

15A NCAC 02D .0503 PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

(a) For the purpose of this Rule, the following definitions shall apply:

- (1) "Functionally dependent" means that structures, buildings, or equipment are interconnected through common process streams, supply lines, flues, or stacks.
- (2) "Indirect heat exchanger" means any equipment used for the alteration of the temperature of one fluid by the use of another fluid in which the two fluids are separated by an impervious surface such that there is no mixing of the two fluids.
- (3) "Plant site" means any single or collection of structures, buildings, facilities, equipment, installations, or operations that:
 - (A) are located on one or more adjacent properties;
 - (B) are under common legal control; and
 - (C) are functionally dependent in their operations.

(b) The definition contained in Subparagraph (a)(3) of this Rule does not affect the calculation of the allowable emission rate of any indirect heat exchanger permitted prior to April 1, 1999.

(c) The emissions of particulate matter from the combustion of a fuel that are discharged from any indirect heat exchanger through a stack or chimney into the atmosphere shall not exceed:

Maximum Heat Input In Million Btu/Hour	Allowable Emission Limit For Particulate Matter In lb/Million Btu
Up to and Including 10	0.60
100	0.33
1,000	0.18
10,000 and Greater	0.10

For a heat input between any two consecutive heat inputs stated in the table set forth in this Paragraph, the allowable emissions of particulate matter shall be calculated by the equation $E = 1.090 \cdot Q^{-0.2594}$. "E" equals the allowable emission limit for particulate matter in lb/million Btu. "Q" equals the maximum heat input in million Btu/hour.

(d) This Rule applies to installations in which fuel is burned for the purpose of producing heat or power by indirect heat transfer. For the purpose of this Rule, the term "fuels" includes all fuels that generate particulate matter emissions from indirect heat exchangers excluding wood and refuse not burned as a fuel. When any refuse, products, or by-products of a manufacturing process are burned as a fuel rather than refuse, or in conjunction with any fuel, this allowable emission limit shall apply.

(e) For the purpose of this Rule, the maximum heat input shall be the total heat content of all fuels which are burned in a fuel burning indirect heat exchanger, of which the combustion products are emitted through a stack or stacks. The sum of maximum heat input of all fuel burning indirect heat exchangers at a plant site which are in operation, under construction, or permitted pursuant to 15A NCAC 02Q, shall be considered as the total heat input for the purpose of determining the allowable emission limit for particulate matter for each fuel burning indirect heat exchanger. Fuel burning indirect heat exchangers constructed or permitted after February 1, 1983, shall not change the allowable emission limit of any other fuel burning indirect heat exchanger whose allowable emission limit has previously been set. The removal of a fuel burning indirect heat exchanger shall not change the allowable emission limit of any other fuel burning indirect heat exchanger whose allowable emission limit has previously been established. However, for any fuel burning indirect heat exchanger constructed after, or in conjunction with, the removal of another fuel burning indirect heat exchanger at the plant site, the maximum heat input of the removed fuel burning indirect heat exchanger shall no longer be considered in the determination of the allowable emission limit of any fuel burning indirect heat exchanger constructed after or in conjunction with the removal. For the purposes of this Paragraph, refuse not burned as a fuel and wood shall not be considered a fuel. For residential facilities or institutions, such as military and educational, whose primary fuel burning capacity is for comfort heat, only those fuel burning indirect heat exchangers located in the same power plant or building or otherwise physically interconnected, such as common flues, steam, or power distribution line, shall be used to determine the total heat input.

(f) The emission limit for fuel burning equipment that burns both wood and other fuels in combination, or for wood and other fuel burning equipment that is operated such that emissions are measured on a combined basis, shall be calculated by the equation $E_c = [(EW)(Q_w) + (E_o)(Q_o)] / Q_t$.

- (1) E_c = the emission limit for combination or combined emission source(s) in lb/million Btu.

- (2) E_w = plant site emission limit for wood only as determined pursuant to 15A NCAC 02D .0504 in lb/million Btu.
- (3) E_o = the plant site emission limit for other fuels only as determined by Paragraphs (a), (b) and (c) of this Rule in lb/million Btu.
- (4) Q_w = the actual wood heat input to the combination or combined emission source(s) in Btu/hr.
- (5) Q_o = the actual other fuels heat input to the combination or combined emission source(s) in Btu/hr.
- (6) $Q_t = Q_w + Q_o$ and is the actual total heat input to combination or combined emission source(s) in Btu/hr.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Temporary Amendment Eff. March 8, 1994 for a period of 180 days or until the permanent rule is effective, whichever is sooner;
Amended Eff. April 1, 1999; July 1, 1994; August 1, 1991; June 1, 1985; February 1, 1983;
Readopted Eff. November 1, 2020;
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