

Table 1 -- Washington Department of Ecology Regulations

WAC 173-400 -- GENERAL REGULATIONS FOR AIR POLLUTION SOURCES

173-400-010 Policy and Purpose

(1) It is the policy of the Department of Ecology (Ecology) under the authority vested in it by chapter 43.21A RCW to provide for the systematic control of air pollution from air contaminant sources and for the proper development of the state's natural resources.

(2) It is the purpose of this chapter to establish technically feasible and reasonably attainable standards and to establish rules generally applicable to the control and/or prevention of the emission of air contaminants.

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-020 Applicability

(1) The provisions of this chapter shall apply state-wide.

(2) An authority may enforce this chapter and may also adopt standards or requirements. These standards or requirements may not be less stringent than the current state air quality rules and may be more stringent than the current regulations. Unless properly delegated by ecology, authorities do not have jurisdiction over the following sources:

(a) Specific source categories over which the state, by separate regulation, has assumed or hereafter does assume jurisdiction.

(b) Automobiles, trucks, aircraft.

(c) Those sources under the jurisdiction of the energy facility site evaluation council.

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-030 Definitions

Except as provided elsewhere in this chapter, the following definitions apply throughout the chapter:

(1) "Actual emissions" means the actual rate of emissions of a pollutant from an emission unit, as determined in accordance with (a) through (c) of this subsection.

(a) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of normal source operation. Ecology or an authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the emissions unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.

(b) Ecology or an authority may presume that source-specific allowable emissions for the unit are equivalent to the actual emissions of the emissions unit.

(c) For any emissions unit which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the emissions unit on that date.

(2) "Adverse impact on visibility" means visibility impairment which interferes with the management, protection, preservation, or enjoyment of the visitor's visual experience of the Federal Class I area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency, and time of visibility impairment, and how these factors correlate with (a) times of visitor use of the Federal Class I area, and (b) the frequency and timing of natural conditions that reduce visibility. This term does not include effects on integral vistas.

(3) "Air contaminant" means dust, fumes, mist, smoke, other particulate matter, vapor, gas, odorous substance, or any combination thereof. "Air pollutant" means the same as "air contaminant."

(4) "Air pollution" means the presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities, and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interferes with enjoyment of life and property. For the purposes of this chapter, air pollution shall not include air contaminants emitted in compliance with chapter 17.21 RCW, the Washington Pesticide Application Act, which regulates the application and control of the use of various pesticides.

(5) "Allowable emissions" means the emission rate of a stationary source calculated using the maximum rated capacity of the stationary source (unless the stationary source is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:

(a) The applicable standards as set forth in 40 CFR Part 60 or 61;

(b) Any applicable state implementation plan emissions limitation including those with a future compliance date; or

(c) The emissions rate specified as a federally enforceable permit condition, including

those with a future compliance date.

(6) "Ambient air" means the surrounding outside air.

(7) "Ambient air quality standard" means an established concentration, exposure time, and frequency of occurrence of air contaminant(s) in the ambient air which shall not be exceeded.

(8) "Authority" means any air pollution control agency whose jurisdictional boundaries are coextensive with the boundaries of one or more counties.

(9) "Best available control technology (BACT)" means an emission limitation based on the maximum degree of reduction for each air pollutant subject to regulation under chapter 70.94 RCW emitted from or which results from any new or modified stationary source, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of the "best available control technology" result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard under 40 CFR Part 60 and Part 61, as they exist on May 7, 1993, or their later enactments as adopted by reference by the director by rule. Emissions from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under the definition of BACT in the Federal Clean Air Act as it existed prior to enactment of the Clean Air Act Amendments of 1990.

(10) "Best available retrofit technology (BART)" means an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance, the energy and nonair quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.

(11) "Bubble" means a set of emission limits which allows an increase in emissions from a given emissions unit(s) in exchange for a decrease in emissions from another emissions unit(s), pursuant to RCW 70.94.155 and WAC 173-400-120.

(12) "Capacity factor" means the ratio of the average load on equipment or a machine for the period of time considered, to the manufacturer's capacity rating of the machine or equipment.

(13) "Class I area" means any area designated pursuant to §§ 162 or 164 of the Federal Clean Air Act as a Class I area. The following areas are the Class I areas in Washington state:

Alpine Lakes Wilderness;
Glacier Peak Wilderness;
Goat Rocks Wilderness;
Mount Adams Wilderness;
Mount Rainier National Park;
North Cascades National Park;
Olympic National Park;
Pasayten Wilderness;
Spokane Indian Reservation.

(14) "Combustion and incineration sources" means units using combustion for waste disposal, steam production, chemical recovery or other process requirements; but excludes open burning.

(15) "Commenced construction" means that the owner or operator has all the necessary preconstruction approvals or permits and either has:

(a) Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time; or

(b) Entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.

(16) "Concealment" means any action taken to reduce the observed or measured concentrations of a pollutant in a gaseous effluent while, in fact, not reducing the total amount of pollutant discharged.

(17) "Director" means director of the Washington state department of ecology or duly authorized representative.

(18) "Dispersion technique" means a method which attempts to affect the concentration of a pollutant in the ambient air other than by the use of pollution abatement equipment or integral process pollution controls.

(19) "Ecology" means the Washington state department of ecology.

(20) "Emission" means a release of air contaminants into the ambient air.

(21) "Emission reduction credit (ERC)" means a credit granted pursuant to WAC 173-400-131. This is a voluntary reduction in emissions.

(22) "Emission standard" and "emission limitation" means a requirement established under the

FCAA or chapter 70.94 RCW which limits the quantity, rate, or concentration of emissions of air contaminants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction and any design, equipment work practice, or operational standard promulgated under the FCAA or chapter 70.94 RCW.

(23) "Emissions unit" means any part of a stationary source or source which emits or would have the potential to emit any pollutant subject to regulation under the FCAA, chapter 70.94 or 70.98 RCW.

(24) "Excess emissions" means emissions of an air pollutant in excess of any applicable emission standard.

(25) "Excess stack height" means that portion of a stack which exceeds the greater of sixty-five meters or the calculated stack height described in WAC 173-400-200(2).

(26) "Existing stationary facility" means a stationary source of air pollutants which has the potential to emit two hundred fifty tons per year or more of any air pollutant. In determining potential to emit, fugitive emissions, to the extent quantifiable, must be counted. For purposes of determining whether a stationary source is an existing stationary facility the term "building, structure, facility, or installation" means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities shall be considered as part of the same major group (i.e., which have the same two digit code) as described in the *Standard Industrial Classification Manual, 1972*, as amended by the 1977 Supplement.

(27) "Federal Clean Air Act (FCAA)" means the Federal Clean Air Act, also known as Public Law 88-206, 77 Stat. 392, December 17, 1963, 42 U.S.C. 7401 et seq., as last amended by the Clean Air Act Amendments of 1990, P.L. 101-549, November 15, 1990.

(28) "Federal land manager" means, with respect to any lands in the United States, the Secretary of the department with authority over such lands.

(29) "Fossil fuel-fired steam generator" means a device, furnace, or boiler used in the process of burning fossil fuel for the primary purpose of producing steam by heat transfer.

(30) "Fugitive dust" means a particulate emission made airborne by forces of wind, man's activity, or both. Unpaved roads, construction sites, and tilled land are examples of areas that originate fugitive dust. Fugitive dust is a type of fugitive emission.

(31) "Fugitive emissions" means emissions which do not pass and which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

(32) "General process unit" means an emissions unit using a procedure or a combination of procedures for the purpose of causing a change in material by either chemical or physical means,

excluding combustion.

(33) "Good engineering practice (GEP)" refers to a calculated stack height based on the equation specified in WAC 173-400-200 (2)(a)(ii).

(34) "Incinerator" means a furnace used primarily for the thermal destruction of waste.

(35) "In operation" means engaged in activity related to the primary design function of the source.

(36) "Integral vista" means a view perceived from within a mandatory Class I federal area of a specific landmark or panorama located outside the boundary of the mandatory Class I federal area.

(37) "Lowest achievable emission rate (LAER)" means for any source that rate of emissions which reflects the more stringent of:

(a) The most stringent emission limitation which is contained in the implementation plan of any state for such class or category of source, unless the owner or operator of the proposed new or modified source demonstrates that such limitations are not achievable; or

(b) The most stringent emission limitation which is achieved in practice by such class or category of source.

In no event shall the application of this term permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable new source performance standards.

(38) "Mandatory Class I federal area" means any area defined in Section 162(a) of the FCAA. The mandatory Class I federal areas in Washington state are as follows:

Alpine Lakes Wilderness;
Glacier Peak Wilderness;
Goat Rocks Wilderness;
Mount Adams Wilderness;
Mount Rainier National Park;
North Cascades National Park;
Olympic National Park;
Pasayten Wilderness;

(39) "Major modification" means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the FCAA. Any net emissions increase that is considered significant for volatile organic compounds or nitrogen oxides shall be considered significant for ozone. A physical change or change in the method of operation shall not include:

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- (a) Routine maintenance, repair, and replacement;
 - (b) Use of an alternative fuel or raw material by reason of an order under Sections 2(a) and (b) of the Energy Supply and Environmental Supply Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;
 - (c) Use of an alternative fuel by reason of an order or rule under section 125 of the FCAA, 42 U.S.C. 7425;
 - (d) Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;
 - (e) Use of an alternative fuel or raw material by a stationary source which:
 - (i) The stationary source was capable of accommodating before December 21, 1976, unless such change would be prohibited under any federally enforceable permit condition which was established after December 12, 1976, in a prevention of significant deterioration permit or notice of construction approval; or
 - (ii) The stationary source is approved to use under any federally-enforceable notice of construction approval or a PSD permit issued by the environmental protection agency;
 - (f) An increase in the hours of operation or in the production rate, unless such change is prohibited under any federally enforceable permit condition which was established after December 21, 1976, in a prevention of significant deterioration permit or a notice of construction approval;
 - (g) Any change in ownership at a stationary source.
- (40) "Major stationary source" means:
- (a) Any stationary source which:
 - (i) Emits or has the potential to emit one hundred tons per year or more of any air contaminant regulated by the state or Federal Clean Air Acts; or
 - (ii) Is located in a "marginal" or "moderate" ozone nonattainment area and which emits or has the potential to emit one hundred tons per year or more of volatile organic compounds or oxides of nitrogen.
 - (b) Any stationary source (or group of stationary sources) which:

- (i) Is located in a "serious" carbon monoxide nonattainment area where stationary sources contribute significantly to carbon monoxide levels and which emits or has the potential to emit fifty tons per year or more of carbon monoxide; or
 - (ii) Is located in a "serious" particulate matter (PM₁₀) nonattainment area and which emits or has the potential to emit seventy tons per year or more of PM₁₀ emissions.
- (c) Any physical change that would occur at a stationary source not qualifying under (a) or (b) of this subsection as a major stationary source, if the change would constitute a major stationary source by itself;
- (d) A major stationary source that is major for VOCs or NO_x shall be considered major for ozone;
- (e) The fugitive emissions of a stationary source shall not be included in determining whether it is a major stationary source, unless the stationary source belongs to one of the following categories of stationary sources or the source is a major stationary source due to (b) of this subsection:
- (i) Coal cleaning plants (with thermal dryers);
 - (ii) Kraft pulp mills;
 - (iii) Portland cements plants;
 - (iv) Primary zinc smelters;
 - (v) Iron and steel mills;
 - (vi) Primary aluminum ore reduction plants;
 - (vii) Primary copper smelters;
 - (viii) Municipal incinerators capable of charging more than two hundred fifty tons of refuse per day;
 - (ix) Hydrofluoric, sulfuric, or nitric acid plants;
 - (x) Petroleum refineries;
 - (xi) Lime plants;
 - (xii) Phosphate rock processing plants;

- (xiii) Coke oven batteries;
- (xiv) Sulfur recovery plants;
- (xv) Carbon black plants (furnace process);
- (xvi) Primary lead smelters;
- (xvii) Fuel conversion plants;
- (xviii) Sintering plants;
- (xix) Secondary metal production plants;
- (xx) Chemical process plants;
- (xxi) Fossil-fuel boilers (or combination thereof) totaling more than two hundred fifty million British thermal units per hour heat input;
- (xxii) Petroleum storage and transfer units with a total storage capacity exceeding three hundred thousand barrels;
- (xxiii) Taconite ore processing plants;
- (xxiv) Glass fiber processing plants;
- (xxv) Charcoal production plants;
- (xxvi) Fossil fuel-fired steam electric plants of more than two hundred fifty million British thermal units per hour heat input; and
- (xxvii) Any other stationary source category which, as of August 7, 1980, was being regulated under sections 111 or 112 of the Federal Clean Air Act.

(f) For purposes of determining whether a stationary source is a major stationary source, the term "building, structure, facility, or installation" means all the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group (i.e., which have the same two digit code) as described in the *Standard Industrial Classification Manual, 1972*, as amended by the 1977 Supplement.

(41) "Masking" means the mixing of a chemically nonreactive control agent with a malodorous gaseous effluent to change the perceived odor.

(42) "Materials handling" means the handling, transporting, loading, unloading, storage, and transfer of materials with no significant chemical or physical alteration.

(43) "Modification" means any physical change in, or change in the method of operation of, a stationary source that increases the amount of any air contaminant emitted by such source or that results in the emissions of any air contaminant not previously emitted. The term modification shall be construed consistent with the definitions of modification in Section 7411, Title 42, United States Code, and with rules implementing that section.

(44) "National Emission Standards for Hazardous Air Pollutants (NESHAPS)" means the federal regulations set forth in 40 CFR Part 61.

(45) "Natural conditions" means naturally occurring phenomena that reduce visibility as measured in terms of visual range, contrast, or coloration.

(46) "Net emissions increase" means:

(a) The amount by which the sum of the following exceeds zero:

(i) Any increase in actual emissions from a particular change or change in method of operation at a source; and

(ii) Any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable.

(b) An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs between the date ten years before construction on the particular change commences and the date that the increase from the particular change occurs.

(c) An increase or decrease in actual emissions is creditable only if:

(i) It occurred no more than one year prior to the date of submittal of a complete notice of construction application for the particular change, or it has been documented by an emission reduction credit, in which case the credit shall expire ten years after the date of original issue of the ERC. Any emissions increases occurring between the date of issuance of the ERC and the date when a particular change becomes operational shall be counted against the ERC.

(ii) Ecology or the authority has not relied on it in issuing any permit or order of approval for the source under regulations approved pursuant to 40 CFR 51 Subpart I or the EPA has not relied on it in issuing a PSD permit pursuant to 40 CFR 52.21, which order or permit is in effect when the increase in actual emissions from the particular change occurs.

(d) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.

(e) A decrease in actual emissions is creditable only to the extent that:

(i) The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;

(ii) It is federally enforceable at and after the time that actual construction on the particular change begins;

(iii) It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change; and

(iv) Ecology or the authority has not relied on it in issuing any permit or order of approval under regulations approved pursuant to 40 CFR 51 Subpart I, the EPA has not relied on it in issuing a PSD permit pursuant to 40 CFR 52.21, or ecology or the authority has not relied on it in demonstrating attainment or reasonable further progress.

(f) An increase that results from a physical change at a source occurs when the emission unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed one hundred eighty days.

(47) "New source" means:

(a) The construction or modification of a stationary source that increases the amount of any air contaminant emitted by such source or that results in the emission of any air contaminant not previously emitted; and

(b) Any other project that constitutes a new source under the Federal Clean Air Act.

(48) "New source performance standards (NSPS)" means the federal regulations set forth in 40 CFR Part 60.

(49) "Nonattainment area" means a clearly delineated geographic area which has been designated by EPA promulgation as exceeding a national ambient air quality standard or standards for one or more of the criteria pollutants.

(50) "Notice of construction application" means a written application to permit construction of a new source, modification of an existing stationary source or replacement or substantial alteration of control technology at an existing stationary source.

(51) "Opacity" means the degree to which an object seen through a plume is obscured, stated as a

percentage.

(52) "Open burning" means the combustion of material in an open fire or in an outdoor container, without providing for the control of combustion or the control of the emissions from the combustion. Wood waste disposal in wigwam burners is not considered open burning.

(53) "Order" means any order issued by ecology or a local air authority pursuant to chapter 70.94 RCW, including, but not limited to RCW 70.94.332, 70.94.152, 70.94.153, and 70.94.141(3), and includes, where used in the generic sense, the terms order, corrective action order, order of approval, and regulatory order.

(54) "Order of approval" or "approval order" means a regulatory order issued by ecology or the authority to approve the notice of construction application for a proposed new source or modification, or the replacement or substantial alteration of control technology at an existing stationary source.

(55) "Particulate matter" or "particulates" means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers.

(56) "Particulate matter emissions" means all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air as measured by applicable reference methods, or an equivalent or alternative method specified in 40 CFR Part 60 or by a test method specified in the Washington state implementation plan.

(57) "Parts per million (ppm)" means parts of a contaminant per million parts of gas, by volume, exclusive of water or particulates.

(58) "Person" means an individual, firm, public or private corporation, association, partnership, political subdivision, municipality, or government agency.

(59) "PM-10" means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by a reference method based on 40 CFR Part 50 Appendix J and designated in accordance with 40 CFR Part 53 or by an equivalent method designated in accordance with 40 CFR Part 53.

(60) "PM-10 emissions" means finely divided solid or liquid material, including condensable particulate matter, with an aerodynamic diameter less than or equal to a nominal 10 micrometers emitted to the ambient air as measured by an applicable reference method, or an equivalent or alternate method, specified in Appendix M of 40 CFR Part 51 or by a test method specified in the Washington state implementation plan.

(61) "Potential to emit" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be

treated as part of its design only if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

(62) "Prevention of significant deterioration (PSD)" means the program set forth in WAC 173-400-141.

(63) "Projected width" means that dimension of a structure determined from the frontal area of the structure, projected onto a plane perpendicular to a line between the center of the stack and the center of the building.

(64) "Reasonably attributable" means attributable by visual observation or any other technique the state deems appropriate.

(65) "Reasonably available control technology (RACT)" means the lowest emission limit that a particular source or source category is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. RACT is determined on a case-by-case basis for an individual source or source category taking into account the impact of the source upon air quality, the availability of additional controls, the emission reduction to be achieved by additional controls, the impact of additional controls on air quality, and the capital and operating costs of the additional controls. RACT requirements for any source or source category shall be adopted only after notice and opportunity for comment are afforded.

(66) "Regulatory order" means an order issued by ecology or an authority to an air contaminant source which applies to that source, any applicable provision of chapter 70.94 RCW, or the rules adopted thereunder, or, for sources regulated by a local air authority, the regulations of that authority.

(67) "Significant" means, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emission equal to or greater than any one of the following rates:

Pollutant	Tons/Year
Carbon monoxide	100
Nitrogen oxides	40
Sulfur dioxide	40
Particulate matter (PM)	25
Fine particulate matter (PM ₁₀)	15
Volatile organic compounds (VOC)	40
Lead	0.6
Fluorides	3
Sulfuric acid mist	7
Hydrogen sulfide (H ₂ S)	10
Total reduced sulfur (including H ₂ S)	10

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Municipal waste combustor organics (measured as total tetra-through octa-chlorinated dibenzo-p-dioxins and dibenzofurans)	0.0000035
Municipal waste combustor metals (measured as PM)	15
Municipal waste combustor acid gases (measured as SO ₂ and hydrogen chloride)	40

(68) "Significant visibility impairment" means visibility impairment which interferes with the management, protection, preservation, or enjoyment of visitor visual experience of the Class I area. The determination must be made on a case-by-case basis, taking into account the geographic extent, intensity, duration, frequency, and time of the visibility impairment, and how these factors correlate with the time of visitor use of the Class I area and frequency and timing of natural conditions that reduce visibility.

(69) "Source" means all of the emissions unit(s) including quantifiable fugitive emissions, that are located on one or more contiguous or adjacent properties, and are under the control of the same person or persons under common control, whose activities are ancillary to the production of a single product or functionally related groups of products. Activities shall be considered ancillary to the production of a single product or functionally related group of products if they belong to the same major group (i.e., which have the same two digit code) as described in the *Standard Industrial Classification Manual, 1972*, as amended by the 1977 Supplement.

(70) "Source category" means all sources of the same type or classification.

(71) "Stack" means any point in a source designed to emit solids, liquids, or gases into the air, including a pipe or duct.

(72) "Stack height" means the height of an emission point measured from the ground-level elevation at the base of the stack.

(73) "Standard conditions" means a temperature of 20° (68° F) and a pressure of 760 mm (29.92 inches) of mercury.

(74) "Stationary source" means any building, structure, facility, or installation which emits or may emit any contaminant. This term does not include emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in Section 216 of the FCAA.

(75) "Sulfuric acid plant" means any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, or acid sludge.

(76) "Total reduced sulfur (TRS)" means the sum of the sulfur compounds hydrogen sulfide,

mercaptans, dimethyl sulfide, dimethyl disulfide, and any other organic sulfides emitted and measured by EPA method 16 or an approved equivalent method and expressed as hydrogen sulfide.

(77) "Total suspended particulate" means particulate matter as measured by the method described in 40 CFR Part 50 Appendix B as in effect on July 1, 1988.

(78) "United States Environmental Protection Agency (USEPA)" shall be referred to as EPA.

(79) "Visibility impairment" means any perceptible degradation in visibility (visual range, contrast, coloration) not caused by natural conditions.

(80) "Visibility impairment of Class I areas" means visibility impairment within the area and visibility impairment of any formally designated integral vista associated with the area.

(81) "Volatile organic compound (VOC)" means:

(a) Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. This includes any organic compound other than the following, which have negligible photochemical reactivity: Methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane (methyl chloroform); 1,1,1-trichloro 2,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (CFC-22); trifluoromethane (FC-23); 1,1,2,2-tetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123); 1,1,1,2-tetrafluoroethane (HFC-134a); 1,1-dichloro 1-fluoroethane (HCFC-141b); 1-chloro 1,1-difluoroethane (HCFC-142b); 2-chloro 1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); and perfluorocarbon compounds which fall into these classes:

(i) Cyclic, branched, or linear completely fluorinated alkanes;

(ii) Cyclic, branched, or linear completely fluorinated ethers with no unsaturations; and

(iii) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(b) For the purpose of determining compliance with emission limits, VOC will be measured by the appropriate methods in 40 CFR Part 60 Appendix A. Where such a method also measures compounds with negligible photochemical reactivity, these negligibly-reactive compounds may be excluded as VOC if the amount of such compounds is accurately quantified, and such exclusion is approved by ecology or the authority.

- (c) As a precondition to excluding these negligibly-reactive compounds as VOC or at any time thereafter, ecology or the authority may require an owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of ecology or the authority, the amount of negligibly-reactive compounds in the source's emissions.

State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

173-400-040 General Standards for Maximum Emissions

All sources and emissions units are required to meet the emission standards of this chapter. Where an emission standard listed in another chapter is applicable to a specific emissions unit, such standard will take precedent over a general emission standard listed in this chapter. When two or more emissions units are connected to a common stack and the operator elects not to provide the means or facilities to sample emissions from the individual emissions units, and the relative contributions of the individual emissions units to the common discharge are not readily distinguishable, then the emissions of the common stack must meet the most restrictive standard of any of the connected emissions units. Further, all emissions units are required to use reasonably available control technology (RACT) which may be determined for some sources or source categories to be more stringent than the applicable emission limitations of any chapter of Title 173 WAC. Where current controls are determined to be less than RACT, ecology or the authority shall, as provided in section 8, chapter 252, Laws of 1993, define RACT for each source or source category and issue a rule or regulatory order requiring the installation of RACT.

(1) Visible emissions. No person shall cause or permit the emission for more than three minutes, in any one hour, of an air contaminant from any emissions unit which at the emission point, or within a reasonable distance of the emission point, exceeds twenty percent opacity except:

(a) When the emissions occur due to soot blowing/grate cleaning and the operator can demonstrate that the emissions will not exceed twenty percent opacity for more than fifteen minutes in any eight consecutive hours. The intent of this provision is to permit the soot blowing and grate cleaning necessary to the operation of boiler facilities. This practice, except for testing and trouble shooting, is to be scheduled for the same approximate times each day and ecology or the authority be advised of the schedule.

(b) When the owner or operator of a source supplies valid data to show that the presence of uncombined water is the only reason for the opacity to exceed twenty percent.

~~(c) When two or more sources are connected to a common stack, ecology or the authority may allow or require the use of an alternate time period if it is more representative of normal operations.~~

~~(d) When an alternate opacity limit has been established per RCW 70.94.331 (2)(c).~~

~~(2) Fallout. No person shall cause or permit the emission of particulate matter from any source to be deposited beyond the property under direct control of the owner(s) or operator(s) of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited.~~

(3) Fugitive emissions. The owner or operator of any emissions unit engaging in materials handling, construction, demolition or any other operation which is a source of fugitive emission:

(a) If located in an attainment area and not impacting any nonattainment area, shall take reasonable precautions to prevent the release of air contaminants from the operation.

(b) If the emissions unit has been identified as a significant contributor to the nonattainment status of a designated nonattainment area, shall be required to use reasonable and available control methods, which shall include any necessary changes in technology, process, or other control strategies to control emissions of the contaminants for which nonattainment has been designated.

~~(4) Odors. Any person who shall cause or allow the generation of any odor from any source which may unreasonably interfere with any other property owner's use and enjoyment of his property must use recognized good practice and procedures to reduce these odors to a reasonable minimum.~~

(5) Emissions detrimental to persons or property. No person shall cause or permit the emission of any air contaminant from any source if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business.

(6) Sulfur dioxide.

No person shall cause or permit the emission of a gas containing sulfur dioxide from any emissions unit in excess of one thousand ppm of sulfur dioxide on a dry basis, corrected to seven percent oxygen for combustion sources, and based on the average of any period of sixty consecutive minutes, except:

~~When the owner or operator of an emissions unit supplies emission data and can demonstrate to ecology or the authority that there is no feasible method of reducing the concentration to less than one thousand ppm (on a dry basis, corrected to seven percent oxygen for combustion sources) and that the state and federal ambient air quality standards for sulfur dioxide will not be exceeded. In such cases, ecology or the authority may require specific ambient air monitoring stations be established, operated, and maintained by the owner or operator at mutually approved locations. All sampling results will be made available upon request and a monthly summary will be submitted to ecology or the authority.~~

(7) Concealment and masking. No person shall cause or permit the installation or use of any means which conceals or masks an emission of an air contaminant which would otherwise violate any provisions of this chapter.

(8) Fugitive dust sources.

(a) The owner or operator of a source of fugitive dust shall take reasonable precautions to prevent fugitive dust from becoming airborne and shall maintain and operate the source to minimize emissions.

(b) The owner(s) or operator(s) of any existing source(s) of fugitive dust that has been identified as a significant contributor to a PM-10 nonattainment area shall be required to use reasonably available control technology to control emissions. Significance will be determined by the criteria found in WAC 173-400-113(3).

State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

173-400-050 Emission Standards for Combustion and Incineration Units

(1) Combustion and incineration emissions units must meet all requirements of WAC 173-400-040 and, in addition, no person shall cause or permit emissions of particulate matter in excess of 0.23 gram per dry cubic meter at standard conditions (0.1 grain/dscf), except, for an emissions unit combusting wood derived fuels for the production of steam. No person shall allow or permit the emission of particulate matter in excess of 0.46 gram per dry cubic meter at standard conditions (0.2 grain/dscf), as measured by EPA method 5 or approved procedures contained in "Source Test Manual - Procedures For Compliance Testing," state of Washington, department of ecology, as of July 12, 1990, on file at ecology.

(2) For any incinerator, no person shall cause or permit emissions in excess of one hundred ppm of total carbonyls as measured by applicable EPA methods or acceptable procedures contained in "Source Test Manual - Procedures for Compliance Testing," state of Washington, department of ecology, on file at ecology. Incinerators shall be operated only during daylight hours unless written permission to operate at other times is received from ecology or the authority.

(3) Measured concentrations for combustion and incineration sources shall be adjusted for volumes corrected to seven percent oxygen, ~~except when ecology or the authority determines that an alternate oxygen correction factor is more representative of normal operations.~~

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-060 Emission Standards for General Process Units

General process units are required to meet all applicable provisions of WAC 173-400-040 and, no person shall cause or permit the emission of particulate material from any general process operation in excess of 0.23 grams per dry cubic meter at standard conditions (0.1 grain/dscf) of exhaust gas. EPA test methods from 40 CFR Appendix A which are adopted by reference and

any other approved test procedures which are contained in ecology's "Source Test Manual - Procedures For Compliance Testing" as of July 12, 1990, will be used to determine compliance.

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-070 Emission Standards for Certain Source Categories

Ecology finds that the reasonable regulation of sources within certain categories requires separate standards applicable to such categories. The standards set forth in this section shall be the maximum allowable standards for emissions units within the categories listed. Except as specifically provided in this section, such emissions units shall not be required to meet the provisions of WAC 173-400-040, 173-400-050 and 173-400-060.

(1) Wigwam burners.

(a) All wigwam burners shall meet all provisions of WAC 173-400-040 (2), (3), (4), (5), (6), and (7).

(b) All wigwam burners shall use RACT. All emissions units shall be operated and maintained to minimize emissions. These requirements may include a controlled tangential vent overfire air system, an adequate underfire system, elimination of all unnecessary openings, a controlled feed and other modifications determined necessary by ecology or the authority.

(c) It shall be unlawful to install or increase the existing use of any burner that does not meet all requirements for new sources including those requirements specified in WAC 173-400-040 and 173-400-050, except operating hours.

(d) Ecology may establish additional requirements for wigwam burners located in sensitive areas as defined by chapter 173-440 WAC. These requirements may include but shall not be limited to:

(i) A requirement to meet all provisions of WAC 173-400-040 and 173-400-050. Wigwam burners will be considered to be in compliance if they meet the requirements contained in WAC 173-400-040(1). An exception is made for a startup period not to exceed thirty minutes in any eight consecutive hours.

(ii) A requirement to apply BACT.

(iii) A requirement to reduce or eliminate emissions if ecology establishes that such emissions unreasonably interfere with the use and enjoyment of the property of others or are a cause of violation of ambient air standards.

(2) Hog fuel boilers.

(a) Hog fuel boilers shall meet all provisions of WAC 173-400-040 and 173-400-050(1), except that emissions may exceed twenty percent opacity for up to fifteen consecutive minutes once in any eight hours. The intent of this provision is to permit the soot blowing and grate cleaning necessary to the operation of these units. This practice is to be scheduled for the same specific times each day and ecology or the authority shall be notified of the schedule or any changes.

(b) All hog fuel boilers shall utilize RACT and shall be operated and maintained to minimize emissions.

(3) Orchard heating.

(a) Burning of rubber materials, asphaltic products, crankcase oil or petroleum wastes, plastic, or garbage is prohibited.

(b) It is unlawful to burn any material or operate any orchard-heating device that causes a visible emission exceeding twenty percent opacity, except during the first thirty minutes after such device or material is ignited.

(4) Grain elevators.

Any grain elevator which is primarily classified as a materials handling operation shall meet all the provisions of WAC 173-400-040 (2), (3), (4), and (5).

(5) Catalytic cracking units.

(a) All existing catalytic cracking units shall meet all provisions of WAC 173-400-040 (2), (3), (4), (5), (6), and (7) and:

(i) No person shall cause or permit the emission for more than three minutes, in any one hour, of an air contaminant from any catalytic cracking unit which at the emission point, or within a reasonable distance of the emission point, exceeds forty percent opacity.

(ii) No person shall cause or permit the emission of particulate material in excess of 0.46 grams per dry cubic meter at standard conditions (0.20 grains/dscf) of exhaust gas.

(b) All new catalytic cracking units shall meet all provisions of WAC 173-400-115.

(6) Other wood waste burners.

(a) Wood waste burners not specifically provided for in this section shall meet all provisions of WAC 173-400-040.

(b) Such wood waste burners shall utilize RACT and shall be operated and maintained to minimize emissions.

~~(7) Sulfuric acid plants.~~

~~No person shall cause to be discharged into the atmosphere from a sulfuric acid plant, any gases which contain acid mist, expressed as H₂SO₄, in excess of 0.15 pounds per ton of acid produced. Sulfuric acid production shall be expressed as one hundred percent H₂SO₄.~~

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-081 Startup and Shutdown

In promulgating technology-based emission standards and making control technology determinations (e.g., BACT, RACT, LAER, BART) ecology and the authorities shall consider any physical constraints on the ability of a source to comply with the applicable standard during startup or shutdown. Where ecology or the authority determines that the source or source category, operated and maintained in accordance with good air pollution control practice, is not capable of achieving continuous compliance with an emission standard during startup or shutdown, ecology or the authority shall include in the standard appropriate emission limitations, operating parameters, or other criteria to regulate the performance of the source during startup or shutdown conditions. In modeling the emissions of a source for purposes of demonstrating attainment or maintenance of national ambient air quality standards, ecology and the authorities shall take into account any incremental increase in allowable emissions under startup or shutdown conditions authorized by an emission limitation or other operating parameter adopted under this rule. Any emission limitation or other parameter adopted under this rule which increases allowable emissions during startup or shutdown conditions over levels authorized in an approved state implementation plan shall not take effect until approved by EPA as a SIP amendment.

State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

173-400-091 Voluntary Limits on Emissions

(1) Upon request by the owner or operator of a source, ecology or the authority with jurisdiction over the source shall issue a regulatory order that limits the source's potential to emit any air contaminant or contaminants to a level agreed to by the owner or operator and ecology or the authority with jurisdiction over the source.

(2) A condition contained in an order issued under this section shall be less than the source's otherwise allowable annual emissions of a particular contaminant under all applicable requirements of the chapter 70.94 RCW and the FCAA, including any standard or other requirement provided for in the Washington state implementation plan. The term "condition" refers to limits on production or other limitations, in addition to emission limitations.

(3) Any order issued under this section shall include monitoring, recordkeeping and reporting requirements sufficient to ensure that the source complies with any condition established under this section. Monitoring requirements shall use terms, test methods, units, averaging periods, and other statistical conventions consistent with the requirements of WAC 173-400-105.

(4) Any order issued under this section shall be subject to the notice and comment procedures under WAC 173-400-171.

(5) The terms and conditions of a regulatory order issued under this section shall be federally enforceable, upon approval of this section as an element of the Washington state implementation plan. Any proposed deviation from a condition contained in an order issued under this section shall require revision or revocation of the order.

State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

173-400-100 Registration

(1) Except as provided in subsection (4) of this section, the owner or operator of each source within the following source categories shall register the source with ecology or the authority.

- (a) Agricultural drying and dehydrating operations;
- (b) Asphalt plants;
- (c) Beverage can surface coating operations;
- (d) Bulk gasoline terminals;
- (e) Cattle feedlots with facilities for one thousand or more cattle;
- (f) Chemical plants;
- (g) Ferrous foundries;
- (h) Fertilizer plants
- (i) Flexible vinyl and urethane coating and printing operations;
- (j) Grain handling, seed processing, pea and lentil processing facilities;
- (k) Metallic mineral processing plants;
- (l) Mineralogical processing plants

- (m) Nonferrous foundries;
- (n) Other metallurgical processing plants;
- (o) Petroleum refineries;
- (p) Power boilers using coal, hog fuel, oil, or other solid or liquid fuel;
- (q) Pressure sensitive tape and label surface coating operations;
- (r) Rendering plants;
- (s) Scrap metal operations;
- (t) Synthetic organic chemical manufacturing industries;
- (u) Sulfuric acid plants;
- (v) Synthetic fiber production facilities;
- (w) Veneer dryers;
- (x) Wood waste incinerators including wigwam burners;
- (y) Other incinerators designed for a capacity of one hundred pounds per hour or more;
- (z) Stationary internal combustion engines rated at five hundred horse power or more;
- (aa) Sawmills, including processing for lumber, plywood, shake, shingle, pulpwood insulating board, or any combination thereof;
- (bb) Any category of stationary sources subject to a federal standard of performance (NSPS) under 40 CFR Part 60, other than Subpart AAA (Standards of Performance for New Residential Wood Heaters);
- (cc) Any source which emits a contaminant subject to a National Emission Standard for Hazardous Air Pollutants (NESHAPS);
- (dd) Any major stationary source.

(2) Registration shall be on forms to be supplied by ecology or the authority within the time specified on the form.

(3) A report of closure shall be filed with ecology or the authority within ninety days after

operations producing emissions permanently cease at any source within the above categories.

(4) Permit program sources, as defined in RCW 70.94.030(17), are not required to comply with the registration requirements of this section after the Environmental Protection Agency grants interim or final approval for the state operating permit program.

State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

173-400-105 Records, Monitoring and Reporting

The owner or operator of a source shall upon notification by the director of ecology, maintain records on the type and quantity of emissions from the source and other information deemed necessary to determine whether the source is in compliance with applicable emission limitations and control measures.

(1) Emission inventory. The owner(s) or operator(s) of any air contaminant source shall submit an inventory of emissions from the source each year. The inventory may include stack and fugitive emissions of particulate matter, PM₁₀, sulfur dioxide, carbon monoxide, total reduced sulfur compounds (TRS), fluorides, lead, VOCs, and other contaminants, and shall be submitted (when required) no later than one hundred five days after the end of the calendar year. The owner(s) or operator(s) shall maintain records of information necessary to substantiate any reported emissions, consistent with the averaging times for the applicable standards.

(2) Monitoring. Ecology shall conduct a continuous surveillance program to monitor the quality of the ambient atmosphere as to concentrations and movements of air contaminants.

As a part of this program, the director of ecology or an authorized representative may require any source under the jurisdiction of ecology to conduct stack and/or ambient air monitoring and to report the results to ecology.

(3) Investigation of conditions. Upon presentation of appropriate credentials, for the purpose of investigating conditions specific to the control, recovery, or release of air contaminants into the atmosphere, personnel from ecology or an authority shall have the power to enter at reasonable times upon any private or public property, excepting nonmultiple unit private dwellings housing one or two families.

(4) Source testing. To demonstrate compliance, ecology or the authority may conduct or require that a test be conducted of the source using approved EPA methods from 40 CFR 60 Appendix A which are adopted by reference, or approved procedures contained in *"Source Test Manual - Procedures for Compliance Testing,"* state of Washington, department of ecology, as of July 12, 1990, on file at ecology. The operator of a source may be required to provide the necessary platform and sampling ports for ecology personnel or others to perform a test of an emissions unit. Ecology shall be allowed to obtain a sample from any emissions unit. The operator of the source shall be given an opportunity to observe the sampling and to obtain a sample

at the same time.

(5) Continuous monitoring and recording. Owners and operators of the following categories of sources shall install, calibrate, maintain and operate equipment for continuously monitoring and recording those emissions specified.

(a) Fossil fuel-fired steam generators.

(i) Opacity, except where:

(A) Steam generator capacity is less than two hundred fifty million BTU per hour heat input; or

(B) Only gaseous fuel is burned.

(ii) Sulfur dioxide, except where steam generator capacity is less than two hundred fifty million BTU per hour heat input or if sulfur dioxide control equipment is not required.

(iii) Percent oxygen or carbon dioxide where such measurements are necessary for the conversion of sulfur dioxide continuous emission monitoring data.

(iv) General exception. These requirements do not apply to a fossil fuel-fired steam generator with an annual average capacity factor of less than thirty percent, as reported to the Federal Power Commission for calendar year 1974, or as otherwise demonstrated to ecology or the authority by the owner(s) or operator(s).

(b) Sulfuric acid plants.

Sulfur dioxide where production capacity is more than three hundred tons per day, expressed as one hundred percent acid, except for those facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

(c) Fluid bed catalytic cracking units catalyst regenerators at petroleum refineries.

Opacity where fresh feed capacity is more than twenty thousand barrels per day.

(d) Wood residue fuel-fired steam generators.

(i) Opacity, except where steam generator capacity is less than one hundred million BTU per hour heat input.

(ii) Continuous monitoring equipment. The requirements of (e) of this subsection do not apply to wood residue fuel-fired steam generators, but continuous monitoring equipment required by (d) of this subsection shall be subject

to approval by ecology.

(e) Owners and operators of those sources required to install continuous monitoring equipment under this chapter shall demonstrate to ecology or the authority, compliance with the equipment and performance specifications and observe the reporting requirements contained in 40 CFR Part 51, Appendix P, Sections 3, 4 and 5, promulgated October 6, 1975, and amended November 7, 1986, which is adopted by reference.

(f) Special considerations. If for reason of physical plant limitations or extreme economic situations, ecology determines that continuous monitoring is not a reasonable requirement, alternative monitoring and reporting procedures will be established on an individual basis. These will generally take the form of stack tests conducted at a frequency sufficient to establish the emission levels over time and to monitor deviations in these levels.

(g) Exemptions. This subsection (5) does not apply to any source which is:

(i) Subject to a new source performance standard. These sources will be governed by WAC 173-400-115.

(ii) Not subject to an applicable emission standard.

(h) Monitoring system malfunctions. A source may be temporarily exempted from the monitoring and reporting requirements of this chapter during periods of monitoring system malfunctions provided that the source owner(s) or operator(s) shows to the satisfaction of ecology or the authority that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

(6) Change in raw materials or fuels for sources not subject to requirements of the operating permit program. Any change or series of changes in raw material or fuel which will result in a cumulative increase in emissions of sulfur dioxide of forty tons per year or more over that stated in the initial inventory required by subsection (1) of this section shall require the submittal of sufficient information to ecology or the authority to determine the effect of the increase upon ambient concentrations of sulfur dioxide. Ecology or the authority may issue regulatory orders requiring controls to reduce the effect of such increases. Cumulative changes in raw material or fuel of less than 0.5 percent increase in average annual sulfur content over the initial inventory shall not require such notice.

State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

173-400-107 Excess Emissions

(1) The owner or operator of a source shall have the burden of proving to ecology or the authority or the decision-making authority in an enforcement action that excess emissions were

unavoidable. This demonstration shall be a condition to obtaining relief under subsections (4), (5) and (6) of this section.

(2) Excess emissions determined to be unavoidable under the procedures and criteria in this section shall be excused and not subject to penalty.

(3) Excess emissions which represent a potential threat to human health or safety or which the owner or operator of the source believes to be unavoidable shall be reported to ecology or the authority as soon as possible. Other excess emissions shall be reported within thirty days after the end of the month during which the event occurred or as part of the routine emission monitoring reports. Upon request by ecology or the authority, the owner(s) or operator(s) of the source(s) shall submit a full written report including the known causes, the corrective actions taken, and the preventive measures to be taken to minimize or eliminate the chance of recurrence.

(4) Excess emissions due to startup or shutdown conditions shall be considered unavoidable provided the source reports as required under subsection (3) of this section and adequately demonstrates that the excess emissions could not have been prevented through careful planning and design and if a bypass of control equipment occurs, that such bypass is necessary to prevent loss of life, personal injury, or severe property damage.

(5) Maintenance. Excess emissions due to scheduled maintenance shall be considered unavoidable if the source reports as required under subsection (3) of this section and adequately demonstrates that the excess emissions could not have been avoided through reasonable design, better scheduling for maintenance or through better operation and maintenance practices.

(6) Excess emissions due to upsets shall be considered unavoidable provided the source reports as required under subsection (3) of this section and adequately demonstrates that:

(a) The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition;

(b) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(c) The operator took immediate and appropriate corrective action in a manner consistent with good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action, including slowing or shutting down the emission unit as necessary to minimize emissions, when the operator knew or should have known that an emission standard or permit condition was being exceeded.

State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

173-400-110 New Source Review (NSR)

(1) Applicability:

- (a) A notice of construction application must be filed by the owner or operator and an order of approval issued by ecology or an authority prior to the establishment of any new source or emission unit or modification which is listed in WAC 173-400-100 or required to obtain a permit under RCW 70.94.161.
- (b) Ecology or the authority may require that a notice of construction application be filed by the owner or operator of a proposed new source or modification and an order of approval issued by ecology or an authority prior to the establishment of any new source or emission unit or modification, other than a single family or a duplex dwelling.
- (c) New source review of a modification shall be limited to the emission unit or units proposed to be added to an existing source or modified and the air contaminants whose emissions would increase as a result of the modification.

(2) Completeness Determination: Within thirty days of receipt of a notice of construction application, ecology or the authority shall either notify the applicant in writing that the application is complete or notify the applicant in writing of all additional information necessary, based upon review of information already supplied, to complete the application. For a project subject to PSD review under WAC 173-400-141 a completeness determination includes a determination that the application provides all information required to conduct PSD review.

(3) Final Determination:

- (a) Within sixty days of receipt of a complete application, ecology or the authority shall either issue a final decision on the application or, for those projects subject to public notice, initiate notice and comment procedures under WAC 173-400-171 on a proposed decision, followed as promptly as possible by a final decision. A person seeking approval to construct or modify a source that requires an operating permit may elect to integrate review of the operating permit application or amendment required under RCW 70.94.161 and the notice of construction application required by this section. A notice of construction designated for integrated review shall be processed in accordance with operating permit program procedures and deadlines.
- (b) Every final determination on a notice of construction application shall be reviewed and signed prior to issuance by a professional engineer or staff under the direct supervision of a professional engineer in the employ of ecology or the authority.
- (c) If the new source is a major stationary source or the change is a major modification, ecology or the authority shall submit any control technology determination included in a final order of approval to the RACT/BACT/LAER clearinghouse maintained by EPA.

(4) Appeals: An order of approval, any conditions contained in an order of approval, or the denial of a notice of construction application may be appealed to the pollution control hearings board as provided in chapter 43.21B RCW. Ecology or the authority shall promptly mail copies of each order approving or denying a notice of construction application to the applicant and to any other party who submitted timely comments on the application, along with a notice advising parties of their rights of appeal to the Pollution Control Hearings Board and, where applicable, to the EPA Environmental Appeals Board.

(5) Portable Sources: For portable sources which located temporarily at particular sites, the owner(s) or operator(s) shall be allowed to operate at the temporary location without filing a notice of construction application, providing that the owner(s) or operator(s) notifies ecology or the authority of intent to operate at the new location at least thirty days prior to starting the operation, and supplies sufficient information to enable ecology or the authority to determine that the operation will comply with the emission standards for a new source, and will not a cause a violation of applicable ambient air quality standards and , if in a nonattainment area, will not interfere with scheduled attainment of ambient standards. The permission to operate shall be for a limited period of time (one year or less) and ecology or the authority may set specific conditions for operation during that period. A temporary source shall be required to comply with all applicable emission standards.

(6) Approval to construct or modify a stationary source shall become invalid if construction is not commenced within eighteen months after receipt of such approval, if construction is discontinued for a period of eighteen months or more, or if construction is not completed within a reasonable time. Ecology or the authority may extend the eighteen-month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within eighteen months of the projected and approved commencement date.

State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

WAC 173-400-112 Requirements for New Sources in Nonattainment Areas

Ecology or an authority reviewing an application to establish a new source or modification in a nonattainment area, shall issue an order of approval, which order shall contain such conditions as are reasonably necessary to assure the maintenance of compliance with this chapter, if they determine that the proposed project satisfies each of the following requirements:

(1) The proposed new source or modification will comply with all applicable new source performance standards, national emission standards for hazardous air pollutants, emission standards adopted under chapter 70.94 RCW and, for sources regulated by an authority, the applicable emission standards of that authority.

(2) The proposed new source will employ BACT for all air contaminants, except that if the new source is a major stationary source or the proposed modification is a major modification it will

achieve LAER for the contaminants for which the area has been designated nonattainment and for which the proposed new source or modification is major.

(3) The proposed new source will not cause any ambient air quality standard to be exceeded, will not violate the requirements for reasonable further progress established by the state implementation plan and will comply with WAC 173-400-113(3) for all contaminants for which the area has not been designated nonattainment.

(4) If the proposed new source is a major stationary source or the proposed modification is a major modification, ecology or the authority has determined, based on review of an analysis performed by the source of alternative sites, sizes, production processes, and environmental control techniques, that the benefits of the project significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.

(5) If the proposed new source or the proposed modification is major for the contaminant for which the area is designated nonattainment, allowable emissions from the proposed new source or modification of that contaminant are offset by reductions in actual emissions from existing sources in the nonattainment area. Emission offsets must be sufficient to ensure that total allowable emissions from existing major stationary sources in the nonattainment area, new or modified sources which are not major stationary sources, and the proposed new or modified source will be less than total actual emissions from existing sources (prior to submittal of the application) so as to represent (when considered together with the nonattainment provisions of section 172 of the FCAA) reasonable further progress. All offsetting emission reductions must satisfy the following requirements:

(a) The proposed new level of allowable emissions of the source or emission unit(s) providing the reduction must be less than the current level of actual emissions of that source or emissions unit(s). No emission reduction can be credited for actual emissions which exceed the current allowable emissions of the source or emissions unit(s) providing the reduction. Emission reductions imposed by local, state, or federal regulations, regulatory orders, or permits cannot be credited.

(b) The emission reductions must provide for a net air quality benefit. For marginal ozone nonattainment areas, the total emissions of volatile organic compounds or total emissions of nitrogen oxides are reduced by a ratio of 1.1 to 1 for the area in which the new source is located. For any other nonattainment area, the emissions offsets must provide a positive net air quality benefit in the nonattainment area. Determinations on whether emissions offsets provide a positive net air quality benefit will be made in accordance with the guidelines contained in 40 CFR 51 Appendix S.

(c) If the offsets are provided by another source, the reductions in emissions from that source must be federally enforceable by the time the new or modified source commences operation. The new source may not commence operation before the date such reductions are actually achieved. An emission reduction credit issued under WAC 173-400-131 may be used to satisfy some or all of the offset requirements of this subsection.

(6) If the proposed new source is a major stationary source or the proposed modification is a major modification, the owner or operator has demonstrated that all major stationary sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in Washington are subject to emission limitations and are in compliance, or on a schedule for compliance, with all applicable emission limitations and standards under the Federal Clean Air Act, including all rules contained in an EPA-approved state implementation plan.

(7) If the proposed new source is a major stationary source or the proposed modification is a major modification for the purposes of the PSD program described in WAC 173-400-141, it meets the requirements of that program for all contaminants for which the area has not been designated nonattainment.

~~(8) If the proposed new source or modification will emit any toxic air pollutants regulated under chapter 173-460 WAC, the source meets all applicable requirements of that chapter.~~

(9) If the proposed new source is a major stationary source or the proposed modification is a major modification, ecology or the authority has complied with the visibility protection review requirements of 40 CFR 52.28(c) through (e) except for (c)(4)(i), (g), and (h), as in effect on March 3, 1993, and determined that the project meets the criteria set forth in 40 CFR 52.28(g). For purposes of this subsection, definitions referenced in 40 CFR 52.28(b) are incorporated by reference, except that the term "visibility protection area" means any Class I area, and terms defined in WAC 173-400-030 shall have the meanings defined in that section. References in 40 CFR 52.28 to "the Administrator" shall mean the agency (either ecology or the authority) processing the notice of construction application.

State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

173-400-113 Requirements for New Sources in Attainment or Unclassifiable Areas

Ecology or an authority reviewing an application to establish a new source or modification in an area that is in attainment or unclassifiable for any air contaminant the new source would emit and that is in attainment or unclassifiable for ozone if the proposed new or modified source would emit VOCs or NO_x, shall issue an order of approval, which order shall contain such conditions as are reasonably necessary to assure the maintenance of compliance with this chapter, if they determine that the proposed project satisfies all of the following requirements:

(1) The proposed new source or modification will comply with all applicable new source performance standards, national emission standards for hazardous air pollutants, emission standards adopted under chapter 70.94 RCW and, for sources regulated by an authority, the applicable emission standards of that authority.

(2) The proposed new source or modification will employ BACT for all pollutants not previously emitted or whose emissions would increase as a result of the new source or modification.

(3) Allowable emissions from the proposed new source or modification will not delay the attainment date for an area not in attainment nor cause or contribute to a violation of any ambient air quality standard. This requirement will be considered to be met if the projected impact of the allowable emissions from the proposed new source or the projected impact of the increase in allowable emissions from the proposed modification at any location within a nonattainment area does not exceed the following levels for the pollutant(s) for which the area has been designated nonattainment:

Pollutant	Annual Average	24-Hour Average	8-Hour Average	3-Hour Average	1-Hour Average
CO-	-	0.5 mg/m ³		2 mg/m ³	
SO ₂	1.0 ug/m ³	5 ug/m ³	-	25 ug/m ³	30 ug/m ³
PM ₁₀	1.0 ug/m ³	5 ug/m ³	-	-	-
NO ₂	1.0 ug/m ³	-	-	-	-

An offsetting emission reduction may be used to satisfy some or all of the requirements of this subsection.

(4) If the proposed new source is a major stationary source or the proposed modification is a major modification for purposes of the PSD program described in WAC 173-400-141, it meets all applicable requirements of that chapter.

~~(5) If the proposed new source or the proposed modification will emit any toxic air pollutants regulated under chapter 173-460 WAC, the source meets all applicable requirements of that program.~~

(6) If, within the meaning of the PSD program described in WAC 173-400-141, the proposed new source is a major stationary source or the proposed modification is a major modification, ecology or the authority has complied with the visibility protection review requirements of 40 CFR 52.27(d) through (f), as in effect on March 3, 1993, and has determined that the source would not cause an adverse impact upon visibility. References in 40 CFR 52.27 to "the Administrator" shall mean the agency (either ecology or the authority) processing the notice of construction application.

State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

173-400-151 Retrofit Requirements for Visibility Protection

(1) Determination of best available retrofit technology (BART). Ecology shall identify and analyze each source which may reasonably be anticipated to cause or contribute to impairment of visibility in any mandatory Class I area in Washington and any adjacent state and to determine

BART for the contaminant of concern and those additional air pollution control technologies that are to be required to reduce impairment from the source.

(2) Initially defined BART. The owner(s) or operator(s) of any source(s) to which significant visibility impairment of a mandatory Class I area is reasonably attributable shall apply BART for each contaminant contributing to visibility impairment that is emitted at more than 250 tons per year. Each source for which BART is required must install and operate BART as expeditiously as possible, but in no case later than five years after the conditions are included in a regulatory order.

(3) Future definitions of BART. The owner(s) or operator(s) of any source(s) to which significant visibility impairment of a mandatory Class I area is reasonably attributable shall apply BART as new technology becomes available for a contaminant if:

(a) The source emits more than 250 tons per year of the contaminant; and,

(b) The controls representing BART have not previously been required in this section.

(4) Appeal. Any source owner or operator required by this section to install, operate, and maintain BART, may apply to the EPA administrator for an exception from that requirement pursuant to 40 CFR 51.303.

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-161 Compliance Schedules

(1) **Issuance.** Whenever a source is found to be in violation of an emission standard or other provision of this chapter, ecology or the authority may issue a regulatory order requiring that the source be brought into compliance within a specified time. The order shall contain a schedule for installation, with intermediate benchmark dates and a final completion date, and shall constitute a compliance schedule. Requirements for public involvement (WAC 173-400-171) must be met.

(2) **Federal action.** A source shall be considered to be in compliance with this chapter if all the provisions of its individual compliance schedule included with a regulatory order are being met. Such compliance does not preclude federal enforcement action by the EPA until and unless the schedule is submitted and adopted as an amendment to the state implementation plan.

(3) **Penalties for delayed compliance.** Sources on a compliance schedule but not meeting emissions standards may be subject to penalties as provided in the Federal Clean Air Act.

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-171 Public Involvement

(1) Applicability.

Ecology or the authority shall provide public notice prior to the approval or denial of any of the following types of applications or other actions:

- (a) Notice of construction application for any new or modified source or emissions unit, if a significant net increase in emissions of any pollutant regulated by state or federal law would result; or
- (b) Any application or other proposed action for which a public hearing is required by PSD rules; or
- (c) Any order to determine RACT; or
- (d) An order to establish a compliance schedule or a variance; or
- (e) The establishment or disestablishment of a nonattainment area, or the changing of the boundaries thereof; or
- (f) An order to demonstrate the creditable height of a stack which exceeds the GEP formula height and sixty-five meters, by means of a fluid model or a field study, for the purposes of establishing an emission limitation; or
- (g) An order to authorize a bubble; or
- (h) Notice of construction application or regulatory order used to establish a creditable emission reduction;
- (i) An order issued under WAC 173-400-090 which establishes limitations on a source's potential to emit; or
- (j) Any application or other proposed action made pursuant to this chapter in which there is a substantial public interest according to the discretion of ecology or the authority.

(2) Public notice. Public notice shall be made only after all information required by ecology or the authority has been submitted and after applicable preliminary determinations, if any, have been made. The cost of providing public notice shall be borne by the applicant or other initiator of the action. Public notice shall include:

- (a) Availability for public inspection in at least one location near the proposed project, of the nonproprietary information submitted by the applicant and of any applicable preliminary determinations, including analyses of the effect(s) on air quality.

(b) Publication in a newspaper of general circulation in the area of the proposed project of notice:

- (i) Giving a brief description of the proposal;
- (ii) Advising of the location of the documents made available for public inspection;
- (iii) Advising of a thirty-day period for submitting written comment to ecology or the authority;
- (iv) Advising that a public hearing may be held if ecology or the authority determines within a thirty-day period that significant public interest exists.

(c) A copy of the notice will be sent to the EPA regional administrator.

Public participation procedures for notice of construction applications that are processed in coordination with an application to issue or modify an operating permit shall be conducted as provided in the state operating permit rule.

(3) Public comment. No final decision on any application or action of any of the types described in subsection (1) of this section, shall be made until the public comment period has ended and any comments received have been considered. Unless a public hearing is held, the public comment period shall be the thirty-day period for written comment published as provided above. If a public hearing is held the public comment period shall extend through the hearing date and thereafter for such period, if any, as the notice of public hearing may specify.

(4) Public hearings. The applicant, any interested governmental entity, any group or any person may request a public hearing within the thirty-day period published as above. Any such request shall indicate the interest of the entity filing it and why a hearing is warranted. Ecology or the authority may, in its discretion, hold a public hearing if it determines significant public interest exists. Any such hearing shall be held upon such notice and at a time(s) and place(s) as ecology or the authority deems reasonable.

(5) Other requirements of law. Whenever procedures permitted or mandated by law will accomplish the objectives of public notice and opportunity for comment, such procedures may be used in lieu of the provisions of this section.

(6) Public information. Copies of notices of construction, orders, and modifications thereof which are issued hereunder shall be available for public inspection on request at ecology or the authority.

State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

173-400-190 Requirements for Nonattainment Areas

The development of specific requirements for nonattainment areas shall include consultation with local government in the area and shall include public involvement per WAC 173-400-171.

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-200 Creditable Stack Height & Dispersion Techniques

(1) Applicability. These provisions shall apply to all sources except:

- (a)** Stacks for which construction had commenced on or before December 31, 1970, except where pollutants are being emitted from such stacks used by sources which were constructed, or reconstructed, or for which major modifications were carried out after December 31, 1970;
- (b)** Coal-fired steam electric generating units subject to the provisions of Section 118 of the Federal Clean Air Act, which commenced operation before July 1, 1957, and for whose stacks construction commenced before February 8, 1974;
- (c)** Flares;
- (d)** Open burning for agricultural or silvicultural purposes as covered under the smoke management plan;
- (e)** Residential wood combustion and open burning for which episodic restrictions apply.

These provisions shall not be construed to limit the actual stack height.

(2) Prohibitions. No source may use dispersion techniques or excess stack height to meet ambient air quality standards or PSD increment limitations.

(a) Excess stack height. Excess stack height is that portion of a stack which exceeds the greater of:

- (i)** Sixty-five meters, measured from the ground level elevation at the base of the stack; or
- (ii)** $H_g = H + 1.5L$

where: H_g = "good engineering practice" (GEP) stack height, measured from the ground level elevation at the base of the stack,

H.= height of nearby structure(s) measured from the ground level elevation at the base of the stack,

L.= lesser dimension, height or projected width, of nearby structure(s), subject to the proviso below.

"Nearby," as used in this subsection for purposes of applying the GEP formula means that distance up to five times the lesser of the height or the width dimension of a structure, but not greater than 0.8 kilometer (1/2 mile).

(b) Dispersion techniques. Increasing final exhaust gas plume rise by manipulating source process parameters, exhaust gas parameters, stack parameters, or combining exhaust gases from several existing stacks into one stack; or other selective handling of exhaust gas streams so as to increase the exhaust gas plume rise. This does not include:

(i) The reheating of a gas stream, following the use of a pollution control system, for the purpose of returning the gas to the temperature at which it was originally discharged from the facility generating the gas stream;

(ii) The merging of gas streams where:

(A) The source was originally designed and constructed with such merged gas streams, as demonstrated by the source owner(s) or operator(s).

(B) Such merging is part of a change in operation at the facility that includes the installation of pollution controls and is accompanied by a net reduction in the allowable emissions of a pollutant. This exclusion shall apply only to the emission limitation for the pollutant affected by such change in operation.

(C) Before July 8, 1985, such merging was part of a change in operation at the facility that included the installation of emissions control equipment or was carried out for sound economic or engineering reasons, and not primarily motivated by an intent to gain emissions credit for greater dispersion.

(3) Exception. EPA, ecology, or an authority may require the use of a field study or fluid model to verify the creditable stack height for the source. This also applies to a source seeking credit after the effective date of this rule for an increase in existing stack height up to that established by the GEP formula. A fluid model or field study shall be performed according to the procedures described in the EPA Guideline for Determination of Good Engineering Practice Height (Technical Support Document of the Stack Height Regulations). The creditable height demonstrated by a fluid model or field study shall ensure that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes,

or eddy effects created by the source itself, nearby structures or nearby terrain features.

(a) "Nearby," as used in this subsection for conducting a field study or fluid model, means not greater than 0.8 km, except that the portion of a terrain feature may be considered to be nearby which falls within a distance of up to ten times the maximum height of the feature, not to exceed two miles if such feature achieves a height 0.8 km from the stack that is at least forty percent of the GEP stack height or twenty-six meters, whichever is greater, as measured from the ground-level elevation at the base of the stack. The height of the structure or terrain feature is measured from the ground-level elevation at the base of the stack.

(b) "Excessive concentration" is defined for the purpose of determining creditable stack height under this subsection and means a maximum ground-level concentration owing to a significant downwash effect which contributes to excursion over an ambient air quality standard. For sources subject to PSD review (WAC 173-400-141 and 40 CFR 52.21) an excessive concentration alternatively means a maximum ground-level concentration owing to a significant downwash effect which contributes to excursion over a PSD increment. The emission rate used in this demonstration shall be the emission rate specified in the state implementation plan, or in the absence of such, the actual emission rate of the source. "Significant downwash effect" means a maximum ground-level concentration due to emissions from a stack due in whole or in part to downwash, wakes, and eddy effects produced by nearby structures or nearby terrain features which individually is at least forty percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects.

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-205 Adjustment for Atmospheric Conditions

Varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant is prohibited, except as directed according to air pollution episode regulations.

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-210 Emission Requirements of Prior Jurisdictions

Any emissions unit that was under the jurisdiction of an authority and now is under the jurisdiction of ecology, shall meet all emission requirements that were applicable prior to transfer of jurisdiction if those standards are more stringent than the standards of this chapter or the specific chapter relating to that source.

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-220 Requirements for Board Members

(1) Public Interest. A majority of the members of any ecology or authority board shall represent the public interest. A majority of the members of such boards, shall not derive any significant portion of their income from persons subject to enforcement orders pursuant to the state and federal clean air acts. An elected public official and the board shall be presumed to represent the public interest. In the event that a member derives a significant portion of his/her income from persons subject to enforcement orders, he/she shall delegate sole responsibility for administration of any part of the program which involves these persons to an assistant.

(2) Disclosure. Each member of any ecology or authority board shall adequately disclose any potential conflict of interest in any matter prior to any action or consideration thereon, and the member shall remove themselves from participation as a board member in any action or voting on such matter.

(3) Define Significant Income. For the purposes of this section, "significant portion of income" shall mean twenty percent of gross personal income for a calendar year. In the case of a retired person, "significant portion of income" shall mean fifty percent of income in the form of pension or retirement benefits from a single source other than Social Security. Income derived from employment with local or state government shall not be considered in the determination of "significant portion of income."

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-230 Regulatory Actions

Ecology may take any of the following regulatory actions to enforce this chapter to meet the provisions of RCW 43.21B.300 which is incorporated by reference.

(1) Enforcement Actions by Ecology--Notice to Violators. At least thirty days prior to the commencement of any formal enforcement action under RCW 70.94.430 and 70.94.431, the department of ecology shall cause written notice to be served upon the alleged violator or violators. The notice shall specify the provision of this chapter or the rule or regulation alleged to be violated, and the facts alleged to constitute a violation thereof, and may include an order that necessary corrective action be taken within a reasonable time. In lieu of an order, ecology may require that the alleged violator or violators appear before it for the purpose of providing ecology information pertaining to the violation or the charges complained of. Every notice of violation shall offer to the alleged violator an opportunity to meet with ecology prior to the commencement of enforcement action.

(2) Civil Penalties.

(a) In addition to or as an alternate to any other penalty provided by law, any person who

violates any of the provisions of chapter 70.94 or 70.120 RCW, or any of the rules in force under such chapters may incur a civil penalty in an amount as set forth in RCW 70.94.431. Each such violation shall be a separate and distinct offense, and in case of a continuing violation, each day's continuance shall be a separate and distinct violation.

Any person who fails to take action as specified by an order issued pursuant to this chapter shall be liable for a civil penalty as set forth by RCW 70.94.431 for each day of continued noncompliance.

(b) Penalties incurred but not paid shall accrue interest, beginning on the ninety-first day following the date that the penalty becomes due and payable, at the highest rate allowed by RCW 19.52.020 on the date that the penalty becomes due and payable. If violations or penalties are appealed, interest shall not begin to accrue until the thirty-first day following final resolution of the appeal.

The maximum penalty amounts established in RCW 70.94.431 may be increased annually to account for inflation as determined by the state office of the economic and revenue forecast council.

(c) Each act of commission or omission which procures, aids, or abets in the violation shall be considered a violation under the provisions of this section and subject to the same penalty. The penalties provided in this section shall be imposed pursuant to RCW 43.21B.300.

(d) All penalties recovered under this section by ecology shall be paid into the state treasury and credited to the air pollution control account established in RCW 70.94.015 or, if recovered by the authority, shall be paid into the treasury of the authority and credited to its funds. If a prior penalty for the same violation has been paid to a local authority, the penalty imposed by ecology under subsection (a) of this section shall be reduced by the amount of the payment.

(e) To secure the penalty incurred under this section, the state or the authority shall have a lien on any vessel used or operated in violation of this chapter which shall be enforced as provided in RCW 60.36.050.

(f) Public or private entities that are recipients or potential recipients of ecology grants, whether for air quality related activities or not, may have such grants rescinded or withheld by ecology for failure to comply with provisions of this chapter.

(g) In addition to other penalties provided by this chapter, persons knowingly under-reporting emissions or other information used to set fees, or persons required to pay emission or permit fees who are more than ninety days late with such payments may be subject to a penalty equal to three times the amount of the original fee owed.

(3) Assurance of discontinuance. Personnel of ecology or an authority may accept an

assurance of discontinuance of any act or practice deemed in violation of this chapter. Any such assurance shall specify a time limit during which discontinuance is to be accomplished. Failure to perform the terms of any such assurance shall constitute prima facie proof of a violation of this chapter or any order issued thereunder which make the alleged act or practice unlawful for the purpose of securing an injunction or other relief from the superior court.

(4) Restraining orders, injunctions. Whenever any person has engaged in, or is about to engage in, any acts or practices which constitute or will constitute a violation of any provision of this chapter, the director, after notice to such person and an opportunity to comply, may petition the superior court of the county wherein the violation is alleged to be occurring or to have occurred for a restraining order or a temporary or permanent injunction or another appropriate order.

(5) Emergency episodes. Ecology may issue such orders as authorized by chapter 173-435 WAC via chapter 70.94 RCW, whenever an air pollution episode forecast is declared.

(6) Compliance orders. Ecology may issue a compliance order in conjunction with a notice of violation. The order shall require the recipient of the notice of violation either to take necessary corrective action or to submit a plan for corrective action and a date when such action will be initiated.

State effective: 3/20/93; Last approved by the EPA effective: 6/2/95

173-400-240 Criminal Penalties

Persons in violation of Title 173 WAC may be subject to the provisions of RCW 70.94.430.

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

173-400-250 Appeals

Decisions and orders of ecology or an authority may be appealed to the pollution control hearings board pursuant to chapter 43.21B RCW and chapter 371-08 WAC.

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State effective: 9/20/93; Last approved by the EPA effective: 6/2/95

173-400-260 Conflict of Interest

All board members and officials acting or voting on decisions affecting air pollution sources, must comply with the Federal Clean Air Act, as it pertains to conflict of interest, and 40 CFR 103(d) which is incorporated by reference.

State effective: 3/22/91; Last approved by the EPA effective: 6/2/95

WAC 173-405 KRAFT PULP MILLS

173-405-012 Statement of Purpose

These rules are enacted under the provisions of the Washington Clean Air Act as amended (RCW 70.94.395) to:

- (1) Assume state jurisdiction over emissions from kraft pulping mills to provide for the systematic control of air pollution in this industry and for the proper development of the state's natural resources; and
- (2) Establish technically feasible and reasonably attainable standards and revise such standards as new information and better technology are developed and become available.

State effective: 3/22/91; EPA effective: 9/10/93

173-405-021 Definitions

The definitions of terms contained in chapter 173-400 WAC are incorporated into this chapter by reference. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter shall have the following meanings:

- (1) "Kraft mill" means any manufacturing facility which uses an alkaline solution containing sodium hydroxide and/or sodium sulfide, and any other chemical pulping facility, except those covered by chapter 173-410 WAC, to produce pulp and/or paper products from wood fibers. For the purposes of this regulation "kraft mill" is equivalent to "source."
- (2) "Noncondensibles" means gases and vapors from the digestion and evaporation processes of a mill that are not condensed with the equipment used in those processes.
- (3) "Recovery furnace stack" means the stack from which the products of combustion from the recovery furnace are emitted to the ambient air.

State effective: 3/22/91; EPA effective: 9/10/93

173-405-040 Emissions Standards

In addition to the general applicability of chapters 173-400 and 173-490 WAC to all emission sources; no kraft pulp mill shall cause or permit air contaminant emissions in excess of the limits listed below. Specific emission standards listed in this chapter will take precedence over the general emission standards of chapter 173-400 WAC.

(1) Recovery furnaces.

(a) The particulate emissions from each recovery furnace stack shall not exceed 0.23 grams of particulate per dry cubic meter at standard conditions (0.10 grains/dscf) corrected to eight percent oxygen averaged over three one hour tests.

~~(b) The TRS emissions from each recovery furnace stack constructed before January 1, 1970, and for recovery furnaces that have direct contact evaporators, shall not exceed 17.5 ppm corrected to eight percent oxygen for a daily average.~~

~~(c) The TRS emissions from each recovery furnace constructed after January 1, 1970, which does not have a contact evaporator, shall not exceed 5.0 ppm corrected to eight percent oxygen for a daily average.~~

(2) Smelt dissolver tank vent. The particulate emissions from smelt dissolver tank vents shall not exceed 0.15 grams per kilogram (0.30 pounds per ton) of solids fired at the associated recovery furnace.

(3) Lime kilns.

(a) The particulate emission from each lime kiln stack shall not exceed 0.30 grams of particulate per dry cubic meter (0.13 grains/dscf) at standard conditions corrected to ten percent oxygen.

~~(b) The TRS emissions from any lime kiln stack shall not exceed eighty ppm expressed as hydrogen sulfide for more than two consecutive hours in any one day.~~

~~(c) The average daily emission of TRS from any lime kiln stack shall not exceed fifty ppm. After January 1, 1985, TRS emissions from each lime kiln stack shall not exceed twenty ppm corrected to ten percent oxygen for a daily average.~~

~~(4) Other TRS emissions units. Noncondensibles from digesters, multiple effect evaporators and condensate stripper system shall at all times be treated to reduce the emissions of TRS equal to the reduction achieved by thermal oxidation in a lime kiln. A backup treatment system or equivalent approved by ecology must be installed to assure continual treatment.~~

(5) Other particulate emissions units. The emission of particulates from emissions units other than kraft recovery furnaces, lime kilns, or smelt dissolving tank vents, shall not exceed the following maximums:

(a) 0.46 grams per dry cubic meter at standard conditions (0.2 grains/dscf) corrected to seven percent oxygen, for units which combust wood and wood residue to produce steam and which commenced construction prior to January 1, 1983.

(b) 0.12 grams per dry cubic meter at standard conditions (0.05 grains/dscf) corrected to

seven percent oxygen, for units which combust fuel other than wood and wood residue to produce steam, and which commenced construction after January 1, 1983.

(c) 0.23 grams per dry cubic meter at standard conditions (0.1 grains/dscf) corrected to seven percent oxygen in the case of combustion units, for units not classified under (a) or (b) of this subsection.

(6) Opacity. No person shall cause or allow the emission of a plume from any kraft recovery furnace, smelt dissolver tank, or lime kiln, which has an average opacity greater than thirty-five percent for more than six consecutive minutes in any sixty minute period, except as described in WAC 173-405-040(7).

No person shall cause or allow the emission of a plume, from any emissions unit other than a kraft recovery furnace, smelt dissolver tank, or lime kiln, which has an average opacity greater than twenty percent for more than six consecutive minutes in any sixty minute period, except that these provisions do not apply when the emissions occur due to soot blowing/grate cleaning and the operator can demonstrate that the emissions will not exceed twenty percent opacity for more than fifteen minutes in any eight consecutive hours. The intent of this provision is to permit soot blowing and grate cleaning necessary to the operation of the boiler facility. This practice, except for testing and trouble shooting, is to be scheduled for the same approximate times each day and ecology shall be advised of the schedule.

There shall be no more than one violation notice issued in any sixty minute period.

These provisions (of WAC 173-405-040(6)) shall not apply when the presence of uncombined water is the only reason for the opacity of the plume to exceed the applicable maximum.

~~(7) Each mill may petition for, and ecology may establish by regulatory order, alternate opacity limits for a specific kraft recovery furnace or lime kiln, providing:~~

~~(a) The mill can demonstrate compliance; with all other applicable emission limits; and~~

~~(b) Best practicable operation and maintenance procedures, as approved by ecology, are continuously employed.~~

~~(8) Any person electing to apply for exceptions per the provisions of WAC 173-405-040(7) shall submit a program acceptable to ecology. The program shall include the following information: The amount and concentration of suspended particulate material emitted during best practicable operating procedures, opacity recorded at such emission level, the type of equipment and procedures which will be used to demonstrate compliance and the time required for installation of the equipment.~~

~~(9) The opacity provisions of this chapter shall apply until an application is received by ecology, petitioning for a revised limit as allowed by WAC 173-405-040(7). After a petition is received, enforcement of the opacity provisions will be stayed until the application is rejected or a new limit~~

~~is established.~~

(10) Operation and maintenance. At all times, including periods of abnormal operation and upset conditions, owners and operators shall, to the extent practicable, maintain and operate any affected facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practice. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to ecology which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(11) SO₂.

(a) The emission of sulfur dioxide from any recovery furnace or lime kiln shall not exceed five hundred ppm for an hourly average, corrected to eight percent oxygen for a recovery furnace or to ten percent oxygen for a lime kiln.

(b) The emission of sulfur dioxide from any emissions unit other than a recovery furnace or lime kiln shall not exceed one thousand ppm for an hourly average, corrected to seven percent oxygen for combustion units.

(12) Source testing. To demonstrate compliance with this chapter, the provisions of WAC 173-400-105 shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-405-045 Creditable Stack Height & Dispersion Techniques

The provisions of WAC 173-400-200 shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-405-061 More Restrictive Emission Standards

Ecology may establish more restrictive emission standards for new mills or for mills expanding existing facilities pursuant to WAC 173-400-110.

State effective: 3/22/91; EPA effective: 9/10/93

173-405-072 Monitoring Requirements

Each mill shall conduct routine monitoring of emissions in accordance with a program that has been approved by ecology. Results of the monitoring shall be reported within fifteen days of the end of each calendar month and shall include data as follows:

(1) Particulate: The results of particulate measurements made on each source during the month.

~~(2) TRS:~~

~~(a) The average TRS concentration expressed in units of the standard for each recovery furnace and lime kiln stack.~~

~~(b) The date, time and concentration of TRS for each TRS emissions violation and the total numbers of hours that exceed the standard.~~

(3) Opacity or other continuous monitor:

(a) The date and time of opacity in excess of the standard.

(b) If equipment for continuous monitoring of opacity is not available, continuous monitoring of operating parameters may be required by a regulatory order as an alternate. If an alternate is approved, the date and time of each occurrence in excess of the regulatory order must be reported.

(4) Production: The average daily production of air-dried unbleached pulp.

(5) Other data: Each kraft mill shall furnish, upon request of ecology, such other pertinent data required to evaluate the mill's emissions or emission control program.

State effective: 3/22/91; EPA effective: 9/10/93

173-405-077 Report of Startup, Shutdown, Breakdown or Upset Conditions

The provisions of WAC 173-400-105(5) shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-405-078 Emission Inventory

The provisions of WAC 173-400-105(1) shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-405-086 New Source Review (NSR)

The provisions of WAC 173-400-110 shall apply to all new sources and emissions units to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-405-087 Prevention of Significant Deterioration (PSD)

The provisions of WAC 173-400-141 shall apply to all new major sources and major modifications to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-405-091 Special Studies

Ecology may require such additional special studies relevant to process emissions and establish completion dates as it determines necessary.

State effective: 3/22/91; EPA effective: 9/10/93

WAC 173-410 SULFITE PULPING MILLS

WAC 173-410-012 Statement of Purpose

These rules are enacted under the provisions of the Washington Clean Air Act as amended (RCW 70.94.395) to:

- (1) Assume state jurisdiction over emissions from sulfite pulping mills to provide for the systematic control of air pollution in this industry and for the proper development of the state's natural resources; and
- (2) Establish technically feasible and reasonably attainable standards and revise such standards as new information and better technology are developed and become available.

State effective: 3/22/91; EPA effective: 9/10/93

WAC 173-410-021 Definitions

The definitions of terms contained in chapter 173-400 WAC are incorporated into this chapter by reference. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter, shall have the following meanings:

- (1) "Acid plant" means the facility in which the cooking liquor is either manufactured or fortified when not associated with a recovery system.
- (2) "Average daily emission" means total weight of an air contaminant emitted in each month, divided by the number of days of production that month.
- (3) "Average daily production" means air dried tons of unbleached pulp produced in a month, divided by the number of days of production in that month.
- (4) "Blow system" includes the storage chest, tank or pit to which the digester pulp is discharged following the cook.
- (5) "Recovery system" means the process by which all or part of the cooking chemicals may be recovered, and cooking liquor regenerated from spent cooking liquor, including evaporation, combustion, dissolving, fortification, storage facilities, and emission control equipment associated with the recovery cycle.
- (6) "Sulfite pulping mill" means any manufacturing facility which uses a cooking liquor consisting of sulfurous acid, a sulfite or bisulfite salt alone or in any combination, with or without additional mechanical refining or delignification to produce pulp, pulp products or cellulose from wood fibers. For the purposes of this regulation "sulfite pulping mill" is equivalent to "source."

State effective: 3/22/91; EPA effective: 9/10/93

WAC 173-410-040 Emissions Standards

In addition to the general applicability of chapters 173-400 and 173-490 WAC to all emission sources; no sulfite pulping mill shall cause or permit air contaminant emissions in excess of the limits listed below. Specific emission standards listed in this chapter will take precedence over the general emission standards of chapter 173-400 WAC.

- (1) Sulfur dioxide.
 - (a) The total average daily emissions from a sulfite pulping mill, or a portion of a sulfite pulping mill which practices incineration of the spent sulfite liquor, shall not exceed ten grams of sulfur dioxide per kilogram (twenty pounds per ton) of air dried, unbleached pulp

produced.

(b) The total average daily emissions from a sulfite pulping mill, or a portion of a sulfite pulping mill that does not incinerate the spent sulfite liquor, shall not exceed two grams of sulfur dioxide per kilogram (four pounds per ton) of air dried, unbleached pulp produced.

(c) The blow system emissions shall not exceed 0.1 grams of sulfur dioxide per minute, on a fifteen minute average, per kilogram (0.2 pounds per ton) of air dried, unbleached pulp discharged from the digester.

(d) Emissions from the recovery system and acid plant shall not exceed 800 ppm of sulfur dioxide for any hourly average.

(e) Emissions from recovery systems constructed after January 24, 1972, shall not exceed 300 ppm of sulfur dioxide for any hourly average.

(f) Emissions from any emissions unit, other than a recovery system, a blow system or an acid plant, shall not exceed 1000 ppm of sulfur dioxide, corrected to seven percent oxygen in the case of combustion unit, for any hourly average.

(2) Particulate.

(a) Emissions of particulate from recovery systems constructed before January 24, 1972, shall not exceed 0.23 grams per dry cubic meter of exhaust at standard conditions (0.10 grains/dscf) corrected to eight percent oxygen.

(b) Emissions of particulate matter from recovery systems constructed after January 24, 1972, shall not exceed 0.14 grams per dry cubic meter of exhaust at standard conditions (0.06 grains/dscf) corrected to eight percent oxygen.

(c) The emission of particulates from emissions units other than acid plants or recovery systems shall not exceed the following maximums:

(i) 0.46 grams per dry cubic meter at standard conditions (0.2 grains/dscf) corrected to seven percent oxygen, for units which combust wood and wood residue to produce steam and which commenced construction prior to January 1, 1983.

(ii) 0.12 grams per dry cubic meter at standard conditions (0.05 grains/dscf) corrected to seven percent oxygen, for units which combust fuel other than wood and wood residue to produce steam, and which commenced construction after January 1, 1983.

(iii) 0.23 grams per dry cubic meter at standard conditions (0.1 grains/dscf) corrected to seven percent oxygen in the case of combustion units, for units not

classified under (c) (i) or (ii) of this subsection.

(3) Opacity. No person shall cause or allow the emission of a plume from a recovery system or acid plant which has an average opacity greater than thirty-five percent, for more than six consecutive minutes in any sixty minute period, ~~except as allowed per RCW 70.94.331 (2)(c).~~

(4) Operation and maintenance. At all times, including periods of abnormal operations and upset conditions, owners and operators shall, to the extent practicable, maintain and operate any affected facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practice. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to ecology which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

~~(5) No recovery system shall emit total reduced sulfur (TRS) gases in excess of 17.5 ppm for a daily average.~~

(6) More restrictive limits. Ecology may set more restrictive emissions limits than the specific limits set in this chapter (after public involvement and hearing), if there is reason to believe that the emission(s) from a source is a cause of public nuisance or a cause of violation of ambient air quality standards. The source shall, within ninety days from notification of the more restrictive limits, achieve operation that will prevent further recurrence of the nuisance or violation.

(7) Source testing. To demonstrate compliance with this chapter, the provisions of WAC 173-400-105 shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

WAC 173-410-045 Creditable Stack Height & Dispersion Techniques

The provisions of WAC 173-400-200 shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

WAC 173-410-062 Monitoring Requirements

Each mill shall conduct routine monitoring of emissions in accordance with a program that has been approved by ecology. Results of monitoring shall be reported within fifteen days of the end of each calendar month and shall include data as follows:

(1) For the recovery system and acid plant:

- (a) The average daily emissions of sulfur dioxide expressed as grams SO₂ per kilogram of
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air dried, unbleached pulp produced and the kilograms of SO₂ per day.

(b) Daily average concentration of sulfur dioxide.

(c) The date, time and concentration for each sulfur dioxide emission violation and the total number of hours that exceed the standard.

(d) The results of particulate tests conducted during the month.

(2) For the blow system:

(a) The grams of sulfur dioxide per minute, on a fifteen minute average, per kilogram of air dried, unbleached pulp discharged from the digester.

(b) The average daily production of air dried, unbleached pulp.

(3) Each mill shall furnish, upon request of ecology, such other pertinent data required to evaluate the mill's emission control program.

(4) All measurements shall be made in accordance with WAC 173-400-105.

(5) Each mill shall be required to establish a program approved by ecology for continuous opacity monitoring to demonstrate compliance with WAC 173-410-040(3) and to report the results to ecology in a format and on a schedule set by regulatory order. If equipment for continuous monitoring of opacity is not available, continuous monitoring of operating parameters may be required as an alternate until continuous opacity monitoring equipment is available.

State effective: 3/22/91; EPA effective: 9/10/93

WAC 173-410-067 Report of Startup, Shutdown, Breakdown or Upset Conditions

The provisions of WAC 173-400-105(5) shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-410-071 Emission Inventory

The provisions of WAC 173-400-105(1) shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-410-086 New Source Review (NSR)

The provisions of WAC 173-400-110 shall apply to all new sources and emissions units to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-410-087 Prevention of Significant Deterioration (PSD)

The provisions of WAC 173-400-141 shall apply to all new major sources and major modifications to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-410-100 Special Studies

Ecology may require such additional special studies relevant to process emissions and establish completion dates as it finds necessary.

State effective: 3/22/91; EPA effective: 9/10/93

WAC 173-415 PRIMARY ALUMINUM PLANTS

173-415-010 Statement of Purpose

These rules are enacted under the provisions of the Washington Clean Air Act as amended (RCW 70.94.395) to:

- (1)** Assume state jurisdiction over emissions from primary aluminum reduction plants to provide for the systematic control of air pollution in this industry and for the proper development of the state's natural resources; and
- (2)** Establish technically feasible and reasonably attainable standards and revise such standards as new information and better technology are developed and become available.

State effective: 3/22/91; EPA effective: 9/10/93

173-415-020 Definitions

The definitions of terms contained in chapter 173-400 WAC are incorporated into this chapter by reference. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter, shall have the following meanings:

- ~~(1) "Fluorides" means compounds of the element fluorine.~~
- ~~(2) "Forage" means grasses, pasture and other vegetation that is normally consumed or is intended to be consumed by livestock.~~
- (3) "Primary aluminum plant" or "primary aluminum reduction plant" or "primary aluminum mill" means a plant which produces aluminum metal from aluminum oxide (alumina). For the purposes of this regulation "primary aluminum plant" is equivalent to "source."
- (4) "Potline primary emission control system" means the equipment and procedures designed to collect and remove contaminants from the exhaust gases which are captured at the pot.

State effective: 3/22/91; EPA effective: 9/10/93

173-415-030 Emissions Standards

In addition to the general applicability of chapters 173-400 and 173-490 WAC to all emission sources; all primary aluminum plants are required to meet the emission standards of this chapter. Specific emissions standards listed in this chapter will take precedence over the general emission standards of chapter 173-400 WAC.

~~(1) Fluoride.~~

~~(a) The emission of gaseous and particulate fluorides for all emissions units within a primary aluminum plant shall be restricted so that the plant's emissions will not cause ambient air and forage standards for fluorides established by chapter 173-481 WAC to be exceeded outside the property controlled by the aluminum plant owner(s) or operator(s).~~

~~(b) Each potline primary emission control system shall be designed so that the control of fluoride emissions will be equivalent to a total fluoride collection efficiency of: (i) Eighty percent for vertical stud soderberg and side worked prebake pots, (ii) eighty five percent for horizontal stud soderberg pots, and (iii) ninety five percent for center worked prebake pots. A primary emission control system with a design removal efficiency of at least ninety five percent of the fluoride collected is required.~~

- (2) Particulate. The total emission of particulate matter to the atmosphere from the reduction process (potlines) shall be reduced to the lowest level consistent with reasonably available control

technology (RACT) for primary aluminum plants. The emission of solid particulate shall not exceed 7.5 grams per kilogram (fifteen pounds per ton) of aluminum produced on a daily basis.

(3) Visible emissions. Visible emissions from any emissions unit in a primary aluminum plant shall not exceed an average twenty percent opacity for more than six consecutive minutes in any sixty minute period. This provision shall not apply:

(a) When the presence of uncombined water is the only reason for the opacity of the plume to exceed twenty percent; or

~~(b) When an alternate opacity limit has been established under RCW 70.94.331 (2)(c).~~

(4) Fugitive emissions. Each primary aluminum plant shall use RACT to prevent fugitive emissions.

(5) Sulfur dioxide.

(a) Total emissions of sulfur dioxide from all emissions units shall not exceed thirty grams of sulfur dioxide per kilogram of aluminum produced on a monthly average (sixty pounds per ton). Those primary aluminum plants which were in excess of the above sulfur dioxide limit on January 1, 1978, will be allowed to emit at the January 1, 1978, level of emissions provided that the owners or operators did demonstrate to ecology by July 1, 1981, by use of modeling and ambient measurements, that the emissions will not cause the ambient standard to be exceeded, and that the limits are placed in a regulatory order(s).

(b) In no case shall any plant cause or permit the emission of a gas containing sulfur dioxide in excess of one thousand parts per million corrected to dry standard conditions for an hourly average.

(6) Operation and maintenance. At all times, including periods of abnormal operation and upset, owners and operators shall, to the extent practicable, maintain an affected facility, and operate and maintain air pollution control equipment associated with such facility in a manner consistent with good air pollution control practice. A plant may elect to establish a program, subject to the approval of ecology, for monitoring each potroom in order to demonstrate good operation and maintenance.

(7) Source testing. To demonstrate compliance with this chapter, the provisions of WAC 173-400-105 shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-415-045 Creditable Stack Height & Dispersion Techniques

The provisions of WAC 173-400-200 shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-415-050 New Source Review (NSR)

The provisions of WAC 173-400-110 shall apply to all new sources and emissions units to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-415-051 Prevention of Significant Deterioration (PSD)

The provisions of WAC 173-400-141 shall apply to all new major sources and major modifications to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-415-060 Monitoring and Reporting

(1) Each primary aluminum plant shall conduct routine monitoring of emissions, ambient air, and forage in accordance with a program that has been approved by ecology. Results of monitoring shall be reported within thirty days of the end of each calendar month and shall include data as follows:

~~(a) Ambient air: Twenty four hour concentrations of gaseous fluoride in the ambient air expressed in micrograms of hydrogen fluoride per cubic meter of ambient air.~~

~~(b) Forage: Concentrations of fluoride in forage expressed in parts per million of fluoride on a dried weight basis.~~

(c) Particulate emissions: Results of all emission sampling conducted during the month for particulates, expressed in grains per standard dry cubic foot, in pounds per day, and in pounds per ton of aluminum produced. The method of calculating pounds per ton shall be as specified in the approved monitoring programs. Particulate data shall be reported as total particulates and percentage of fluoride ion contained therein.

Compliance with WAC 173-415-030(2) shall be determined by measurements of emissions from the potline primary control system plus measurements of emissions from the roof monitor.

~~(d) Fluoride emissions: Results of all sampling conducted during the month for fluoride emissions. All results shall be expressed as hydrogen fluoride in parts per million on a volume basis and pounds per day of hydrogen fluoride.~~

(e) Other emission and ambient air data as specified in the approved monitoring program.

(2) Other data: For ecology to evaluate a plant's emissions or emission control program, each primary aluminum plant shall furnish other data requested by ecology.

(3) Change in raw materials or fuel: Any change or series of changes in raw material or fuel which results in a cumulative increase in emissions of sulfur dioxide of five hundred tons per year or more over that stated in the 1979 inventory required by WAC 173-415-080 shall require the submittal of sufficient information to ecology so that the effect upon ambient concentrations of sulfur dioxide can be determined. Ecology may issue regulatory orders requiring controls to reduce the effect of such increases.

State effective: 3/22/91; EPA effective: 9/10/93

173-415-070 Report of Startup, Shutdown, Breakdown or Upset Conditions

The provisions of WAC 173-400-105(5) shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-415-080 Emission Inventory

The provisions of WAC 173-400-105(1) shall apply to all sources to which this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

WAC 173-422 MOTOR VEHICLE EMISSION INSPECTION

173-422-010 Purpose

This chapter implements the Washington Clean Air Act, chapter 70.94 RCW, as supplemented by the motor vehicle emission inspection provisions codified as chapter 70.120 RCW.

Gasoline motor vehicles are the primary emitters of carbon monoxide and emit significant quantities of hydrocarbons and oxides of nitrogen. Diesel motor vehicles are emitters primarily

of particulates, hydrocarbons, and oxides of nitrogen. Emission controls required by the federal government are designed to reduce motor vehicle related air pollution. However, the effectiveness of these controls is substantially reduced through deterioration, maladjustment and tampering. Motor vehicle emission inspection serves to identify high polluting vehicles and vehicles with tampered or missing emission controls and to reduce their emissions, when such reduction can be accomplished at reasonable cost. These rules establish the emission standards, testing procedures, and associated activities necessary to implement a program of air pollution prevention and control resulting from motor vehicle emission inspections.

State effective: 6/3/93; EPA effective: 9/25/96

173-422-020 Definitions

Unless a different meaning is clearly indicated by context, the following definitions will apply:

(1) "Appropriate repair" means the diagnosis of the cause(s) of an emission test failure and the repair of one or more of these causes. An appropriate repair should reduce at least one emission test reading.

(2) "Certificate of acceptance" means an official form, issued by someone authorized by the department, which certifies that the following conditions have been met:

- (a)** The vehicle failed an emission inspection; and
- (b)** The vehicle failed a reinspection; and
- (c)** The vehicle has been in use for more than five years or fifty thousand miles; and
- (d)** All primary emission control components installed by the vehicle manufacturer, or its appropriate replacement, are installed and operative; and
- (e)** The recipient has provided original receipts listing and providing the cost of each appropriate repair performed by an authorized emission specialist between the initial and last inspection; and
- (f)** The total cost of the appropriate repairs must equal or exceed:

Pre-1981 vehicles	\$100
1981 and newer	\$150

If needed to prevent federal sanctions, the minimum total cost of appropriate repairs required to obtain a certificate of acceptance may be increased to four hundred fifty dollars.

Before increasing the repair cost requirement ecology shall evaluate ways to alleviate the economic hardships resulting from vehicle repair costs incurred by vehicle owners in an effort to comply with this regulation.

- (3) "**Certificate of compliance**" means an official form, issued by someone authorized by the department, which certifies that the recipient's vehicle on inspection complied with applicable emission inspection standards.
- (4) "**Authorized emission specialist**" means an individual who has been issued a certificate of instruction by the department as authorized in RCW 70.120.020 (2)(a) and has maintained the certification by meeting requirements of WAC 173-422-190(2).
- (5) "**Dealer**" means a motor vehicle dealer, as defined in chapter 46.70 RCW as amended, that is licensed pursuant to chapter 46.70 RCW.
- (6) "**Department**" means the department of ecology.
- (7) "**Emission contributing area**" means a land area within whose boundaries are registered motor vehicles that contribute significantly to the violation of motor vehicle related air quality standards in a noncompliance area.
- (8) "**Fleet**" means a group of fifteen or more motor vehicles owned or leased concurrently by one owner assigned a fleet identifier code by the department of licensing.
- (9) "**Gross vehicle weight rating (GVWR)**" means the manufacturer stated gross vehicle weight rating.
- (10) "**Motor vehicle**" means any self-propelled vehicle required to be licensed pursuant to chapter 46.16 RCW.
- (11) "**Noncompliance area**" means a land area within whose boundaries any air quality standard for any air contaminant from the emissions of motor vehicles will probably be exceeded.
- (12) "**PPM**" means parts per million by volume.
- (13) "**Primary emission control components**" means the components of the vehicle installed by the manufacturer for the purpose of reducing emissions or its replacement or modification which is acceptable to the United States Environmental Protection Agency. These components are the fuel inlet restrictor, the catalytic converter or thermal reactor, the air injection system components, the thermostatic air cleaner, the exhaust gas recirculation system components, the evaporative emission system components including the gas cap, the positive crankcase ventilation system components and the electronic control unit components that control the air/fuel mixture and/or ignition timing including all related sensors.

The primary emission control components of a vehicle with a different engine than the engine

originally installed shall be an Environmental Protection Agency certified engine/emission control combination for that vehicle or its newer model.

State effective: 03/31/95; EPA effective: 9/25/96

173-422-030 Vehicle Emission Inspection Requirement

All motor vehicles, not specifically exempted by WAC 173-422-170, which are registered or reregistered within the boundaries of an emission contributing area, as specified in WAC 173-422-050, are subject to the vehicle emission inspection requirements of this chapter. In addition, the department may require an emission inspection of a motor vehicle, except military tactical vehicles, operated for more than sixty days a year on a federal installation located within an emission contributing area, or a vehicle garaged at a location within an emission contributing area, or a vehicle which has previously passed an emission inspection but has been identified using on road testing as likely to no longer comply with the inspection standards. Neither the department of licensing nor its agents may change the registered owner or may issue or renew a motor vehicle license for any vehicle registered in an emission contributing area, as that area is established under RCW 70.120.150, unless the application for issuance or renewal is: (1) Accompanied by a valid certificate of compliance issued pursuant to RCW 70.120.080 or 70.120.170 or a valid certificate of acceptance issued pursuant to RCW 70.120.070; or (2) exempted from this requirement pursuant to RCW 46.16.015(2). The certificates must have a date of validation which is within six months of the date of application for the vehicle license, license renewal or registered owner change. However, (a) an emission inspection used to change the registered owner may also be used to renew the current license; (b) an emission inspection used to obtain the current license may also be used to change the registered owner. Certificates for fleet or owner tested vehicles may have a date of validation which is within twelve months of the assigned license renewal date.

State effective: 11/9/96; EPA effective: 6/18/97

173-422-031 Vehicle Emission Inspection Schedules

(1) Vehicles defined in RCW 46.16.015(2) or WAC 173-422-170 are exempt from emission inspections. Vehicles five through twenty five years old, other than state and local government vehicles shall be inspected every other year as described in the table below. This inspection schedule does not apply to vehicles that have already been issued a certificate of compliance or a certificate of acceptance within twelve months of the assigned license renewal date.

Year Model Year of Vehicles Needing Inspection

2002	1978, 1980, 1982, 1984, 1986, 1988, 1990, 1992, 1994, 1997
2003	1979, 1981, 1983, 1985, 1987, 1989, 1991, 1993, 1995, 1996, 1998
2004	1980, 1982, 1984, 1986, 1988, 1990, 1992, 1994, 1997, 1999
2005	1981, 1983, 1985, 1987, 1989, 1991, 1993, 1995, 1996, 1998, 2000

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2006	1982, 1984, 1986, 1988, 1990, 1992, 1994, 1997, 1999, 2001
2007	1983, 1985, 1987, 1989, 1991, 1993, 1995, 1996, 1998, 2000, 2002
2008	1984, 1986, 1988, 1990, 1992, 1994, 1997, 1999, 2001, 2003
2009	1985, 1987, 1989, 1991, 1993, 1995, 1996, 1998, 2000, 2002, 2004
2010	1986, 1988, 1990, 1992, 1994, 1997, 1999, 2001, 2003, 2005
2011	1987, 1989, 1991, 1993, 1995, 1996, 1998, 2000, 2002, 2004, 2006
2012	1988, 1990, 1992, 1994, 1997, 1999, 2001, 2003, 2005, 2007

(2) State and local government vehicles five through twenty-five years old shall be inspected yearly as described in the table below.

Year Model Year of Vehicles Needing Inspection

2002	1977 through 1997
2003	1978 through 1998
2004	1979 through 1999
2005	1980 through 2000
2006	1981 through 2001
2007	1982 through 2002
2008	1983 through 2003
2009	1984 through 2004
2010	1985 through 2005
2011	1986 through 2006
2012	1987 through 2007

State effective 7/4/02; EPA effective 06/13/05

173-422-035 Registration Requirements

(1) Persons residing in emission contributing areas as defined under WAC 173-422-050 shall register their motor vehicles within that area.

(2) Any person who violates this section shall reregister their motor vehicle within the emission contributing area, obtain a certificate of compliance or acceptance within thirty days, and is subject to a civil penalty not to exceed two hundred fifty dollars for each violation.

(3) Any civil penalty imposed by the department hereunder shall be appealable to the pollution control hearings board as provided for in chapter 43.21B RCW.

State effective: 3/31/95; EPA effective: 9/25/96

173-422-040 Noncompliance areas

The Following Areas Are Designated Noncompliance Areas For The Air Contaminants Specified:
Carbon Monoxide

- (1) The City of Seattle.
- (2) The City of Bellevue.
- (3) The City of Spokane.
- (4) The City of Tacoma.
- (5) The City of Vancouver.
- (6) The City of Everett.

State effective: 6/3/93; EPA effective: 9/25/96

173-422-050 Emission Contributing Areas

Emission contributing areas within which the motor vehicle emission inspection program applies are designated by the following United States Postal Service ZIP codes as of September 1, 1994, set forth below:

I. PUGET SOUND REGION

98001	98036	98083
98002	98037	98092
98003	98038	98093
98004	98039	98101 thru 98199 inclusive except 98110
98005	98040	98201 thru 98208
98006	98041	98258
98007	98042	98270
98008	98043	98271
98009	98046	98275
98011	98047	98290
98012	98052	98291

98015	98053	98327
98020	98054	98332
98021	98055	98335
98023	98056	98338
98025	98057	98344
98026	98058	98352
98027	98059	98354
98028	98062	98371 thru 98374
98031	98063	98387
98032	98064	98388
98033	98071	98390
98034	98072	98401 thru 98499
98035	98073	

II. SPOKANE REGION

99001
99005
99014
99016
99019
99021
99025
99027
99037
99201 thru 99299

III. VANCOUVER REGION

98604 except north of N.E. 279th Street

98606
98607
98629 except east of N.E. 50th Avenue
98642
98660 thru 98668
98761 except Skamania County
98682 - 86

State effective: 11/9/96; EPA effective: 6/18/97

173-422-060 Gasoline Vehicle Emission Standards

Gasoline motor vehicles subject to this chapter shall:

(1) When tested using the exhaust emission testing procedures described in (II) Two Speed Idle Test or (III) Loaded Test of Appendix B Test Procedures of Subpart S-Inspection/Maintenance Program Requirements of Part 51 of Chapter 1, Title 40 of the Code of Federal Regulations adopted November 1, 1992, meet the applicable exhaust emission standards from the following table during both the idle and higher speed mode prior to receiving a certificate of compliance.

(2) When tested using the acceleration simulation mode (ASM) procedure specified in WAC 173-422-070 meet the following standards during that mode and the applicable standard from WAC 173-422-060(1) during the idle mode to receive a certificate of compliance. ASM testing will not start in a region until ecology has considered all comments on the need for ASM testing obtained at a public hearing held in that region.

Compliance with the NO_x standards will not be required of vehicles tested in a region until the following conditions are met:

- (A) Ecology has determined that a reduction of NO_x emissions in that region will assist in attaining or maintaining the national air quality standard for ozone.
- (B) Ecology has considered all comments received at a public hearing held in that region.
- (C) For at least twenty-four months prior, the vehicle emission test reports have included the NO_x reading.

ASM MODE EXHAUST EMISSION STANDARDS

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ASM MODE EXHAUST EMISSION STANDARDS

Model Year Test Weight (lbs.)	CO(%).*	HC(ppm)	NOx(ppm)*
1968-1974 Cars And Trucks (0-8500 Lbs. GVWR)			
1750	7.3	690	none
1875	6.8	650	
2000	6.5	620	
2125	6.1	580	
2250	5.8	550	
2375	5.5	520	
2500	5.2	500	
2625	5.0	470	
2750	4.7	450	
2875	4.5	430	
3000	4.3	410	
3125	4.2	400	
3250	4.0	400	
3375	3.9	400	
3500	3.7	400	
3625	3.6	400	
Cars 3750 & Greater	3.5	400	
Trucks 3750 & Greater	4.0	500	
1975-1980 Cars and Trucks (0-8500 lbs. GVWR)			
1750	4.2	400	none
1875	4.0	380	
2000	3.8	350	
2125	3.6	340	
2250	3.4	320	
2375	3.2	300	
2500	3.0	290	
2625	2.9	270	
2750	2.8	260	
2875	2.7	250	
3000	2.6	240	
3125	2.5	230	
3250	2.4	220	
3375	2.3	220	

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ASM MODE EXHAUST EMISSION STANDARDS

3500	2.2	210
3625	2.1	200
cars 3750 & greater	2.1	200
trucks 3750 & greater	2.5	300

1981 & Newer Cars and Trucks (0-8500 Lbs. GVWR)

1750	1.8	250	1500
1875	1.7	240	1500
2000	1.6	220	1500
2125	1.5	210	1500
2250	1.5	200	1500
2375	1.4	190	1500
2500	1.3	180	1500
2625	1.3	180	1500
2750	1.2	170	1500
2875	1.2	160	1500
3000	1.1	160	1500
3125	1.1	150	1500
3250	1.0	150	1500
3375	1.0	150	1500
3500	1.0	150	1500
3625	1.0	150	1500
Cars 3750 & Greater	1.0	150	1500
Trucks 3750 & Greater	1.5	200	2000

*** The concentration of the gases, carbon monoxide (CO) and hydrocarbons (HC), oxides of nitrogen (NOx) measured as either a percentage (%) or parts per million (ppm) of the exhaust volume*

(3) If a 1971 or newer model year vehicle, the gasoline filler cap must not leak more than 60 cubic centimeters per minute at a pressure of 30 inches of water. Gas cap checking will not start in a region until ecology has considered all comments on the need for gas cap checking obtained at a public hearing held in that region.

(4) If a 1996 or newer model vehicle is equipped with an Environmental Protection Agency certified on-board diagnostic (OBD) system, the information stored in the on-board computer must indicate that all emission-related functional checks have been completed and no malfunctions detected.

EXHAUST EMISSION STANDARDS

Model Year	CO (%)	HC (ppm)*
68-74	6.0	900
75-80	3.0	600
81-99 (0-8500 GVWR)	1.2	220
81-99 (Greater than 8500 GVWR)	3.0	400

*** The concentration of the gases, carbon monoxide (CO) and hydrocarbons (HC), measured as either a percentage (%) or parts per million (ppm) of the exhaust volume*

State effective: 11/9/96; EPA effective: 6/18/97

173-422-065 Diesel Vehicle Exhaust Emission Standards

Diesel motor vehicles subject to this chapter shall meet the following opacity standards using the test procedures specified in WAC 173-422-075.

Model Year	Opacity (%)
1968 - 1973	70
1974 - 1991	60
1992 and later	40

State effective: 3/31/95; EPA effective: 9/25/96

173-422-070 Gasoline Vehicle Exhaust Emission Testing Procedures

All persons certified by, or under contract to, the department to conduct motor vehicle emission inspections shall use the exhaust emission testing procedures described in (II) Two Speed Idle Test; or (III) Loaded Test of Appendix B-Test Procedures of Subpart S-Inspection/Maintenance Program Requirements of Part 51 of chapter 1, Title 40 of the Code of Federal Regulations

adopted November 1, 1992, except that the department may require that the following Acceleration Simulation Mode (ASM) test procedure replace the cruise mode of the loaded test. Equivalent procedures may be approved by the department.

Variations to the procedures specified may be established by the department for all or certain vehicles. Vehicles, not repaired as required by an emission recall for which owner notification was attempted after January 1, 1995, shall not be inspected until compliance with the recall is established.

Acceleration Simulation Mode (ASM)

- 1. Dynamometer Load:** Set dynamometer horsepower load equal to [Vehicle Weight (lbs) +300]/300. An Environmental Protection Agency specified loading may also be used.
- 2. Vehicle Gear Selection:** Vehicles with automatic transmissions use Drive (not Overdrive), vehicles with manual transmissions use second gear unless the engine speed exceeds 2500 revolutions per minute (measured by the vehicle's tachometer or by an evaluation of the vehicle's sound) then use third gear.
- 3. Vehicle Speed:** Set vehicle speed at 25 miles per hour (mph) $1.5 \pm$ mph.
- 4. Pass or Fail Determinations:** Once the vehicle has been operating at 25 mph for 15 seconds, begin measuring exhaust HC, CO, CO₂, and NO_x each second. The reading for pass or fail determinations is the running average of five measurements. When a final pass or fail determination is made, this mode will be stopped and the final readings recorded.
- 5. Fast Pass (HC, CO):** When NO_x is not measured, the vehicle will pass after 15 or more seconds of measurements if: Both HC and CO readings are passing, and three successive one second measurements are equal to or less than the HC and CO standards and are within 20ppm HC and 0.20% CO of each other.
- 6. Fast Pass (HC, CO, NO_x):** When NO_x is measured, the vehicle will pass after 45 or more seconds of measurements if the HC, CO and NO_x readings are equal to or less than the standards.
- 7. Fast Fail:** The vehicle will fail after 15 or more seconds of measurements when: HC reading exceeds 1800 ppm, or the CO reading exceeds 9.0 percent.
- 8. Full Term Pass/Fail:** The vehicle will pass or fail after 90 seconds of measurements unless emission readings are declining at a rate that indicates that failing vehicle will pass within the next 30 seconds. Then up to an additional 30 seconds of measurements will be taken before the vehicle fails.

Notes: Reviser's Note: The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency.

State effective: 11/9/96; EPA effective: 6/18/97

173-422-075 Diesel Vehicle Inspection Procedure

Diesel vehicles shall be tested using the following procedure:

- (1) With the transmission in neutral, move the accelerator pedal from normal idle as rapidly as possible to the full power position, and hold in this position until the speed governor limits the engine speed or the engine might exceed the maximum speed allowed by the vehicle manufacturer.
- (2) Fully release the accelerator pedal so the engine decelerates to normal idle.
- (3) Measure the smoke opacity with an opacity meter which meets the requirements specified in WAC 173-422-095 continuously during the test.
- (4) Record the peak opacity reading.
- (5) Repeat the previous steps up to ten times if necessary to obtain a peak opacity reading and two peak readings immediately following it that are equal to or less than the standard established in WAC 173-422-065.

State effective: 3/11/94; EPA effective: 9/25/96

173-422-090 Exhaust Gas Analyzer Specifications

Only exhaust gas analyzers meeting the specifications contained in (I) Steady-State Exhaust Analysis System of Appendix D-Steady-State Short Test Equipment of Subpart S-Inspection/Maintenance Program Requirements of Part 51 of chapter 1, Title 40 of the Code of Federal Regulations adopted November 1, 1992, at the time of certification testing may be used for certification testing, unless equivalent specifications have been approved by the department.

State effective: 3/31/95; EPA effective: 9/25/96

WAC 173-422-095 Exhaust Opacity Testing Equipment

The exhaust opacity measurement shall be conducted using an opacity meter approved by the department. The opacity meter shall:

- (1) Automatically calibrates itself before each test.

(2) Provide for continuous measurement of exhaust opacity unaffected by rain or wind.

State effective: 3/11/94; EPA effective: 9/25/96

173-422-100 Testing Equipment Maintenance and Calibration

(1) Unless alternative procedures have been approved or required by the department all equipment used in the inspection shall be calibrated and maintained according to the manufacturer's specifications and recommendations. Complete logs as approved by the department shall be kept for maintenance, repair, and calibration.

(2) The procedures for equipment maintenance and calibration procedures described in (I) Steady-State Test Equipment of Appendix A-Calibrations, Adjustments and Quality Control of Subpart S-Inspection/Maintenance Program Requirements of Part 51 of chapter 1, Title 40 of the Code of Federal Regulations adopted November 1, 1992, shall be followed by all testing facilities unless equivalent procedures have been approved by the department.

State effective: 3/31/95; EPA effective: 9/25/96

173-422-120 Quality Assurance

The department, or its designee, may monitor the operation of each authorized emission inspection/certification facility with unidentified or unannounced and unscheduled inspections to check the calibration and maintenance of the exhaust analyzers, test procedures, and records.

The department (or its designee) may immediately require the suspension of vehicle inspections/certifications in all or part by the inspection/certification facility if violations of this chapter are found during an audit of the inspection facility.

State effective: 3/31/94; EPA effective: 9/25/96

173-422-130 Inspection Fees

At an inspection facility operated under contract to the state, the fee for the first emission inspection on each vehicle applicable to a vehicle license year shall be twelve or less dollars. If the vehicle fails, one reinspection will be provided free of charge at any inspection station operated under contract to the state, provided that the reinspection is applicable to the same vehicle license year. Any additional reinspection of a failed vehicle applicable to the same vehicle license year will require the payment of twelve or less dollars.

State effective: 3/11/94; EPA effective: 9/25/96

173-422-145 Fraudulent Certificates of Compliance/Acceptance

- (1) (a) Obtaining or attempting to obtain a certificate of compliance by (i) providing false information or (ii) any fraudulent means; or

(b) Obtaining or attempting to obtain a certificate of acceptance (i) through the use of receipts or other documentation containing false information, or (ii) any fraudulent means shall be construed as a violation of these rules implementing chapter 70.94 RCW as supplemented by chapter 70.120 RCW.
- (2) Any person who commits such violation or who aids or abets another in committing the same shall be subject to a civil penalty not to exceed two hundred fifty dollars for each violation.
- (3) For the purposes of this section the term "expended" refers to the net actual cost to the vehicle owner in the purchase of repairs or parts derived after the amount of any rebate, discount or cash-return has been subtracted.
- (4) Any civil penalty imposed by the department hereunder shall be appealable to the pollution control hearing board as provided for in chapter 43.21B RCW.

State effective: 4/6/90; EPA effective: 9/25/96

173-422-160 Fleet and Diesel Owner Vehicle Testing Requirements

The department may authorize emission inspections by fleet operators including government agencies and the owners of diesel motor vehicles with a gross vehicle weight rating in excess of 8500 pounds or by an automotive service or testing facility engaged by the vehicle owner for such activity. Authorizations to conduct emission tests and issue certificates of compliance under this section are limited to authorized fleet vehicles or diesel vehicles with a gross vehicle weight rating in excess of 8500 pounds.

- (1) All persons engaged in testing of gasoline fleet or diesel vehicles must comply with all applicable provisions of this chapter except as approved by the department.
- (2) All persons conducting tests for the purpose of issuing certificates for fleet or diesel vehicles shall be ecology authorized emission specialists.
- (3) Legibly completed forms will constitute certificates of compliance for licensing purposes. Any person conducting testing under this section shall forward to the department within ten working days after the end of each month, a copy of each certificate of compliance issued during

that month. Copies of each certificate of compliance shall be retained by the person issuing the certificate for at least two years from date of issuance. Alternative arrangements for providing and or storing this information using automated data storage devices may be approved or required by the department.

Forms must be purchased from the department in advance of issuance through payment of twelve or less dollars to the department for each certificate requested. Refunds or credit may be given for unused certificates returned to the department.

Payment for fleet forms is waived for state and local government fleets.

Test forms provided under this section are official documents. Persons receiving the forms from the department are accountable for each form provided.

Voided forms must be handled the same as certificates of compliance. One copy shall be sent to the department within ten days after the end of the month in which the form was voided and one copy shall be retained by the person accountable for the forms for at least two years after date of voiding. Refunds will not be made for voided forms.

(4) All persons authorized to conduct fleet or government vehicle inspections under this section shall be subject to performance audits and compliance inspections by the department, during normal business hours.

(5) Fleet vehicles may be inspected any time between their scheduled license renewals.

(6) Certificates of acceptance may not be issued under this section.

State effective: 03/31/95; EPA effective: 9/25/96

WAC 173-422-170 Exemptions

The following motor vehicles are exempt from the inspection requirement:

- (1) Vehicles proportionally registered pursuant to chapter 46.85 RCW.
- (2) New motor vehicles whose equitable or legal title has never been transferred to a person who in good faith purchases the vehicle for purposes other than resale; this does not exempt motor vehicles that are or have been leased.
- (3) Motor vehicles that use propulsion units powered exclusively by electricity.
- (4) Motor-driven cycles as defined in chapter 46.04 RCW as amended.
- (5) Farm vehicles as defined in chapter 46.04 RCW as amended.

- (6) Vehicles not required to be licensed.
- (7) Mopeds as defined in chapter 46.04 RCW as amended.
- (8) Vehicles garaged and operated out of the emission contributing area.
- (9) Vehicles registered with the state but not for highway use.
- (10) Used vehicles at the time of sale by a Washington licensed motor vehicle dealer.
- (11) Motor vehicles fueled by propane, compressed natural gas, or liquid petroleum gas and so registered by the department of licensing.
- (12) Motor vehicles whose manufacturer or engine manufacturer provides information that the vehicle cannot meet emission standards because of its design. In lieu of exempting these vehicles, alternative standards and or inspection procedures may be established.
- (13) Motor vehicles whose registered ownership is being transferred between parents, siblings, grandparents, grandchildren, spouse or present co-owners and all transfers to the legal owner or a public agency.
- (14) Vehicles less than five years old.
- (15) Vehicles more than twenty-five years old.

State effective 12/2/00; EPA effective 6/13/2005

173-422-175 Fraudulent Exemptions

- (1) Obtaining or attempting to obtain an exemption from emission inspection requirements by false statements, or failure to comply with the exemption procedures established to implement WAC 173-422-170, shall be construed as a violation of these rules implementing chapter 70.94 RCW as supplemented by chapter 70.120 RCW.
- (2) Any person who commits such violation or who aids or abets another in committing the same shall be subject to a civil penalty not to exceed two hundred fifty dollars for each violation.
- (3) Any civil penalty imposed by the department hereunder shall be appealable to the pollution control board as provided for in chapter 43.21B RCW.

State effective: 1/2/84; EPA effective: 9/25/96

173-422-190 Emission Specialist Authorization

(1) To become an authorized emission specialist an individual shall:

- (a)** Pass a course of study, approved by the department; and
- (b)** Agree in writing to meet the requirements of subsection (2) of this section and all requirements of law or regulation regarding the serving of motor vehicle emission control systems or the motor vehicle emission inspection program.

(2) To maintain certification, an authorized emission specialist shall:

- (a)** Successfully complete a department-approved course on emission repair within ninety days of being required to do so by the department unless an extension has been granted in writing by the department; and
- (b)** Sign, including the specialist identification number, all receipts and other forms required by the department for emission repairs or adjustments performed. These receipts must be prenumbered, preprinted with the business's name and address and clearly itemize all appropriate repairs performed by the specialist; and
- (c)** Record on all receipts:
 - (i)** The vehicle's emission readings after appropriate repairs; and
 - (ii)** A vehicle description including the license number and vehicle identification number (VIN); and
 - (iii)** Any missing or inoperative primary emission control components; and
 - (iv)** Any further recommended appropriate repairs; and
- (d)** Not tamper with emission control systems, including adjusting an engine outside of the manufacturer's specifications (chapter 173-421 WAC); and
- (e)** Not obtain or attempt to obtain a certificate of compliance, a certificate of acceptance (repair waiver) or an exemption from the inspection requirements by providing false information or by any fraudulent means (chapter 173-422 WAC); and
- (f)** Not aid or abet any individual in committing a violation of chapter 173-421 or 173-422 WAC.

(3) The certification of an authorized emission specialist may be revoked for a first violation of chapter 173-421 WAC or WAC 173-422-145, for a period of no more than one year, and may be permanently revoked for a second violation of chapter 173-421 or 173-422 WAC.

The certification of an authorized emission specialist may be temporarily revoked for violation of subsection (2) of this section and may be permanently revoked for continued willful violation of subsection (2) of this section.

An authorized emission specialist whose certification is revoked permanently or temporarily may appeal to the pollution control hearings board as provided for in RCW 43.21B.310.

(4) An authorized emission specialist whose certification has been temporarily revoked may reapply for certification twelve months after the date of revocation by applying to the department and meeting all requirements of subsection (1) of this section. An application for certification by a permanently revoked authorized emission specialist will be denied.

State effective: 11/9/96; EPA effective: 6/18/97

173-422-195 Listing of Authorized Emission Specialists

(1) A list of authorized emission specialists will be available to the public. Specialists will be listed under one employer's business name when the business is approved for listing. The list will be updated by the department at least once every six months.

(2) The employer's business name and address will be listed by the department, when the employer agrees in writing to:

(a) Require the use of a properly maintained and correctly calibrated exhaust analyzer as a final check for emission repairs or adjustments;

(b) Have all emission repairs or adjustments performed by an authorized emission specialist;

(c) Require the authorized emission specialist to sign the customer's receipt for emission repairs or adjustments, and to record the vehicle's emission readings on the receipt after the work is completed;

(d) Require that all employees not aid or abet any person to tamper with emission control systems, including adjusting a vehicle outside of the manufacturer's specifications (chapter 173-421 WAC); and

(e) Require that all employees not aid or abet any person to obtain a fraudulent certificate of compliance, certificate of acceptance or an exemption from the inspection requirement

(repair waiver) (chapter 173-422 WAC).

(f) Notify the department when an authorized emission specialist begins or ends employment.

(3) An employer may be removed from the authorized emission specialist list for a first violation of chapter 173-421 or 173-422 WAC for a period of no more than one year and may be permanently removed after a second violation of chapter 173-421 or 173-422 WAC.

An employer may be temporarily removed from the authorized emission specialist list when failing to comply with the requirements of subsection (2) of this section and may be permanently revoked for continued and willful violation of subsection (2) of this section.

(4) An employer who has been temporarily removed from the authorized emission specialist list may reapply for listing twelve months after the date of removal from the listing by applying to the department and meeting all requirements of subsection (2) of this section. An application for listing from an employer permanently removed from the authorized emission specialist list will be denied.

(5) An employer who is removed from an authorized emission specialist list or denied listing in an authorized emission specialist list may appeal to the pollution control hearings board as provided for in RCW 43.21B.310.

(6) (a) An employer approved for listing may display the "state authorized emission specialist" sign available from the department. Any employer advertising or providing of information to the public based on the department's certification of an authorized emission specialist must be discontinued immediately when the employer no longer meets the requirements.

(b) An employer violating (a) of this subsection shall be subject to a civil penalty not to exceed two hundred fifty dollars for each violation.

(c) A civil penalty imposed by the department may be appealed to the pollution control hearings board as provided for in RCW 43.21B.310.

State effective: 3/31/95; EPA effective: 9/25/96

WAC 173-425 OPEN BURNING

173-425-010 Purpose

This chapter promulgated under chapter 70.94 RCW, the Washington Clean Air Act, authorizes the department of ecology (ecology) to implement the provisions of that act. This rule establishes

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controls for open burning in the state in order to:

- (1) Minimize the impact of emissions from open burning;
- (2) Establish rules and procedures by which open burning may be conducted;
- (3) Encourage the development and specify the use of alternate methods of disposal of combustible waste materials.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-020 Applicability.

This chapter applies to open burning in all of the state, except to:

- (1) Burning of field and turf grasses grown for seed (governed by chapter 173-430 WAC).
- (2) Open burning within the boundaries of any activated air pollution control authority, where that authority is enforcing its own controls for open burning. Those controls shall not be less stringent than the requirements in this chapter.
- (3) Open burning for activities subject to the permit issuing authority of the department of natural resources, as established in RCW 70.94.660.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-030 Definitions

The definitions of terms contained in chapter 173-400 WAC are incorporated by reference. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter shall have the following meanings:

- (1) **“Agricultural open burning”** means open burning conducted as part of any agricultural operation; including field fires over one-half acre but not including non-commercial yard and gardening activities connected with a residence.
- (2) **“Commercial open burning”** means open burning conducted as part of any “nonagricultural” commercial or business operation, including land clearing when the land is cleared to change the use of the cleared land.
- (3) **“Episode”** means a period when a forecast, alert warning, or emergency air pollution stage is declared, as defined in chapter 173-435-WAC.

(4) **“Forced air pit destructor”** means a unit consisting of a combustion pit and air blower designed to establish a curtain of high velocity air above the fire, so that the products of combustion are controlled by the air curtain before being emitted to the atmosphere.

(5) **"Impaired air quality"** means a condition declared by ecology or an authority whenever:

(a) Meteorological conditions are conducive to an accumulation of air contamination concurrent with:

(i) Total suspended particulate at an ambient level of one hundred twenty-five micrograms per cubic meter measured on a twenty-four-hour average; or

(ii) Particulate that is ten micron and smaller in diameter (PM10) at an ambient level of ninety micrograms per cubic meter measured on a twenty-four-hour average; or

(iii) Carbon monoxide at an ambient level of eight parts of contaminant per million parts of air by volume (ppm) measured on an eight-hour average; or

(b) Air quality reaches other limits established by ecology or an authority.

(5) **"Land clearing”** means removing structures, trees, shrubbery, or other natural vegetation from a plot of land.

(6) **No burn area** means an area designated by ecology as an area exceeding or threatening to exceed a state ambient air quality standard.

(7) **Open burning** means the combustion of material in an open fire or in any outdoor device which is not approved as an incinerator. Open burning means the same as open fire or outdoor burning.

(8) **Small fire** means a fire not more than four feet in diameter or more than three feet high.

(9) **Silvicultural operation** means the growing of trees for commercial or recreational use, including preparing the land, planting, growing, and harvesting of trees.

(10) **Treated wood** means wood of any species that has been chemically impregnated, coated, painted, or similarly modified.

(11) **Wood waste residue** means residue of a natural character such as trees, stumps, shrubbery, or other natural vegetation arising from land clearing projects.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-036 Curtailment During Episodes or Impaired Air Quality

(1) No open fire shall be ignited:

(a) Whenever ecology has declared an air pollution episode for the geographical area pursuant to chapter 173-435-WAC; or

(b) Whenever ecology or an authority has declared impaired air quality for the geographical area.

(2) A person responsible for an open fire at the time an episode or impaired air quality is declared shall extinguish that fire. Open fires conducted under the auspices of the department of natural resources for the purpose of burning forest slash pursuant to RCW 70.94-660 through 70.94.700 are to be extinguished by withholding new fuel and allowing the fire to burn down.

(3) Smoke visible from a small fire after a time period of three hours has elapsed from the time of declaration of the episode or impaired air quality shall constitute prima facie evidence of unlawful open burning.

(4) Smoke visible from a fire other than a small fire after a time period of ten hours has elapsed from the time of declaration of the episode or impaired air quality shall constitute prima facie evidence of unlawful open burning.

(5) Ecology, air authorities, health departments, fire departments, or local police forces having jurisdiction in the area may enforce compliance with the above open burning curtailment rules.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-045 Prohibited Materials

Except as provided in WAC 173-425-055, the following materials shall not be burned in any open fire:

(1) Garbage;

(2) Dead animals;

(3) Asphaltic products;

(4) Waste petroleum products;

(5) Paints;

(6) Rubber products;

- (7) Plastics;
- (8) Treated Wood;
- (9) Any substance, other than natural vegetation, which normally emits dense smoke or obnoxious odors.

State effective: 1/3/89; EPA effective: 1/15/93

173-425-055 Exceptions

Exceptions to this chapter shall be made only as follows:

- (1) When ordered by a duly authorized health officer and when authorized by ecology, the carcasses of diseased animals and other infested material may be burned, as required, to keep the infestation from spreading.
- (2) When ordered by a fire protection agency and when authorized by ecology, fires to dispose of materials presenting a danger to life, property, or public welfare may be burned, if no approved practical alternate method of disposal is available.
- (3) When approved by ecology or an authority, fires authorized by a fire protection agency as necessary for training may be burned.
- (4) When approved by ecology or an authority, fires set as part of a defined research project may be burned.
- (5) The following fires may be burned:
 - (a) Fires set for recreational, religious ceremony, food preparation, or social purposes;
 - (b) Small fires set for hand-warming purposes.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-065 Residential Open Burning

- (1) The premises of a residence include the real property immediately adjacent to the residence which is owned by the same person who owns the residence, and which is not devoted to agricultural use, other than yard and gardening activities connected with the residence.

(2) Small fires on the premises of a residence may be allowed to dispose of wood, paper, and natural vegetation, if;

(a) The wood and paper cannot be recycled and no feasible method of disposal is available;

(b) The burning will not violate any regulations of a local fire protection agency authorized to issue burning permits, or any local, county, or city ordinance or resolution; and

(c) Reasonable precautions are taken to prevent particulate emissions when paper is being burned.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-075 Commercial Open Burning

(1) No commercial open burning shall be conducted without authorization from ecology or the authority. Open burning shall be authorized only if:

(a) The applicant shows that no approved practical alternate method of disposal is reasonably available; and

(b) The applicant shows that burning, as requested, is reasonably necessary to successfully carry out the enterprise the applicant is engaged in; and

(c) The burning will not violate any regulations of a local fire protection agency authorized to issue burning permits or any local, county, or city ordinance or resolution; and

(d) For commercial land clearing projects, refer to WAC 173-425-115.

(2) Considering population concentration and local conditions affecting air quality, ecology or the authority shall condition permits issued under this chapter. Permits shall be conditioned to minimize air pollution but are not limited to restricting the permissible hours of burning, restricting the size of fires, imposing requirements for good combustion practice, restricting burning to specified wind conditions or prohibiting all burning within areas having a general population density of one thousand or more persons per square mile.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-085 Agricultural Open Burning

(1) Except as provided in subsection (2) of this section, agricultural open burning shall not be conducted without a permit from ecology or the authority. Permits shall be issued only if:

- (a) The applicant shows that burning, as requested, is reasonably necessary to successfully carry out the enterprise the applicant is engaged in;
- (b) The burning will not violate any regulations of a local fire protection agency authorized to issue burning permits or any local, county, or city ordinance or resolution; and,
- (c) The burning is necessary to control disease or insect infestation, and other measures are not available; or
- (d) The burning is necessary to develop physiological conditions conducive to increased crop yield, and other measures are not available.

In making a determination under (c) or (d) of this subsection, ecology will consult the county extension agent.

(2) Agricultural open burning may be conducted without a permit if:

- (a) None of subsection (1) of this section would be violated by the burning;
- (b) The burning will not violate any regulations of a local fire protection agency authorized to issue burning permits or any local, county, or city ordinance or resolution; and
- (c) The fire covers one acre or less and the burning is done to destroy harmful weeds or crop residue along fence rows, ditches, or in cultivated fields.

(3) Considering population concentration and local conditions affecting air quality, ecology or the authority shall condition permits issued under this chapter. Permits shall be conditioned to minimize air pollution. Conditions may include but are not limited to restricting the permissible hours of burning, restricting the size of fires, imposing requirements for good combustion practice, restricting burning to specified wind conditions or prohibiting all burning within areas having a general population density of one thousand or more persons square mile.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-095 No Burn Area Designation

(1) Ecology shall designate as no burn areas those geographic areas where ambient air quality standards for particulate matter, as set forth in WAC 173-470-100, are being exceeded or are threatened to be exceeded. These designations shall be based on monitoring data gathered with

monitoring equipment meeting EPA siting criteria.

(2) Ecology shall not designate “no burn” areas within the boundaries of any activated air pollution control authority, unless data exist to support that designation and the authority, after being notified, refused to make such a designation.

(3) The designation of any area as a “no burn” area by ecology or an authority shall be made by rule-making procedure and only after public hearing.

(4) Open burning shall not be conducted in any designated “no burn” area.

(5) A list of any “no burn” areas will be kept on file at ecology or the authority that has jurisdiction over the area(s).

State effective: 10/18/90; EPA effective: 1/15/93

173-425-100 Delegation of Agricultural Open Burning Program

(1) When ecology finds that any county, which is outside the jurisdictional boundaries of an activated air pollution control authority, is capable of administering the permit program of WAC 173-425-085 and desires to do so, ecology may delegate the administration and authority of the program to the county.

(2) This delegation may be withdrawn if ecology finds that the county is not effectively administering and enforcing the permit program. Before withdrawing delegation, ecology shall give the county a chance to correct permit program deficiencies.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-115 Land Clearing Projects

(1) To further the policies of this chapter and policies expressed in RCW 70.94.745, ecology has determined that alternate technology and methods exist for disposing of wood waste residue resulting from highway right of way land clearing projects or commercial land clearing projects which generate five hundred or more tons of wood waste residue (two thousand or more cubic yards). Further, these methods and technology are considered less harmful to the environment than open burning. These alternates are to be considered reasonably economical when the cost of disposal is nine hundred dollars or less per acre.

(2) These alternate methods and technology are:

(a) Chipping, with chips disposed of commercially or by on-site dispersal, haul to landfill, or other approved methods.

(b) Hauling for disposal elsewhere, such as landfill, commercial use, or other approved methods.

(c) On-site disposal in landfill.

(d) On or off-site disposal by a waste combustion method capable of complying with the emission standards set forth in WAC 173-425-115(3).

(e) Combustion, using a forced air pit destructor capable of complying with the emission standards set forth in WAC 173-425-115(3)

(3) As a result of the determination made in WAC 173-425-115(1) for disposing of wood waste residue that results from highway right of way land clearing projects which generate five hundred or more tons of wood waste residue (two thousand or more cubic yards) or from commercial land clearing projects which generate five hundred or more tons of wood waste residue (two thousand or more cubic yards):

(a) For on-site disposal no person shall cause or permit the emission, for more than 3 minutes in any one hour, of an air contaminant from any disposal method covered by WAC 173-425-115(2)(d) and (e) which, at the emission point or within a reasonable distance from the emission point, exceeds twenty percent opacity, except as follows:

(i) The emission may exceed twenty percent opacity for the first fifteen minutes after a startup, for not more than two startups every twenty-four hours.

(ii) When the person responsible for the source can show that the emission over twenty-percent opacity will not exceed fifteen minutes in any eight consecutive hours after startup.

(b) No person shall cause or permit the emission of particulate matter from any source, which then becomes deposited beyond the property directly controlled by the owner or operator of the source in sufficient quantity to interfere unreasonably with using and enjoying the property where the material was deposited. (WAC 173-400-040(2))

(c) No person shall cause or permit the emission of any air contaminant or water vapor from any source, including any air contaminant whose emission is not otherwise prohibited by this regulation, if the air contaminant or water vapor harms the health, safety, or welfare of any person or damages property or business. (WAC 173-400-040(5)).

(4) The alternates listed in WAC 173 -425-115(2) are to be considered reasonably economical for the projects described in WAC 173-425-115(3) when the alternates can be provided without undue delay in the project without costing more than nine hundred dollars per acre.

If the requirement to use an alternate will cause a delay of sixty days or more in completing a

project, then the alternate will not be required. Any delay shorter than sixty days will be evaluated on a case-by-case basis.

If the cost of disposing of the wood waste residue is greater than nine hundred dollars per acre, then the alternate will not be required. The cost of clearing and grubbing will not be considered as part of the cost of disposal, unless certain additional costs are required to use the alternate, such as the cost of building a road which would not otherwise be required.

(5) Use of an alternate must comply with all other applicable statutes, regulations, ordinances, and/or resolutions of state or local government.

(6) The requirements for owner(s) or operator(s) of the source to comply with opacity standards per WAC 173-425-115(3)(a) may be waived. Open burning may then be authorized by ecology or the authority, as appropriate, if the owner or operator of the source shows that:

(a) A delay will result from using the alternates, causing an economic or other hardship;

(b) Other legal requirements may be violated;

(c) A bid cannot be obtained for disposal using an alternate described in WAC 173-425-115, at a cost of nine hundred dollars per acre or less; or

(d) The wood waste residue to be disposed of from the land clearing project is less than five hundred tons (two thousand cubic yards)

(7) Ecology or the authority may charge a fee to cover administrative costs of processing the waiver request.

(8) When an alternate is to be used at any site for six or more months, the requirements of WAC 173-400-110 (notice of construction) shall be met.

(9) In this chapter, land clearing projects located close to one another and burned near the same time, which appear to be a single project, shall be presumed to be one project.

(10) In this chapter, normal clearing and grubbing do not include any activity or action related to using alternate methods and technology listed WAC 173-425-115(2).

(11) In this chapter, one cubic yard of wood waste residue equals five hundred pounds.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-120 Department of Natural Resources Smoke Management Plan

The department of natural resources has the responsibility for issuing and regulating burning

permits for open fire in areas protected by the department of natural resources, when such fires are for:

- (1) Abating a forest fire hazard;
- (2) Preventing a fire hazard in a forested area;
- (3) Instructing public officials in methods of forest fire fighting;
- (4) Any silvicultural operation to improve the forest lands of the state.

Fires set for these purposes must be conducted according to the provisions of the smoke management plan administered by the department of natural resources in agreement with ecology and other involved agencies.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-130 Notice of Violation

Ecology or an authority may issue a notice of violation to the person responsible for the fire when:

- (1) Conditions of a permit issued under this chapter are violated;
- (2) Any open fire is ignited or, if ignited, is not extinguished, when a condition of impaired air quality or any air pollution episode stage has been declared;
- (3) An open fire is ignited where, under this chapter, such fires are prohibited or where a permit is required and no such permit has been obtained;
- (4) Prohibited materials are burned in an open fire.

Procedures for notices of violation shall follow RCW 70.94.332.

State effective: 10/18/90; EPA effective: 1/15/93

173-425-140 Remedies

Any violation of this chapter may be subject to any penalty or other ecology action stated in chapter 70.94 RCW.

State effective: 10/18/90; EPA effective: 1/15/93

WAC 173-430 BURNING OF FIELD AND FORAGE AND TURF GRASSES GROWN FOR SEED

173-430-010 Purpose

- (1) This chapter, promulgated under chapter 70.94 RCW, as amended, is to assume state jurisdiction over and to control emissions from the burning of field and forage, and turf grasses grown for seed and for the proper development of the state's natural resources.
- (2) Authority to enforce all provision of this regulation, including establishing permit conditions and issuing permits, is delegated to and shall be carried out by all activated air pollution control authorities or ecology for those areas not under the jurisdiction of an authority.
- (3) The purpose of this chapter is to:
 - (a) Minimize adverse effects on air quality from the open burning of field and forage, and turf grasses grown for seed;
 - (b) Provide for implementation of a research program to explore and identify economical and practical alternative agricultural practices to the open burning of field and forage, and turf grasses grown for seed;
 - (c) Provide for interim regulation of such burning until practical alternatives are found.

State effective: 10/18/90; EPA effective: 1/15/93

173-430-020 Definitions

The definitions of terms contained in chapter 173-400 WAC are incorporated into this chapter by reference. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter, shall have the following meanings:

- (1) Field and forage grasses: Canarygrass, bromegrass, oatgrass, timothy, wheatgrass, and orchardgrass, planted to produce seed.
- (2) Straw: All material, other than seed, removed by swathing, combining, or cutting.
- (3) Tear-out: Any operation that destroys the existing crop and prepares the area for next year's planting.

(4) Turf grasses: All blue grasses, fescues, bentgrass, perennial ryegrass, planted to produce seed.

State effective: 10/18/90; EPA effective: 1/15/93

173-430-030 Permits, Conditions, and Restrictions

(1) No open burning of field or forage grasses, on turf grasses shall be undertaken unless a permit has been obtained from ecology or an authority, as appropriate. The issuance, denial, or conditioning of permits shall be governed by consideration of air quality conditions in the area affected by the proposed burning, the time of year, meteorological conditions, the size and duration of the proposed burning activity, the amount of straw removal required, the applicant's need to carry out such burning and the public's interest in the environment. Permits will be conditioned to minimize air pollution interest in the environment. Permits will be conditioned to minimize air pollution. Until approved alternatives become available, ecology or the authority may limit the number of acres on a pro rata basis, among those affected for which permits to burn will be issued in order to control emissions.

(2) Burning of acreage not previously under permit may be banned or subject to more restrictive conditions. Burning of field and forage grasses may be restricted and other measures may be required to minimize air pollution.

Permits issued before 1978 will establish a permit history for the applicant. This permit will apply to an applicant and not to specific parcels of land and is established only for the maximum amount of acreage included in any permit issued before 1978. Land transferred to a spouse, son, or daughter, will retain a permit history as established by the original applicant.

Any permit denial or restriction may first be applied to applicants without a permit history and to amounts of acreage not included in an applicant's permit history.

Applicants who received permits before 1978 may be given priority for burning the amount of acreage cited in the permit history.

(3) Open burning of field and forage grasses shall be prohibited. However, a permit using restrictions or conditions, may be issued to burn field and forage grasses for disease, pest, or weed control, if such need is certified by a county agent or other agricultural authority; or if such grasses were planted as part of a soil erosion control plan approved by a conservation district.

(4) Open burning of all grasses scheduled for tear-out shall be prohibited unless a permit specifically allows such burning.

(5) Practical alternative production methods and disease controls which would reduce or eliminate open burning shall be used when reasonably available. These methods and controls shall be used regardless of specific provisions of the compliance program described in this section.

State effective: 10/18/90; EPA effective: 1/15/93

173-430-040 Mobile Field Burners

Mobile field burners, and other methods of incineration not classified as open burning, shall not be prohibited by the restrictions in WAC 173-430-030: Provided, that emissions do not exceed the following standards:

- (1) Visible emissions shall not exceed an opacity of 20 percent for more than three minutes in any one hour;
- (2) Particulate emissions shall not exceed 0.1 grains per standard dry cubic foot of exhaust gas, corrected to seven percent oxygen.

State effective: 10/18/90; EPA effective: 1/15/93

173-430-050 Other Approvals

A person applying for a permit under this chapter is still required to obtain permits, licenses, or approvals required by any other laws, regulations, or ordinances.

State effective: 10/18/90; EPA effective: 1/15/93

173-430-060 Study of Alternatives

Ecology shall conduct, cause to be conducted, or approve of a study or studies to explore and identify economical and practical alternative practices to open burning of field and forage, and turf grasses. To conduct any such study, ecology may contract with public or private entities. Any approved study shall provide for the identification of such alternatives as soon as possible. Ecology shall annually review the progress of such studies, review provisions of this regulation and available alternatives to open burning and determine if continuing open burning of field and forage, and turf grasses is justified.

State effective: 10/18/90; EPA effective: 1/15/93

173-430-070 Fees

- (1) To support the study or studies described in WAC 173-430-060, ecology or an authority shall collect a fee of fifty cents per acre of crop to be burned before any permit is issued under WAC 173-430-030. This fee shall be submitted with individual permit applications.

(2) When a permit is granted to burn fewer acres than requested in the permit application, ecology or the authority shall refund to the permit applicant the unused part of the permit fee.

(3) No part of the permit fee will be refunded if a grower decides to burn fewer acres than the permit allows.

(4) After granting any permit and making any refund required under WAC 173-430-070(2), the authority shall transfer the permit fee to ecology.

(5) Ecology shall deposit all permit fees in a special grass seed burning research account in the general fund.

(6) Ecology shall allocate moneys annually from this account to support approved studies provided for in WAC 173-430-060, up to the amount appropriated to ecology for such purpose.

(7) When ecology concludes that enough reasonably available alternative practices to the open burning of field and forage, and turf grasses grown for seed have been developed, and at such time as all costs of any studies have been paid, the grass seed burning research account shall be dissolved. Any money remaining in the account shall revert to the general fund.

State effective: 10/18/90; EPA effective: 1/15/93

173-430-080 Certification of Alternatives

When enough information on alternative practices to open burning becomes available, ecology shall conduct public hearings to receive testimony from interested parties. If ecology then concludes that any procedure, program, technique, or device is a practical alternative to the open burning of field and forage and turf grasses grown for seed, ecology shall, by order, approve such alternative. After approval, any alternative that is reasonably available shall be used; and open burning of field and forage, and turf grasses grown for seed shall not be allowed.

State effective: 10/18/90; EPA effective: 1/15/93

WAC 173-433 SOLID FUEL BURNING DEVICE STANDARDS

173-433-010 Purpose

This chapter, promulgated under chapters 43.21A and 70.94 RCW, establishes emission standards, certification standards and procedures, curtailment rules, and fuel restrictions for solid fuel burning devices.

State effective: 12/16/87; EPA effective: 1/15/93

173-433-020 Applicability

The provisions of this chapter apply to solid fuel burning devices in all areas of the state of Washington.

State effective: 12/16/87; EPA effective: 1/15/93

173-433-030 Definitions

The definitions of terms contained in chapter 173-400 WAC are incorporated by reference. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter, shall have the following meanings:

- (1) "Adequate source of heat" means the ability to maintain seventy degrees Fahrenheit at a point three feet above the floor in all normally inhabited areas of a dwelling.
- (2) "Certified" means that a woodstove meets emission performance standards when tested by an accredited independent laboratory and labeled according to procedures specified by the EPA in "40 C.F.R. 60 Subpart AAA - Standards of Performance for Residential Wood Heaters" as amended through July 1, 1990.
- (3) "Coal-only heater" means an enclosed, coal burning appliance capable of and intended for residential space heating, domestic water heating, or indoor cooking, which has all of the following characteristics:
 - (a) An opening for emptying ash which is located near the bottom or the side of the appliance;
 - (b) A system which admits air primarily up and through the fuel bed;
 - (c) A grate or other similar device for shaking or disturbing the fuel bed or power driven mechanical stoker; and
 - (d) The model is listed by a nationally recognized safety testing laboratory for use of coal only, except for coal ignition purposes.
- (4) "EPA" means United States Environmental Protection Agency.
- (5) "New woodstove" means a woodstove that has not been sold at retail, bargained, exchanged, or given away for the first time by the manufacturer, the manufacturer's dealer or agency, or a retailer, and has not been so used as to become what is commonly known as "second hand" within the ordinary meaning of that term.
- (6) "Nonaffected pellet stove" means that a pellet stove has an air-to-fuel ratio equal to or greater than 35.0 when tested by an accredited laboratory in accordance with methods and procedures

specified by the EPA in "40 C.F.R. 60 Appendix A, REFERENCE METHOD 28A - MEASUREMENT OF AIR TO FUEL RATIO AND MINIMUM ACHIEVABLE BURN RATES FOR WOOD-FIRED APPLIANCES" as amended through July 1, 1990.

(7) "Retailer" means any person engaged in the sale of solid fuel burning devices directly to the public. A contractor who sells dwellings with solid fuel burning devices installed or a mail order outlet which sells solid fuel burning devices directly to the public is considered to be a solid fuel burning device retailer.

(8) "Seasoned wood" means wood of any species that has been sufficiently dried so as to contain twenty percent or less moisture by weight.

(9) "Solid fuel burning device" (same as solid fuel heating device) means a device that burns wood, coal, or any other nongaseous or nonliquid fuels, and includes any device burning any solid fuel except those prohibited by WAC 173-433-120. This also includes devices used for aesthetic or space-heating purposes in a private residence or commercial establishment, which has a heat input less than one million British thermal units per hour.

(10) "Treated wood" means wood of any species that has been chemically impregnated, painted, or similarly modified to prevent weathering and deterioration.

(11) "Woodstove" (same as "wood heater") means an enclosed solid fuel burning device capable of and intended for residential space heating and domestic water heating that meets the following criteria contained in "40 C.F.R. 60 Subpart AAA - Standards of Performance for Residential Wood Heaters" as amended through July 1, 1990:

- (a) An air-to-fuel ratio in the combustion chamber averaging less than 35.0, as determined by EPA Reference Method 28A;
- (b) A useable firebox volume of less than twenty cubic feet;
- (c) A minimum burn rate less than 5 kg/hr as determined by EPA Reference Method 28;
- (d) A maximum weight of 800 kg, excluding fixtures and devices that are normally sold separately, such as flue pipe, chimney, and masonry components not integral to the appliance. Any combination of parts, typically consisting of but not limited to: Doors, legs, flue pipe collars, brackets, bolts and other hardware, when manufactured for the purpose of being assembled, with or without additional owner supplied parts, into a woodstove, is considered a woodstove.

State effective: 4/20/91; EPA effective: 11/4/13

WAC 173-433-100 Emission Performance Standards

(1) Woodstoves. On or before January 1, 1995, a person shall not advertise to sell, offer to sell, sell, bargain, exchange, or give away a new woodstove in Washington unless it has been tested to determine its emission performance and heating efficiency and certified and labeled in accordance with procedures and criteria specified in "40 C.F.R. 60 Subpart AAA - Standards of Performance for Residential Wood Heaters" as amended through July 1, 1990. After January 1, 1995,

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woodstove sales shall comply with the requirements of subsection (3) of this section, Solid fuel burning devices.

(2) Fireplaces. After January 1, 1997, a person shall not advertise to sell, offer to sell, sell, bargain, exchange, or give away a factory built fireplace unless it meets the 1990 United States Environmental Protection Agency standards for woodstoves or equivalent standard that may be established by the state building code council by rule. Subsection (3) of this section shall not apply to fireplaces, including factory built fireplaces, and masonry fireplaces.

(3) Solid fuel burning devices. After January 1, 1995, a person shall not advertise to sell, offer to sell, sell, bargain, exchange, or give away a solid fuel burning device in Washington unless it has been certified and labeled in accordance with procedures and criteria specified in "40 C.F.R. 60 Subpart AAA - Standards of Performance for Residential Wood Heaters" as amended through July 1, 1990, and meets the following particulate air contaminant emission standards and the test methodology of the United States Environmental Protection Agency in effect on January 1, 1991, or an equivalent standard under any test methodology adopted by the United States Environmental Protection Agency subsequent to such date:

- (a) Two and one-half grams per hour for catalytic woodstoves; and
- (b) Four and one-half grams per hour for all other solid fuel burning devices.
- (c) For purposes of this subsection, "equivalent" shall mean the emissions limits specified in this subsection multiplied by a statistically reliable conversion factor determined by ecology that relates the emission test results from the methodology established by the United States Environmental Protection Agency prior to May 15, 1991, to the test results from the methodology subsequently adopted by that agency.

State effective: 3/6/93; EPA effective: 11/4/13

WAC 173-433-110 Opacity Standards

(1) A person shall not cause or allow emission of a smoke plume from any solid fuel burning device to exceed an average of twenty percent opacity for six consecutive minutes in any one-hour period.

(2) Statewide opacity standard. An authority shall not adopt or enforce an opacity level for solid fuel burning devices that is more stringent than the statewide standard.

(3) Test method and procedures. Methods and procedures specified by the EPA in "40 C.F.R. 60 Appendix A reference method 9 - VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES" as amended through July 1, 1990, shall be used to determine compliance with subsection (1) of this section.

(4) Enforcement. Smoke visible from a chimney, flue or exhaust duct in excess of the opacity standard shall constitute prima facie evidence of unlawful operation of an applicable solid fuel

burning device. This presumption may be refuted by demonstration that the smoke was not caused by an applicable solid fuel burning device. The provisions of this requirement shall:

- (a) Be enforceable on a complaint basis.
- (b) Not apply during the starting of a new fire for a period not to exceed twenty minutes in any four-hour period.

(5) Education. Any person or retailer providing information on the operation of solid fuel burning devices, such as brochures, demonstrations, and public education programs, should include information that opacity levels of ten percent or less are attainable through proper operation.

State effective: 3/6/93; EPA effective: 11/4/13

WAC 173-433-120 Prohibited Fuel Types

A person shall not cause or allow any of the following materials to be burned in a solid fuel burning device:

- (1) Garbage;
- (2) Treated wood;
- (3) Plastic and plastic products;
- (4) Rubber products;
- (5) Animal carcasses;
- (6) Asphaltic products;
- (7) Waste petroleum products;
- (8) Paints and chemicals; or
- (9) Any substance which normally emits dense smoke or obnoxious odors other than paper to start the fire, properly seasoned fuel wood, or coal with sulfur content less than 1.0% by weight burned in a coal-only heater.

State effective: 4/20/91; EPA effective: 11/4/13

WAC 173-433-130 General Emission Standards

In addition to the general applicability of chapter 173-400 WAC to all emission sources;

(1) Emissions detrimental to persons or property. No person shall cause or permit the emission of any air contaminant from any solid fuel burning device, including any air contaminant whose emission is not otherwise prohibited by this chapter, if the air contaminant emission directly impacts the property of another so as to cause detriment to the health, safety, or welfare of a person, plant or animal, or causes damage to property or business. Direct impact means that emissions from an identifiable solid fuel burning device are present in amounts which reasonable constitute a threat to the health, safety, or welfare of a person(s).

(2) Odors. Any person who shall cause or allow the generation of any odor from any solid fuel burning device which may interfere with any other property owner's use or enjoyment of his property must use recognized good practice and procedures to reduce these odors to a reasonable minimum.

State effective: 10/18/90; EPA effective: 1/15/93

WAC 173-433-140 Impaired air quality criteria

Impaired air quality shall be determined by ecology or an authority in accordance with the following criteria:

- (1) "First stage impaired air quality" - the first stage indicates the presence of:
 - (a) Particulate matter ten microns and smaller in diameter (PM10) at or above an ambient level of seventy-five micrograms per cubic meter; or
 - (b) Carbon monoxide at or above an ambient level of eight parts of contaminant per million parts of air by volume (ppm).

- (2) "Second stage impaired air quality" - the second stage indicates the presence of particulate matter ten microns and smaller in diameter (PM10) at or above an ambient level of one hundred five micrograms per cubic meter.

- (3) On or after July 1, 1995, if an authority has geographically limited the use of solid fuel burning devices as specified under WAC 173-433-150(6), a single stage of impaired air quality will apply within the geographical area defined by the authority. A single stage of impaired air quality indicates the presence of:
 - (a) Particulate matter ten microns and smaller in diameter (PM10) at or above an ambient level of ninety micrograms per cubic meter; or
 - (b) Carbon monoxide at or above an ambient level of eight parts of contaminant ppm.

- (4) Acceptable ambient air quality measurement methods.
 - (a) Particulate matter ten microns and smaller in diameter (PM10).
 - (i) Procedures specified by the EPA in "40 C.F.R. 50, APPENDIX J - REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE" as amended through July 1, 1990, shall be used to gather reference ambient PM10 data on a twenty-four-hour average.
 - (ii) More timely ambient PM10 measurement methods may be utilized to evaluate air quality impairment if accepted and approved by ecology. Any alternative method for evaluating air quality impairment for the purpose of curtailing solid fuel burning device use must be done at the same location and in parallel to the reference method, and must be related to the reference method by a mathematical relationship with a correlation coefficient of no less than 0.85.
 - (b) Carbon monoxide (CO) must be measured on an eight-hour average in accordance with procedures specified by the EPA in "40 C.F.R. 50, APPENDIX C - REFERENCE

METHOD FOR THE DETERMINATION OF CARBON MONOXIDE IN THE ATMOSPHERE (NON-DISPURSIVE INFRARED PHOTOMETRY)" as amended through July 1, 1990.

(c) All monitors used to measure PM10 for evaluation of air quality impairment due to solid fuel burning device use must be sited in accordance with EPA siting criteria in or near affected residential areas.

State effective: 4/20/91; EPA effective: 11/4/13

WAC 173-433-150 Curtailment

(1) Whenever ecology or an authority has declared the first stage of impaired air quality for a geographical area a person in a residence or commercial establishment within that geographical area with an adequate source of heat other than a solid fuel burning device shall not operate any solid fuel burning device, unless the solid fuel burning device is one of the following:

- (a) A nonaffected pellet stove; or
- (b) A woodstove certified and labeled by the EPA under "40 C.F.R. 60 Subpart AAA - Standards of Performance for Residential Wood Heaters" as amended through July 1, 1990; or
- (c) A woodstove meeting the "Oregon Department of Environmental Quality Phase 2" emissions standards contained in Subsections (2) and (3) of Section 340-21-115, and certified in accordance with "Oregon Administrative Rules, Chapter 340, Division 21 - Woodstove Certification" dated November 1984.

(2) Whenever ecology or an authority has declared the second stage of impaired air quality for a geographical area a person in a residence or commercial establishment within that geographical area with an adequate source of heat other than a solid fuel burning device shall not operate any solid fuel burning device.

(3) Whenever ecology has declared an air pollution episode at a level above forecast a person in a residence or commercial establishment within that geographical area with an adequate source of heat other than a solid fuel burning device shall not operate any solid fuel burning device.

(4) The following matrix graphically illustrates the applicability of different types of solid fuel burning devices to the provisions of subsections (1) through (3) of this section:

Burn Condition Type of Device	Impaired Air Quality		Episode	
	First Stage	Second Stage	Forecast	Alert, Warning, or Emergency
Pellet Stove (nonaffected)	OK	NO	OK	NO
EPA Certified Woodstove	OK	NO	OK	NO
DEQ Phase 2 Woodstove	OK	NO	OK	NO

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EPA Exempted Device	NO	NO	OK	NO
All Other Devices	NO	NO	OK	NO

NOTES: "OK" indicates that the device may be operated
"NO" indicates that the device may not be operated

(5) On or after July 1, 1995, an authority may prohibit use of solid fuel burning devices within specific geographical areas:

- (a) The following factors shall be considered in the exercise of this limitation:
 - (i) The contribution of solid fuel devices that do not meet the standards set forth in "40 C.F.R. 60 Subpart AAA -Standards of Performance for Residential Wood Heaters" as amended through July 1, 1990, to nonattainment of national ambient air quality standards;
 - (ii) The population density of the applicable geographical area; and
 - (iii) The public health effects of the use of solid fuel devices which do not meet the standards set forth in "40 C.F.R. 60 Subpart AAA - Standards of Performance for Residential Wood Heaters" as amended through July 1, 1990.
- (b) The following solid fuel devices are exempted from this limitation:
 - (i) Fireplaces;
 - (ii) Woodstoves certified and labeled by the EPA under "40 C.F.R. 60 Subpart AAA - Standards of Performance for Residential Wood Heaters" as amended through July 1, 1990; or
 - (iii) Nonaffected pellet stoves.
- (c) An authority shall allow an exemption from this subsection for low-income persons who reside in the geographical area affected by this subsection.

(6) On or after July 1, 1995, whenever an authority has declared impaired air quality in accordance with criteria contained in WAC 173-433-140(3) for a geographical area defined under subsection (5) of this section, a person in a residence or commercial establishment within that geographical area shall not operate any solid fuel burning device.

(7) A person responsible for an applicable solid fuel burning device already in operation at the time an episode is declared shall withhold new solid fuel for the duration of the episode. A person responsible for an applicable solid fuel burning device already in operation at the time impaired air quality is declared shall withhold new solid fuel for the duration of the impaired air quality. Smoke visible from a chimney, flue or exhaust duct after three hours has elapsed from the declaration of the episode or impaired air quality shall constitute prima facie evidence of unlawful operation of an applicable solid fuel burning device. This presumption may be refuted by demonstration that the smoke was not caused by a solid fuel burning device.

(8) Ecology, authorities, health departments, fire departments, or local police forces having jurisdiction in the area may enforce compliance with the above solid fuel burning device curtailment rules after three hours has elapsed from the declaration of the episode or impaired air quality.

State effective: 4/20/91; EPA effective: 11/4/13

WAC 173-434 SOLID WASTE INCINERATOR FACILITIES

WAC 173-434-010 Purpose.

This chapter, promulgated under chapter 70.94 RCW, establishes emissions standards, design requirements, and performance standards for solid waste incinerator facilities.

State effective: 10/18/90; EPA effective: 1/15/93

WAC 173-434-020 Applicability and compliance.

(1) The provisions of this chapter shall apply statewide to all incinerator facilities that:

(a) Are constructed after January 1, 1985, which are designed to burn twelve or more tons per day of solid waste; or

(b) Were constructed prior to January 1, 1985, but begin to burn twelve or more tons per day of solid waste after January 1, 1985.

(2) This chapter subjects solid waste incinerator facilities to either a primary compliance scheme or an alternate compliance scheme. The requirements for the primary compliance scheme are contained in WAC 173-434-090, 173-434-130, 173-434-160, 173-434-170, 173-434-190, 173-434-200, and 173-434-210. The requirements for the alternate compliance scheme are contained in WAC 173-434-110. The alternate compliance scheme applies to solid waste incinerator facilities that meet the criteria specified in WAC 173-434-110 and to solid waste incinerator facilities that opt in to the alternate compliance scheme pursuant to WAC 173-434-110 (3)(b). The primary compliance scheme applies to all other solid waste incinerator facilities.

State effective: 1/22/04; EPA effective: 9/6/05

WAC 173-434-030 Definitions.

The definitions of terms contained in chapter 173-400 WAC are incorporated by reference. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter, shall have the following meanings.

(1) "Incinerator facility" means all of the emissions unit(s), including quantifiable fugitive
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emissions, which are located in one or more contiguous or adjacent properties, and are under the control of the same person(s), whose activities are principal or ancillary to the incineration of solid waste. Ancillary activities include, but are not limited to, solid waste receiving, segregating and processing, solid waste derived fuel receiving and handling, fuel storage and mixing, heat recovery equipment, steam generating equipment, cooling towers, emissions control equipment, ash handling, ash storage, and combustion.

(2) "Residence time" means the minimum amount of time that a parcel of gas is subject to a given temperature.

(3) "Solid waste" means all putrescible and nonputrescible solid and semisolid wastes, including but not limited to garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, discarded commodities, septage from septic tanks, dangerous waste, refuse derived fuel, solid waste derived fuel, problem wastes, and all materials which are not primary products of public, private, industrial, commercial, mining, and agricultural operations. This definition includes, but is not limited to, all materials that fit the definitions of municipal solid waste in 40 CFR 60, subparts Cb, Ea, Eb, AAAA, or BBBB, as well as all materials that fit the definitions of commercial and industrial solid waste in 40 CFR 60, subparts CCCC or DDDD, in effect on July 1, 2003. Notwithstanding the above, solid waste does not include:

(a) Creosote treated wood at facilities with an order of approval or Prevention of Significant Deterioration (PSD) permit issued on or after December 1, 2003, for burning such wood, provided that such wood has not been in or repeatedly splashed by marine or brackish water;

(b) At a Portland cement plant kiln;

(i) Tires; and

(ii) Waste oil that is nonhazardous as defined by WAC 173-303-515, Standards for the management of used oil;

(c) Wood waste; or

(d) Sludge from waste water treatment plants.

(4) "Transmissometer" means a device that measures opacity and conforms to EPA Performance Specification Number 1 in Title 40 Code of Federal Regulations, Part 60, Appendix B in effect on July 1, 2003.

State effective: 1/22/04; EPA effective: 9/6/05

WAC 173-434-090 Operation and Maintenance Plan

As part of a condition of approval of the notice of construction, the owner or operator of the incinerator shall develop a plan for the operation and maintenance of all equipment and procedures that can cause or control air pollution. This plan must be approved by ecology or the authority prior to initial startup or testing. Every twenty-four months thereafter, the owner or operator must obtain approval of a new or updated plan to continue operation. The plan may include operating parameters, maintenance procedures and operation personnel training requirements and procedures to assure that the source will comply with all applicable rules, resolutions, regulations, safety practices, and ordinances.

State effective: 10/18/90; EPA effective: 1/15/93

WAC 173-434-110 Standards of performance

(1) Notwithstanding WAC 173-400-115, the following sections of 40 CFR part 60, subpart Eb, in effect on July 1, 2003, are hereby incorporated by reference with the exceptions in subsection 110(2):

— ~~(a) 40 CFR part 60, subpart Eb, subsections 60.52b (a)(3), (a)(5), (b)(2), (c)(1), and (c)(2);~~

(b) All the rest of 40 CFR part 60, subpart Eb.

(2) Exceptions.

(a) The 250 tons per day figures throughout 40 CFR part 60, subpart Eb shall be 12 tons per day;

(b) The terms "municipal solid waste," "municipal type solid waste," and "MSW" in subpart Eb shall include all materials that fit the definition of solid waste in this chapter;

(c) 40 CFR part 60, subpart Eb, subsection 60.50b(j) shall not be incorporated by reference with respect to facilities constructed, reconstructed or modified after December 1, 2003;

(d) The November 20, 1997, dates in subsection 60.52b(c) are changed to November 20, 2005.

(3) Except for WAC 173-434-130 (4)(c), the following sections, WAC 173-434-090, 173-434-130, 173-434-160, 173-434-170, 173-434-190 and 173-434-200 shall not apply to:

(a) An incinerator facility regulated under this section; and

(b) An incinerator facility that elects to become subject to this section in an order of approval or other regulatory order from the permitting agency.

(4) The effective date of this section shall be May 1, 2004.

State effective: 1/22/04; EPA effective: 9/6/05

WAC 173-434-130 Emission standards.

In addition to the general applicability of chapters 173-400 and 173-490 WAC to all emission sources; no incinerator facility shall cause or permit air contaminant emissions in excess of the limits listed below. Specific emission standards listed in this chapter will take precedence over the general emission standards of chapter 173-400 WAC.

(1) Particulate.

(a) For incinerator facilities that are capable of burning two hundred fifty or more tons of solid waste per day, emissions from each stack shall not exceed 0.046 grams of particulate per dry cubic meter at standards conditions (0.020 grains/dscf) corrected to seven percent oxygen for an hourly average.

(b) For incinerator facilities that have a maximum capability of burning less than two hundred fifty tons of solid waste per day, emissions from each stack shall not exceed 0.069 grams of particulate per dry cubic meter at standards conditions (0.030 grains/dscf) corrected to seven percent oxygen for an hourly average.

~~(2) Hydrogen chloride. The hydrogen chloride emissions from each stack shall not exceed fifty ppm on a volumetric dry basis corrected to seven percent oxygen for an hourly average, except if the owner or operator demonstrates that uncontrolled emissions of hydrogen chloride are reduced by at least eighty percent and a procedure acceptable to ecology or the authority for monitoring is developed.~~

(3) Sulfur dioxide. The sulfur dioxide emissions from each stack shall not exceed fifty ppm on a volumetric dry basis corrected to seven percent oxygen for an hourly average, except if the owner or operator demonstrates that the uncontrolled emissions of sulfur dioxide are reduced by at least eighty percent and a procedure acceptable to ecology or the authority for monitoring is developed.

(4) Opacity.

(a) The opacity as measured visually from any incinerator stack shall not exceed an average of five percent opacity for more than six consecutive minutes in any sixty minute period.

(b) The opacity as measured by a transmissometer shall not exceed an average of ten

percent opacity for more than six consecutive minutes in any sixty minute period.

(c) The opacity as measured visually shall not exceed an average of zero percent from any emissions unit except incinerator stacks for more than six consecutive minutes in any sixty minute period.

(5) Fugitive emissions. Each operator or owner shall take reasonable precautions to prevent fugitive emissions which includes the paving of all normally traveled roadways within the plant boundary and enclosing or hooding material transfer points.

(6) Source testing. To demonstrate compliance with this chapter, refer to WAC 173-400-105.

State effective: 1/22/04; EPA effective: 9/6/05

WAC 173-434-160 Design and operation.

(1) Combustion.

(a) Combustion zone temperature. Whenever solid waste is being burned, the temperature of the final combustion zone shall not be below 982°C (1800°F) for a fifteen minute average nor below 871°C (1600°F) for any reading.

(b) Combustion zone residence time. The minimum combustion chamber temperature must be maintained for at least one second (1.0 second) in a zone after the last over fire air has entered the combustion chamber. If over fire air is not used, the combustion chamber shall maintain the minimum combustion temperature or greater for at least one second with all combustion gases. Procedures for determining the residence time shall be a part of the new source review.

(c) Excess air. The combustion gases leaving the final combustion zone must contain at least three percent oxygen measured on a wet basis.

(d) Combustion air distribution and control. The air distribution shall be fully controllable where pressurized air is introduced and the air flow shall be monitored and recorded.

(2) Combustion air. To minimize odor, fugitive emissions and to maintain a negative pressure in the tipping area, the combustion air shall be withdrawn from the tipping area, or shall utilize an equivalent means of odor and fugitive emission control acceptable to ecology or the authority.

(3) Particulate control device temperature. The inlet temperature of the primary particulate control device shall not exceed 177°C (350°F).

(4) Operation. At all times, the owner or operator shall, to the extent practicable, maintain and operate any incinerator facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practice. This may mean that if the emissions limits are being exceeded, no more waste should be fed into the incinerator until the problem is corrected. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to ecology or the authority which may include, but is not limited to, monitoring and recording results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

State effective: 1/22/04; EPA effective: 9/6/05

WAC 173-434-170 Monitoring and reporting

The owners or operators of each incinerator facility shall conduct routine monitoring of emissions in accordance with a program that has been approved by ecology or the authority. The program must contain quality control and quality assurance procedures.

(1) Monitoring.

(a) The owners or operators shall install, operate, and maintain continuous monitors and recorders for the following:

- (i) Opacity;
- (ii) Combustion zone temperature;
- (iii) Particulate control device temperature;
- (iv) Hydrogen chloride and/or sulfur dioxide;
- (v) Oxygen;
- (vi) Carbon monoxide;
- (vii) Combustion air distribution.

(b) The monitors for sulfur dioxide, carbon monoxide, and oxygen shall comply with EPA performance specifications and quality assurance and control criteria in Title 40, Code of Federal Regulations, Part 60, Appendix B and Appendix F respectively, in effect on July 1, 2003.

(c) The monitor for opacity shall comply with EPA performance specifications and quality assurance and control criteria in Title 40, Code of Federal Regulations, Part 60, Appendix B in effect on July 1, 2003, and EPA-340/1-86-010, Recommended Quality Assurance Procedure for

Opacity Continuous Emission Monitoring Systems.

(2) Reporting. Results of the monitoring shall be reported within fifteen days of the end of each calendar month and shall include but may not be limited to data such as:

(a) The average daily maximum and the daily maximum concentration of each monitored pollutant and the daily amount of solid waste burned.

(b) The date, time, and magnitude of any periods during which the standards were exceeded, and what corrective action was or will be taken.

(c) Any period(s) of monitor down time.

(3) Testing. The owners or operators shall conduct emission tests for particulate, sulfur dioxide and hydrogen chloride on a regular basis. These tests may be used to determine acceptable operating parameters. Testing shall be at least annually for incinerator facilities capable of burning two hundred fifty tons or more of solid waste per day and biennially for other facilities.

(4) Other data. Each owner or operator shall furnish upon request by ecology or the authority, other data required to evaluate the incinerator's emissions or emissions control program.

State effective: 1/22/04; EPA effective: 9/6/05

WAC 173-434-190 Changes in operation

(1) If a startup, shutdown, breakdown, or upset condition occurs which could result in an emissions violation or a violation of an ambient air quality standard, the owner or operator of the source shall take the following actions as applicable:

(a) For a planned condition, such as a startup or shutdown, the condition shall be reported to ecology or the authority not less than twenty-four hours in advance of its occurrence. For incinerator facilities that normally operate for less than twenty-four hours per day, this provision may be waived provided that daily startup and shutdown procedures are developed that are acceptable to ecology or the authority.

(b) For unplanned conditions, such as a breakdown or upset, the condition shall be reported to ecology or the authority as soon as possible, but no later than the end of the next business day.

(2) If, upon reviewing the available information, ecology or the authority determines that continued operation of any emissions unit is likely to cause a significant risk to the public, it may order an immediate shutdown of the emissions unit.

(3) Upon request ecology or the authority, the owner or operator of the source shall submit a full written report including known causes of any infraction, the corrective actions taken, and the preventive measures to be taken to minimize or eliminate the chance of recurrence.

(4) Compliance with the requirement of WAC 173-434-100 does not relieve the owner or operator of the source from the responsibility to maintain continuous compliance with all the requirements of chapter 173-434 WAC nor from the resulting liabilities for failure to comply.

State effective: 1/22/04; EPA effective: 9/6/05

WAC 173-434-200 Emission inventory.

The owner or operator of any solid waste incinerator shall submit an inventory of emissions that complies with WAC 173-400-105. The inventory shall include but may not be limited to stack and fugitive emissions of particulate matter, PM-10, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, hydrogen chloride, and other contaminants as requested by ecology or the authority or as required by federal emissions reporting requirements.

State effective: 1/22/04; EPA effective: 9/6/05

WAC 173-434-210 Special studies.

Ecology or the authority may require such additional special studies relevant to process emissions and establish completion dates as it determines necessary. These special studies may include the requirement to conduct studies of dioxin emissions and control measures.

State effective: 10/18/90; EPA effective: 1/15/93

WAC 173-435 EMERGENCY EPISODE PLAN

173-435-010 Purpose

These rules implement chapter 70.94 RCW, the Washington State Clean Air Act.

Air pollution episodes occur under meteorological conditions that reduce the effective volume of air into which air contaminants are introduced. When these conditions occur, there is a possible danger that normal operations at air contaminant sources will be detrimental to public health and safety. The avoidance of high contaminant concentrations reaching significant harm levels during an episode requires a plan which will provide for rapid short-term emission reduction. This chapter sets up such an episode avoidance plan.

State effective: 1/3/89; EPA effective: 1/15/93

173-435-015 Significant Harm Levels

Significant harm levels are reached when any one of the following pollutant concentrations are measured:

- (1) Sulfur dioxide - 2,620 $\mu\text{g}/\text{m}^3$ (1.0 ppm), 24-hour average.
- (2) PM-10 - 600 micrograms/cubic meter, 24-hour average.
- (3) Carbon monoxide - 57.5 mg/m^3 (50 ppm), 8-hour average, 86.3 mg/m^3 (75 ppm) 4-hour average, 144 mg/m^3 (125 ppm) 1-hour average.
- (4) Ozone - 1,200 $\mu\text{g}/\text{m}^3$ (0.6 ppm) - 2-hour average.
- (5) Nitrogen dioxide - 3,750 $\mu\text{g}/\text{m}^3$ (2.0 ppm) 1-hour average, 938 $\mu\text{g}/\text{m}^3$ (0.5 ppm) 24-hour average.

State effective: 1/3/89; EPA effective: 1/15/93

173-435-020 Definitions

Unless a different meaning is clearly required by context, words and phrases used in this chapter shall have the following meanings, general terms common with other chapters as defined in chapter 173-403 WAC, and terms specific to the emergency episode plan as defined below.

- (1) "**Air quality control region**" means an area designated as an air quality control region by the federal environmental protection agency.
- (2) "**Episode stage**" means a prescribed level of air contaminants or meteorological conditions where certain control actions are required to prevent ambient pollutant concentrations from reaching levels which could cause significant harm to the health of persons.
- (3) "**Emergency action center**" means the headquarters for all department actions during an episode stage.
- (4) "**Hour**" means a 60 minute period, beginning and ending on a clock hour.
- (5) "**8 hours**" means any consecutive 8 hours, starting at any clock hour.
- (6) "**Major source**" means any source which is estimated to emit at an annual rate of

twenty-five tons per year or more of SO₂, particulates, or carbon monoxide.

(7) "Source emission reduction plan (SERP)" means a plan developed for an individual air pollution source and approved by the director, which sets forth the actions to be taken at that source upon the declaration of various stages of an episode.

(8) "24 hours" means any consecutive 24 hours, starting at any clock hour.

State effective: 1/3/89; EPA effective: 1/15/93

173-435-030 Episode Stage Criteria

The declaration of episode stages shall be in accordance with the following criteria:

(1) Stage: "First or forecast" - the forecast stage indicates the presence of meteorological conditions conducive to the accumulation of air contaminants. A forecast stage may be declared when an air stagnation advisory is issued by the national weather service or there is equivalent indication of stagnant atmospheric conditions and conditions are forecast to persist for 24 hours. Declaration of this stage will activate increased air quality surveillance.

(2) Stage: "Second or alert" - the alert stage is that concentration of pollutants at which control actions are to begin. An alert will be declared when any one of the following levels is reached:

(a) SO₂ - 800 µg/m³ (0.3 ppm), 24-hour average.

(b) PM-10 - 350 µg/m³, 24-hour average.

(c) CO - 17 mg/m³ (15 ppm), 8-hour average.

(d) Oxidant (O₃) - 400 µg/m³ (0.2 ppm) - 1-hour average.

(e) NO₂ - 1130 µg/m³ (0.6 ppm) 1-hour average, 282 µg/m³ (0.15 ppm) 24-hour average; and meteorological conditions are such that the pollutant concentrations can be expected to remain at or above the alert levels for 12 or more hours or can be expected to recur within 24 hours unless control actions are taken.

(3) Stage: "Third or warning" - the warning stage indicates that air quality is continuing to degrade and that additional control actions are necessary. A warning will be declared when any one of the following levels is reached:

(a) SO₂ - 1,600 µg/m³ (0.6 ppm), 24-hour average.

(b) PM-10 - 420 µg/m³, 24-hour average.

- (c) CO - 34 mg/m³ (30 ppm), 8-hour average.
- (d) Oxidant (O₃) - 800 µg/m³ (0.4 ppm), 1-hour average.
- (e) NO₂ - 2,260 µg/m³ (1.2 ppm), 1-hour average; 565 µg/m³ (0.3 ppm), 24-hour average; and meteorological conditions are such that pollutant concentrations can be expected to remain at or above the warning levels for 12 or more hours or can be expected to recur within 24 hours unless control actions are taken.

(4) Stage: "Fourth or emergency" - the emergency stage indicates that air quality is continuing to degrade toward a level of significant harm to the health of persons and that the most stringent control actions are necessary. An emergency will be declared when any one of the following levels is reached at any monitoring site:

- (a) SO₂ - 2,100 µg/m³ (0.8 ppm), 24-hour average.
- (b) PM-10 - 500 µg/m³, 24-hour average.
- (c) CO - 46 mg/m³ (40 ppm), 8-hour average.
- (d) Oxidant (O₃) - 1,200 µg/m³, (0.6 ppm), 1-hour average.
- (e) NO₂ - 3,000 µg/m³ (1.6 ppm), 1-hour average; 750 µg/m³ (0.4 ppm), 24-hour average; and meteorological conditions are such that this condition can be expected to remain at or above emergency levels for 12 or more hours, or can be expected to recur within 24 hours.

(5) Stage: "Termination" - once declared, any stage reached by applying these criteria will remain in effect until the criteria for that level are no longer met. At that time, the next lower stage will be declared. When conditions improve to where the criteria are no longer met for any episode stage, the episode will be terminated.

State effective: 1/3/89; EPA effective: 1/15/93

173-435-040 Source Emission Reduction Plans

- (1) Any person responsible for the operation of a major source, when requested in writing by the director, shall prepare, in consultation with the department, a source emission reduction plan (SERP). This SERP shall be consistent with good industrial practice and safe operating procedures for reducing the emissions of air contaminants into the ambient air during periods of air pollution alert, warning, and emergency.
- (2) SERPs shall be in writing and shall show the source of air contamination, describe the manner in which the reduction of air contaminant emissions will be achieved during periods of air pollution alert, warning, and emergency, and give the amount of reduction for each stage.

(3) During periods of air pollution alert, warning, or emergency, SERPs shall be made available, on the premises of sources required under this section to have them, to any person authorized to enforce the provisions of this episode avoidance plan.

(4) SERPs shall be submitted to the director within 30 days after receipt of a request thereof.

(5) SERPs shall be reviewed and approved by the director. If, in the opinion of the director, and SERP does not, in whole or in part, provide for satisfactory emission reduction during an episode, the director may disapprove such SERP, give the reason for disapproval, and require the resubmittal of same within a specified time period.

If within the time period specified, the person responsible fails to submit a SERP satisfactory to the director, the director may revise the SERP to cause it to meet episode avoidance objectives. This revised plan will then be the SERP for the source to which it applies.

(6) SERPs may be amended after submission to the director of a revised SERP. This revised SERP will be processed in the same manner as the originally submitted SERP.

(7) An emission reduction plan for the purpose of reducing motor vehicle emissions during episode stages, will be developed or approved by the department. These plans may include actions to be taken by other governmental units, citizens, and businesses.

State effective: 1/3/89; EPA effective: 1/15/93

173-435-050 Action Procedures

(1) Whenever applicable criteria are met, the director may declare and terminate the forecast, alert, and warning stages of an episode. This declaration shall constitute an order for action in accordance with applicable SERPs.

(2) No open fires shall be ignited during any stage of an episode. Any person responsible for an open fire already ignited shall extinguish that fire when informed that an episode has been declared. Open fires conducted under the auspices of the department of natural resources for the purpose of burning forest slash pursuant to RCW 70.94.660 through 70.94.700 are to be extinguished by withholding new fuel and allowing the fire to burn down.

(3) Whenever applicable criteria are met, the governor may declare and terminate the emergency stage of an episode. This declaration shall constitute an order for action in accordance with applicable SERPs.

(4) Adverse air quality need not be region-wide for any episode stage to be declared. Action procedures may be taken for any area affected or likely to be affected by episode conditions. The declaration of any episode stage shall specify the area to which it applies.

(5) The broadest publicity practicable shall be given to the declaration of any episode stage. Such declaration shall, as soon as possible, be directly communicated to all persons responsible for the carrying out of SERPs within the affected area.

(6) Regardless of whether any episode stages have previously been declared, whenever the governor finds that emissions are causing imminent danger to public health or safety, the governor may declare an air pollution emergency and order the persons responsible for the operation of sources causing the danger, to reduce or discontinue emissions consistent with good operating practice, safe operating procedures, and SERPs, if any.

(7) Whenever an episode stage is declared on the basis of contaminant levels of carbon monoxide, oxidant, or nitrogen dioxide, the director shall take such action as may be required to reduce emissions from motor vehicles. These actions may include, but are not limited to, the rerouting or detouring of traffic. Actions to be taken by cities and businesses will be established and implemented according to plans developed by them and approved by the department. These plans must meet criteria for emission reduction established by the department.

State effective: 1/3/89; EPA effective: 1/15/93

173-435-060 Enforcement

(1) Whenever any episode stage has been declared, the department shall establish an emergency action center, which shall be the headquarters for all department actions during the episode.

(2) The department shall develop an operations manual, which shall set forth a plan for the receipt, processing, and dissemination of information and data during an episode.

(3) Enforcement with respect to any episode shall be directed from the emergency action center by the director in consultation with the governor's office.

(4) Authorized personnel of the department, the department of social and health services, and the state police shall have the authority to enforce orders of the director or the governor, issued under this chapter, as directed from the emergency action center. In addition, authorized personnel of any local air pollution control agency or local police force shall have the authority to enforce such orders against sources within the area over which that agency or police force has jurisdiction, as directed from the emergency action center.

(5) To determine compliance with any SERP, those persons authorized to enforce orders, hereunder, shall have the authority to enter upon any private or public property, excepting nonmultiple unit private dwellings, housing two families or less. No person shall refuse entry or access to enforcement personnel who request entry and present appropriate credentials.

(6) Whenever it appears that action being taken in compliance with SERPs will not avert

imminent danger to public health and safety, the governor may order the following additional measures:

- (a) Stopping and prohibiting motor vehicle travel and traffic;
- (b) Closing down or restricting the use of any business, commercial, industrial or other establishment or activity which contributes to the emission of contaminants to the air.

(7) Any declaration or order issued in accordance with WAC 173-435-050 shall be effective immediately and shall not be stayed, pending completion of review.

(8) Whenever any order has been issued hereunder, the attorney general, upon the request of the governor or authorized representative, or the director shall petition the superior court of the county in which a source is located for a temporary restraining order for the immediate reduction or discontinuance of emissions from that source.

State effective: 1/3/89; EPA effective: 1/15/93

173-435-070 Sampling Sites, Equipment and Methods

~~(1) Data from all stations shall be considered when determining episode conditions. The department shall specify PM-10 monitoring stations to be operated continuously during any episode stage for episode management purposes. Stations from which episode declarations are based must be located in such a manner that the area represented by that station and the sources contributing to the episode condition can reasonably be determined and corrective actions taken.~~

(2) Sampling and analysis will be done by federal reference or federal equivalent methods; except the department may approve other sampling and analysis methods for PM-10 if reasonable site specific equivalency with the federal reference method has been demonstrated. This equivalency must be reestablished biennially.

State effective: 1/3/89; EPA effective: 1/15/93

WAC 173-470 AMBIENT AIR QUALITY STANDARDS FOR PARTICULATE MATTER

173-470-010 Purpose

This chapter promulgated under RCW 70.94.305 and 70.94.331 establishes maximum acceptable levels for particulate matter in the ambient air. Particulate matter is characterized in criteria developed by the United States Environmental Protection Agency.

State effective: 9/16/87; EPA effective: 1/15/93

173-470-020 Applicability

The provisions of this chapter apply to all areas of the state of Washington.

State effective: 9/16/87; EPA effective: 1/15/93

173-470-030 Definitions

Unless a different meaning is clearly required by context, words and phrases used in this chapter shall have the following meanings; general terms common with other chapters of Title 173 WAC as defined in chapter 173-403 WAC.

State effective: 1/3/89; EPA effective: 1/15/93

173-470-100 Ambient Air Quality Standards

(1) The level of the 24-hour ambient air quality standard for total suspended particulate is 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), 24-hour average concentration. The standard is attained when the number of days per calendar year is less than or equal to one for measured 24-hour concentrations above $150 \mu\text{g}/\text{m}^3$.

(2) The level of the annual standard for total suspended particulate is sixty micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), annual geometric mean. The standard is attained when the annual geometric mean concentration is less than or equal to $60 \mu\text{g}/\text{m}^3$.

(3) The level of the 24-hour ambient air quality standard for PM-10 is 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), 24-hour average concentration. The standard is attained when:

(a) The expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$, as determined in accordance with 40 CFR 50 Appendix K as in effect on July 1, 1988, is equal to or less than one; and

(b) The number of days per calendar year the measured 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one.

(4) The level of the annual standard for PM-10 is 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), annual arithmetic mean. The standard is attained when the expected annual arithmetic mean concentration, as determined in accordance with 40 CFR 50 Appendix K as in effect on July 1, 1988, is less than or equal to $50 \mu\text{g}/\text{m}^3$.

State effective: 1/3/89; EPA effective: 1/15/93

173-470-160 Reporting of Data

(1) Air authorities sampling for particulate matter shall notify the department of all infractions of these standards. Notification shall be made quarterly. A quarterly summary of all samples greater than the standards shall be submitted within sixty days of the end of each calendar quarter. Quarterly data shall include:

- (a) Location of sampler.
- (b) Time period (day and year).
- (c) Individual concentrations recorded at each air monitoring station.
- (d) The applicable geometric or arithmetic mean for each monitoring station (first quarter report only for previous calendar year).

(2) If particulate matter values greater than the standards are measured by the department, the air authority shall be notified quarterly. This notification shall include:

- (a) Location.
- (b) Time or time period.
- (c) Concentrations recorded.
- (d) The applicable geometric or arithmetic mean (first quarter report only for previous calendar year).

State effective: 9/16/87; EPA effective: 1/15/93

WAC 173-490 EMISSION STANDARDS AND CONTROLS FOR SOURCES EMITTING VOLATILE ORGANIC COMPOUNDS

173-490-010 Policy and Purpose

(1) It is the policy of the department of ecology (ecology) under the authority vested in it by chapter 43.21A RCW to provide for the systematic control of air pollution from air contaminant sources and for the proper development of the state's natural resources.

(2) It is the purpose of this chapter to establish technically feasible and reasonably attainable standards for sources emitting volatile organic compounds (VOCs) and revise such standards as

new information and better technology are developed and become available.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-020 Definitions

The definitions of terms contained in chapter 173-400 WAC are by this reference incorporated into this chapter. Unless a different meaning is clearly required by context, the following words and phrases, as used in this chapter, shall have the following meanings:

- (1) "**Bottom loading**" means the filling of a tank through a line entering the bottom of the tank.
- (2) "**Bulk gasoline plant**" means a gasoline storage and transfer facility that receives more than ninety percent of its annual gasoline throughput by transport tank, and reloads gasoline into transport tanks.
- (3) "**Class II hardboard paneling finish**" means finishes which meet the specifications of Voluntary Product Standard PS-59-73 as approved by the American National Standards Institute.
- (4) "**Closed refinery system**" means a system that will process or dispose of those VOCs collected from another system. The mass quantity of collected VOCs emitted to the ambient air from the closed refinery system shall not exceed that required for a disposal system.
- (5) "**Condensate**" means hydrocarbon liquid separated from a gas stream which condenses due to changes in the temperature or pressure and remains liquid at standard conditions.
- (6) "**Condenser**" means a device for cooling a gas stream to a temperature where specific VOCs become liquid and are removed.
- (7) "**Control system**" means one or more control devices, including condensers, that are designed and operated to reduce the quantity of VOCs emitted to the atmosphere.
- (8) "**Crude oil**" means a naturally occurring mixture which consists of hydrocarbons and sulfur, nitrogen or oxygen derivatives of hydrocarbons which is a liquid at standard conditions.
- (9) "**Cutback asphalt**" means an asphalt that has been blended with petroleum distillates to reduce the viscosity for ease of handling and lower application temperature. An inverted emulsified asphalt shall be considered a cutback asphalt when the continuous phase of the emulsion is a cutback asphalt.
- (10) "**Disposal system**" means a process or device that reduces the mass quantity of the VOC that would have been emitted to the ambient air by at least ninety percent prior to their actual emission.

- (11) **"Dry cleaning facility"** means a facility engaged in the cleaning of fabrics in an essentially nonaqueous solvent by means of one or more washes in solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. The facility includes, but is not limited to, any washer, dryer, filter and purification system(s), waste disposal system(s), holding tank(s), pump(s) and attendant piping and valve(s).
- (12) **"External floating roof"** means a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which rests upon and is supported by the liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank wall.
- (13) **"Flexographic printing"** means the application of words, designs and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.
- (14) **"Gasoline"** means a petroleum distillate which is a liquid at standard conditions and has a true vapor pressure greater than 200 mm of Hg (4 psia) at 20°C, and is used as a fuel for internal combustion engines.
- (15) **"Gasoline dispensing facility"** means any site dispensing gasoline into motor vehicle fuel tanks from stationary storage tanks.
- (16) **"Gasoline loading terminal"** means a gasoline transfer facility that receives more than ten percent of its annual gasoline throughput solely or in combination by pipeline, ship or barge, and loads gasoline into transport tanks.
- (17) **"Hardboard"** means a panel manufactured primarily from interfelted lignocellulosic fibers which are consolidated under heat and pressure in a hot press.
- (18) **"Hardwood plywood"** means plywood whose surface layer is a veneer of hardwood.
- (19) **"Lease custody transfer"** means the transfer of produced crude oil or condensate, after processing or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.
- (20) **"Liquid-mounted seal"** means a primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof.
- (21) **"Liquid service"** means equipment that processes, transfers or contains a VOC or VOCs in the liquid phase.
- (22) **"Low organic solvent coating"** refers to coatings which contain less organic solvent than the conventional coatings used by the industry. Low organic solvent coatings include water-borne, higher solids, electrodeposition and powder coatings.

- (23) **"Natural finish hardwood plywood panels"** means panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.
- (24) **"Packaging rotogravure printing"** means rotogravure printing upon paper, paper board, metal foil, plastic film, and other substrates, which are, in subsequent operations, formed into packaging products and labels for articles to be sold.
- (25) **"Petroleum liquids"** means crude oil, condensate, and any finished or intermediate products manufactured or extracted in a petroleum refinery.
- (26) **"Petroleum refinery"** means a facility engaged in producing gasoline, aromatics, kerosene, distillate fuel oils, residual fuel oils, lubricants, asphalt, or other products by distilling crude oils or redistilling, cracking, extracting or reforming unfinished petroleum derivatives. Not included are facilities re-refining used motor oils or waste chemicals, processing finished petroleum products, separating blended products, or air blowing asphalt.
- (27) **"Prime coat"** means the first of two or more films of coating applied in an operation.
- (28) **"Printed interior panels"** means panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.
- (29) **"Proper attachment fittings"** means hardware for the attachment of gasoline transfer or vapor collection lines that meet or exceed industrial standards or specifications and the standards of other agencies or institutions responsible for safety and health.
- (30) **"Publication rotogravure printing"** means rotogravure printing upon paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, and other types of printed materials.
- (31) **"Refinery unit"** means a set of components that are a part of a basic process operation, such as distillation, hydrotreating, cracking or reforming of hydrocarbons.
- (32) **"Roll printing"** means the application of words, designs, and pictures to a substrate usually by means of a series of hard rubber or steel rolls each with only partial coverage.
- (33) **"Rotogravure printing"** means the application of words, designs, and pictures to a substrate by means of a roll printing technique which involves intaglio or recessed image areas in the form of cells.
- (34) **"Single coat"** means only one film of coating is applied to the metal substrate.
- (35) **"Submerged fill line"** means a pipe, tube, fitting or other hardware for loading liquids into a tank with either a discharge opening flush with the tank bottom; or with a discharge opening below the lowest normal operating drawoff level or that level determined by a liquid depth two and one half times the fill line diameter when measured in the main portion of the tank, but not in

sumps or similar protrusions.

(36) "**Submerged loading**" means the filling of a tank with a submerged fill line descending nearly to the bottom.

(37) "**Suitable closure or cover**" means a door, hatch, cover, lid, pipe cap, pipe blind, valve or similar device that prevents the accidental spilling or emitting of VOC. Pressure relief valves, aspirator vents or other devices specifically required for safety and fire protection are not included.

(38) "**Thin particle board**" means a manufactured board one-quarter inch or less in thickness made of individual wood particles which have been coated with a binder and formed into flat sheets by pressure.

(39) "**Tileboard**" means paneling that has a colored waterproof surface coating.

(40) "**Topcoat**" means the final film or series of films of coating applied in a two-coat (or more) operation.

(41) "**Transport tank**" means a container used for shipping gasoline on land.

(42) "**True vapor pressure**" means the equilibrium partial pressure of a petroleum liquid as determined with methods described in American Petroleum Institute Bulletin 2517, 1980.

(43) "**Unit turnaround**" means the procedure of shutting down, repairing, inspecting, and restarting a unit.

(44) "**Valves not externally regulated**" means valves that have no external controls, such as in-line check valves.

(45) "**Vapor collection system**" means a closed system to conduct vapors displaced from a tank being filled into the tank being emptied, a vapor holding tank, or a vapor control system.

(46) "**Vapor control system**" means a system designed and operated to reduce or limit the emission of VOCs, or to recover the VOCs to prevent their emission into the ambient air.

(47) "**Vapor-mounted seal**" means a primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.

(48) "**Volatile organic compound (VOC)**" means any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator designates as having negligible photochemical reactivity. VOC may be measured by a reference method, an equivalent method, an alternative method or by procedures specified under 40 CFR Part 60. A reference method, an equivalent method, or an alternative method, however, may also measure nonreactive organic compounds. In such cases, an owner or operator

may exclude the nonreactive organic compounds when determining compliance with a standard.

(49) "Waxy, heavy pour crude oil" means a crude oil with a pour point of 50°F or higher as determined by the American Society for Testing and Materials Standard D97-66, "Test for Pour Point of Petroleum Oils."

State effective: 3/22/91; EPA effective: 9/10/93

173-490-025 General Applicability

In addition to the general applicability of chapter 173-400 WAC to all emission sources, specific emission standards listed in this chapter will take precedence over the general emission standards of chapter 173-400 WAC.

- (1)** This chapter shall apply to the specified emission sources of VOCs located in or operating within designated ozone nonattainment areas of the state of Washington.
- (2)** This chapter does not apply to those sources under the jurisdiction of the energy facility site evaluation council (EFSEC).
- (3)** A source of VOC emissions not belonging to any of the categories listed in WAC 173-490-030 nor specifically identified in any section, but which is located on the same or adjacent property and owned or operated by the same person as a regulated emission source, shall not be required to comply with the regulations of this chapter.
- (4)** Sources of VOC emissions may be exempted, by the director, from any or all requirements to control or reduce the emissions of VOCs when:
 - (a)** The source is a development operation and the equipment is used exclusively for research, laboratory analysis or determination of product quality and commercial acceptance, provided emissions of VOCs from such operations do not exceed 300 kg (660 lbs) per month; or
 - (b)** The source has emissions of VOCs which do not exceed 18 kg (40 lbs) per month and registration is not required under WAC 173-490-030; or
 - (c)** The source is a spray booth which is used solely for maintenance and utility activities and whose emissions do not exceed 18 kg (40 lbs) per month.
- (5)** Sources of VOCs may be granted exemptions from emissions standards for a period not to exceed thirty days if the source is a newly permitted source which is to replace a similar permitted source and the new source is intended to utilize the existing emission control system. This provision is intended to apply to a break-in period prior to the shutdown and removal of the existing source.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-030 Registration and Reporting

(1) The owner or operator of a stationary emission source of VOCs in the following source categories and located in a designated ozone nonattainment area shall register the source with ecology unless registration is required by an authority or the energy facility site evaluation council (EFSEC).

- (a)** Petroleum refineries.
- (b)** Petroleum liquid storage tanks.
- (c)** Gasoline loading terminals.
- (d)** Bulk gasoline plants.
- (e)** Gasoline dispensing facilities.
- (f)** Surface coaters.
- (g)** Open top vapor degreasers.
- (h)** ConveyORIZED degreasers.
- (i)** Gasoline transport tanks.
- (j)** Vapor collection systems.
- (k)** Perchloroethylene dry cleaning systems.
- (l)** Graphic arts systems.
- (m)** Surface coaters of miscellaneous metal parts and products.
- (n)** Synthesized pharmaceutical manufacturing facilities.
- (o)** Flatwood panel manufacturers and surface finishing facilities.

(2) A new emission source of VOCs that must comply with any requirements in WAC 173-490-040, 173-490-200, 173-490-201, 173-490-202, 173-490-203, 173-490-204, 173-490-205, 173-490-206 and 173-490-207, shall comply with the requirements of WAC 173-400-100 and shall register with ecology or an authority prior to operation of the new source,

and shall submit sufficient information to demonstrate that the new source is capable of complying with the requirements in this chapter. An opportunity shall be provided for an inspection of the new source by ecology or local authority inspectors prior to its operation.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-040 Requirements

To demonstrate compliance with this chapter, refer to WAC 173-400-105.

(1) Petroleum refineries.

This chapter shall apply to all petroleum refineries with a crude oil or feed stock capacity greater than one million four hundred thirty thousand liters (9,000 bbl) per day

(a) Vacuum producing system.

(i) Noncondensable VOC from vacuum producing systems shall be piped to an appropriate firebox, incinerator or to a closed refinery system.

(ii) Hot wells associated with contact condensers shall be tightly covered and the collected VOC introduced into a closed refinery system.

(b) Wastewater separator.

(i) Wastewater separator forebays shall incorporate a floating pontoon or fixed solid cover with all openings sealed, totally enclosing the compartmented liquid contents, or a floating pontoon or a double deck-type cover equipped with closure seals between the cover edge and compartment wall.

(ii) Accesses for gauging and sampling shall be designed to minimize VOC emissions during actual use. All access points shall be closed with suitable covers when not in use.

(c) Process unit turnaround.

(i) The VOC contained in a process unit to be depressurized for turnaround shall be introduced to a closed refinery system, combusted by a flare, or vented to a disposal system.

(ii) The pressure in a process unit following depressurization for turnaround shall be less than five psig before venting to the ambient air.

(iii) Venting or depressurization to the ambient air of a process unit for turnaround at a pressure greater than five psig shall be allowed if the owner

demonstrates the actual emission of VOC to the ambient air is less than permitted by WAC 173-490-040 (1)(c)(ii).

(d) Maintenance and operation of emission control equipment. Equipment for the reduction, collection or disposal of VOC shall be maintained and operated in a manner consistent with the level of maintenance and housekeeping of the overall plant.

(2) Petroleum liquid storage tanks.

(a) All fixed-roof tanks (except as noted in subparagraph (d) of this subsection) storing volatile organic petroleum liquids with a true vapor pressure as stored greater than 78 mm of Hg (1.5 psi) at actual monthly average storage temperatures and having a capacity greater than one hundred fifty thousand liters (40,000 gallons) shall comply with one of the following:

- (i)** Meet the equipment specifications and maintenance requirements of the federal standards of performance for new stationary sources - Storage Vessels for Petroleum Liquids (40 CFR 60, subpart K); or
- (ii)** Be retrofitted with a floating roof or internal floating cover using a metallic seal or a nonmetallic resilient seal at least meeting the equipment specifications of the federal standards referred to in WAC 173-490-040 (2)(a)(i) or its equivalent; or
- (iii)** Be fitted with a floating roof or internal floating cover meeting the manufacturer's specifications in effect when installed.

(b) All seals used in WAC 173-490-040 (2)(a)(ii) and (iii) are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears or other openings.

(c) All openings not related to safety are to be sealed with suitable closures.

(d) Tanks used for the storage of gasoline in bulk gasoline plants and equipped with vapor balance systems as required in WAC 173-490-040 (4)(b) shall be exempt from the requirements of WAC 173-490-040(2).

(3) Gasoline loading terminals.

(a) This chapter shall apply to all gasoline loading terminals with an average annual daily gasoline throughput greater than seventy-five thousand liters (20,000 gallons).

(b) Loading facilities. Facilities for the purpose of loading gasoline into any transport tank shall be equipped with a vapor recovery system (VRS) as described in WAC 173-490-040 (3)(c) and comply with the following conditions:

(i) The loading facility shall employ submerged or bottom loading for all transport tanks.

(ii) The VRS shall be connected to the transport tank being loaded and shall operate during the entire loading of every transport tank loaded at the facility.

(iii) The loading of all transport tanks shall be performed such that ninety percent by weight of the gasoline vapors displaced during filling are prevented from being released to the ambient air. Emissions from pressure relief valves shall not be included in the controlled emissions when the back pressure in the VRS collection lines is lower than the relief pressure setting of the transport tank's relief valves.

(iv) All loading lines and vapor lines shall be equipped to close automatically upon disconnect. The point of closure shall be on the tank side of any hose or intermediate connecting line.

(c) Vapor recovery system (VRS). The VRS shall be designed and built according to accepted industrial practices and meet the following conditions:

(i) The VRS shall prevent at least ninety percent by weight of the gasoline vapors displaced during loading of each transport tank from entering the ambient air and in no case shall the gasoline vapors emitted to the ambient air exceed eighty milligrams per liter of gasoline loaded.

(ii) The VRS shall be equipped with a signal device to alert personnel when the system is not operating or unintentionally shuts down.

(iii) The back pressure in the VRS collection lines shall not exceed the transport tank's pressure relief settings.

(d) Alternative loading facility. The loading of transport tanks by other means and using other vapor control systems shall require the facility owner to demonstrate that the emission of gasoline vapors to the ambient air is less than eighty milligrams per liter of gasoline loaded.

(4) Bulk gasoline plants.

(a) This chapter shall apply to all bulk gasoline plants with an annual average daily gasoline throughput greater than fifteen thousand liters (4,000 gallons).

(b) Storage tanks. All storage tanks with a capacity greater than two thousand one hundred liters (550 gallons) and used for the storage of gasoline shall comply with the following conditions:

(i) Each storage tank shall be equipped with a submerged fill line.

(ii) Each storage tank shall be equipped for vapor balancing of gasoline vapors with transport tanks during gasoline transfer operations.

(iii) The vapor line fittings on the storage tank side of break points with the transport tank vapor connection pipe or hose shall be equipped to close automatically upon planned or unintentional disconnect.

(iv) The pressure relief valves on storage tanks shall be set at the highest possible pressure consistent with local and state codes for fire and safety.

(c) Transport tanks. All transport tanks, except those meeting the conditions in WAC 173-490-040 (4)(d), transferring gasoline with storage tanks in a bulk gasoline plant shall comply with the following conditions:

(i) The transport tank shall be equipped with the proper attachment fittings to make vapor tight connections for vapor balancing with storage tanks.

(ii) The vapor line fittings on the transport tank side of break points with the storage tank connection pipe or hose shall be equipped to close automatically upon planned or unintentional disconnect.

(iii) The pressure relief valves on transport tanks shall be set at the highest possible pressure consistent with local and state codes for fire and safety.

(d) Transport tanks used for gasoline and meeting all of the following conditions shall be exempt from the requirement to be equipped with any attachment fitting for vapor balance lines:

(i) The transport tank is used exclusively for the delivery of gasoline into storage tanks of a facility exempt from the vapor balance requirements of WAC 173-490-040(5); and

(ii) The transport tank has a total capacity less than fifteen thousand liters (4,000 gallons) and is of a compartmented design and construction requiring the installation of four or more separate vapor balance fittings.

(e) Gasoline transfer operations. No owner or operator of a bulk gasoline plant or transport tank shall allow the transfer of gasoline between a transport tank and a storage tank except under the following conditions:

(i) All tanks shall be submerged filled or bottom loaded.

(ii) The loading of all tanks, except those exempted under WAC 173-490-040 (4)(d) shall be performed such that ninety percent by weight of the gasoline vapors

displaced during filling are prevented from being released into the ambient air. Emissions from pressure relief valves shall not be included in the controlled emissions.

(f) Equipment or system failures. Failures or leaks in the vapor balance system shall be limited by the following conditions:

(i) During the months of April, May, June, July, August, September and October, failures of the vapor balance system to comply with this chapter shall require that gasoline transfer operations stop for the failed part of the system. Other transfer points that can operate in compliance may be used.

(ii) Loading or unloading of the transport tank connected to the failed part of the vapor balance system may be completed.

(iii) Breakdowns and upset conditions during all months of the year shall also comply with the provisions of WAC 173-400-105(5).

(g) The owner or operator of a bulk gasoline plant or transport tank shall take all reasonable necessary measures to prevent the spilling, discarding in sewers, storing in open containers or handling of gasoline in a manner on the plant site that will result in evaporation to the ambient air.

(5) Gasoline dispensing facilities (Stage I).

(a) This chapter shall apply to all gasoline dispensing facilities with a total annual gasoline output greater than seven hundred fifty-seven thousand liters (200,000 gallons) or sixty-three thousand one hundred liters (16,670 gallons) per month and total gasoline storage capacity greater than thirty-eight thousand liters (10,000 gallons).

(b) All gasoline storage tanks of the facilities defined in WAC 173-490-040 (5)(a) shall be equipped with submerged or bottom fill lines and fittings for vapor balancing gasoline vapors with the delivery transport tank.

(c) Gasoline storage tanks with offset fill lines shall be exempt from the requirement of WAC 173-490-040 (5)(b) if installed prior to January 1, 1979.

(d) The vapor balance system (for the purpose of measuring compliance with the emission control efficiency) shall consist of the transport tank, gasoline vapor transfer lines, storage tank and all tank vents. The vapor balance system shall prevent at least ninety percent of the displaced gasoline vapors from entering the ambient air. A vapor balance system that is designed, built and operated according to accepted industrial practices will satisfy this requirement.

(e) The owner or operator of a gasoline dispensing facility shall not permit the loading of

gasoline into a storage tank equipped with vapor balance fittings unless the vapor balance system is attached to the transport tank and operated satisfactorily.

(6) Surface coaters.

The operation of a coater and dryer, that may serve one or more process lines, shall comply with the following emission limits if the potential uncontrolled emissions of VOC from the coater, flash off areas, and dryer would be greater than 18 kg (40 pounds) in any given twenty-four hour period. The emission limits and uncontrolled emission quantity shall include the additional quantity of emissions from the dryer during the twelve hour period after application of the coating.

Process Can Coating	Limitation Grams/Liter of Coating (Excluding Water)	lb/Gal. of Coating (Excluding Water)
Sheet basecoat and overvarnish: 2-piece can exterior	340	2.8
Two and three piece can interior body spray, two piece can exterior end	510	4.2
Side-seam spray	660	5.5
End sealing compound	440	3.7
Coil Coating	310	2.6
Fabric Coating	350	2.9
Vinyl Coating	450	3.8
Paper Coating	350	2.9
Auto and light duty truck coating		
Prime	230	1.9
Topcoat	340	2.8
Repair	580	4.8
Metal Furniture Coating	360	3.0
Magnet Wire Coating	200	1.7
Large Appliance Coating	340	2.8

(7) Open top vapor degreasers.

(a) All open top vapor degreasers shall:

(i) Have a cover that may be readily opened and closed. When a degreaser is equipped with a lip exhaust, the cover shall be located below the lip exhaust. When a degreaser has a freeboard ratio equal to or greater than 0.75 and the opening is greater than one square meter (10 square feet) the cover shall be power operated.

(ii) Have one of the following:

(A) A freeboard ratio equal to or greater than 0.75; or

(B) A freeboard chiller; or

(C) A closed design such that the cover opens only when the part enters or exits the degreaser.

(iii) Be equipped with at least the following three safety switches:

(A) Condenser-flow switch and thermostat (shuts off sump heat if coolant is either not circulating or too warm); and

(B) Spray safety switch (shuts off spray pump if the vapor level drops excessively; and

(C) Vapor level control thermostat (shuts off sump heat when vapor level rises too high).

(iv) Post a permanent and conspicuous pictograph or instructions clearly explaining the following work practices:

(A) Do not degrease porous or absorbent materials such as cloth, leather, wood or rope.

(B) The cover of the degreaser should be closed at all times except when processing workloads.

(C) When the cover is open the lip of the degreaser should not be exposed to steady drafts greater than 15.3 meters per minute (50 feet per minute).

(D) Rack parts so as to facilitate solvent drainage from the parts.

(E) Workloads should not occupy more than one-half of the vapor-air interface area.

(F) When using a powered hoist, the vertical speed of parts in and out of
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the vapor zone should be less than 3.35 meters per minute (11 feet per minute).

(G) Degrease the workload in the vapor zone until condensation ceases.

(H) Spraying operations should be done within the vapor layer.

(I) Hold parts in the degreaser until visually dry.

(J) When equipped with a lip exhaust, the fan should be turned off when the cover is closed.

(K) The condenser water shall be turned on before the sump heater when starting up a cold vapor degreaser. The sump heater shall be turned off and the solvent vapor layer allowed to collapse before closing the condenser water when shutting down a hot vapor degreaser.

(L) Water shall not be visible in the solvent stream from the water separator.

(b) A routine inspection and maintenance program shall be implemented for the purpose of preventing and correcting solvent losses. For example, leaks from drain taps, cracked gaskets, and malfunctioning equipment must be repaired immediately.

(c) Sump drainage and transfer of hot or warm solvent shall be carried out using threaded or other leakproof couplings.

(d) Still and sump bottoms shall be kept in closed containers.

(e) Waste solvent shall be stored in covered containers and returned to the supplier or to a firm which processes solvents for disposal.

(8) ConveyORIZED degreasers.

(a) The owner or operator of conveyORIZED cold cleaners and conveyORIZED vapor degreasers shall comply with the following operating requirements:

(i) Exhaust ventilation shall not exceed twenty cubic meters per minute per square meter (65 cfm per ft.²) of degreaser opening, unless necessary to meet OSHA requirements.

(ii) Post in the immediate work area a permanent and conspicuous pictograph or instructions clearly explaining the following work practices:

(A) Rack parts for best drainage.

(B) Maintain vertical speed of conveyed parts to less than 3.35 meters per minute (11 feet per minute).

(C) The condenser water shall be turned on before the sump heater when starting up a cold vapor degreaser. The sump heater shall be turned off and the solvent vapor layer allowed to collapse before closing the condenser water when shutting down a hot vapor degreaser.

(D) Water shall not be visible in the solvent stream from the water separator.

(iii) Vapor degreasers shall be equipped with at least the following three safety switches:

(A) Condenser flow switch and thermostat (shuts off sump heat if coolant is either not circulating or too warm); and

(B) Spray safety switch (shuts off spray pump if the vapor level drops excessively); and

(C) Vapor level control thermostat (shuts off sump heat when vapor level rises too high).

(b) A routine inspection and maintenance program shall be implemented for the purpose of preventing and correcting solvent losses. For example, leaks from drain taps, cracked gaskets, and malfunctioning equipment must be repaired immediately.

(c) Sump drainage and transfer of hot or warm solvent shall be carried out using threaded or other leakproof couplings.

(d) Still and sump bottoms shall be kept in closed containers.

(e) Waste solvent shall be stored in covered containers and returned to the supplier or to a firm which processes solvents for disposal.

(f) All conveyORIZED cold cleaners and conveyORIZED vapor degreasers with air/vapor interfaces of 2.0 m² or greater shall have a carbon adsorption system, exhausting less than 25 ppm of solvent averaged over a complete adsorption cycle (based on exhaust ventilation of 15 m³ per min per m² of air/vapor area, when downtime covers are open), or a system with control effectiveness equal to or better than a carbon adsorption system.

(9) Cutback asphalt paving.

(a) All paving applications of cutback asphalts are prohibited during the months of April, May, June, July, August, September and October, except as provided for in WAC

173-490-040 (9)(b).

(b) The following paving uses and applications of cutback asphalts are permitted during all months of the year.

(i) As a penetrating prime coat on aggregate bases prior to paving.

(ii) The manufacture of patching mixes used exclusively for pavement maintenance and needed to be stockpiled for times longer than one month.

(iii) All paving uses when the temperature during application is below 10°C (50°F). Any person using cutback asphalt for paving shall demonstrate that the ambient air temperature at 8 a.m. (PST) is below 50°F. The paving application of cutback asphalt when the ambient air temperature is 50°F or higher is in violation of this chapter.

(10) Cold cleaners.

(a) The owners or operators of all cold cleaners shall comply with the following equipment specifications:

(i) Be equipped with a cover that is readily opened and closed.

(ii) Be equipped with a drain rack that returns the drained solvent to the solvent bath.

(iii) Have a freeboard ratio of at least 0.5.

(iv) Have a visible fill line.

(b) An owner or operator of a cold cleaner shall be responsible for following the required operating parameters and work practices. The owner shall post and maintain in the work area of each cold cleaner a pictograph or instructions clearly explaining the following work practices:

(i) The solvent level shall not be above the fill line.

(ii) The spraying of parts to be cleaned shall be performed only within the confines of the cold cleaner.

(iii) The cover of the cold cleaner shall be closed when not in use or when parts are being soaked or cleaned by solvent agitation.

(iv) Solvent-cleaned parts shall be rotated to drain cavities or blind holes and then set to drain until dripping has stopped.

- (v) Waste solvent shall be stored in covered containers and returned to the supplier or to a firm which processes solvents for disposal.
- (c) The owner or operator shall maintain cold cleaners in good working condition and free of solvent leaks.
- (d) If the solvent has a vapor pressure greater than 2.0 kPa (0.3 psi) measured at 38°C (100°F), or if the solvent is agitated or heated, then the cover must be designed so that it can be easily operated with one hand.
- (e) If the solvent has a vapor pressure greater than 4.3 kPa (0.6 psi) measured at 38°C (100°F), then the drainage facility must be internal, so that parts are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
- (f) If the solvent has a vapor pressure greater than 4.3 kPa (0.6 psi) measured at 38°C (100°F), or if the solvent is heated above 50°C (120°F), one of the following solvent vapor control systems must be used:
 - (i) The freeboard ratio must be equal to or greater than 0.70; or
 - (ii) Water must be kept over the solvent. The solvent must be more dense and insoluble in water.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-080 Exceptions and Alternative Methods

- (1) Other emission reduction methods may be used if the source operator demonstrates to ecology that they are at least as effective as the required methods; and
- (2) The operation of a natural gas-fired incinerator and associated capture system installed for the purpose of complying with this chapter shall be required only during the months of April, May, June, July, August, September and October, unless the operation of such devices is required for purposes of occupational health or safety, or for the control of toxic substances, malodors, or other regulated pollutants.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-090 New Source Review (NSR)

The provisions of WAC 173-400-110 shall apply to all new sources and emissions units to which
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this chapter is applicable.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-200 Petroleum Refinery Equipment Leaks

(1) Specific applicability. This section shall apply to all petroleum refineries as qualified in WAC 173-490-025.

(2) Provisions for specific processes.

(a) The owner(s) or operator(s) of a petroleum refinery shall:

(i) Develop and conduct a monitoring program consistent with the provisions in WAC 173-490-200(3), 173-490-200(4), 173-490-200(5), and 173-400-105;

(ii) Record all leaking components which have a VOC concentration greater than 10,000 ppm when tested according to the provisions in WAC 173-490-200(3) and place an identification tag on each component consistent with the provisions of WAC 173-490-200 (4)(c);

(iii) Correct and retest the leaking component, as defined in WAC 173-490-200 (2)(a)(ii), as soon as practicable, but not later than fifteen days after the leak is recorded. If a leak continues after all reasonable corrective actions have been taken, then the component shall be repaired or replaced on the next scheduled turnaround.

(iv) Identify all leaking components, as defined in WAC 173-490-200 (2)(a)(ii), that cannot be corrected until the refinery unit is shut down for turnaround.

(b) The owner or operator of a petroleum refinery shall not install or operate a valve at the end of a pipe or line containing VOC unless the pipe or line is sealed with a second suitable closure. Exceptions to this requirement are the ends of a pipe or line connected to pressure relief valves, aspirator vents or other devices specifically required to be open for safety protection. The sealing device may be removed only when a sample is being taken or during maintenance operations.

(3) Testing procedures. To demonstrate compliance with this chapter, refer to WAC 173-400-105(5).

(4) Monitoring.

(a) The owner or operator of a petroleum refinery shall conduct a monitoring program consistent with the following provisions:

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(i) Monitor yearly by the methods referenced in WAC 173-490-200(3) all pump seals, pipeline valves in liquid service and process drains;

(ii) Monitor quarterly by the methods referenced in WAC 173-490-200(3) all compressor seals, pipeline valves in gaseous service and pressure relief valves in gaseous service;

(iii) Monitor weekly by visual methods all pump seals;

(iv) Monitor immediately any pump seal from which liquids are observed leaking;

(v) Monitor any relief valve within twenty-four hours after it has vented to the atmosphere; and

(vi) After a leaking component is repaired, monitor for leaks prior to return to service.

(b) Pressure relief devices that are connected to an operating flare header, vapor recovery device, inaccessible valves, storage tank valves, and valves that are not externally regulated are exempt from the monitoring requirements in WAC 173-490-200 (4)(a).

(c) The owner or operator of a petroleum refinery, upon the detection of a leaking component, as defined in WAC 173-490-200 (2)(a)(ii), shall affix a weatherproof and readily visible tag, bearing an identification number and the date the leak is located, to the leaking component. This tag shall remain in place until the leak is corrected.

(5) Recordkeeping.

(a) The owner or operator of a petroleum refinery shall maintain a leaking component's monitoring log as specified in WAC 173-490-200 (2)(a)(ii) that shall contain, at a minimum, the following data:

(i) The name of the process unit where the component is located.

(ii) The type of component (e.g., valve, seal).

(iii) The tag number of the component.

(iv) The date on which a leaking component is discovered.

(v) The date on which a leaking component is repaired.

(vi) The date and instrument reading of the recheck procedure after a leaking

component is repaired.

(vii) A record of the calibration of the monitoring instrument.

(viii) Those leaks that cannot be repaired until turnaround.

(ix) The total number of components checked and the total number of components found leaking.

(b) Copies of the monitoring log shall be retained by the owner or operator for a minimum of two years after the date on which the record was made or the report prepared.

(c) Copies of the monitoring log shall immediately be made available to ecology, upon verbal or written request, at any reasonable time.

(6) Reporting. The owner or operator of a petroleum refinery shall notify ecology in writing within forty-five days following each quarterly or annual inspection for component leaks when:

(a) The number of discovered leaks has increased by more than ten percent above the number recorded during the last inspection of the same components;

(b) The number of leaking components has increased for two consecutive quarterly or annual inspections;

(c) The number of leaks not corrected within fifteen days exceeds five percent of the leaks detected;

(d) The next scheduled process unit turnaround needed to repair an uncorrectable leak is more than twelve months away.

(7) Petition for alternative monitoring.

(a) After two complete liquid service inspections and five complete gaseous service inspections, the owner or operator of a petroleum refinery may petition the director for alternative monitoring procedures or a reduction in monitoring frequency.

(b) A petition for alternative monitoring procedures shall contain:

(i) The name and address of the company and the name and telephone number of the responsible person over whose signature the petition is submitted;

(ii) A detailed description of the problems encountered under WAC 173-490-200(4); and

(iii) A detailed description of the alternative monitoring procedures and how this

alternative procedure will solve or reduce the problems encountered under WAC 173-490-200(4).

(c) A petition for a reduction in monitoring frequency shall contain:

(i) The information requested in WAC 173-490-200 (7)(b)(i);

(ii) A detailed description of the proposed component-monitoring schedule;

(iii) A demonstration by the owner or operator that the facility is currently operating with a low level of component leaks and is committed to a maintenance program that will assure a frequency and severity of component leaks as good as that attainable under WAC 173-490-200(2).

(d) An approved petition for a reduction in monitoring frequency shall begin with the next quarterly inspection and shall be valid for a period of twelve quarters (three years). At the time of the last inspection in the twelve quarters, a new submittal of the information required in WAC 173-490-200 (7)(c) shall be made if the reduced frequency of monitoring is to continue.

(e) Ecology may approve a part or all of a petition for alternative monitoring requested under WAC 173-490-200 (7)(b) or (c). Approval or disapproval will be in writing and within forty-five calendar days of receipt of the petition by ecology. A failure to approve or disapprove a new petition or petition for renewal within the stated time limit shall be taken as an approval.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-201 Petroleum Liquid Storage in External Floating Roof Tanks

(1) Specific applicability.

(a) This section shall apply to all petroleum liquid storage vessels equipped with external floating roofs, having capacities greater than 150,000 liters (40,000 gallons), and as qualified in WAC 173-490-025.

(b) This section does not apply to petroleum liquid storage vessels that:

(i) Are used to store waxy, heavy pour crude oil; or

(ii) Have capacities less than 1,600,000 liters (420,000 gallons) and are used to store produced crude oil and condensate prior to lease custody transfer; or

(iii) Contain a petroleum liquid with a true vapor pressure of less than 10.5 kPa (1.5 psia); or

(iv) Contain a petroleum liquid with a true vapor pressure less than 27.6 kPa (4.0 psia); are of welded construction; and presently possess a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid filled type seal, or other closure device of demonstrated equivalence approved by ecology; or

(v) Are of welded construction, equipped with a metallic-type shoe primary seal and have secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).

(2) Provisions for specific processes.

(a) No owner(s) or operator(s) of a petroleum liquid storage vessel shall store a petroleum liquid in that vessel unless:

(i) The vessel has been fitted with:

(A) A continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or

(B) A closure or other device which controls VOC emissions with an effectiveness equal to or greater than a seal required under WAC 173-490-201 (2)(a)(i)(A) and approved by ecology.

(ii) All seal closure devices meet the following requirements:

(A) There are no visible holes, tears, or other openings in the seal or seal fabric;

(B) The seal is intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and

(C) For vapor mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1/8 inch) in width between the secondary seal and the tank wall shall not exceed 21.2 cm² per meter of tank diameter (1.0 in.² per foot of tank diameter), as determined by the method in WAC 173-490-201(3).

(iii) All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are:

(A) Equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and

(B) Equipped with projections into the tank which remain below the liquid surface at all times.

(iv) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;

(v) Rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting; and

(vi) Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least ninety percent of the area of the opening.

(b) The owner(s) or operator(s) of a petroleum liquid storage vessel with an external floating roof subject to this chapter shall:

(i) Perform routine inspections annually in order to insure compliance with WAC 173-490-201 (2)(a) and the inspection shall include a visual inspection of the secondary seal gap;

(ii) Measure the secondary seal gap annually in accordance with WAC 173-490-201(3) when the floating roof is equipped with a vapor-mounted primary seal; and

(iii) Maintain records of the types of volatile petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of the inspections performed in WAC 173-490-201 (2)(b)(i) and (ii).

(c) The owner(s) or operator(s) of a petroleum liquid storage vessel with an external floating roof exempted from this chapter by WAC 173-490-201 (1)(b)(iii), but containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psi), shall maintain records of the average monthly storage temperature, the type of liquid, and the maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 7.0 kPa.

(d) Copies of all records under WAC 173-490-201 (2)(b) and (c) shall be retained by the owner(s) or operator(s) for a minimum of two years after the date on which the record was made.

(e) Copies of all records required under WAC 173-490-201 shall immediately be made available to the director, upon verbal or written request, at any reasonable time.

(3) Testing and monitoring.

(a) The owner or operator of a storage vessel covered under WAC 173-490-201 shall demonstrate compliance by the methods of this subsection or an alternative method approved by ecology.

(b) A person proposing to measure the seal fit of a storage vessel in order to comply with

this section shall notify ecology of the intent to measure not less than five working days before the measurement so the director or a representative may observe the measurement if desired.

(c) Compliance with WAC 173-490-201 (2)(a)(ii)(C) shall be determined by physically measuring the length and width of all gaps around the circumference of the secondary seal in each place where a 0.32 cm (1/8 in.) diameter probe passes freely (without forcing or binding against the seal) between the seal and the tank wall and summing the area of the individual gaps.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-202 Leaks from Gasoline Transport Tanks and Vapor Collection System

(1) Specific applicability.

This section shall apply to all gasoline transport tanks equipped for gasoline vapor collection and all vapor collection systems at gasoline loading terminals, bulk gasoline plants and gasoline dispensing facilities as qualified in WAC 173-490-025 and 173-490-040.

(2) Provisions for specific processes.

(a) The owner(s) or operator(s) of a gasoline loading or unloading facility shall only allow the transfer of gasoline between the facility and a transport tank when a current leak test certification for the transport tank is on file with the facility or a valid inspection sticker is displayed on the vehicle.

(b) The owner(s) or operator(s) of a transport tank shall not make any connection to the tank for the purpose of loading or unloading gasoline, except in the case of an emergency, unless the gasoline transport tank:

(i) Is tested annually according to the test procedure referenced in WAC 173-490-202 (3)(c);

(ii) Sustains a pressure change of no more than 0.75 kilopascals (3 inches of water) in five minutes when pressurized to a gauge pressure of 4.5 kilopascals (18 inches of water) or evacuated to a gauge pressure of 1.5 kilopascals (6 inches of water) during the testing required in WAC 173-490-202 (2)(b)(i);

(iii) Is repaired by the owner(s) or operator(s) and retested within fifteen days of testing if it does not meet the criteria of WAC 173-490-202 (2)(b)(ii);

(c) The owner(s) or operator(s) of a transport tank shall:

(i) Have a current leak test certification for the transport tank on file with each

gasoline loading or unloading facility where gasoline is transferred; or

(ii) Display a sticker near the department of transportation certification plate required by 49 CFR 178.340-10b which:

(A) Shows the date that the gasoline tank truck last passed the test required in WAC 173-490-202 (2)(b)(i) and (ii);

(B) Shows the identification number of the gasoline tank truck tank; and

(C) Expires not more than one year from the date of the leak tight test.

(d) The owner(s) or operator(s) of a vapor collection system shall:

(i) Operate the vapor collection system and the gasoline loading equipment during all loadings and unloadings of transport tanks equipped for emission control such that:

(A) A gauge reading of tank pressure will not exceed 4.5 kilopascals (18 inches of water) or vacuum 1.5 kilopascals (6 inches of water);

(B) The concentration of gasoline vapors is below the lower explosive limit (LEL, measured as propane) at all points a distance of 2.5 cm (1 inch) from potential leak sources when measured by the method in WAC 173-490-202(3); and

(C) There are no visible liquid leaks.

(ii) Repair and retest a vapor collection system that exceeds the limits of WAC 173-490-202 (2)(d)(i) within fifteen days.

(e) Ecology may, at any time, monitor a gasoline transport tank and vapor collection system during loading or unloading operations by the procedure in WAC 173-490-202 (3)(d) to confirm continuing compliance with WAC 173-490-202 (2)(b) or (d).

(3) Testing and monitoring.

(a) The owner(s) or operator(s) of a gasoline transport tank or vapor collection system shall, at his own expense, demonstrate compliance with WAC 173-490-202 (2)(a) and (b), respectively. All tests shall be made by, or under the direction of, a person qualified to perform the tests.

(b) The owner(s) or operator(s) of a gasoline transport tank shall notify ecology in writing of the date and location of a certification test at least ten calendar days before the anticipated test date.

- (c) To demonstrate compliance with this chapter, refer to WAC 173-400-105.
- (d) Monitoring to confirm the continuing existence of leak tight conditions shall be consistent with the procedures on file with and approved by ecology.

(4) Recordkeeping.

(a) The owner(s) or operator(s) of a gasoline transport tank or vapor collection system shall maintain records of all certification tests and repairs for at least two years after the test or repair is completed.

(b) The records of certification tests required by WAC 173-490-202 (4)(a) shall, as a minimum, contain:

- (i) The transport tank identification number;
- (ii) The initial test pressure and the time of the reading;
- (iii) The final test pressure and the time of the reading;
- (iv) The initial test vacuum and the time of the reading;
- (v) The final test vacuum and the time of the reading;
- (vi) At the top of each report page, the company name, date and location of the tests on that page; and
- (vii) Name and title of the person conducting the test.

(c) The owner(s) or operator(s) of a gasoline transport tank shall annually certify that the transport tank passed the required tests.

(d) Copies of all records required under WAC 173-490-202 shall immediately be made available to ecology, upon written request, at any reasonable time.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-203 Perchloroethylene Dry Cleaning Systems

(1) Specific applicability. This section shall apply to all dry cleaning systems using perchloroethylene cleaning solvent and as qualified in WAC 173-490-203 (1)(a) and (b) and 173-490-025.

(a) The following dry cleaning systems are exempt from the requirements of WAC

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173-490-203 (2)(a)(i) and (ii):

- (i) Coin-operated systems;
- (ii) Systems located in a facility with inadequate space to accommodate an adsorber;
- (iii) Systems with insufficient steam capacity to desorb adsorbers .

(b) An exemption for the conditions stated in WAC 173-490-203 (2)(a)(i) and (ii) may be granted by ecology when sufficient evidence is submitted by the owner(s) or operator(s) of the dry cleaning system to justify the exemption.

(c) A material balance will be used to determine VOC losses.

(2) Provisions for specific processes.

(a) The owner(s) or operator(s) of a perchloroethylene dry cleaning facility subject to this chapter shall:

- (i) Vent the entire dryer exhaust through a properly functioning carbon adsorption system or equally effective control device;
- (ii) Emit no more than 100 ppmv when demonstrated in accordance with WAC 173-490-203(3)(c)(i), of VOC's from the dryer control device before dilution;
- (iii) Immediately repair all components found to be leaking liquid VOCs;
- (iv) Cook or treat all diatomaceous earth filters so that the residue contains 25 kg or less of VOCs per 100 kg of wet waste material;
- (v) Reduce the VOCs from all solvent stills to 60 kg or less per 100kg of wet waste material;
- (vi) Drain all filtration cartridges, in the filter housing or other enclosed container, for at least twenty-four hours before discarding the cartridges; and
- (vii) When possible, dry all drained cartridges without emitting VOCs to the atmosphere.

(3) Testing and monitoring

(a) Compliance with WAC 173-490-203 (2) (a)(i), (vi), and (vii) shall be determined by means of visual inspection.

(b) Compliance with WAC 173-490-203 (2) (a)(iii) shall be determined by means of visual inspection of the following components:

- (i)** Hose connections, unions, couplings and valves;
- (ii)** Machine door gaskets and seatings;
- (iii)** Filter head gasket and seating;
- (iv)** Pumps;
- (v)** Base tanks and storage containers;
- (vi)** Water separators;
- (vii)** Filter sludge recovery;
- (viii)** Distillation unit;
- (ix)** Diverter valves
- (x)** Saturated lint from lint basket; and
- (xi)** Cartridge filters

(c) Compliance with WAC 173-490-203 (2) (a)(ii) shall be demonstrated by:

- (i)** A test consistent with the procedures on file with and approved by ecology; or
- (ii)** The proper installation, operation, and maintenance of equipment that has been demonstrated by the owner(s) or operator(s) to adequately meet the emission limits in WAC 173-490-203(2)(a)(ii).

(d) Compliance with WAC 173-490-203 (2)(a)(iv) and (v) shall be demonstrated by tests consistent with the procedures on file with and approved by ecology.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-204 Graphic Arts System

(1) Specific applicability.

(a) This section shall apply to all packaging rotogravure, publication rotogravure, specialty printing operations, and flexographic printing facilities that use more than 90

megagrams (100 tons) per year of VOCs as a component of ink, for the thinning of ink, cleaning of presses, press components and equipment; and are covered by WAC 173-490-025.

(b) Machines that have both coating units (apply a uniform layer of material across the entire width of a web) and printing units (forming words, designs, and pictures) shall be included under WAC 173-490-204 rather than WAC 173-490-040(6), Surface coaters.

(2) Provisions for specific processes.

(a) No owner(s) or operator(s) of a packaging rotogravure, publication rotogravure or flexographic printing subject to this regulation and employing solvent containing ink may operate, cause, allow or permit the operation of the facility unless:

(i) The volatile fraction of ink, as it is applied to the substrate, contains twenty-five percent by volume or less of organic solvent and seventy-five percent by volume or more of water;

(ii) The ink as it is applied to the substrate, less water, contains sixty percent by volume or more nonvolatile material; or

(iii) The owner(s) or operator(s) installs and operates a system that captures at least ninety percent by weight and;

(A) A carbon adsorption system which reduces the volatile organic emissions from the capture system by at least ninety percent by weight;

(B) An incineration system which oxidizes at least ninety percent of the nonmethane VOCs (VOC measured as total combustible carbon) to carbon dioxide and water; or

(C) An alternative VOC emission reduction system demonstrated to have at least a ninety percent reduction efficiency, measured across the control system, and has been approved by ecology.

(b) A collection system shall be used with the emission controls of WAC 173-490-204 (2)(a)(iii). The design and operation of the collection system shall be consistent with good engineering practice, and shall provide an overall reduction in the emission of VOCs of at least:

(i) Seventy-five percent where a publication rotogravure process is used; or

(ii) Sixty-five percent where a packaging rotogravure process is used; or

(iii) Sixty percent where a flexographic process is used.

(3) Testing and monitoring.

(a) To demonstrate compliance with this chapter, refer to WAC 173-400-105.

(b) When add-on control equipment is used, continuous monitors of the following parameters shall be installed, periodically calibrated, and operated at all times that the associated control equipment is operating:

- (i)** Exhaust gas temperature of all incinerators;
- (ii)** Temperature rise across a catalytic incinerator bed;
- (iii)** Breakthrough of VOC on a carbon adsorption unit; and
- (iv)** Any other continuous monitoring or recording device required by ecology.

(c) The owner or operator of a facility shall be responsible for all expenses of monitoring required by WAC 173-490-204 (3)(b).

State effective: 3/22/91; EPA effective: 9/10/93

173-490-205 Surface Coating of Miscellaneous Metal Parts and Products

(1) Specific applicability. This section shall apply to surface coating of miscellaneous metal parts and products in the following industries, if the potential uncontrolled emissions of VOC is greater than 10 tons per year and as qualified in WAC 173-490-205(1)(b),(c), and (d), and 173-490-025.

(a) Miscellaneous metal parts and products shall include:

- (i)** Large farm machinery (harvesting, fertilizing and planting machines, tractors, combines, etc.);
- (ii)** Small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.);
- (iii)** Small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.);
- (iv)** Commercial machinery (office equipment, computers and auxiliary equipment, typewriters, calculators, vending machines, etc.);
- (v)** Industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.);

(vi) Fabricated metal products (metal covered doors, frames, etc.); and

(vii) Any other industrial category which coats metal parts or products under the Standard Industrial Classification Code of Major Group 33 (primary metal industries), Major Group 34 (fabricated metal products), Major Group 35 (nonelectric machinery), Major Group 36 (electrical machinery), Major Group 37 (transportation equipment), Major Group 38 (miscellaneous instruments), Major Group 39 (miscellaneous manufacturing industries), Major Group 40 (railroad transportation), and Major Group 41 (transit passenger transportation).

(b) This section is not applicable to the surface coating of the following metal parts and products:

(i) Automobiles and light-duty trucks;

(ii) Metal cans;

(iii) Flat metal sheets and strips in the form of rolls or coils;

(iv) Magnet wire for use in electrical machinery;

(v) Metal furniture;

(vi) Large appliances;

(vii) Airplanes;

(viii) Automobile refinishing;

(ix) Customized top coating of automobiles and trucks, if production is less than thirty-five vehicles per day; and

(x) Exterior of marine vessels.

(c) This chapter applies to the application area, flashoff area, air and forced air drier, and oven used in the surface coating of the metal parts and products in WAC 173-490-205 (1)(a). This chapter also applies to prime coat, top coat, and single coat operations.

(d) The application of coatings whose formulations are controlled by federal specifications and the use of which is required by federal agencies shall be exempt from the emission limits in WAC 173-490-205 (2)(a).

(e) A case-by-case determination of the emission controls best representing RACT may be substituted for the requirements of WAC 173-490-205(2). Such a determination shall

be approved by ecology.

(2) Provisions for specific processes.

(a) The owner or operator of a coating application system shall not emit a quantity of VOCs greater than those listed by specific coating, excluding water and as delivered to the application system:

(i)	Clear coatings	0.52 kg/liter	(4.3 lb/gallon)
(ii)	Extreme performance coatings	0.42 kg/liter	(3.5 lb/gallon)
(iii)	Air dried coatings	0.42 kg/liter	(3.5 lb/gallon)
(iv)	All others	0.36 kg/liter	(3.0 lb/gallon)
(v)	Powder coatings	0.05 kg/liter	(0.4 lb/gallon)

(b) When more than one emission limitation listed in WAC 173-490-205 (2)(a) applies to a specific coating, the least stringent will apply.

(c) All VOC emissions from solvent washings shall be considered in the emission limitations in WAC 173-490-205 (2)(a), unless the solvent is directed into containers that prevent evaporation into the atmosphere.

(d) The emission limits set forth in WAC 173-490-205 (2)(a) shall be achieved by:

(i) The application of low solvent coating technology; or

(ii) An incineration system that oxidizes at least ninety percent of the VOCs (VOC measured as total combustible carbon) to carbon dioxide and water; or

(iii) An equivalent means of VOC reduction certified by the owner(s) or operator(s) and approved by ecology.

(e) A collection system shall be used together with the incinerator of WAC 173-490-205 (2)(d)(ii). The design and operation of the collection system shall be consistent with good engineering practice and provide for an overall VOC emission reduction necessary to comply with the emission limits of WAC 173-490-205 (2)(a). The required VOC emission reduction shall be calculated on a unit volume of uncured solids basis.

(3) Testing and monitoring.

(a) Ecology may require the owner(s) or operator(s) of a source to demonstrate at his/her own expense, compliance by the methods of WAC 173-490-205 (3)(c).

(b) The owner(s) or operator(s) of a source shall notify ecology at least ten days before a

proposed emission certification test so the director or a representative may observe the test.

(c) To demonstrate compliance with this chapter, refer to WAC 173-400-105.

(d) Ecology may require monitoring of the following parameters:

- (i) Exhaust gas temperature of all incinerators;
- (ii) Temperature rise across a catalytic incinerator bed; and
- (iii) Breakthrough of VOC on a carbon adsorption unit.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-207 Surface Coating of Flatwood Paneling

(1) Specific applicability.

(a) This section shall apply to all flatwood panel manufacturers and surface finishing facilities as qualified in WAC 173-490-207 (1)(b) and (c) and 173-490-025.

(b) These chapters shall apply to all operations and equipment that is used to apply, convey and dry (including flashoff areas) a surface pattern or coating on the following products:

- (i) Printed interior panels made of hardwood plywood and thin particleboard;
- (ii) Natural finish hardwood plywood panels; or
- (iii) Hardboard paneling with Class II finishes.

(c) These chapters do not apply to the manufacture of exterior siding, tileboard, or particleboard used as a furniture component.

(2) Provisions for specific processes.

(a) The owner(s) or operator(s) of a facility shall not emit VOCs from a coating application system in excess of:

(i) 2.9 kg per 100 square meters of coated finished product (6.0 lb/1,000 square feet) from printed interior panels, regardless of the number of coats applied;

(ii) 5.9 kg per 100 square meters of coated finished product (12.0 lb/1,000 square feet) from natural finish hardwood plywood panels, regardless of the number of

coats applied; and

(iii) 4.9 kg per 100 square meters of coated finished product (10.0 lb/1,000 square feet) from Class II finishes on hardboard panels, regardless of the number of coats applied.

(b) The emission limits in WAC 173-490-207 (2)(a) shall be achieved by:

(i) The application of low solvent content coating technology; or

(ii) An incineration system which oxidizes at least ninety percent of the nonmethane VOCs entering the incinerator (VOC measured as total combustible carbon) to carbon dioxide and water; or

(iii) An equivalent means of VOC removal. The equivalent means must be certified by the owner(s) or operator(s) and approved by ecology.

(c) A capture system shall be used in conjunction with the emission control systems in WAC 173-490-207 (2)(b)(ii) and (iii). The design and operation of the capture system must be consistent with good engineering practice and shall be required to provide for an overall emission reduction sufficient to meet the emission limitation in WAC 173-490-207 (2)(a).

(3) Testing and monitoring.

(a) Ecology may require the owner or operator of a facility to demonstrate at his/her own expense compliance by the methods of WAC 173-490-207 (3)(c).

(b) The owner(s) or operator(s) of a facility shall notify ecology at least ten days before a proposed emission certification test so the director or a representative may observe the test.

(c) To demonstrate compliance with this chapter, refer to WAC 173-400-105.

(d) Ecology may require monitoring of the following parameters:

(i) Exhaust gas temperature of all incinerators;

(ii) Temperature rise across a catalytic incinerator bed; and

(iii) Breakthrough of VOC on a carbon adsorption unit.

State effective: 3/22/91; EPA effective: 9/10/93

173-490-208 Aerospace Assembly and Component Coating Operations

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(1) Specific Applicability. This section shall apply to all aerospace component coating facilities that emit an annual average of eighteen kilograms (forty pounds) or more of VOCs per operating day and as qualified in WAC 173-490-025.

(2) It shall be unlawful for any person to cause or allow:

(a) The application of any primer or topcoat to aerospace components which contains in excess of:

(i) 650 grams of VOC per liter of primer, less water, as applied.

(ii) 600 grams of VOC per liter of topcoat, less water, as applied.

(b) The application of any temporary protective coating to aerospace components that contains more than 250 grams of VOC per liter of material, less water, as applied.

(c) The use of VOCs of composite vapor pressure of 10.4 kPa (1.5 psia) or greater at a temperature of 21.1°C (70°F) for surface preparation or cleanup, excluding paint removal.

(d) The use of VOCs for the cleanup of spray equipment used in aerospace component coating operations unless 85 percent of the VOCs by weight, are collected and disposed so that they are not emitted to the atmosphere.

(e) The use of a stripper which contains more than 400 grams of VOC per liter or has a composite vapor pressure of VOCs more than 1.3 kPa (0.19 psia) at 21.1°C (70°F).

(3) The emission limits of paragraph (2) shall be achieved by:

(a) The application of reasonably available low solvent coating technology;

(b) A vapor collection and disposal system; or

(c) An equivalent method of VOC reduction certified by the owner(s) or operator(s) and approved by ecology.

(4) The provisions of WAC 173-490-208 (2)(a) and (2)(b) shall not apply to the following materials:

(a) Coatings for masking in chemical etching operations,

(b) Adhesive bonding primer,

(c) Flight test coatings,

(d) Space vehicle coatings, or

(e) Fuel tank coatings.

(5) Upon the submission of an alternative coating evaluation, ecology may determine that a reasonably available low solvent coating does exist for a given application and may exempt the coating from requirements of WAC 173-490-208. All alternative coating evaluations shall contain, as a minimum:

(a) Types of products to be coated,

(b) Types of coatings evaluated,

(c) Results of performance tests,

(d) Status of research into development of low VOC coatings for the application,

(e) Feasibility of installing control equipment,

(f) Mitigating measures that could be implemented to reduce VOC emissions.

State effective: 3/22/91; EPA effective: 9/10/93

WAC 173-492 MOTOR FUEL SPECIFICATIONS FOR OXYGENATED GASOLINE

173-492-010 Policy and Purpose

The purpose of this regulation is to reduce carbon monoxide emissions from gasoline powered motor vehicles, through the wintertime use of oxygenated gasolines.

State effective: 10/19/96; EPA effective: 6/30/97

173-492-020 Applicability

This regulation shall apply to all gasoline offered for sale in the control areas and over the control periods defined in WAC 173-492-070.

State effective: 12/1/92; EPA effective: 6/30/97

173-492-030 Definitions

The following words and phrases shall have the following meanings:

"Authority" means an air pollution control authority activated pursuant to chapter 70.94 RCW that has jurisdiction over the subject source.

"Blender" means a person who owns oxygenated gasoline which is sold or dispensed from an oxygenate blending facility for use in a control area during a control period.

"Control area" means an area in which only oxygenated gasoline under the oxygenated gasoline program of this chapter may be sold or dispensed. Each control area is a county or group of counties administered by a separate air pollution control authority.

"Control period" means the period during which oxygenated gasoline must be sold or dispensed within the control area.

"Ecology" means the Washington state department of ecology.

"Gasoline" means any fuel sold for use in motor vehicles and motor vehicle engines, and commonly known or sold as gasoline.

"Large volume blender" means blenders that blend and offer for sale or sell one million gallons or more, but less than fifteen million gallons, of oxygenated gasoline per month on average during a control period within a control area.

"Medium volume blender" means blenders that blend and offer for sale or sell one hundred thousand gallons or more, but less than one million gallons, of oxygenated gasoline per month on average during a control period within a control area.

"Oxygenate" means any substance which, when added to gasoline, increases the amount of oxygen in the gasoline blend. Lawful use of any combination of these substances requires that they be "substantially similar" under section 211 (f)(1) of the federal Clean Air Act (CAA), or be permitted under a waiver granted by the Administrator of the Environmental Protection Agency under the authority of section 211 (f)(4) of the CAA.

"Oxygenated gasoline" means gasoline which contains a measurable amount of oxygenate, generally an alcohol or ether.

"Small volume blender" means blenders that blend and offer for sale or sell less than one hundred thousand gallons of oxygenated gasoline per month on average during a control period within a control area.

"Very large volume blender" means blenders that blend and offer for sale or sell fifteen million gallons or more of oxygenated gasoline per month on average during a control period within a control area.

State effective: 12/1/92; EPA effective: 6/30/97

173-492-040 Compliance Requirements

(1) Retail sales. No gasoline intended as a final product for fueling of motor vehicles within the control areas and control periods as defined in WAC 173-492-070 shall be offered for sale, sold or dispensed by any person unless the gasoline has at least 2.0% oxygen content by weight.

(2) Average blend requirements. Over each two-month interval during the control period, gasoline intended as a final product for fueling of motor vehicles within the control areas defined in WAC 173-492-070 supplied by blenders to purchasers within the control areas defined in WAC 173-492-070 shall average at least 2.7% oxygen by weight, and in no case be less than 2.0% oxygen content by weight.

(3) Reports. Blenders shall provide periodic reports, as stipulated in the blenders registration, to ecology or the authority summarizing how the requirements of subsection (2) of this section were met. With prior approval from ecology or the authority, a credit trading program may be used to comply with these requirements. Such reports shall be on forms provided by ecology or the authority.

State effective: 12/1/92; EPA effective: 6/30/97

173-492-050 Registration Requirements

Each blender shall register with ecology or the authority each year, in each control area where a blender offers for sale, sells, or dispenses gasoline. Each request for registration shall be on forms supplied by ecology or the authority and shall be accompanied by a fee to compensate for the cost of administering the registration program, including on-site inspections necessary to verify compliance with these requirements. The location of each blender facility shall be included in the information provided by the blender at registration. The fee may be based on the volume of oxygenated gasoline sold or offered for sale by the blender in that control area to comply with the provisions of WAC 173-492-040, including separate fee categories for small, medium, large and very large volume blenders.

Registration fees shall be set by regulation by ecology or the authority.

State effective: 10/19/96; EPA effective: 6/30/97

173-492-060 Labeling Requirements

In addition to other labeling requirements, fuel dispensing systems delivering oxygenated gasoline

shall be conspicuously labeled during the control periods and in the control areas stated in WAC 173-492-070 as follows:

"The gasoline dispensed from this pump is oxygenated and will reduce carbon monoxide pollution from motor vehicles."

State effective: 12/1/92; EPA effective: 6/30/97

173-492-070 Control Areas and Control Periods

Beginning in 1992, the oxygenated gasoline requirements of this chapter shall apply to the following control area during the following control period:

Control Period			
Control Area	County	Beginning	Ending
Spokane	Spokane	September 1	February 29
Upon approval by EPA, the control period for Spokane will be from October 1 to February 29.			

State effective: 10/19/96; EPA effective: 6/30/97

173-492-080 Enforcement and Compliance

(1) Compliance with the requirements of this section shall be monitored and enforced by ecology or the authority. Noncompliance shall be subject to the penalties and other remedies provided in chapter 70.94 RCW.

(2) Ecology or the authority may designate any appropriate agency of the state to assist in the compliance monitoring of this regulation. Ecology shall make every effort to coordinate compliance monitoring of this regulation with the current duties of the department of agriculture division of weights and measures.

(3) Compliance with the standards set forth in this section shall be determined by use of testing methods approved by ecology. The maximum accuracy tolerance of this method shall be limited to $\pm 0.3\%$ oxygen by weight, or an equivalent tolerance when measured by volume.

State effective: 12/1/92; EPA effective: 6/30/97

173-492-090 Unplanned Conditions

An unplanned condition, such as an unforeseen emergency or "act of God," which may interfere with compliance to this chapter, shall be reported to ecology or the authority as soon as possible. The responsible party shall also submit a full written report within ten days to ecology or the authority, including the known causes, the corrective actions taken, and the preventive measures to be taken to minimize or eliminate the chance of recurrence. Compliance with the requirements of this section does not relieve the responsible party from the responsibility to maintain continuous compliance with all the requirements of this chapter nor from the resulting liabilities for failure to comply. Ecology or the authority must consider the circumstances of the unplanned condition, and may use the circumstances when determining enforcement.

State effective: 12/1/92; EPA effective: 6/30/97

173-492-100 Severability

The provisions of this regulation are severable and if any provision is held invalid, the application of such provision to the other circumstances and the remainder of this regulation shall not be affected.

State effective: 12/1/92; EPA effective: 6/30/97