consecutive hours more than once during the entire period: 6:00 am to 9:00 am from April 1 through October 31.

426.2 Sampling and analysis for hydrocarbons shall be as outlined in Section 180.

SECTION 428 - HAZARDOUS AIR POLLUTANTS

428.1 Chlorine concentrations in the ambient air shall not exceed one (1.0) part per million on a one (1) hour time weighted average.

428.11 Chlorine concentration in the ambient air shall not exceed seven (7.0) parts per million for more than 5 minutes.

428.2 Ambient emissions standards for mercury. Emissions to the atmosphere from sources including the processing of mercury or to recover mercury, chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, shall not exceed 2300 grams of mercury per twenty-four (24) hour period.

428.21 Testing methods shall be in accordance with the US-EPA CFR, Title 40, Chapter 61, National Emission Standards for Hazardous Air Pollutants, Appendix B--Test Methods of other test methods approved by the Control Officer.

428.3 Formaldehyde in the ambient air shall not exceed five hundredths of a part per million by volume (0.05 ppmv) 24-hour average concentration.

428.4 Ambient standards for other hazardous or toxic air pollutants may be adopted by the Control Officer based upon best available information on health risk.

AMENDED: November 14, 1984, April 14, 1993, November 8, 2007

SECTION 450 - EMISSION STANDARDS - FOREWORD

- 450.1 The NWCAA recognizes the need for accurate source air contaminant data when attempting to correlate ground level concentrations with source emissions or when calculating the expected ground level concentrations.
- 450.2 Since accurate determination of the required data is a complex process, procedures for obtaining such data should be developed from the emission regulation set forth herein.
- 450.3 In exercising judgement regarding possible ground level concentrations from stack emission data, three desirable elements are:
- 450.31 Source emission rate data obtained by actual measurement.
 - 450.32 A mathematical model of the community diffusion situation.
 - 450.33 Values for parameters of the model.
- 450.4 The NWCAA may develop emission standards for pollutants presently not being emitted in the area of jurisdiction to serve as guides for industries considering locating here. These are to be based on the best control experience elsewhere in the nation and consistent with latest technological achievements.

PASSED: January 8, 1969 AMENDED: April 14, 1993

SECTION 451 - EMISSION OF AIR CONTAMINANT - VISUAL STANDARD

- 451.1 No person shall cause or permit the emission, for any period aggregating more than 3 minutes in any 1 hour, of an air contaminant from any source which, at the point of emission, or within a reasonable distance of the point of emission, exceeds 20% opacity except as follows:
- 451.11 When the owner or operator of a source supplies valid data to show that the opacity is in excess of 20% as a result of the presence of condensed water droplets, and that the concentration of the particulate matter, as shown by a source test approved by the Control Officer, is less than 0.10 grain/dscf (0.23 g/m³).
 - 451.12 Excess emissions as a result of soot blowing or grate cleaning shall not occur for more than fifteen minutes in any eight hour period or another schedule approved by the Control Officer provided that the owner or operator can demonstrate to the satisfaction of the Control Officer that the time limitations of this subsection are not being exceeded.

AMENDED: April 14, 1993, October 13, 1994, May 11, 1995, November 8, 2007

SECTION 455 - EMISSION OF PARTICULATE MATTER

- 455.1 No person shall cause or permit emission of particulate matter in excess of 0.10 grain/dry standard cubic foot (dscf) (0.23 g/m³) (combustion emissions shall be corrected to 7% O₂) except:
- 455.11 From all gaseous and distillate fuel burning equipment, emissions shall not exceed 0.05 grain/dscf (0.11 g/m³) corrected to 7% oxygen.
 - 455.12 From existing sources utilizing combustion of wood for the production of steam, no person shall allow or permit emission of particulate matter in excess of 0.20 grain/dscf (0.46 g/m³) corrected to 7% oxygen, as measured by procedures specified by the Control Officer.
 - 455.13 From all existing petroleum catalytic cracking units emissions shall not exceed 0.20 grain/dscf (0.46 g/m³) of exhaust gas as corrected to 7% oxygen.
 - 455.14 Wood waste burners shall meet the provisions of Section 458.2.
 - 455.15 Upon request by a source, the Control Officer may approve an alternate correction factor that is determined to be more representative of normal operations if it can be demonstrated that there will be no violations of any ambient air quality standard.
- 455.2 Information regarding particulate size distribution may be required at the discretion of the Control Officer.
- PASSED: January 8, 1969 AMENDED: February 4, 1970, February 14, 1973, January 9, 1974, August 9, 1978, April 14, 1993, May 11, 1995

SECTION 458 - INCINERATORS - WOOD WASTE BURNERS

- 458.1 All wood waste burners are required to meet the following conditions:
- 458.11 Visual emission of air contaminants from all wood waste burners shall meet the applicable provisions of Section 451.
 - 458.12 All persons shall use Best Available Control Technology (BACT) in installing, maintaining, and operating wood waste burners. This requirement shall include a controlled tangential vent over-fire air system, an adequate under-fire air system, and the elimination of all unnecessary openings in the burner.
- 458.2 It shall be unlawful to cause or permit the emission of particulate matter (including smoke) from any wood waste burner, which moves beyond the property owned or controlled by the owner or operator of said burner, in sufficient quantity and of such characteristics and duration as is or is likely

to be injurious or cause damage to human health, plant or animal life or property, or which unreasonably interferes with the enjoyment of property.

PASSED: June 14, 1972 AMENDED: August 8, 1978

SECTION 460 - WEIGHT/HEAT RATE STANDARD - EMISSION OF SULFUR COMPOUNDS

All sources with an aggregate heat input capacity greater than five hundred million Btu per hour (500 MMBtu/hr) are subject to the following:

- 460.1 Emission of sulfur compounds, calculated as a calendar month average of sulfur dioxide, shall not exceed one and one-half pounds per million Btu of heat input per hour (1.5 lbs SO₂/MMBtu, calendar month average of hourly values).
- 460.2 Sources subject to Section 460 shall submit an ambient monitoring proposal and monitoring schedule for sulfur dioxide within one hundred and eighty (180) days of start-up. Each proposal shall include:
 - 460.21 At least one recording meteorological station equipped to record wind speed and direction and located and operated as in accordance with Appendix A of this Regulation.
 - 460.22 The sulfur content and quantity of all materials, gaseous or liquid, fed to any boilers, furnaces, heaters, flares or any other facility capable of generating heat, resulting in emissions to the atmosphere. The sulfur content shall be expressed in percent by weight of sulfur in each fuel type and shall contain an explanation of how each was determined.
 - 460.23 The method for monitoring the sulfur content and quantity of fuel burned at each emission unit capable of emitting sulfur to the atmosphere in quantities in excess of one hundred (100) pounds/day of sulfur compounds calculated as sulfur dioxide. All emission units capable of emitting less than one hundred (100) pounds/day of sulfur compounds, calculated as sulfur dioxide may be monitored collectively as a single emission.
 - 460.24 The monitoring proposal shall comply with provisions of Section 367 and Appendix A of this Regulation.
- 460.3 The total emissions of all sources located in that portion of Sections 2, 3, 4, 5, 9, Township 34 North and Sections 21, 27, 28, 29, 32, 33, 34, 35, in Township 35 North, Range 2 East, Willamette Meridian, all in Skagit County Washington, and commonly known as March Point heavy industrial area, shall not exceed seven thousand (7,000) pounds/hour of sulfur compounds, calculated as sulfur dioxide.

When the Control Officer reasonably believes that there exists a substantial likelihood that this total is likely to be exceeded, he or she shall establish additional temporary restrictions on any or all sources of sulfur compounds in said area to maintain a total emission of less than seven thousand (7,000) pounds/hour. The restrictions shall remain in force only so long as the total emission will exceed 7,000 pounds/hour.

PASSED: November 11, 1971 AMENDED: February 14, 1973, January 9, 1974, August 9, 1978, February 8, 1996, July 14, 2005

SECTION 462 - EMISSION OF SULFUR COMPOUNDS

- 462.1 It shall be unlawful for any person to cause or permit the emission of air contaminants from any equipment if the air contaminants emitted as measured in the stack contain sulfur compounds calculated as sulfur dioxide, of more than one thousand (1,000) parts per million (2.62 mg/m^3), averaged for a sixty consecutive minute period, except as otherwise provided by a specific emission restriction adopted by the NWCAA and/or the DOE. For the purpose of this section, all sulfur present in gaseous compounds containing oxygen shall be deemed present as sulfur dioxide.
- 462.2 Emissions of sulfur compounds calculated to be in excess of 1,000 parts per million (2.62 mg/m^3) at any emission point, averaged for a sixty consecutive minute period, shall not constitute a violation of Section 462.1 of this Regulation, provided such person responsible for the emission provides reasonable evidence that such emissions will not cause ground level concentrations on adjacent property to exceed the values indicated in Section 410 of this Regulation, and can demonstrate to the Control Officer there is no practical method of reducing the concentration to the above levels or less.
- 462.3 All concentrations of sulfur dioxide referred to in this Section are on a volumetric dry basis. For combustion emissions, the exhaust gas volume shall be corrected to 7% oxygen.

PASSED: July 8, 1969 AMENDED: August 4, 1971, January 9, 1974, August 9, 1978, July 1, 1987, October 14, 1987, April 14, 1992, October 13, 1994, March 13, 1997

SECTION 465 - SULFURIC ACID PLANTS

- 465.1 It shall be unlawful for any person to operate a contact type sulfuric acid plant for any cause or allow the following types of air contaminants to be emitted to the atmosphere in excess of the following emission rates per ton of sulfuric acid produced expressed as 100% sulfuric acid:

- 465.11 Existing plants ten (10) pounds and new plants, as of the effective date of this subsection, four (4) pounds of sulfur dioxide tailgas emission, and;
 - 465.12 Fifteen hundredths (0.15) pound of sulfuric acid mist (including sulfur trioxide), and;
 - 465.13 Ten (10) percent opacity or greater for three minutes.
- 465.2 The owner or operator shall install, calibrate, maintain and operate, monitoring equipment as approved by the Control Officer as follows:
- 465.21 At least one continuous recording meteorological station equipped to record wind speeds and direction.
 - 465.22 At least one continuous recording ground level sulfur dioxide monitor.
 - 465.23 A continuous monitoring system for the measurement of sulfur dioxide in the exhaust gas passing through the stack from the sulfur dioxide control units if required by the Control Officer.
 - 465.24 The monitoring equipment required to be installed under this Section shall comply with the equipment and performance specifications and reporting requirements as established by the Control Officer.
- 465.3 The Control Officer shall establish and stipulate test methods and procedures to be used to determine compliance with this section based upon current test methods and procedures established by the EPA as published in the Federal Register.

PASSED: August 4, 1971 AMENDED: January 9, 1974, August 9, 1978, April 14, 1993

SECTION 466 - PORTLAND CEMENT PLANTS

- 466.1 It shall be unlawful for the owner or operator of any portland cement plant to cause or allow to be discharged into the atmosphere from:
- 466.11 Any sources any emission which:
 - 466.111 Contains particulate matter in excess of 0.60 pounds/ton (0.3kg/metric ton) of dry feed to the kiln.
 - 466.112 Contains particulate matter in excess of 0.1 grains per dry cubic foot of exhaust gas.
 - 466.113 Exhibits greater than 20% opacity for a period(s), aggregating more than 3 minutes in any hour.
 - 466.12 Any source any emission which does not meet the provisions of Section 530 and 550. These sections will be deemed to have been violated if

the suspended particulate ambient sample concentration exceeds 100 micrograms per cubic meter of air at any sampling station located off the plant site and the Control Officer, after investigation of pertinent data, including meteorological data, determines if there is reasonable probability that the particulate emissions from the source resulted in the 100 microgram/cubic meter concentration being exceeded.

466.2 The owner or operator of any portland cement plant shall:

466.21 Record and report the daily production rates, kiln feed rates, fuel type and rates and such other information as the Control Officer may reasonably request.

466.22 Install, calibrate, maintain and operate a transmissometer or other opacity detector as approved by the Control officer to continuously monitor and record the opacity of the gases to be discharged into the atmosphere from any kiln.

466.221 Report all hourly periods in which there are one or more 3 minute periods during which the opacity of the gas discharge to the atmosphere from any kiln exceeds 20%.

466.3 Methods and procedures provided for in Sections 180, 360, 365 and 366, except as provided for in this subsection, or determined equivalent by the Control Officer, shall be used to determine compliance.

466.31 Gas Analysis.

466.331 The minimum sampling time and minimum sampling volume for each sampling run, except when process variables or other facts justify otherwise to the satisfaction of the Control Officer, shall be 60 minutes and 30.0 dscf (0.85 m³) for the kiln.

466.332 Total kiln feed rate (except fuels) expressed in tons per hour on a dry basis, shall be determined during each testing period by suitable approved methods and shall be confirmed by a material balance over the production system.

PASSED: May 11, 1977 AMENDED: August 9, 1978, April 14, 1993