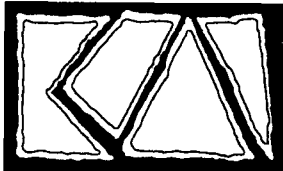


RRMS ✓

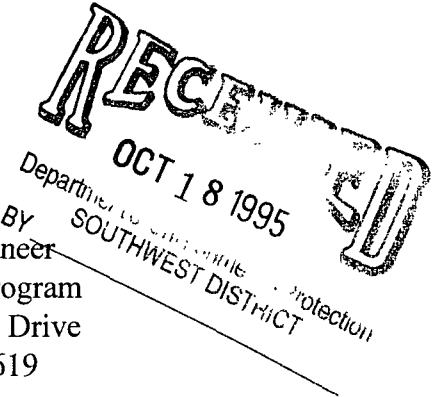


KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ■ FAX 377-7158

K&A 500-95-01

October 16, 1995

Mr. Eric Peterson
Air Permitting Engineer
FDEP-SWD, Air Program
3804 Coconut Palm Drive
Tampa, Florida 33619



SUBJECT: Florida Crushed Stone Company/Consolidated Minerals, Inc.
St. Catherine Mine - Nonmetallic Mineral Processing Plant
Air Construction/Operation Permit Application
FDEP File Nos. AC60-275104, AO60-275105
Response to Request for Additional Information dated August 25, 1995

Dear Mr. Peterson:

This letter is in response to your Request for Additional Information dated August 25, 1995. All questions have been reproduced, preserving your numbering. The responses follow each question.

- 1. Please provide a facility plot showing the current location of the processes, offices, site roads, site roads, and property boundaries.**

Response:

Attachment 1 is a labeled aerial photograph (drawing number STC-0030), showing the current location of the processes, offices, site roads, site roads, and property boundaries.

- 2. How often is the plant reconfigured?**

Response:

Please see Dennis Kenney's letter included with Attachment 1.

- 3. Based on your maximum hourly rate of 500 tons processed and the requested maximum operating schedule of 8760 hours year, the maximum annual throughput is 4,380,000 tons. The application lists the maximum annual rate as 1,000,000 tons processed and this is used to calculate annual emissions. Propose a limit on hours of operation or monthly tons processed (and a method of verification) to synthetically limit the maximum annual rate to 1,000,000 tons.**

Response: (Question 3)

The 1,000,000 TPY maximum reflects current and expected market demand for crushed stone from this plant. If required, the production rate could be limited to 83,333 tons/month (1,000,000 TPY/12 months). Verification would be provided, upon request, from the plant's shipping tickets. Annual production could be verified by requiring the submittal of an Annual Operating Report.

- 4. Why aren't sprinklers used to control fugitive emissions from plant roads, as is done at the Center Hill Mine?**

Response:

This plant has a lower production rate than the Center Hill mine and significantly less traffic. Hauling-related fugitive emissions are adequately controlled without the use of sprinklers.

- 5. What is the size range (in mesh numbers) of the input and output of each crusher and screen?**

Response:

Please see a typical sieve analysis of limerock base material, included with Attachment 1. Sieve analyses are generally performed only on finished product.

- 6. Are any precautions taken to reduce fugitive emissions during truck loading, such as shrouds, feed tubes, windbreaks, etc?**

Response:

The moisture content of typical limerock base material is 10-15%. This high moisture content limits PM/PM10 emissions generated from material handling activities including truck loading. No other precautions are in place at this location.

- 7. Please indicate the screen type.**

Response:

Please see Dennis Kenney's letter included with Attachment 1.

- 8. Calculate emissions using AP-42, 5th Edition, Chapter 11.19.2, "Crushed Stone Processing" or explain why the emission factors used in the application are more appropriate. In the explanation, please provide copies of the cover of EPA-600/2-78-004e and any pertinent pages. Also, provide the basis for the use of "wet suppression" emission factors.**

Response: (Question 8)

AP-42, 5th Edition, Chapter 11.19.2, *Crushed Stone Processing*, was initially reviewed for applicability to this project and deemed inappropriate for the following reasons:

- Only one emission factor for PM is available (primary crushing-uncontrolled). This factor is not applicable to this plant, as the documentation for this factor indicates that the raw material was dry.
- No (controlled) emission factors are provided for primary or secondary crushing, or blasting.
- The moisture content of materials at the study plants, while operating wet suppression systems, was less than 3% in every test.
- The emission factors for fines crushing and screening and conveyor transfer points (with and without wet suppression) are based on limited testing at granite plants only.
- The use of related AP-42 sections (unpaved roads, drop operations, and wind erosion) would require many assumptions, most of which are unrelated to material processing rate.

The EPA document, *Source Assessment: Crushed Limestone, State of the Art*, (EPA-600/2-78-004e), provides emission factors for particulate matter (PM) and respirable particulate (PM10). These material-specific emission factors are provided for the following process and non-process operations:

- Drilling
- Blasting
- Loading at the quarry
- Vehicular traffic on unpaved plant roads
- Primary crushing
- Primary screening
- Secondary crushing
- Secondary screening
- Conveying
- Stockpiles (determined to be negligible)
- Unloading at stockpiles (determined to be negligible)

These emission factors are lower than the emission factors in the current AP-42, and are assumed to be more appropriate because the material moisture contents at Florida limestone processing plants are much higher than the material moisture contents at the AP-42 study plants. The use of these emission factors can simplify permitting and compliance activities, as all emissions are related to tons of material processed.

The use of “wet-suppression” emission factors is discussed in Chapter 11.19.2 and in the Background Document for this chapter. According to the chapter, “wet material contains 1.5 to 4 percent water or more”. The Background Document states that moisture contents $\geq 1.5\%$ indicates controlled emissions. As the material moisture contents expected at this plant will generally be 10-15%, the use of “wet-suppression” emissions factors would be justified, if using AP-42.

Copies of the cover and pertinent pages of the EPA document, *Source Assessment: Crushed Limestone, State of the Art*, (EPA-600/2-78-004e), have been previously submitted to you.

9. **The construction permit application fee submitted (\$250) was based on emissions of <5 tons per year. After taking into account the responses to the above questions, recalculate the potential annual emissions and submit the proper fee, if appropriate.**

Response:

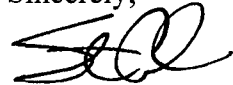
Annual production will remain 1,000,000 TPY, and estimated annual PM emissions will remain 3.5 TPY. However, air construction permit fees have historically been based only on process-related stack emissions.

This approach is supported by the Instructions for the Long Form, which establish a distinction between *Potential Emissions* and *Estimated Emissions*, as follows:

- **Potential Emissions** - This field must be completed for each pollutant required to be reported unless the emissions unit addressed in this application represents fugitive emissions only.
- **Range of Estimated Fugitive/Other Emissions** - If the emissions unit addressed in this section represents fugitive emissions only, or has both stack and fugitive emissions, check the appropriate range (1-3) of its estimated fugitive emissions, as defined below, or enter a numerical estimate of the range of its emissions in tons per year of the pollutant identified in Field 1. A numerical estimate must be entered if the facility-wide fugitive emissions would exceed 100 times the minimum reporting threshold of the pollutant of interest.

Permit fees or permit conditions based on estimated fugitive emissions would not be appropriate, as these limitations would not be enforceable as a practical matter.

Sincerely,

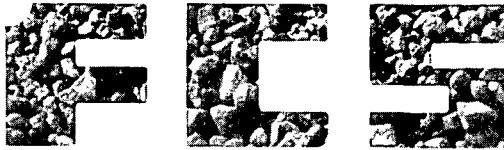


Steven C. Cullen, P.E.
Koogler & Associates

enclosures

ATTACHMENT 1

**Letter from Dennis Kenney, FCS-CMI
Limerock Base Material Sieve Analysis
Labeled Aerial Photograph (Plot Plan)**



FLORIDA CRUSHED STONE COMPANY

October 11, 1995

Mr. Steve Cullen,
Koogler & Associates
4014 N.W. Thirteenth Street
Gainesville, FL 32609

RE: Florida Crushed Stone; St. Catherine Mine; Request for Additional Information

Dear Steve,

Below is a compilation of responses to your request for additional information concerning the St. Catherine Limerock Mine.

Question 2 Response:

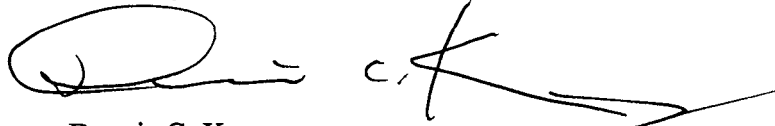
The St. Catherine Facility has two types of configuration changes - major and minor. The minor configurations take place when a facility is moving the crusher, that occurs approximately every 30 days. This is somewhat difficult to quantify because it solely depends on sales, market conditions, and weather. The crusher moves, within our active quarry, consists of moving the crusher approximately 50 feet from the previous location. Therefore, this is a non significant move every 30 days. As far as major reconfiguration, this only takes place during the opening of a new pit and is subject to land availability. Typically each pit has a five to seven year mine life. Therefore, we would only enter a new pit reconfiguration every five to seven years. Please note that the reconfiguration of a pit, whether major or minor, has no effect on contributing to emissions. When one pit closes and floods a new pit opens. This is not an cumulative effect. We still only have one crusher and we are not increasing the distance or amount of surface area being mined.

Question 7 Response:

The St. Catherine operation does not have a specific screening operation on the portable crusher. The current crusher has a Hewitt Robbins LPE-9 crusher feeder and in association with that feeder there is a grizzly that prevents boulders from going into the crusher. It is a non-vibrating grizzly that prevents large boulders from going into the crusher feeder. There are no shaker or vibrating screens at this facility. The grizzly may or may not constitute a screen per NSPS requirements.

I hope this answers your requests for additional information and if you need anything further, please do not hesitate to contact me at (904)-787-0608.

Sincerely,

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a horizontal line and a long, sweeping flourish that extends to the right.

Dennis C. Kenney,
Director of Technical Services

DK/haf

techsvcs\lstcadinf.dk

LABORATORY REPORT

TO: DENNIS KENNEY
 FROM: BOB RODERICK
 DATE: SEPT. 18, 1995
 SUBJECT: TYPICAL SIEVE ANALYSIS OF PLANT RUN LIMEROCK BASE

GRADATION - SHOWN AS PERCENT PASSING

<u>Sieve Size</u>	<u>Limerock Base Material</u>
2"	100
1 1/2"	93
1"	80
3/4"	75
1/2"	67
3/8"	63
#4	56
#8	50
#10	49
#16	45
#20	43
#30	41
#40	38
#50	34
#80	29
#100	26
#200	22