**DIVISION 225**

**AIR QUALITY ANALYSIS REQUIREMENTS**

**340-225-0010**

**Purpose**

This division contains the definitions and requirements for air quality analysis referred to in OAR 340 divisions 200 through 268. It does not apply unless a rule in another division refers the reader here. For example, divisions 222 (Stationary Source Plant Site Emissions Limits) and 224 ( New Source Review) refer the reader to provisions in this division for specific air quality analysis requirements.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A
Hist.: DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01

**340-225-0020**

**Definitions**

The definitions in OAR 340-200-0020, 340-204-0010 and this rule apply to this division. If the same term is defined in this rule and 340-200-0020 or 340-204-0010, the definition in this rule applies to this division.

(1) "Allowable Emissions" means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the 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 Parts 60, 61 and 63;

(b) The 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.

(2) "Baseline Concentration" means:

(a) Except as provided in subsection (c), the ambient concentration level for sulfur dioxide and PM10 that existed in an area during the calendar year 1978. Actual emission increases or decreases occurring before January 1, 1978 must be included in the baseline calculation, except that actual emission increases from any major source or major modification on which construction commenced after January 6, 1975 must not be included in the baseline calculation;

(b) The ambient concentration level for nitrogen oxides that existed in an area during the calendar year 1988.

(c) For the area of northeastern Oregon within the boundaries of the Umatilla, Wallowa-Whitman, Ochoco, and Malheur National Forests, the ambient concentration level for PM10 that existed during the calendar year 1993. DEQ may allow the source to use an earlier time period if DEQ determines that it is more representative of normal emissions.

(d) For PM10 in the Medford-Ashland AQMA: the ambient PM10 concentration levels that existed during the year that EPA redesignates the AQMA to attainment for PM10.

(e) The ambient concentration level for PM2.5 that existed in an area during the calendar year 2007.

(f) If no ambient air quality data is available in an area, the baseline concentration may be estimated using modeling based on actual emissions for the years specified in subsections (a) through (e) of this section.

(4) "Competing PSD Increment Consuming Source Impacts" means the total modeled concentration above the modeled Baseline Concentration resulting from increased and decreased emissions of all other sources since the baseline concentration year that are within the Range of Influence of the source in question. Allowable Emissions may be used as a conservative estimate, in lieu of Actual Emissions, in this analysis.

(5) "Competing NAAQS Source Impacts" means total modeled concentration resulting from allowable emissions of all other sources that significantly impact the Significant Impact Area of the new or modified source being analyzed.

(6) "FLAG" refers to the Federal Land Managers' Air Quality Related Values Work Group Phase I Report — REVISED. See 75 Federal Register 66125, October 27, 2010.

(7) "General Background Concentration" means impacts from natural sources and unidentified sources that were not explicitly modeled. DEQ may determine this as site-specific ambient monitoring or representative ambient monitoring from another location.

 (8) "Nitrogen Deposition" means the sum of anion and cation nitrogen deposition expressed in terms of the mass of total elemental nitrogen being deposited. As an example, Nitrogen Deposition for NH4NO3 is 0.3500 times the weight of NH4NO3 being deposited.

(9) "Ozone Precursor Distance" means the distance in kilometers from the nearest boundary of a designated ozone nonattainment, maintenance area, transitional area, or potential nonattainment area within which a major new or modified source of VOC or NOx is considered to significantly affect that designated area.

(10) "Ozone Precursor Offsets" means the emission reductions required to offset emission increases from a major new or modified source located inside the designated nonattainment, maintenance area, transitional area, or potential nonattainment area or within the ozone precursor distance. Emission reductions must come from within the designated area or from within the ozone precursor distance of the offsetting source as described in OAR 340-225-0100.

(11) "Predicted Maintenance Area Concentration" means the future year ambient concentration predicted by DEQ in the applicable maintenance plan as follows:

(a) The future year (2015) concentrations for the Grants Pass UGB are 89 µg/m3 (24-hour average) and 21 µg/m3 (annual average).

(b) The future year (2015) concentrations for the Klamath Falls UGB are 114 µg/m3 (24-hour average) and 25 µg/m3 (annual average).

(c) The future year (2025) concentrations for the Lakeview UGB are 126 µg/m3 (24-hour average) and 27 µg/m3 (annual average).

(12) "Range of Influence (ROI)" means:

(a) For PSD Class II and Class III areas, the Range of Influence of a competing source is the distance a source has an effect on an area and is compared to the distance from a potential competing source to the Significant Impact Area of a proposed new source.

(b) For PSD Class I areas, the Range of Influence of a competing source includes emissions from all sources that occur within the modeling domain of the source being evaluated. DEQ determines the modeling domain on a case-by-case basis.

(13) "Source Impact Area" means a circular area with a radius extending from the source to the largest distance to where predicted impacts from the source or modification equal or exceed the Class II Significant Impact levels set out in OAR 340-200-0020 Table 1. This definition only applies to PSD Class II areas and is not intended to limit the distance for PSD Class I modeling. On a case by case basis, the source impact area may be adjusted to reflect the distrubution of predicted impacts paired in space and time.

(14) "Sulfur Deposition" means the sum of anion and cation sulfur deposition expressed in terms of the total mass of elemental sulfur being deposited. As an example, sulfur deposition for (NH4)2SO4 is 0.2427 times the weight of (NH4)2SO4 being deposited.

[ED. NOTE: Tables referenced are not included in rule text. [Click here for PDF copy of table(s)](http://arcweb.sos.state.or.us/pages/rules/oars_300/oar_340/_340_tables/340-225-0020_4-28.pdf).]

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A
Hist.: DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01; DEQ 11-2002, f. & cert. ef. 10-8-02; DEQ 12-2002(Temp), f. & cert. ef. 10-8-02 thru 4-6-03; Administrative correction 11-10-03; DEQ 1-2004, f. & cert. ef. 4-14-04; DEQ 1-2005, f. & cert. ef. 1-4-05; DEQ 9-2005, f. & cert. ef. 9-9-05; DEQ 10-2010(Temp), f. 8-31-10, cert. ef. 9-1-10 thru 2-28-11; Administrative correction, 3-29-11; DEQ 5-2011, f. 4-29-11, cert. ef. 5-1-11

**340-225-0030**

**Procedural Requirements**

Information Required. In addition to the requirements defined in OAR 340-216-0040, the owner or operator of a source, where required by divisions 222 or 224, must submit all information necessary to perform any analysis or make any determination required under these rules. Such information must include, but is not limited to:

(1) Emissions data for all existing and proposed emission points from the source or modification. This data must represent maximum emissions for the averaging times by pollutant consistent with the ambient air quality standards in division 202.

(2) Stack parameter data (height above ground, exit diameter, exit velocity, and exit temperature data for all existing and proposed emission points from the source or modification;

(3) An analysis of the air quality and visibility impact of the source or modification, including meteorological and topographical data, specific details of models used, and other information necessary to estimate air quality impacts; and

(4) An analysis of the air quality and visibility impacts, and the nature and extent of all commercial, residential, industrial, and other source emission growth, that has occurred since January 1, 1978, in the area the source or modification would significantly affect.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A
Hist.: DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01; DEQ 10-2010(Temp), f. 8-31-10, cert. ef. 9-1-10 thru 2-28-11; Administrative correction, 3-29-11; DEQ 5-2011, f. 4-29-11, cert. ef. 5-1-11

**340-225-0040**

**Air Quality Models**

All modeled estimates of ambient concentrations required under this rule must be based on the applicable air quality models, data bases, and other requirements specified in 40 CFR Part 51, Appendix W, "Guidelines on Air Quality Models (Revised)" (July 1, 20013). Where an air quality impact model specified in 40 CFR Part 51, Appendix W is inappropriate, the methods published in the FLAG are generally preferred for analyses in PSD Class I areas. Where an air quality impact model other than that specified in 40 CFR Part 51, Appendix W is appropriate in PSD Class II and III areas, the model may be modified or another model substituted. Any change or substitution from models specified in 40 CFR Part 51, Appendix W is subject to notice and opportunity for public comment and must receive prior written approval from DEQ and the EPA.

[Publications: The publications referenced in this rule are available from the agency.]

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A
Hist.: DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01

**340-225-0045**

**Requirements for Analysis in Maintenance Areas**

Modeling: For determining compliance with the limits established in OAR 340-202-0225, and the following methods must be used:

(1) For each maintenance pollutant and its precursors, a single source impact analysis is sufficient to show compliance with the limits if modeled impacts from emission increases equal to or greater than a significant emission rate above the netting basis due to the proposed source or modification being evaluated are less than the Class II Significant Impact Levels specified in OAR 340-200-0020 **Table 1**.

(2) If the requirement in section (1) of this rule is not satisfied, , the owner or operator of a proposed source or modification must show that modeled impacts from the proposed increased emissions plus competing source impacts, plus predicted maintenance area concentration are less than the limits in OAR 340-202-0225 for all averaging times.

[ED. NOTE: Tables referenced are available from the agency.]

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A, 468A.025 & 468A.035
Hist.: DEQ 11-2002, f. & cert. ef. 10-8-02; DEQ 1-2005, f. & cert. ef. 1-4-05; DEQ 10-2010(Temp), f. 8-31-10, cert. ef. 9-1-10 thru 2-28-11; Administrative correction, 3-29-11; DEQ 5-2011, f. 4-29-11, cert. ef. 5-1-11

**340-225-0050**

**Requirements for Analysis in PSD Class II and Class III Areas**

Modeling: For determining compliance with the NAAQS and PSD Increments in PSD Class II and Class III areas, the following methods must be used:

(1) For each pollutant and its precursors, a single source impact analysis is sufficient to show compliance with the NAAQS and PSD increments if modeled impacts from emission increases equal to or greater than a significant emission rate above the netting basis due to the proposed source or modification being evaluated are less than the Class II Significant Impact Levels specified in OAR 340-200-0020, Table 1. The owner or operator cannot cause or contribute to a new violation of an ambient air quality standard even if the single source impact is less than the significant impact level, in accordance with OAR 340-202-0050(2).

(2) If the requirement in section (1) is not satisfied, the owner or operator of a proposed source or modification being evaluated must perform competing source modeling as follows:

(a) For demonstrating compliance with the PSD Class II and III Increments (as defined in OAR 340-202-0210, Table 1), the owner or operator of a proposed source or modification must show that modeled impacts from the proposed increased emissions (above the modeled baseline concentration) plus competing PSD increment consuming source impacts above the modeled baseline concentration are less than the PSD increments for all averaging times.

(b) For demonstrating compliance with the NAAQS, the owner or operator of a proposed source must show that the total modeled impacts plus total competing NAAQS source impacts plus general background concentrations are less than the NAAQS for all averaging times.

 (3) Additional Impact Modeling:

(a) When referred to this rule by division 224, the owner or operator of a source must provide an analysis of the impairment to visibility, soils and vegetation that would occur as a result of the source or modification, and general commercial, residential, industrial and other growth associated with the source or modification. As a part of this analysis, deposition modeling analysis is required for sources emitting heavy metals above the significant emission rates as defined in OAR 340-200-0020, Table 2. Concentration and deposition modeling may also be required for sources emitting other compounds on a case-by-case basis;

(b) The owner or operator must provide an analysis of the air quality concentration projected for the area as a result of general commercial, residential, industrial and other growth associated with the source or modification.

[ED. NOTE: Tables referenced are available from the agency.]
[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A
Hist.: DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01; DEQ 11-2002, f. & cert. ef. 10-8-02; DEQ 1-2004, f. & cert. ef. 4-14-04; DEQ 10-2010(Temp), f. 8-31-10, cert. ef. 9-1-10 thru 2-28-11; Administrative correction, 3-29-11; DEQ 5-2011, f. 4-29-11, cert. ef. 5-1-11

**340-225-0060**

**Requirements for Demonstrating Compliance with Standards and Increments in PSD Class I Areas**

For determining compliance with standards and increments in PSD Class I areas, the following methods must be used:

(1) Before January 1, 2003, the owner or operator of a source, where required by division 224, must model impacts and demonstrate compliance with standards and increments on all PSD Class I areas that may be affected by the source or modification.

(2) On or after January 1, 2003, the owner or operator of a source, where required by division 224, must meet the following requirements:

(a) For each pollutant and its precursors, a single source impact analysis will be sufficient to show compliance with PSD increments if modeled impacts from emission increases equal to or greater than a significant emission rate above the netting basis due to the proposed source or modification being evaluated are demonstrated to be less than the Class I significant impact levels specified in OAR 340-200-0020, **Table 1**.

(b) If the requirement in subsection (a) is not satisfied, the owner or operator must also show that the increased source impacts above baseline concentration plus competing PSD increment consuming source impacts are less than the PSD Class I increments for all averaging times.

(c) For each pollutant and its precursors, a single source impact analysis will be sufficient to show compliance with standards if modeled impacts from emission increases equal to or greater than a significant emission rate above the netting basis due to the proposed source or modification being evaluated are demonstrated to be less than the Class II significant impact levels specified in OAR 340-200-0020, Table 1.

(d) If the requirement of subsection (2)(a) is not satisfied, and background monitoring data for each PSD Class I area shows that the NAAQS is more controlling than the PSD increment then the source must also demonstrate compliance with the NAAQS by showing that their total modeled impacts plus total modeled Competing NAAQS Source Impacts plus General Background Concentrations are less than the NAAQS for all averaging times.

[ED. NOTE: Table referenced is available from the agency.]

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A
Hist.: DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01; DEQ 11-2002, f. & cert. ef. 10-8-02; DEQ 10-2010(Temp), f. 8-31-10, cert. ef. 9-1-10 thru 2-28-11; Administrative correction, 3-29-11; DEQ 5-2011, f. 4-29-11, cert. ef. 5-1-11

**340-225-0070**

**Requirements for Demonstrating Compliance with AQRV Protection**

(1) Sources that are not Federal Major Sources are exempt from the requirements of the remainder of this rule. The following emissions units are subject to the requirements of this rule:

(a) Each new emissions unit that emits the pollutant in question, except PM2.5, and was installed since the baseline period or the most recent Major New Source Review construction approval for that pollutant; and

(b) Each modified emissions unit that increases the actual emissions of the pollutant in question above the portion of the netting basis attributable to that emissions unit.

(2) Notice of permit application for actions subject to the requirements of divisions 222 and 224:

(a) If a proposed major source or major modification could impact air quality related values (including visibility) within a Class I area, DEQ will provide written notice to the EPA and to the appropriate Federal Land Manager within 30 days of receiving such permit application. The notice will include a copy of all information relevant to the permit application, including analysis of anticipated impacts on Class I area air quality related values (including visibility). DEQ will also provide at least 30 days notice to EPA and the appropriate Federal Land Manager of any scheduled public hearings and preliminary and final actions taken on the application;

(b) If DEQ receives advance notice of a permit application for a source that may affect Class I area visibility, DEQ will notify all affected Federal Land Managers within 30 days of receiving the advance notice;

(c) During its review of source impacts on Class I area air quality related values (including visibility) pursuant to this rule, DEQ will consider any analysis performed by the Federal Land Manager that is received by DEQ within 30 days of the notice required by subsection (a). If DEQ disagrees with the Federal Land Manager's demonstration, DEQ will include a discussion of the disagreement in the Notice of Public Hearing;

(d) As a part of the notification required in OAR 340-209-0060, DEQ will provide the Federal Land Manager an opportunity to demonstrate that the emissions from the proposed source or modification would have an adverse impact on air quality related values (including visibility) of any federal mandatory Class I area. This adverse impact determination may be made even if there is no demonstration that a Class I PSD increment has been exceeded. If DEQ agrees with the demonstration, it will not issue the permit.

(3) Visibility impact analysis requirements:

(a) If divisions 222 or 224 require a visibility impact analysis, the owner or operator must demonstrate that the potential to emit any pollutant at a significant emission rate in conjunction with all other applicable emission increases or decreases, including secondary emissions, permitted since January 1, 1984 and other increases or decreases in emissions, will not cause or contribute to significant impairment of visibility on any Class I area.

(b) The owner or operator must conduct a visibility analysis on the Columbia River Gorge National Scenic Area if it is affected by the source;

(c) The owner or operator must submit all information necessary to perform any analysis or demonstration required by these rules.

(d) Determination of significant impairment: The results of the modeling must be sent to the affected Federal Land Managers and DEQ. The land managers may, within 30 days following receipt of the source's visibility impact analysis, determine whether or not significant impairment of visibility in a Class I area would result. DEQ will consider the comments of the Federal Land Manager in its consideration of whether significant impairment will result. If DEQ determines that impairment would result, it will not issue a permit for the proposed source.

(4) Types of visibility modeling required. For receptors in PSD Class I areas within the PSD Class I Range of Influence, a plume blight analysis or regional haze analysis is required.

(a) For PSD Class II and Class III areas, the Range of Influence of a competing source (in kilometers) is defined by:

(A) ROI (km) = Q (tons/year) / K (tons/year km).

(B) Definition of factors used in paragraph (A) of this subsection:

 (ii) Q is the emission rate of the potential competing source in tons per year.

(iii) K (tons/year km) is a pollutant specific constant as defined in the table below:

1. 5 tons/year km for PM2.5, PM10, SOx, and NOx;
2. 40 tons/year km for CO; or
3. 0.15 tons/year km for lead.

(C) Maximum ROI is 50 km, however DEQ may request that sources at a distance greater than 50 km be included in a competing source analysis.

(b) For PSD Class I areas, the Range of Influence of a competing source includes emissions from all sources that occur within the modeling domain of the source being evaluated. DEQ determines the modeling domain on a case-by-case basis.

(5) Criteria for visibility impacts:

(a) The owner or operator of a source, where required by divisions 222 or 224, is encouraged to demonstrate that their impacts on visibility satisfy the guidance criteria as referenced in the FLAG.

(b) If visibility impacts are a concern, DEQ will consider comments from the Federal Land Manager when deciding whether significant impairment will result. Emission offsets may also be considered. If DEQ determines that impairment would result, it will not issue a permit for the proposed source.

(6) Deposition modeling is required for receptors in PSD Class I areas and the Columbia River Gorge National Scenic Area where visibility modeling is required. This may include, but is not limited to an analysis of Nitrogen Deposition and Sulfur Deposition.

(7) Visibility monitoring:

(a) If divisions 222 or 224 require visibility monitoring data, the owner or operator must use existing data to establish existing visibility conditions within Class I areas as summarized in the FLAG Report.

(b) After construction has been completed the owner or operator must conduct such visibility monitoring as DEQ requires as a permit condition to establish the effect of the pollutant on visibility conditions within the impacted Class I area.

(8) Additional impact analysis: the owner or operator subject to OAR 340-224-0060(2) or OAR 340-224-0070(3) must provide an analysis of the impact to visibility that would occur as a result of the proposed source or modification and general commercial, residential, industrial, and other growth associated with the source or major modification.

(9) If the Federal Land Manager recommends and DEQ agrees, DEQ may require the owner or operator to analyze the potential impacts on other Air Quality Related Values and how to protect them. Procedures from the FLAG report should be used in this recommendation. Emission offsets may also be used. If the Federal Land Manager finds that significant impairment would result from the proposed activities and Department agrees, DEQ will not issue a permit for the proposed source.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A
Hist.: DEQ 18-1984, f. & ef. 10-16-84; DEQ 14-1985, f. & ef. 10-16-85; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 12-1993, f. & cert. ef. 9-24-93; Renumbered from 340-020-0276; DEQ 19-1993, f. & cert. ef. 11-4-93; DEQ 26-1996, f. & cert. ef. 11-26-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-028-2000; DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01, Renumbered from 340-224-0110

**340-225-0090**

**Requirements for Demonstrating a Net Air Quality Benefit**

Demonstrations of net air quality benefit for offsets must include the following:

(1) Ozone areas (VOC and NOx emissions). For sources capable of impacting a designated ozone nonattainment or maintenance area;

(a) Offsets for VOC and NOx are required if the source will be located within the designated area or within the ozone precursor distance.

(b) The amount and location of offsets must be determined in accordance with this subsection:

(A)For new or modified sources locating within a designated nonattainment area, the offset ratio is 1.1:1. These offsets must come from within either the same designated nonattainment area as the new or modified source or another ozone nonattainment area (with equal or higher nonattainment classification) that contributes to a violation of the NAAQS in the same designated nonattainment area as the new or modified source.

(B) For new or modified sources locating within a designated maintenance area, the offset ratio is 1.1:1. These offsets may come from within either the designated area or the ozone precursor distance.

(C) For new or modified sources locating outside the designated area, but within the ozone precursor distance, the offset ratio is 1:1. These offsets may come from within either the designated area or the ozone precursor distance.

(D) Offsets from outside the designated area but within the Ozone Precursor Distance must be from sources affecting the designated area in a comparable manner to the proposed emissions increase. Methods for determining offsets are described in the Ozone Precursor Offsets definition (OAR 340-225-0020(11)).

(c) In lieu of obtaining offsets, the owner or operator may obtain an allocation at the rate of 1:1 from a growth allowance, if available, in an applicable maintenance plan.

(d) Sources within or affecting the Medford Ozone Maintenance Area are exempt from the requirement for NOx offsets relating to ozone formation.

(e) Sources within or affecting the Salem Ozone Maintenance Area are exempt from the requirement for VOC and NOx offsets relating to ozone formation.

(2) Non-Ozone areas (PM2.5, PM10, SO2, CO, NOx, and Lead emissions):

(a) For a source locating within a designated nonattainment area, the owner or operator must comply with paragraphs (A) through (E) of this subsection:

(A) Obtain offsets from within the same designated nonattainment area for the nonattainment pollutant(s);

(B) Except as provided in paragraphs (C) of this subsection, provide a minimum of 1:1 offsets for each nonattainment pollutant and precursor with emission increases over the Netting Basis;

(C) For PM2.5; inter-pollutant offsets are allowed as follows:

(i) 1 ton of direct PM2.5 may be used to offset 40 tons of SO2;

(ii) 1 ton of direct PM2.5 may be used to offset 100 tons of NOx;

(iii) 40 tons of SO2 may be used to offset 1 ton of direct PM2.5;

(iv) 100 tons of NOx may be used to offset 1 ton of direct PM2.5.

 (D) Except as provided in section (7) of this rule, provide a net air quality benefit within the designated nonattainment area. "Net Air Quality Benefit" means:

(i) Offsets obtained result in a reduction in concentration at a majority of the modeled receptors and the emission increases from the proposed source or modification will result in less than a significant impact level increase at all modeled receptors; or

(ii) For a small scale local energy project and any infrastructure related to that project located in the same area, a reduction of the nonattainment pollutant emissions equal to the ratio specified in this subsection, provided that the proposed major source or major modification would not cause or contribute to a violation of the national ambient air quality standard or otherwise pose a material threat to compliance with air quality standards in the nonattainment area.

(E) Provide offsets sufficient to demonstrate reasonable further progress toward achieving the NAAQS.

(b) For a source locating outside a designated nonattainment area but causing a significant air quality impact on the area, the owner or operator must provide offsets sufficient to reduce the modeled impacts below the significant air quality impact level (OAR 340-200-0020) at all receptors within the designated nonattainment area. These offsets may come from within or outside the designated nonattainment area. This requirement only applies to the emissions remaining after first deducting the offsets obtained in accordance with section (7) of this rule.

(c) For a source locating inside or causing a significant air quality impact on a designated maintenance area, the owner or operator must either provide offsets sufficient to reduce modeled impacts below the significant air quality impact level (OAR 340-200-0020) at all receptors within the designated maintenance area or obtain an allocation from an available growth allowance as allowed by an applicable maintenance plan. These offsets may come from within or outside the designated maintenance area.

(A) Medford-Ashland AQMA: Proposed new major PM10 sources or major PM10 modifications locating within the AQMA that are required to provide emission offsets under OAR 340-224-0060(2)(a) must provide reductions in PM10 emissions equal to 1.2 times the emissions increase over the netting basis from the new or modified source, and must provide a net air quality benefit within the AQMA. "Net Air Quality Benefit" means:

(i)A reduction in concentration at a majority of the modeled receptors and less than a significant impact level increase at all modeled receptors; or

 (ii) For a small scale local energy project and any infrastructure related to that project located in the same area, a reduction of the maintenance pollutant emissions equal to the ratio specified in this paragraph, provided that the proposed major source or major modification would not cause or contribute to a violation of the national ambient air quality standard or otherwise pose a material threat to compliance with air quality standards in the maintenance area.

(B) Medford-Ashland AQMA: Proposed new major PM10 sources or major PM10 modifications located outside the Medford-Ashland AQMA that cause a significant air quality impact on the AQMA must provide reductions in PM10 emissions sufficient to reduce modeled impacts below the significant air quality impact level (OAR 340-200-0020) at all receptors within the AQMA.

(3) Except as provided in paragraph (2)(a)(C) of this rule, the emission reductions used as offsets must be of the same type of pollutant as the emissions from the new source or modification. Sources of PM10 must be offset with particulate in the same size range.

(4) The emission reductions used as offsets must be contemporaneous, that is, the reductions must take effect before the time of startup but not more than two years before the submittal of a complete permit application for the new source or modification. This time limitation may be extended through banking, as provided for in OAR 340 division 268, Emission Reduction Credit Banking. In the case of replacement facilities, the DEQ may allow simultaneous operation of the old and new facilities during the startup period of the new facility, if net emissions are not increased during that time period. Any emission reductions must be federally enforceable at the time of the issuance of the permit.

(5) Offsets required under this rule must meet the requirements of Emissions Reduction Credits in OAR 340 division 268.

(6) Emission reductions used as offsets must be equivalent in terms of short term, seasonal, and yearly time periods to mitigate the effects of the proposed emissions.

(7) Offsets obtained in accordance with OAR 340-240-0550 and 340-240-0560 for sources locating within or causing significant air quality impact on the Klamath Falls PM2.5 nonattainment or PM10 maintenance areas are exempt from the requirements of paragraph (2)(a)(E) and sub-sections 2(b) and 2(c) of this rule provided that the proposed major source or major modification would not cause or contribute to a new violation of the national ambient air quality standard. This exemption only applies to the direct PM2.5 or PM10 offsets obtained from residential wood-fired devices in accordance with OAR 340-240-0550 and 340-240-0560. Any remaining emissions from the source that are offset by emission reductions from other sources are subject to the requirements of paragraph (2)(a)(E) or sub-sections (2)(b) or (2(c) of this rule, as applicable.

**NOTE**: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the EQC under OAR 340-200-0040.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 25-1981, f. & ef. 9-8-81; DEQ 5-1983, f. & ef. 4-18-83; DEQ 8-1988, f. & cert. ef. 5-19-88 (and corrected 5-31-88); DEQ 22-1989, f. & cert. ef. 9-26-89; DEQ 27-1992, f. & cert. ef. 11-12-92; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 12-1993, f. & cert. ef. 9-24-93, Renumbered from 340-020-0260; DEQ 19-1993, f. & cert. ef. 11-4-93; DEQ 4-1995, f. & cert. ef. 2-17-95; DEQ 26-1996, f. & cert. ef. 11-26-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-028-1970; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-030-0111; DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01, Renumbered from 340-224-0090 & 340-240-0260; DEQ 11-2002, f. & cert. ef. 10-8-02; DEQ 12-2002(Temp), f. & cert. ef. 10-8-02 thru 4-6-03; Administrative correction 11-10-03; DEQ 1-2004, f. & cert. ef. 4-14-04; DEQ 1-2005, f. & cert. ef. 1-4-05; DEQ 3-2007, f. & cert. ef. 4-12-07; DEQ 10-2010(Temp), f. 8-31-10, cert. ef. 9-1-10 thru 2-28-11; Administrative correction, 3-29-11; DEQ 5-2011, f. 4-29-11, cert. ef. 5-1-11; DEQ 10-2012, f. & cert. ef. 12-11-12

**340-225-0100**

**Ozone Precursor Offsets and Distance**

(1) Ozone Precursor Distance. The determination of whether a major new or modified source of VOC or NOx significantly affects a designated ozone nonattainment, maintenance or area violating the ozone NAAQS is made by either the formula method or the demonstration method.

(a) The Formula Method.

(A) D = (Q/40) x 30 km

(i) D is the Ozone Precursor Distance in kilometers. The value for D is 100 kilometers when D is calculated to exceed 100 kilometers.

(ii) Q is the larger of the NOx or VOC emissions increase from the source being evaluated in tons/year, and is quantified relative to the netting basis.

(B) If a source is located at a distance less than D from the designated area, the source is considered to have a significant effect on the designated area. If the source is located at a distance equal to or greater than D, it is not considered to have a significant effect.

(b) The Demonstration Method. An applicant may demonstrate to DEQ that the source or proposed source would not significantly impact a nonattainment area, maintenance area, or area violating the NAAQS. This demonstration may be based on an analysis of major topographic features, dispersion modeling, meteorological conditions, or other factors. If DEQ determines that the source or proposed source would not significantly impact the nonattainment area, maintenance area, or area violating the NAAQS under high ozone conditions, the ozone precursor distance is zero kilometers.

(2) Ozone Precursor Offsets. The offsets determination is made by either the formula method or the demonstration method.

(a) The Formula Method.

(A) Required offsets (RO) for new or modified sources are determined as RO = (SQ minus (40/30 \* SD))

(B) Contributing sources may provide offsets (PO) calculated as follows: PO = CQ minus (40/30 \* CD)

(C) Multiple sources may contribute to the required offsets of a new source. For the formula method to be satisfied, total provided offsets (PO) must equal or exceed the required offset (RO).

(D) Definitions of factors used in paragraphs (A) (B) and (C) of this subsection:

(i) RO is the required offset of NOx or VOC in tons per year as a result of the source emissions increase. If RO is calculated to be negative, RO is set to zero;

(ii) SQ is the source emissions increase of NOx or VOC in tons per year above the netting basis;

(iii) SD is the source distance in kilometers to the nonattainment or maintenance area. SD is zero for sources located within the nonattainment, maintenance area, or area violating the NAAQS.

(iv) PO is the provided offset from a contributing source and must be equal to or greater than zero;

(v) CQ is the contributing emissions reduction in tons per year quantified relative to contemporaneous pre-reduction actual emissions (OAR 340-268-0030(1)(b)).

(vi) CD is the contributing source distance in kilometers to the nonattainment or maintenance area. For a contributing source located within the nonattainment, maintenance area, or area violating the NAAQS, CD equals zero.

(b) The Demonstration Method. An applicant may demonstrate to DEQ using dispersion modeling or other analyses the level and location of offsets that would be sufficient to provide actual reductions in concentrations of VOC or NOx in the designated area during high ozone conditions. The modeled reductions of ambient VOC or NOx concentrations resulting from the emissions offset must be demonstrated over a greater area and over a greater period of time within the designated area as compared to the modeled ambient VOC or NOx concentrations resulting from the emissions increase from the source subject to this rule. If DEQ determines that the demonstration is acceptable, then DEQ will approve the offsets proposed by the applicant. The demonstration method does not apply to sources located inside an ozone nonattainment area.