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United States Department of the Interior

FISH AND WILDLIFE SERVICE

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Atlanta, Georgia 30345

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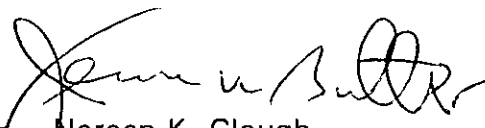
Mr. Clair Fancy
Chief, Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

We have reviewed the information submitted by Southdown, Inc., and your department regarding the proposed permit amendment for the Southdown Brooksville Portland cement facility, located 15 km southeast of Chassahowitzka Wilderness Area. The enclosed technical review document summarizes comments from our Air Quality Branch.

If you have any further questions, please call Ms. Ellen Porter of our Air Quality Branch in Denver at 303/969-2617.

Sincerely yours,


For Noreen K. Clough
Regional Director

Enclosure

cc: EPA
SWD
Hernando Co.
A. Gill SD
J. Koogler
Teresa Heron BAR

**Technical Review of the
Permit Amendment Application
for Southdown, Inc.
Brooksville Plant
Hernando County, Florida**

by

Air Quality Branch, U.S. Fish and Wildlife Service, Denver, Colorado

Southdown, Inc., is requesting a permit amendment for their Brooksville portland cement facility in order to allow for fluctuations in emission rates during normal operation. Emissions of particulate matter (PM-10) would increase 56 tons per year (TPY); emissions of carbon monoxide would increase 1043 TPY. The Southdown facility is located 15 km southeast of Chassahowitzka Wilderness Area (WA), a Class I air quality area administered by the U.S. Fish and Wildlife Service.

In summary, we do not expect Southdown's emissions increases to affect resources at the wilderness area. However, we have concerns, discussed below, regarding the Class I PM-10 increment.

Best Available Control Technology (BACT) Analysis

The BACT analysis is complete.

Class I Increment Analysis

Southdown modeled PM-10 sources up to 120 km from the proposed project to evaluate cumulative consumption of the PM-10 Class I increment at Chassahowitzka WA. Five years (1987-1991) of Tampa meteorological data were used in the modeling. The analysis predicted that the PM-10 Class I increment of 8 micrograms per cubic meter would be exceeded for two 24-hour periods in the five years; however, Southdown did not contribute significantly to either predicted exceedance.

We recommend that the Florida Department of Environmental Regulation (FDEP) determine the source(s) responsible for the predicted PM-10 Class I increment exceedances and take action to alleviate the exceedances. We suggest that FDEP adopt a regional approach to this study, similar to the approach recently proposed by FDEP to resolve questions regarding consumption of the Class I sulfur dioxide (SO₂) increment. We recommend that all PM-10 and SO₂ increment-consuming sources up to 200 km from the Class I area be considered in this analysis.

Air Quality Related Values Analysis

No adverse impacts on vegetation, wildlife, soils, or water are expected as a result of this project.

Visibility Analyses

A VISCREEN analysis predicted a low potential for visible plumes in Chassahowitzka WA due to this project. A regional haze analysis predicted a deciview change of 0.5 due to Southdown's PM-10 emissions increase. This is acceptable because it is less than a deciview change of 1.0. A deciview change of 1.0 is perceptible and would constitute an adverse impact to visibility in the Class I area.

Contact: Ellen Porter
(303) 969-2617

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SOUTHDOWN, INC

ENVIRONMENTAL AFFAIRS

TELECOPIER COVER SHEET

NAME: Mr Clare Fancy, FDEP, Tallahassee, FL

FROM: Amarjit Gill (713) 653-8098 (Voice)
(713) 653-8567 (Fax)

Amarjit Gill

DATE: April 1, 1996

FAX NO: (904) 922-6979

NO. PAGES: 6 (Including the cover sheet)

MESSAGE: Dear Mr. Fancy:

The attached letter is in response to your March 8, 1996 letter. Since that letter we have received another letter dated March 21, 1996 which apparently asks for a lot of the information that is required by the TITLE V operating permit application. We are still reviewing that letter and will respond to it separately. If it convenient for you we would like to discuss the second letter in person at your earliest convenience. I can be reached at (713) 653-8098.

XX HIGH PRIORITY

_____ NORMAL DELIVERY

My Fax Number is: (713) 653-8567.



April 1, 1996

Mr. Claire H. Fancy, P.E., Chief
Bureau Of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Modification of Permit AC27-258569, -258570, -258571, & -258572
Kilns 1 & 2, and Coolers 1 & 2.

Dear Mr. Fancy:

Your March 8, 1996 letter refers to Southdown, Inc.'s application dated February 22, 1996, submitted to the Florida Department of Environmental Protection (FDEP) in which certain changes to the existing emissions limits for Kilns No. 1 & 2 were requested. These changes are summarized in TABLE I for Kiln No. 1 and TABLE II for Kiln No. 2.

Your letter states:

"It is not clear what specific modification or operational change is responsible for triggering PSD review."

Specifically there are two reasons for going through the PSD review process. First a recognition that the particulate emission limits for Kiln No. 2 Main Stack (13.0 lb/hr), Clinker Cooler No. 1 (7.1 lb/hr) and Clinker Cooler No. 2 (5.0 lb/hr) cannot be met on an on going basis, because they were set unrealistically low in the first place. Secondly, the carbon monoxide limit for Kiln No. 1 (57.7 lb/hr) and Kiln No. 2 (64.0 lb/hr) are dependant on the variability of the carbon content in the flyash. Variations in the carbon content cause variations in the carbon monoxide emissions.

We did not request a "correction" of limits simply to comply with recent BACT determinations at similar facilities. BACT determinations at other facilities were used as guidance to establish new more realistic limits. The reason for performing a PSD review was to show that the new limits Southdown sought were not only consistent with FDEP's guidelines used in other permits, but also to show that there was no "Significant Deterioration" of the National Ambient Air Quality Standards (NAAQS) for TSP and CO as a result of the emission increases requested. FDEP has used this approach in the past on other permit revisions. Specifically, when the NO_x limit for Kiln No. 2 was increased from 163 lb/hr to 250 lb/hr in 1992.

PARTICULATE EMISSIONS - MAIN STACKS

Since the existing limit of 13.5 lb/hr for Kiln No. 2 cannot be met on an on going basis, Southdown proposes to increase the particulate emission limit for Kiln No. 2 from 13.5 lb/hr to 0.2 lb/ton of feed (26.0 lb/hr) and offset this increase by lowering the particulate emission limit for Kiln No. 1 from 0.3 lb/ton of feed (39.0 lb/hr) to 0.2 lb/ton of feed (26.0 lb/hr). The new limits for both kilns are consistent with the most recent BACT determination made by FDEP for two brand new kilns, such as Florida Crushed Stone (FCS) and Florida Rock Industries (FRI). For the main stacks, this results in a net decrease in particulate emissions of 5.69 tons per year.

PARTICULATE EMISSIONS - CLINKER COOLER STACKS

The existing limits for Clinker Coolers No. 1 & No. 2 are 7.1 & 5.0 lb/hr respectively. These limits are more restrictive than any other in the industry, which are based on 0.1 lb/ton of feed. Southdown cannot meet the existing limits on an on going basis. We have not been able to determine the basis used by FDEP for such restrictive limits. To the best of our knowledge, these limits were not established to avoid any PSD review in the past but were rather arbitrarily assigned. We have been unable to determine the rationale used by FDEP to establish these limits. These limits are more restrictive than those established by FDEP recently for two brand new kilns, FCS and FRI. Southdown proposes that the limit for each clinker cooler be set at 0.1 lb/ton of feed which is equivalent to 13.0 lb/hr. This will result in a combined net annual increase in particulate emissions, from both these clinker coolers, of 58.64 tons.

CARBON MONOXIDE (CO)

Southdown uses flyash as an additive to the raw feed mix primarily as a source of alumina and silica. Flyash also contains carbon, which can vary in concentration depending on the source of the flyash. As the raw feed travels down the preheater tower, most of the carbon present in the flyash is burned off but some of it leaves as carbon monoxide. This results in fluctuating carbon monoxide emissions.

Another source of carbon monoxide is the combustion process itself. It is a well established fact that thermal NO_x goes up as the CO goes down and vice versa. Since NO_x is a pollutant of greater concern, Southdown operates Kiln No. 2 to keep the NO_x below the 250 lb/hr limit. Consequently CO is generally on the high side. The limit for CO Southdown proposes is based on 1.307 lb/ton of feed, consistent with the more restrictive of the two most recent BACT determinations made by FDEP for FCS and FRI. This will result in a combined net annual increase in carbon monoxide emissions, from both kilns, of 925.6 tons.

VOLATILE ORGANIC COMPOUNDS EMISSIONS (VOC)

Southdown uses mill scale as an additive to the raw feed as a source of iron. Mill scale is generally contaminated with oils from the various processes in the mill. As the mill scale travels down the preheater tower, as a part of the raw feed, the organics volatilize and exit through the main stack.

The existing limit of 7.4 lb/hr is too low. These VOC emissions are not solely due to the combustion process. Therefore, Southdown is requesting that this limit be set at 0.1 lb/ton of feed (i.e. 13.0 lb/hr) This will result in a net annual increase in VOC emissions from Kiln No. 2 of 22.96 tons.

OXIDES OF NITROGEN (NO_x)

The NO_x limit for Kiln No. 2 is 250 lbs/hr. This is equivalent to 1.724 lb/ton dry feed to the preheater. There is no NO_x limit for Kiln No. 1. The NO_x limit for Kiln No. 2 is the lowest for any of our operating kilns.

SULFUR DIOXIDE (SO₂)

Southdown had requested FDEP to delete Flolite as an alternate fuel for both kilns. This request was approved and is reflected in the most recent permit renewal, AC27-258570 for Kiln No. 2 dated May 19, 1995, and AC27-258571 for Kiln No. 1 dated August 3, 1995. The new SO₂ emission limit for each kiln is 15.0 lb/hr.

You have requested a chronological listing of the emission limitations (SO₂, CO, NO_x, PM, VOC) for each kiln and cooler as they have been amended by the various permitting actions by the Department. Since permitting has been conducted by various consultants and in-house personnel in the past, who are no longer with Southdown, there is no assurance that our files are complete. Therefore, we will have to go through the FDEP files. We will be glad to review those records if it is necessary.

Since your March 8, 1996 letter, we have received another letter from FDEP dated March 21, 1996. We were surprised at the additional information requested in that letter. It appears to treat this application as if it were a Title V application for a brand new plant. We are still reviewing that letter and will respond separately to it within the very near future. If it is convenient for you, we would like to discuss the second letter in person at your earliest convenience. In the mean time, if you have any questions please call me at (713) 653-8098.

Sincerely,

Amarjit Singh Gill
Amarjit Singh Gill, PE
Director, Air Permitting

c: Don Kelly
John Koogler
Richard T. Donelan, Jr

cc: EPA
NPS
SWD
Hernando Co.

KILN NO. 1

PERMIT NO.	AC27-258571	AC27-258571	AC27-258571
DESCRIPTION	Present Limit	Proposed Limit	Net Change
Operating Hours/Year	8760	8760	None
Preheater Feed, TPH Avg.	145	145	None
Kiln Feed, TPH Avg.	130	130	None
Clinker Product., TPH Avg.	79.6	79.6	None
NO _x - lb/hr	None	None	None
SO ₂ - lb/hr	15.0	15.0	None
CO - lb/hr	57.7	169.9	112.2
VOC - lb/hr	None	None	None
TSP - Clinker Cooler lb/hr	7.1	13.0	5.9
Opacity - Clinker Cooler %	10	10	None
TSP - Kiln Main Stack - lb/hr	39.0	26.0	-13.0
Opacity - Kiln Main Stack %	20	20	None

TABLE I - PRESENT & PROPOSED EMISSION LIMITS

KILN NO.2

PERMIT NO.	AC27-258572	AC27-258572	AC27-258572
DESCRIPTION	Present Limit	Proposed Limit	Net Change
Operating Hours/Year	8200	8200	0
Preheater Feed, TPH Avg.	145	145	0
Kiln Feed, TPH Avg.	130	130	0
Clinker Product., TPH Avg.	79.6	79.6	0
NO _x - lb/hr	250.0	250.0	None
SO ₂ - lb/hr	15.0	15.0	None
CO - lb/hr	64.0	169.9	105.9
VOC - lb/hr	7.4	13.0	5.6
TSP - Clinker Cooler lb/hr	5.0	13.0	8.0
Opacity - Clinker Cooler %	10	10	None
TSP - Kiln Main Stack - lb/hr	13.5	26.0	12.5
Opacity - Kiln Main Stack %	10	20	*

TABLE II - PRESENT & PROPOSED EMISSION LIMITS

* The language in the existing permit is unclear as to what the opacity limit is, and how it is to be measured.

- Specific Condition 6. "Visible emissions from Kiln No. 2 shall not exceed 10% opacity." [Rule 62-296.800, F.A.C. and 40 CFR 60.62(a)(2)]
- Rule 62-296.800, F.A.C. Incorporates the Federal Standards of Performance for New Stationary Sources (NSPS) 40 CFR 60.60 Subpart F, Portland Cement Plants.
- 40 CFR 60.62(a)(2) "On and after the date on which the performance test required to be conducted by 60.8 is completed, no owner or operator subject to the provisions of this Subpart shall cause to be discharged into the atmosphere from any kiln any gases which exhibit greater than 20 percent opacity."
- Specific Condition 12. The visible emissions test shall be conducted by a certified observer and be a minimum of 180 minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. [40 CFR 60.11].
- 40 CFR 60.11 Compliance with opacity standards in this part shall be determined by conducting observations in accordance with Reference Method 9 in Appendix A of this part....
The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunctions, and as otherwise provided in the applicable standard.