

WAC 173-400-200 Creditable stack height and 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) Outdoor 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 a permitting 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 173-400-720 and 40 C.F.R. 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.

[Statutory Authority: RCW 70.94.152. WSR 05-03-033 (Order 03-07), § 173-400-200, filed 1/10/05, effective 2/10/05. Statutory Authority: Chapter 70.94 RCW. WSR 91-05-064 (Order 90-06), § 173-400-200, filed 2/19/91, effective 3/22/91.]