

CALCULATION OF ALLOWABLE PARTICULATE MATTER EMISSIONS:

Colgate-Palmolive Company, 32-0238

FOR SOURCE 82-0504-08, PERMIT 978408

Input capacity = 900 pounds per hour of charcoal

Exhaust gas flow rate = 3,000 dscfm

I. Allowable emission rate from Table 2 of TAPCR 1200-03-07-.03(1): at 900 lb /hr process weight rate

$$E = 3.59P^{0.62} \text{ where } P = (900 \text{ lb/ hr}) / (2000 \text{ lb/ ton}) = 0.45 \text{ ton/ hr}$$

$$E = 3.59(0.45)^{0.62} = 3.59(0.6095) = 2.19 \text{ lb/hr}$$

II. Compare to allowable emission rate of 0.02 grain per dry standard cubic foot (gr/dscf) of exhaust gas from TAPCR 1200-03-07-.04(1):

$$E = 0.02 \text{ gr/dscf} \times 3,000 \text{ dscf/min} \times 60 \text{ min/hr} \times \text{lb/7000 gr}$$

$$E = 0.51 \text{ lb/hr}$$

III. Compare to allowable emission rate of 0.25 grain per dry standard cubic foot (gr/dscf) of exhaust gas from TAPCR 1200-03-07-.04(2):

$$E = 0.25 \text{ gr/dscf} \times 3,000 \text{ dscf/min} \times 60 \text{ min/hr} \times \text{lb/7000 gr}$$

$$E = 6.43 \text{ lb/hr}$$

Based on the above analysis, the allowable emission rate is dictated by calculation I. based on Table 2 of TAPCR 1200-03-07-.03(1)

Allowable emission rate = 2.19 lb/hr (9.59 tons/yr)