San Joaquin Valley
Unified Air Pollution Control District

Use of 5th Edition AP-42 Emission Factors For Crushed Stone Processing and Pulverized Mineral Processing

Approved By: _____ Date: April 28, 2008
David Warner
Director of Permit Services

Purpose: The purpose of this policy is to establish the criteria for the use of 5th edition AP-42 emission factors for Crushed Stone Processing and Pulverized Mineral Processing (Section 11.19.2, Aug 2004) in quantifying emissions, and to address the related issues concerning New Source Review (NSR) and Emission Reduction Credits (ERCs).

I. Background:

In January of 1995, the Environmental Protection Agency (EPA) published revised emission factors for Crushed Stone Processing in 5th edition AP-42, Section 11.19.2. This section was a revision to the previous Crushed Stone Processing in 4th edition AP-42, Section 8.19.2. The revised emission factors were developed through a collaborative effort between the EPA and the National Stone, Sand and Gravel Association (NSSGA).

Again in August of 2004, the EPA published an update to Section 11.19.2. The August 2004 version corrected a typographic error in the truck unloading emissions factor, made minor revisions to a few other PM_{10} emission factors, increased the scope of Section 11.19.2 by including emission factors for $PM_{2.5}$, and added emission factors for pulverized mineral processing operations. Thus, the revised title for Section 11.19.2 became Crushed Stone Processing and Pulverized Mineral Processing.

The 5th edition AP-42 emission factors (both Jan 1995 and Aug 2004) are substantially lower than those identified in the 4th edition AP-42, some by as much as one or two orders of magnitude.

In January of 1996, the California Air Resources Board (CARB) conducted a technical review of the revised emissions factors (AP-42, Section 11.19.2, Jan

1995 version). Based on this review, CARB issued qualified support for the use of the revised factors for facilities that are operated under conditions similar to those encountered during the tests conducted for EPA in developing the revised factors.[1] Although the August 2004 emission factors likely represent better estimates of PM10 emissions than the January 1995 version of those factors, the August 2004 revisions to Section 11.19.2 nevertheless do not affect CARB's qualified recommendation given for the use of these emission factors.

In cases where the new emission factors more accurately represent the actual emission rates, the previously issued permits or ERCs may now reflect overstated PM_{10} emission rates for the corresponding process rates. Therefore, under certain circumstances, adjustments to existing permits or ERCs may be necessary.

II. Criteria for Utilizing the 5th Edition AP-42 Emission Factors

In general, use of AP-42 emission factors in emissions calculations should conform to APR 1110, Use of Revised Generally Accepted Emission Factors, Section III, Data Quality Hierarchy.

The latest 5th edition AP-42 emission factors for quantifying PM10 emissions from Crushed Stone Processing and Pulverized Mineral Processing (AP-42, Section 11.19.2, Aug 2004) should be used if all of the following conditions are met:

A. Visible emissions from the affected equipment or operations are at 5% opacity or less.

B. The moisture content of the material being processed is at least 1.5% by weight. For operations equipped with wet suppression control systems, the moisture content after application of wet suppression control must be 1.5% by weight or greater.

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[1] From AP 42 Section 11.19.2 - Crushed Stone Processing and Pulverized Mineral Processing - Response to Comments, February 23, 2004 draft, STAPPA and ALAPCO Comment 2.5 - Variability and Emission Factor Approach:

In a letter to EPA dated February 7, 1996, titled "Use of EPA Emission Factors for Crushed Stone and Sand and Gravel Processing," Terry McGuire, then Chief of the Technical Support Division of the California Air Resources Board, stated "The new AP-42 emission factors…represent only a generic value, and we strongly recommend the use of valid, local source test data whenever available. My staff also spoke to Ron Myers of the U.S. EPA's Emission Factor and Inventory Group in Research Triangle Park, North Carolina. He, too, believes that locally collected emission data are preferable when conditions are different from those used to develop the AP-42 factors."

C. Appropriate site-specific emissions data in not available.

For permitting actions, conditions A and B must be enforceable through permit conditions. For creating new ERCs or adjustments to existing ERCs, conditions A and B should reflect the actual operating conditions during the baseline period utilized in establishing the ERCs.

If the above conditions are not met, the emission factors from 4th edition AP-42, Section 8.19.2 (Sep 1988) should be used.

III. NSR Implications and Impact on Banked ERCs

The effect of this policy on the District's past and new permitting and banking actions shall be guided by APR 1110, Use of Revised Generally Accepted Emission Factors.

IV. Emissions Inventory

The effect of this policy on the District's Emissions Inventory calculations shall be guided by APR 1110, Use of Revised Generally Accepted Emission Factors.

V. Procedures

The effect of this policy on the procedures for permit revisions and adjustments to unused banked ERCs shall be guided by APR 1110, Use of Revised Generally Accepted Emission Factors.