Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

September 23, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Don Kelly, Plant Manager
Southdown, Inc.
Post Office Box 6
Brooksville, Florida 34605-0006

Re: Southdown Inc. Modification of Permits
Kilns 1 and 2, Coolers 1 and 2

Dear Mr. Kelly:

Thank you for meeting with Mr. Linero and Mr. Zell and providing them with a tour of your facility. We have since received Mr. Gill's letter of August 23 in response to our completeness review letter of July 10. We have been in communication with him on various issues related to his letter and are continuing review of the subject application.

We emphasize that the correct method for the PSD netting calculation is the comparison of past actual to future potential emissions. We received no data on past emissions with the August 23 submittal. We specifically asked for information on past emissions tests in our letters of March 21 and July 10. In addition to the reasons cited in Southdown's letter, we require the past actual record in order to provide our staff and the professional engineer sealing the technical review with a full appreciation of the effects of the requested changes (irrespective of PSD applicability). We point out as well that EPA Region IV previously advised the Department (letter dated January 10, 1990) that Florida Mining and Materials (previous owner of the facility) used incorrect netting calculations in another application.

Southdown claims that it cannot meet emission limits on Kiln 1 and Coolers 1 and 2 and gives this as the reason for using the allowable emissions as the baseline for review. We have been provided no data by Southdown to substantiate this claim. Our own search of data in Department records indicates that the emissions limits have been met in recent years. Therefore we have no basis for changing the existing permit conditions. Using our data, the net emissions increases also appear to be greater than estimated by Southdown. The information provided by Southdown does not meet the "Standards of Issuing or Denying Permits" given in F.A.C. 62-4.070. We do not have affirmative reasonable assurance (provided by the applicant) based on plans, test results, control equipment, etc. necessary to issue the requested permit.

We understand that Southdown does not wish to have NO_x limits imposed on Kiln 1 because of the resulting $30,000 to $40,000 annual emission fees. Ostensibly, the change in your operation which requires a review for Prevention of Significant Deterioration (PSD) is the increase in permitted CO emissions for Kiln 1. Since we do not believe that NO_x emissions will increase due to this CO increase, we would not normally conduct an evaluation for Best Available Control Technology (BACT) for NO_x and impose a limit. However, a more thorough review of past permitting related to Kiln 1 reveals that there may have been previous production increases which very likely caused proportionate increases in NO_x emissions but which did not result in establishment of appropriate limits to comply with or get exempted from PSD/BACT. For that reason, it may be appropriate to set such a limit now. The applicability of a fee would need to be reviewed by our management.

At the present time, there are limits in preheater feed rate, kiln feed rate and clinker production rate. In reviewing past information, however, it appears that kiln feed rates of 120 tons per hour (TPH) set in the past were in fact preheater feed rates. For example, in the original EPA-issued PSD permit, the feed rate for Kiln 2 was specified as 120 TPH on the basis of 9.8 % moisture, which could only have occurred prior to the actual kiln entrance. Subsequently, this value was increased to 130 and then to 145 TPH and specified as the preheater feed rate. Then it was put on a 30-day rolling average basis and an hourly maximum value of 165 TPH was established as a preheater feed rate. Similar changes were made in the virtually identical Kiln 1 which was originally permitted before promulgation of the PSD rules.

Similarly, production limits for clinker have increased from 71 TPH to 90 TPH as hourly maxima. Without a limit on clinker production, we understand that it may be possible to produce more that 90 TPH. The limit on clinker production may be one of the mitigating factors to the previously permitted increase of preheater feed rate. While Kiln 2 has always been a PSD kiln, it appears that Kiln 1 may have been subject to PSD/BACT due to the production increases. Limits for all PSD pollutants (including NO_x) could or should have been imposed. Until these matters are fully resolved, we cannot revert to the single production parameter basis which we agree is more desirable based on the New Source Performance Standard for cement plants. We would be interested in knowing what the manufacturer actually considers the capacity of these kilns and coolers to be.

We are continuing to process your application with the data that we have developed from the Department files. As mentioned above, it appears to suggest that there is no basis for the relaxation of limits in the existing permits and that information from Southdown does not meet the reasonable assurance tests. Please advise by October 1 if you wish to withdraw or modify your application. If you have any questions regarding this matter, please call Teresa Heron or Al Linero at (904)488-1344.

Sincerely,

for C. H. Fancy, P.E., Chief
Bureau of Air Regulation

AAL/aal/l

cc: Brian Beals, EPA
John Bunyak, NPS
Bill Thomas, SWD
Pat Comer, DEP
Doug Beason, DEP
Amarjit Gill, Southdown
John Koogler, K&A

P 339 251 154

US Postal Service

Receipt for Certified Mail

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Sent to: Don Kelly

Street & Number: South Down, Inc

Post Office, State, & ZIP Code: Brooksville, FL

NO Green Card Back as of 3/97

TOTAL Postage & Fees | $

Postmark or Date: 9-23-96

Kilns 1 + 2

Coolers 1 + 2

PS Form 3800, April 1995

Southdown

[redacted]

ENVIRONMENTAL AFFAIRS DEPARTMENT
Telecopy Number (713) 653-8567

High Priority ✓ Medium Priority ____ Normal Priority ____

DATE: Sept. 13, 1996 TOTAL PAGES: 6

TO: Teresa Heron

AT: FDEP

FAX NO: 904-922-6979

FROM: Amarjit Gill

If problems occur during transmission, please phone (713) 653-6852.

MESSAGE: This is Work In Progress.!!

Environmental Affairs Group: Ivone Garcia / Amarjit ("Jeet") S. Gill / Daniel W. Heintz / Ellen Hofmann-Haynie / Janet Krolczyk

AMERICAN PORTLAND CEMENT ALLIANCE
1225 EYE STREET, N.W. • SUITE 300 • WASHINGTON, D.C. 20005
TELEPHONE (202) 408-9494 • FACSIMILE (202) 408-0877

FAX

TO: Amorpt Gill

COMPANY: Southdown

FROM: Andy

DATE: 7/19/96

COMMENTS: Work in progress on the definition of dry kiln feed. Please call to discuss

No. of Pages (Incl. Cover Page) 5

apca
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December 7, 1995

MEMORANDUM

TO: HAPs Task Force

FROM: Andy O'Hare

SUBJECT: **DRAFT DEFINITION OF "DRY KILN FEED"**

As you are probably aware, there has been confusion within the cement industry and EPA as to what constitutes "dry kiln feed," ever since the original portland cement kilns NSPS was first promulgated in the 1970s. Unanswerable questions have arisen from both a compliance and enforcement perspective as to what was is meant in the regulations by "kiln feed (dry basis)." Compliance with the NSPS is utterly reliant upon how one interprets this term. I understand that EPA on previous occasions -- before my tenure -- has expressed an interest in having the industry clarify what it believes this term means.

This issue came up most recently at the November 8, 1995 meeting with Joe Wood and other OAQPS staff, where Mr. Wood explained that EPA was contemplating making revisions to the existing NSPS requirements to address new, recent Agency interpretations as to the opacity standard for kilns with in-line raw mills. (Referenced, as you know, in a September 7, 1995 EPA memorandum.) Joe explained that the Agency would like to -- once and for all -- clarify this "kiln feed" issue. APCA committed to providing EPA with a draft definition of "dry kiln feed."

Subsequent to the November 8, 1995 meeting, Walter Greer of Ash Grove Cement graciously volunteered to craft the first draft of a definition of "dry kiln feed" and a supporting rationale. The product of his efforts is attached.

Comments Requested

We have not committed to transmitting this to EPA on any date certain, however I would prefer to do so before the end of 1995. Accordingly, I would appreciate your comments on this draft by COB, December 15, 1995, so that I may turn it around before Christmas. Depending on the comments received, a conference may be scheduled to reconcile differing approaches/concerns. The conference call (if one is warranted) would be scheduled for some time the week of December 18, 1995. Please call with any questions. I may be reached at (202) 408-9494. Regards!

P.S. I take full credit for the awful drawings!!

12/7/95, Draft

"DRY KILN FEED" DEFINITION

Dry Kiln Feed: All solid feed to the kiln excluding fuel, but including all recycled CKD, whether the CKD is commingled with "new" or raw kiln feed or introduced into the pyroprocessing system as a separate feed stream at the feed end or firing end (insufflation) of the kiln or elsewhere.

Supporting Rationale

The rationale for this definition is that powdered solids (or finely divided particles in slurry) represent a source of potential particulate loading to the air pollution control device. Therefore, this definition tends to "level the playing field" for all pyroprocessing systems. "New" solids or recycled solids all represent potential clinker. To exclude recycled CKD from the definition of dry kiln feed gives an "advantage" to kiln systems that derive all potential clinker from "new" feed. (As you are aware, the NSPS is 0.3 pounds of particulate per ton of dry feed for kiln stack emissions and 0.1 pounds of particulate per ton of dry feed for all other sources). A kiln system with only "new" feed could, therefore, emit more particulate per ton of clinker than a kiln system of identical capacity from which the recycled CKD is excluded from the definition of dry kiln feed.

In the early days (I don't exactly remember when, but probably in the 70s), there were efforts to include solid residues from fuel (e.g., coal ash) in the definition of kiln feed. I don't know why but the effort failed. Maybe it wasn't too important to the cement industry because many kilns were gas or oil fired. Excluding solid fuel residues also tends to "level the playing field" between kilns fired with different fuels. It is doubtful that any effort to include coal ash at this point in time would be successful. This opinion notwithstanding, there may be a kiln somewhere that is allowed to include coal ash in the definition of dry kiln feed. There is always an exception.

The following are sketches of common methods of returning CKD to kiln systems. The chemistry of CKD derived from wet kilns, long dry kilns and the bypass stack of preheaters/precalciners kilns is different from that of raw kiln feed. However, CKD from a preheater tower is generally similar chemically to kiln feed.[1] These particles are, however, generally finer than kiln feed due to the operating characteristics of the cyclone preheater vessels. In addition, the chemistry this "preheater tower CKD" may be different than that of raw kiln feed.

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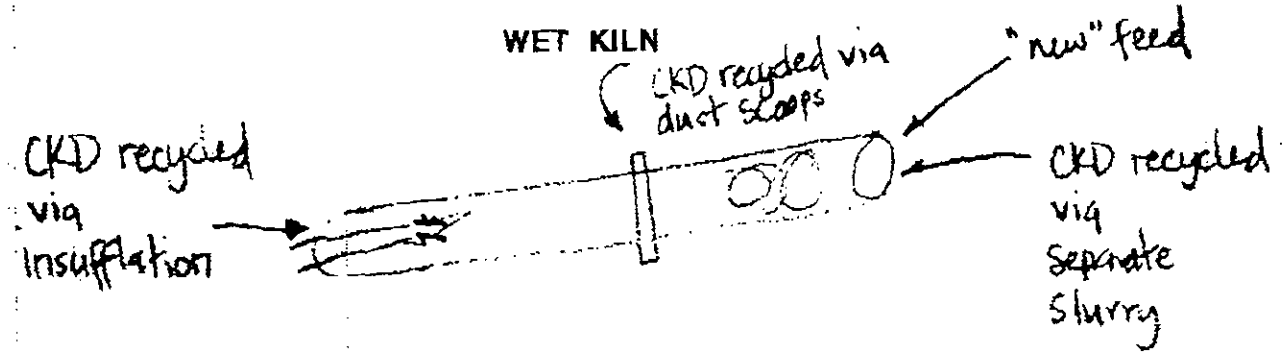
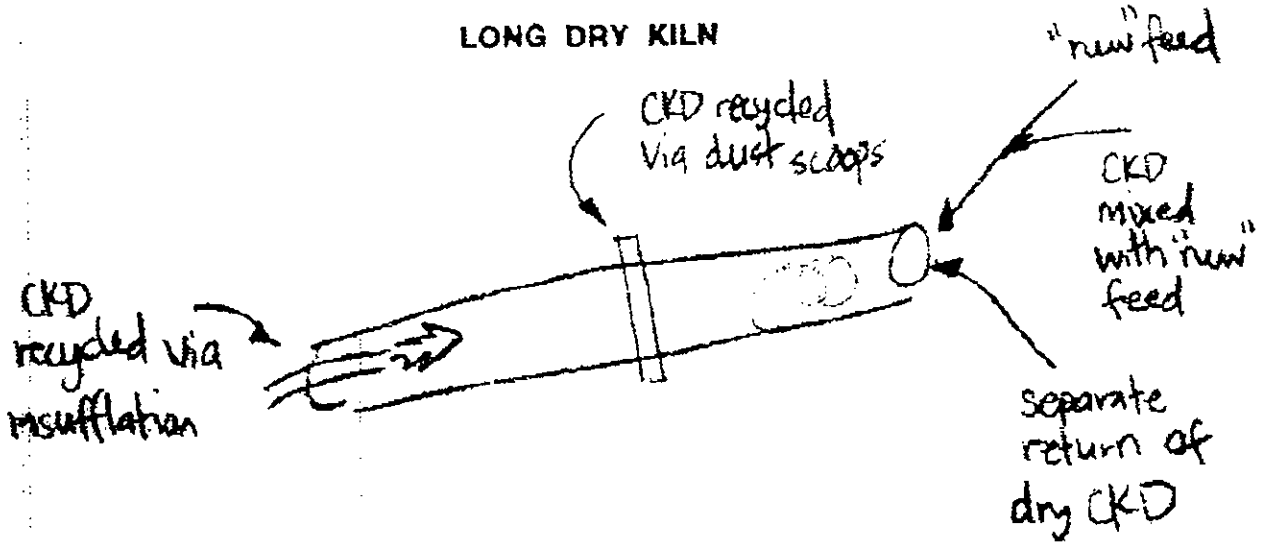
[1] Material derived from a preheater tower should perhaps not be referred to as CKD. It may more properly be referred to as "recycled raw mix," since it has only been "warmed up" and not subjected to significant thermal treatment.

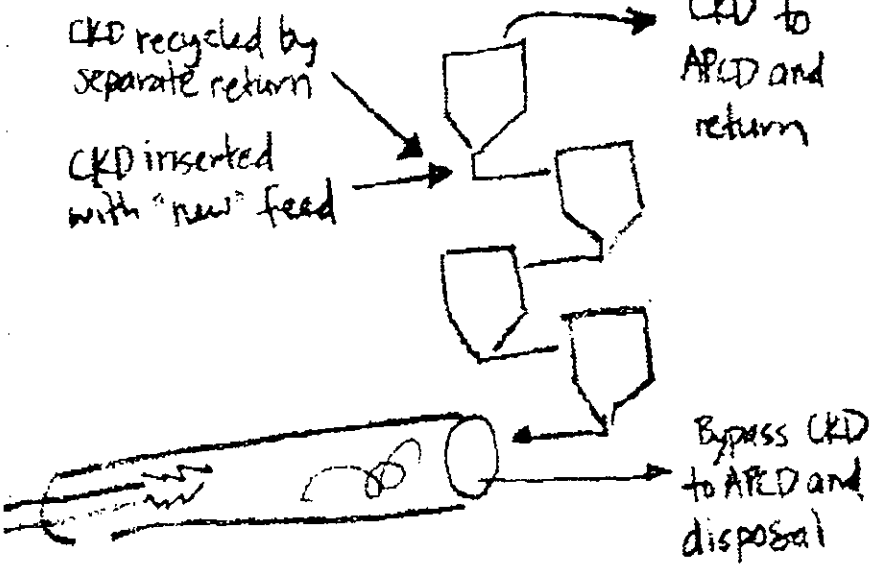


CKD is rarely, if ever, mixed with new kiln feed slurry because of thickening problems with the slurry. CKD inserted via a separate slurry decreases overall energy efficiency of the kiln and may contribute to operating problems in the form of "mud rings" in the claim system. Dust scoops fell into disfavor due to operating and maintenance problems. However, Fuller/FLS is now marketing a CKD recycling system that they claim works. Insufflation is probably the current method of choice for CKD return to wet kilns.



The same comments for wet kilns applies to long dry kilns. I don't know of any reason to slurry CKD for return to the kiln.

PREHEATER/PRECALCINER
(Without in-line raw mill)



There are few good reasons to insufflate CKD into a preheater/precalciner. An exception to this rule may exist; however, operations are likely to be unnecessarily complicated. (For your information, insufflating raw mix at Lone Star's Santa Cruz PH/PC kiln cut NO_x emissions by about 10%).

For preheater/precalciner kilns with in-line raw mills, CKD is trapped within the raw mill product, "automatically" becomes part of the raw mix, and, therefore, part of the raw or "new" feed.

Other Points of Note:

- In cases where CKD is recycled, if recycling is stopped, CKD may be replaced with new feed to keep the same rate of kiln production.
- ESPs provide an advantage over fabric filters for CKD recycling, because CKD is segregated chemically in a ESP. Consequently, CKD derived from one or more of the first fields of an ESP may be recycled, whereas CKD from a fabric filter may not be recycled -- certainly in amounts similar to those from an ESP.