AIR EMISSION FACTORS

EPA updated Section 11.12, Concrete Batching, of its AP-42 publication in June 2006 (See Appendix C). EPA revised the PM_{10} emission factor for Truck Loading (truck mix, 3-05-011-10) in Table 11.12-2 from 0.15 pounds PM_{10} per ton of concrete produced to 0.278 pounds PM_{10} per ton of concrete produced, resulting in a 63% increase in total facility PM_{10} emissions. Despite this significant increase, the relatively low average production rates of Ready Mix Concrete facilities in Mississippi still allow them to meet the true minor source criteria.Using this PM_{10} factor, potential emissions were reduced approximately 75%. Therefore, a concrete plant would have to produce over 3,425,000 cubic yards of concrete per year in order to exceed 100 tons per year of PM_{10} emissions (see Appendix A for sample calculations).

APPENDIX A

The following sample calculations are based on the updated AP-42 emission factors for the June 2006 update of Section 11.12, Concrete Batching.

Average plant size = 150 yd^3/hr

PM_{10} Emission Factor = 0.094 lb/yd^3 [1]

Maximum Operating Time = 8760 hr/yr

(150 yd^3/hr) x (0.094 lb/yd^3) = 14.1 lb/hr

(14.1 lb/hr) x (8760 hr/yr) x (1 ton/2000 lb) = 61.8 tons/yr

If a plant operated 8760 hours, it would produce 1,314,000 yd^3 of concrete.

The largest plants in Mississippi produce approximately 100,000 yd^3 per year.

[1] PM_{10} emission factor is the sum of the uncontrolled PM_{10} emissions from Table 11.12-5 of the June 2006 revision of AP-42, Section 11.12 (see Appendix E). Truck Mix Loading (3-05-011-10) PM_{10} emissions were estimated by multiplying the uncontrolled factor from Table 11.12-2 by 0.282, in accordance with Equation 11.12-2, as directed by the note in Table 11.12-5. Although the summation of uncontrolled emission factors includes process fugitives, which are excluded from major source threshold determinations (per APC-S-6, Part I.A.17.b), this method was chosen to be consistent with the previous estimation methodology and to provide a conservative emission estimate.