Kansas Administrative Regulations

Department of Health and Environment

Article 19.—Ambient Air Quality Standards and Air Pollution Control—Stack Height Requirements.

28-19-18b. Definitions.

The following words and terms when used in K.A.R. 28-19-18 through 28-19-18f, shall have the following meanings:

(a) "Stack" means any point in a source designed to emit solids, liquids or gases into the air, including a pipe or duct but not including flares.

(b) "Stack height" is the distance from the ground level elevation at the base of the stack to the elevation of the stack outlet.

(c) "Stack in existence" means that, before the date specified in K.A.R. 28-19-18a(b) and 28-19-18c(b)(1)(A), the owner or operator had begun or caused to begin a continuous program of physical on-site construction of the stack, to be completed within a reasonable time, or had entered into binding agreements or contractual obligations, which could not be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the stack to be completed within a reasonable time.

(d) "Nearby" is the distance up to five times the lesser of the height or the width dimension of a structure but not greater than 0.8 km for the purpose of applying the formula in K.A.R. 28-19-18c(b)(1)(A). For conducting demonstrations under K.A.R. 28-19-18d, nearby is a distance not greater than 0.8 km. However, a portion of a terrain feature may be considered to be nearby when it falls within a distance of up to 10 times the maximum height (HT) of the feature, not to exceed 3.2 km, if such feature achieves a height (Ht), within 0.8 km from the stack, that is at least 40 percent of the good engineering practice stack height determined by the formulas provided in K.A.R. 28-19-18c(b)(1)(B) or 26 meters, whichever is greater. The height of the structure or terrain feature shall be measured from the ground level elevation at the base of the stack.

(e) "Dispersion technique" means any technique which attempts to affect the concentration of a pollutant in the ambient air by:

(1) Using the portion of a stack which exceeds good engineering practice stack height;

(2) varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant; or

(3) increasing final exhaust gas plume rise by manipulating source process parameters, exhaust gas parameters, stack parameters, combining exhaust gases from several existing stacks into one stack or other selective handling of exhaust gas streams. This shall not include:

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

(B) the merging of exhaust gas streams where:

(i) The source owner or operator demonstrates that the facility was originally designed and constructed with such merged gas streams; or

(ii) after July 8, 1985, the 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. The exclusion from the definition of "dispersion techniques" shall apply only to the emission limitation for the pollutant affected by this change in operation; or

(iii) before July 8, 1985, the 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. Where there was an increase in the emission limitation or, in the event that no emission limitation was in existence prior to the merging, an increase in the quantity of pollutants actually emitted prior to the merging, merging shall be presumed to be motivated by an intent to gain emissions credit for greater dispersion. The department shall deny credit for the effects of this merging in calculating the allowable emissions for the source in the absence of an appropriate demonstration by the source owner or operator;

(C) smoke management in agricultural or silvicultural prescribed burning programs;

(D) episodic restrictions on residential wood burning and open burning; or

(E) techniques under K.A.R. 28-19-18b(e)(3) which increase final exhaust gas plume rise and which result in an allowable emission of sulfur dioxide from the facility that does not exceed 5,000 tons per year.

(f) "Excessive concentration," for the purpose of determining good engineering practice stack height under K.A.R. 28-19-18c(c), means:

(1) For sources seeking credit for a stack height exceeding the stack height established under K.A.R. 28-19-18c(b)(1), a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes and eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such effects and which contribute to a total concentration due to emissions from all sources that is greater than an ambient air quality standard or greater than a prevention of significant deterioration increment, for sources subject to K.A.R. 28-19-17. The allowable emission rate to use in making demonstrations under this part shall be prescribed by K.A.R. 28-19-83 et seq. unless the owner or operator demonstrates that this emission rate is infeasible. Where such demonstrations are approved by the department, an alternative emission rate shall be established in consultation with the source owner or operator;

(2) for sources seeking credit after October 11, 1983 for increases in an existing stack height up to the height established under K.A.R. 28-19-18c(b)(1), a maximum ground-level concentration due in whole or part to downwash, wakes or eddy effects produced by nearby structures or nearby terrain features which is individually at least 40 percent in excess of the maximum concentration experienced in the absence of these effects and which contributes to a total concentration due to emissions from all sources that is greater than an ambient air quality standard or greater than a prevention of significant deterioration increment, for sources subject to K.A.R. 28-19-17. The emission rate to use in making demonstration under this part shall be either:

(A) An emission rate specified by applicable SIP (or, in the absence of such a limit, the actual emission rate); or

(B) the actual presence of a local nuisance caused by the existing stack, as determined by the department; and

(3) for sources seeking credit after January 12, 1979 for a stack height determined under K.A.R. 28-19-18c(b)(1), use of a field study or fluid modeling to verify good engineering practice stack height shall be required by the department;

(A) for sources seeking stack height credit after November 9, 1984 based on the aerodynamic influence of cooling towers; and

(B) for sources seeking stack height credit after December 31, 1970 based on the aerodynamic influences of structures not represented adequately by K.A.R. 28-19-18c(b)(1), a maximum ground-level concentration due in whole or part to downwash, wakes or eddy effects that is at 40 percent in excess of the maximum concentration experienced in the absence of these effects.

(Authorized by and implementing K.S.A. 65-3005, 65-3010; effective May 1, 1983; amended May 1, 1986; amended, T-88-2, Jan. 23, 1987; amended May 1, 1988.)

***** Authenticated Kansas Administrative Regulation *****