

## Source Test Procedure **ST-26**

### **COKE BURN-OFF RATE**

**REF: Regulation 10-8-301**

#### **1. APPLICABILITY**

- 1.1 In order to determine compliance with Regulation 10-8-301 for particulate emissions from Fluid Catalytic Cracking Unit Catalyst Regenerators it is necessary to calculate the coke burn-off rate.

#### **2. CALCULATION OF COKE BURN-OFF RATE**

##### 2.1

$$R_c = 0.0186Q_{RE}(\%CO_2 + \%CO) + 0.1303Q_{RE}\left(\frac{\%CO}{2} + \%CO_2 + \%O_2\right)$$

Where:

- $R_c$  = coke burn-off rate (lb/hr)  
0.0186 = material balance factor divided by 100 (lb-min/hr-ft<sup>3</sup>)  
 $\%CO_2$  = percent carbon dioxide by volume, dry basis  
 $\%CO$  = percent carbon monoxide by volume, dry basis  
0.1303 = material balance factor divided by 100 (lb-min/hr-ft<sup>3</sup>)  
 $Q_{RA}$  = air rate to fluid catalytic cracking unit catalyst regenerator, as determined from fluid catalytic cracking unit control room instrumentation (sdcf/min)  
0.0062 = material balance factor divided by 100 (lb-min/hr-ft<sup>3</sup>)

#### **3. REFERENCE**

- 3.1 40 CFR 60.106. Test Methods and Procedures Part (A) (4).