City of Cleveland
Frank G. Jackson, Mayor

Department of Public Health
Division of Air Quality
1925 St. Clair Avenue
Cleveland, Ohio 44114-2080
216/664-2297 • Fax: 216/420-8047
www.clevelandhealth.org

SERVING OHIO EPA AS AGENCY 13 FOR CUYAHOGA COUNTY

CERTIFIED MAIL 70022030000118078696
RETURN RECEIPT REQUESTED

January 6, 2008

Mr. Michael Petkovich, General Manager
Clean Harbors Environmental Services
2900 Rockefeller Avenue
Cleveland, Ohio 44115

NON-HPV

FACILITY ID: 1318006093
NOTICE OF VIOLATION FOLLOW-UP LETTER

Dear Mr.Petkovitch:

On October 27, 2008, the Cleveland Division of Air Quality (CDAQ) issued a Notice of Violation requiring Clean Harbors Environmental Services, Inc. (Clean Harbors) to submit a corrective action plan stating how sulfur dioxide (SO2) and total suspended particles (TSP) pound per hour emissions would be reduced. CDAQ is in receipt of a corrective action plan dated December 19, 2008, showing revised calculations that prove emission units P003, P004 and P006 were in compliance with permit emission limitations.

The corrective action plan was received and appropriate steps were taken to bring the source into compliance. CDAQ has determined that no further enforcement action is warranted at this time, but reserves its right to take such action in the future if necessary.

CDAQ issues this letter with Ohio EPA's concurrence and does not excuse any violations of local, state and federal laws or regulations regarding air pollution control. Violations of air pollution control laws may be pursued in local court or referred to Ohio EPA or U.S. EPA for further enforcement action. Should you have any questions, please call Linda Kimmy at 216-664-2985. All correspondence with CDAQ must include the Ohio EPA facility identification number for Clean Harbors: 1318006093.

Sincerely,

Valencia White
Field Enforcement Manager, CDAQ
VW/LK
cc: Susan Sevy, Clean Harbors
John Paulian, Ohio EPA Central Office
Lisa Holscher, U.S. EPA Region V
Facility File and L:\Data\Facilities\1318006093\2008-10-10 NEAR.doc

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Michael PetKovich
CLEAN HARBORS ENV SERVICES
2900 ROCKEFELLER AVE.
CLEVELAND, OH 44115

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x Tonya Miller ☐ Agent ☐ Addres

B. Received by (Printed Name) Tonya Miller
C. Date of Deliv 1/12/0

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☑ No

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchanc
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7002 2030 0001 1807 8696

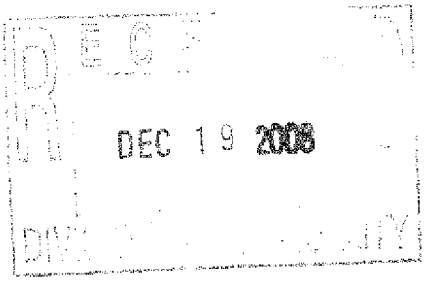
PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-

Clean Harbors Environmental Services, Inc.
2900 Rockefeller Avenue
Cleveland, Ohio 44115
216-429-2401
www.cleanharbors.com

RETURN RECEIPT REQUESTED
7002 0510 0004 3706 5084

December 17, 2008

George Baker
Chief of Enforcement, CDAQ
Department of Public Health
Division of Air Quality
Serving Ohio EPA as Agency 13
Cuyahoga County
75 Erieview Plaza
Cleveland, OH 44114



RE: NON HPV Emissions Violation
Facility ID 13-18-00-6093
Exceedance of SO2 lbs/hr Emission Units P003 and P004
Exceedance of lbs/hr of TSP Emission Unit P006

Dear Mr. Baker:

Clean Harbors Environmental Services, Inc. (hereinafter, Clean Harbors) is sending this letter in response to the Notice of Violation (NOV) letter received on October 30, 2008 regarding emission exceedances for Emission Units P003, P004 and P006 and the correspondence received on November 20, 2008 granting the extension for the required response to the alleged violations. Clean Harbors is pleased to report that the alleged violations for the emission units P003, P004 and P006 were not violations of the respective permit condition standards.

Clean Harbors used a template prepared to demonstrate compliance with the respective permit conditions that contained some calculation errors. For the sulfur dioxide (SO2) emission calculations, the template reflected that all SO2 would be liberated during each application in a reduction reaction treatment, when in fact that only a portion of the SO2 would be liberated as an emission and the balance would be consumed by the reaction taking place during the reduction treatment. The SO2 permit condition allowance for Emission Units P003 and P004 is 2.25 lbs/hr. The corrected calculation template demonstrates the consumption of the SO2 and liberation of SO2 emissions to be in compliance with the permit condition standard.

Clean Harbors did submit correct calculations for the TSP emissions for Emission Unit P006 with the exception of reporting the maximum possible emission rate for the Emission Unit P006. Again, the original template prepared and submitted to demonstrate compliance with the permit condition standard had a calculation error. The P006 Emission Unit consists of the lime silo and lime hopper components. Each component is designed to operate not liberating more than 0.137 lbs/hr TSP of lime. The lime silo and lime hopper are never operated at the same time as is indicated in the first calculations submitted to your agency, reported as 0.274 lbs/hr. Since only the lime silo OR the lime hopper operates at any given time, the maximum amount of emissions of TSP for Emission Unit P006 is 0.137 lbs/hr.

Clean Harbors has prepared this new set of calculations using the Calendar Year 2007 Air Emission Report Data, which is consistent with the original submission of the data that contained the mis-calculated components of the emissions data. Clean Harbors expresses regrets with any inconvenience the emission calculation errors may have caused and is requesting that the NOV for emission calculations be rescinded based upon this corrected emission calculation submittal.

Source	Permitted emission	Permit Limit	2007 Data (old)	2007 Data (revised)
P003	Sulfur Dioxide	2.25lbs/hr.	5.79 lbs/hr.	0.56 lbs/hr.
P004	Sulfur Dioxide	2.25 lbs/hr.	11.06 lbs/hr.	1.17 lbs/hr.
P006	TSP maximum	0.137 lbs/hr.	0.274 lbs/hr.	0.137 lbs/hr.

Should you have any questions or concerns regarding this letter, please contact Susan Sevy or myself at (216) 429-2401.

Sincerely,

Michael Petkovich
General Manager

CC: Linda Kimmy, CDAQ, Cleveland
John Paulian, Ohio EPA Central Offices
Linda Holscher, US EPA Region V
Susan Sevy, Clean Harbors

Cleveland Air Emissions Calculations
P-003 Oxidation/Reduction Reactor

Report Year 2007

OXIDATION PROCESS

Permitted limits:

Max. Treatment Volume	17,467,000	gallons/year
Max. Hours of Operation	6,570	hours

Process Data:

Volume Treated	244,108	gallons/year	
hours of operation	225.65	hours/year	
NH4 Concentration	3.87	percent	
Wastewater Rate	18.03	lb/min	
	1,082	lb/h	
NH4 Rate to Scrubber	42	lb/h	
Scrubber Efficiency	99	percent	**See note 3**
Ammonia Release Rate	**0.42**	**lb/h**	
	94.47	**lb/year**	Based on actual hours of operation

REDUCTION PROCESS

Permitted limits:

Max. Treatment Volume	4,093,950	gallons/year
Max. Hours of Operation	2,190	hours

Process Data:

Volume Treated	1,111,892	gallons/year	
Sodium Metabisufite	190,137	pounds/year	
Sodium Sulfide	29,553	pounds/year	
hours of operation	1316.3	hours/year	
SO2 Rate to Scrubber	14767.98	pounds/year	**See Note 2**
Scrubber Efficiency	95	percent	**See Note 3**
Therefore, SO2 release Rate	**738.40**	**pounds/year**	
	0.56	**lbs/hr.**	Based on actual hours of operation

Notes:

1 Values in Highlighted cells are operational data.

2 SO2 Rate to scrubber is based on following assumptions.
(A) Determination of available SO2 from Sodium Meta bisulfite and Sodium sulfide.

(B) Determination of the amount of SO2 that potentially may be released to scrubber from the available SO2.

(C) *Available SO2 :*
For the Sodium Meta bisulfite is ratio of Mol. Weight of SO2/Mol. weight of Sodium Metabisulfite.
For the Sodium sulfide is a ratio of Mol. Weight of SO2/Mol. weight of Sodium sulfide.

(D) Rate of release to scrubber from each source:
For Sodium Metabisulfite:
The experimental average loss rate of SO2 = 3.9% of available SO2.....based on extensive lab study.
Using 1.5 factor of safety to allow for fluctuations in SO2 release rate,
The maximum loss rate of SO2 to scrubber = 1.5 x 3.9% = 5.85% of available SO2
For Sodium Sulfide:
Use of Sodium Sulfide should not generate any SO2. However, it is estimated that a 3% of available SO2 would be released to scrubber.

3 Design and Manufacturer's Rated capture efficiency for the scrubbers in service.

Cleveland Air Emissions Calculations
P-004 Oxidation/Reduction Reactor

Report Year	2007		

OXIDATION PROCESS

Permitted limits:

Max. Treatment Volume	17,467,000	gallons/year	
Max. Hours of Operation	6,570	hours	

Process Data:

Volume Treated	447,430	gallons/year	
hours of operation	638.8	hours/year	
NH4 Concentration	3.87	percent	
Wastewater Rate	11.67	lb/min	
	700	lb/h	
NH4 Rate to Scrubber	27	lb/h	
Scrubber Efficiency	99	percent	**See note 3**
Ammonia Release Rate	**0.27**	**lb/h**	
	173.16	**lb/year**	Based on actual hours of operation

REDUCTION PROCESS

Permitted limits:

Max. Treatment Volume	4,093,950	gallons/year	
Max. Hours of Operation	2,190	hours	

Process Data:

Volume Treated	1,167,484	gallons/year	
Sodium Metabisufite	168,612	pounds/year	
Sodium Sulfide	33,325	pounds/year	
hours of operation	637	hours/year	
SO2 Rate to Scrubber	14848.16	pounds/year	**See Note 2**
Scrubber Efficiency	95	percent	**See Note 3**
Therefore, SO2 release Rate	**742.41**	**pounds/year**	
	1.17	**lbs/hr.**	Based on actual hours of operation

Notes:

1 Values in Highlighted cells are operational data.

2 SO2 Rate to scrubber is based on following assumptions.
(A) Determination of available SO2 from Sodium Meta bisulfite and Sodium sulfide.

(B) Determination of the amount of SO2 that potentially may be released to scrubber from the available SO2.

(C) *Available SO2 :*
For the Sodium Meta bisulfite is ratio of Mol. Weight of SO2/Mol. weight of Sodium Metabisulfite.
For the Sodium sulfide is a ratio of Mol. Weight of SO2/Mol. weight of Sodium sulfide.

(D) Rate of release to scrubber from each source:
For Sodium Metabisulfite:
The experimental average loss rate of SO2 = 3.9% of available SO2.....based on extensive lab study.
Using 1.5 factor of safety to allow for fluctuations in SO2 release rate,
The maximum loss rate of SO2 to scrubber = 1.5 x 3.9% = 5.85% of available SO2
For Sodium Sulfide:
Use of Sodium Sulfide should not generate any SO2. However, it is estimated that a 3% of available SO2 would be released to scrubber.

3 Design and Manufacturer's Rated capture efficiency for the scrubbers in service.

Cleveland Air Emissions Calculations
P-006 Lime Silo and Feeding System

Report Year	2007	

Lime Silo

capacity	3,000	ft3
annual receipt	272,638	lbs/year
bulk load size	15	tons
time to offload	1	hour
number of loads	9	loads
hours of operation	9	hours per year
baghouse efficiency	99.2	percent
fan capacity	800	cfm
lime emission rate	0.137	lbs/hour
Lime Silo emission	**1.25**	lbs/year Lime

Lime Hopper

capacity	65	ft3
annual throughput	272,638	lbs/year (assumed as a lime receipt)
transfer rate	45	lbs/minute
hours of operation	101	hours per year
baghouse efficiency	99.2	percent
fan capacity	800	cfm
lime emission rate	0.137	lbs/hour
Lime Silo emission	**13.83**	lbs/year Lime

Total Lime Emission

Total hours of operation	110	hrs/yeaar
Total Emissions	**15.08**	lbs/year Lime
	0.137	lbs/hour
Maximum possible rate	**0.137**	lbs/hr

Notes:

1 Values in Highlighted cells are operational data.