HW → 1997.01.08 Permit Mod

File

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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John P. Cahill
Acting Commissioner

January 8, 1997

William Morris
Environmental Director
Norlite Corporation
628 South Saratoga Street, Box 694
Cohoes, New York 12047

RE: DEC #4-0103-16/16-0
Lightweight Aggregate/HW
373 HW/APC Permit Modification
Cohoes-C, Albany County

Dear Mr. Morris,

The Department hereby modifies Norlite's 373 HW/APC permit. Attached are the revised permit pages which need to be substituted for the superseded pages in your current permit. If you have any questions please feel free to contact either Issac Natarajan, Bob Warland or myself.

Sincerely,

William J. Clarke

William J. Clarke
Regional Permit Administrator
Region 4

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CC: R. Warland
C. Van Guilder/H. Brezner
I. Natarajan
C. Lamb-LaFay

MODULE VII - INCINERATION AND ENERGY RECOVERY
KILNS 1 (EP2) AND 2 (EP1)

A. CONSTRUCTION AND MAINTENANCE

(1) The Permittee shall maintain the facility in accordance with the attached design plans and specifications, Attachment G, or equivalent.

(2) No modification to the incinerator and its flue gas cleaning system shall be made which would affect the achievement of the performance standards in Condition VII.B., or any other permit conditions specified in this permit, without first obtaining written approval from the Commissioner.

B. PERFORMANCE STANDARD

The Permittee shall maintain the incinerator so that, when operated in accordance with the operating requirements specified in this permit, it will meet the following performance standards:

(1) The incinerator must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated in this permit for each waste feed. DRE shall be determined using the method specified in 6NYCRR 374-1.8(e)

(2) The incinerator must not emit particulate matter in excess of 0.08 grains per dry standard cubic feet, when corrected for 7% oxygen in the stack gas in accordance with the formula specified in 6NYCRR 374-1.8(f).

(3) The Permittee must control hydrogen chloride (HCl) and chlorine (Cl_2) emissions from the incinerator stack such that the rates of emission of HCl and Cl_2 do not exceed 4.6 lbs/hr (uncorrected for ammonium chloride) and 0.062 lb/hr respectively. These emission limits will be met by limiting the total feed rate of chlorine to the incinerator as provided in Condition VII.C.

(4) The Permittee must control emission of products of incomplete combustion (PICs) from the incinerator such that the carbon monoxide (CO) level in the stack gas, shall not exceed the limits specified in Condition VII.D.

(5) The Permittee must control emission of toxic metals from the incinerator by limiting the total feed rate of each metal into the incinerator, as specified in Condition VII.C.

(6) $S0_2$ stack emissions shall not exceed 30 lbs/hr/kiln.

(7) Stack emissions of nitrogen oxides measured as NO_2 shall not exceed 61 lbs/hr/kiln.

(8) Compliance with the operating conditions specified in this permit will be regarded as compliance with the above performance standards. However, evidence that compliance with such permit conditions is insufficient to ensure compliance with the above performance standards may be "information" justifying modification, revocation, or reissuance of the permit pursuant to 6NYCRR 621.14.

C. LIMITATION ON WASTES

The Permittee shall incinerate the following hazardous wastes only as allowed by the terms of this permit.

(1) The Permittee shall not incinerate any hazardous waste that contains any 6NYCRR Part 371 Appendix 23 organic hazardous constituents not found in Class 1 through Class 7 of the Thermal Stability Index.

(2) No waste or combination of wastes and fuel, as fed to the incinerator, shall exceed the design thermal capacity of 62M BTU/hr.

(3) The total chlorine fed to the incinerator shall not exceed 115 lb/hr.

(4) The emission rates and mass feedrates of toxic metals to the incinerator shall not exceed:

Metal	Emission Limit	SHALE (22T/hr)		LLGF +SLGF+Used oil/Waste Fuel A. (lbs/hr)	
		Metal Concentration (mg/kg)	Metal Feed Rate (lb./hr)	Metal Feed Rate[A&B] Lb./hr	Metal[A,B & C] Concentration/kiln mg/kg
Antimony	8.14E-04[D]	2.96	0.13[E]	0.24	49
Arsenic	4.19E-04	53	2.35	0.12	24
Barium	7.63E-04[D]	260	11.45	0.72	147
Beryllium	6.31E-05[D]	3.0	0.132	0.0058	1.18
Cadmium	8.358E-04[D]	7.73	0.34[D]	0.144	29.4
Chromium(T)	1.52E-03[D]	127.7	5.62[D]	2.16	441
Chromium(VI)	4.78E-05[D]	-	-	-	-
Copper	6.65E-04[D]	190.5	8.38[D]	4.8	980
Lead	4.37E-04[D]	87.3	3.84[D]	2.69	549
Mercury	5.31E-02[D]	0.8	0.0352	0.124	25
Nickel	9.75E-03[D]	95.0	4.18	2.88	588
Selenium	5.82E-04[D]	1.2	0.0528	0.12	24
Silver	6.025E-04[D]	39.1	1.72[D]	0.096	19.6
Thallium	7.15E-05[D]	7.5	0.33[D]	0.24	49
Zinc	2.63E-02[D]	493.6	21.72[D]	0.12	24

A Total contribution from LLGF, and other fuels

B Sampling, analysis and feed planning prior to feeding wastes shall be performed in accordance with the approved Waste Analysis Plan, Attachment A of the permit.

C Concentration limits applicable only to LGF fed directly from tanks 300, 400, 500 and 600 and LGF tanker trucks to the incinerators.

D Temporary Authorization to implement, at the currently authorized shale feedrate of 22 tons per hour, the results of the 1992 Trial Burn from which it was determined that 1) all metals emissions limits are within acceptable health risk assessment limits based upon Emission Rates in Table 1 of the January 1994 Health Risk Assessment (HRA document # 9508-102), 2) of the 15 individual metals subject to emission limits 11 went down, 2 stayed the same and 2 went up but total metals emissions limits are less than the prior permit limits which were based upon the 1990 Trial Burn and HRA, 3) metals feedrates and concentrations in the LGF either are reduced or remain at the permit levels prior to this modification and 4) based upon additional sampling data some feedrates and concentrations of metals in the shale are higher than previously determined under the 1990 Trial Burn but that even with these higher levels this still results in a reduction in total metals emissions limits that are within acceptable health risk assessment limits..

E Temporary Authorization to incorporate into the permit a provision of Order on consent R4-1445-93.

(5) The physical form of the waste shall be a pumpable liquid with a viscosity not exceeding 3000 SUS at 80^0F.

(6) The Permittee shall not accept the following wastes:

(a) Wastes containing pesticide constituents as specified in the Waste Analysis Plan, Attachment A, which cannot be blended to a concentration below 1.7%.

(b) Wastes with PCB concentration greater than 25 ppm or any regulated PCB wastes as defined in 6NYCRR 371 and 40 CFR Part 761.

© Wastes containing polychlorodibenzo-p-dioxins (PCDD), polychlorodibenzo-furans (PCDF) or hazardous wastes with the following waste codes: F020, F021, F022, F023, F026, F027 and F028.

(d) Any wastes not specifically identified as acceptable in the Waste Analysis Plan, Attachment A.

(e) Waste Fuel B-2 as defined in NYSDEC Air Guide 17.

(7) The revised procedure for sampling shale found in Section C of Norlite's 373 HW/APC application, Waste Analysis Plan, Appendix C-2, Section 1.3 pages C-2(5),2(5)a, 2(5)b, 2(5)[c] (Revision: March 96) and page 2(6) shall be implemented no later than 11/15/96 with results provided beginning with the 11/96 monthly report. Split samples will be given to NYSDEC upon request with no restrictions.

(8) No used oil, fuel oil or mixture of these can be accepted for use as fuel unless analyzed prior to acceptance and off-loading in accordance with 374-2 and the permittee's Waste Analysis Plan (Attachment A). If used oil is intended to be accepted, stored, conveyed and burned as waste fuel A, then this material must meet the definition and criteria found in 6NYCRR225-2 for Waste Fuel A as well as the following additional criteria prior to acceptance and off loading:

A) Is not a hazardous waste as defined by 6NYCRR371 and the criteria found in this permit and attachments.

B) Has a PCB concentration of 25 ppm or less. Except for the consolidation of used oil loads no PCBs can be present as a result of mixing with used oil except for those exempted under 371.4(e).

C) No admixture of listed hazardous waste with used oil/Waste Fuel A.

Mixtures of used oil and characteristic hazardous waste, which no longer exhibit a characteristic, are allowed to be burned as waste fuel A but such mixing is

allowed by the used oil generator only. The permittee is prohibited from blending used oil with any hazardous waste for any purpose.

No storage in tanks previously used for the storage of hazardous wastes is allowed unless such tanks have been cleaned and decontaminated as per 6NYCRR373 this permit and its attachments prior to their use for used oil/Waste Fuel A storage.

D) Used oil containing more than or equal to 1000 ppm of total halogens is presumed to be hazardous waste and such used oil must be burned as hazardous waste complying with all the operating requirements in Module VII. D of this permit unless the presumption of mixing with hazardous waste can be rebutted by demonstrating that the used oil does not contain hazardous waste (for example by using an analytical method from SW-846, Edition III to show that the concentrations of individual halogenated solvents listed in waste codes F001 and F002 are less than 100 ppm) and meets the definition and criteria for Waste Fuel A found in 6NYCRR225-2 and this permit. Records of analysis conducted to rebut the presumption of mixing with hazardous wastes, must be retained at the facility for at least three years. Rebuttable presumption must be applied at the time of acceptance from the permitted transporter.

E) Analytical information must be included in the Monthly Report's Tank Certification submitted to the Department pursuant to Module VII.D.(7) of this permit.

F) The storage of Waste Fuel A/Used Oil must be in compliance with 6 NYCRR Part 360-14.3(e).

D. OPERATING CONDITIONS

(1) Hazardous wastes must not be fed into the incinerator unless the incinerator and waste feeds are operating within the conditions specified in Condition VII.D. This applies during any operation of the kilns, start-up, shut down and after a waste feed cut off (WFCO) of the incinerator. The permittee may burn in the absence of hazardous wastes (LLGF+SLGF) natural gas, no. 2, 4 or 6 fuel oil (virgin or rerefined) or used oil/Waste Fuel A (definition and criteria found in 6NYCRR225-2 and this permit, Section C above) during startup, shutdown and after WFCOs as well as normal operation subject to the applicable operating parameters in this permit, the provisions of 6NYCRR225 and 6NYCRR Part 374-2 and the requirements and emission limits found in the fossil fuel/non hazardous waste fuel section of the Air Pollution Control Permit. The burning of Waste Fuel A in the absence of hazardous waste shall cease immediately any time the carbon monoxide levels in the stack are at or above 500 parts per million at 7% Oxygen, dry as measured under VII.D(3). The permittee shall install and maintain an interlock

system that will prevent burning liquid and solid hazardous waste when the Carbon Monoxide levels register >100 ppm while burning Waste Fuel A.

(2) The Permittee shall control fugitive emissions from the combustion zone and the back end of the incinerator by continuously maintaining a negative kiln pressure and maintaining the baghouse pressure drop below the maximum operating limit as specified in Condition VII.D.3 and 4, and by implementing the operating procedures specified in Attachment G of the permit for operation with one baghouse module removed for maintenance.

(3) The Permittee shall feed the wastes described in Condition VII.C to the incinerator only under the operating conditions specified in Condition VII.D. The Permittee shall operate, monitor, maintain and calibrate the systems specified below to automatically activate the alarm and cut off the hazardous waste feed to the incinerator at the levels specified below when the operating conditions deviate from the limits established below. Testing of the automatic waste feed cutoff systems and alarms shall be in accordance with Condition VII.E.3.

System	Basis	Alarm Set-point	Automatic Cutoff Limit	Monitoring/Recording Frequency	Calibration Frequency[9]
LLGF flow, gpm[10]	HRA[1]	9 gpm	>10.3 gpm (>10.1 interim limit)[8](HRA)	Continuous/ OMA[2],HRA	Monthly
SLGF Feed Rate	Hourly Average	112[11] gal/hr	>114 gal/hr (>0 interim limit)[8]	Continuous/ hourly average	Monthly
Back-end Temp. (°F)				Continuous/OMA, HRA	Monthly
LLGF Minimum	HRA	885°F	<875°F		
LLGF Minimum	OMA	876°F	<866°F		
Maximum	HRA	1080°F	>1091°F		
	OMA	1160°F	>1170°F		
(When burning SLGF)					
Minimum	HRA	950°F	<940°F		
Minimum	OMA	970°F	<960°F		
Maximum	HRA	1081°F	>1091°F		
	OMA	1160°F	>1170°F		

System	Basis	Alarm Set-point	Automatic Cutoff Limit	Monitoring/Recording Frequency	Calibration Frequency[9]
Carbon Monoxide, ppm @ 7% O_2, dry	HRA	75	>100 >500 (non haz.waste oil feed cutoff)	Continuous/ OMA,HRA	Daily calib. Quarterly CE Test. Annual Performance Specification Test
I.D. fan current, amps	HRA	400	>404	Continuous/ HRA	Quarterly
Kiln pressure, "wg	INST[3]	-0.05	>-0.05(for 15 secs.)	Continuous/ OPM[4]	Monthly
Baghouse pressure drop, "wg -3 modules -2 modules[5]	OMA	 5.3 10.0	 <4.8 >9.4[6] <9.2 >11.0	Continuous/ OMA	Monthly
Scrubber Water Recirculation rate, gpm	OMA	194	<184	Continuous/ OMA	Monthly
Inlet Temperature to Baghouse	OMA	435°F	>450°F	Continuous /OMA	Monthly
Shale feed rate, tph	HRA	21.5	>22 0 (>30 min.)	Continuous/ OMA, HRA	Monthly
Lime feed rate, lb/hr per lb/hr Cl	NA	Upon detection of feed failure	<2.7 lb/hr per lb/hr chlorine feed (unless corrected WFCO 30 min. after going beyond the cutoff limit)	Continuous (Feeder motor current)/ Record feed setting twice/shift	Monthly
Recirc. tank pH	HRA	8.0	<7.9	Continuous/ OMA, HRA	Daily
Venturi pressure drop, "wg	OMA	2.5"	<2.0" (unless corrected WFCO 3 minutes after going beyond the cutoff limit)	Continuous	Monthly

System	Basis	Alarm Set-point	Automatic Cutoff Limit	Monitoring/Recording Frequency	Calibration Frequency[9]
Ducon scrubber pressure drop "wg	OMA	2.0"	<le5" (unless corrected WFCO 3 minutes after going beyond the cutoff limit)	Continuous	Monthly
Static Pressure at kiln exit[7]	INST	To be determined	NA	Continuous/ OPM	Monthly

1. Hourly Rolling Average

2. One-minute Average of readings taken at least once every 15 seconds

3. Instantaneous reading taken at least once every 15 seconds

4. Instantaneous reading recorded once per minute

5. Operation with only two baghouse modules is permitted only with natural gas fuel. Use of other fuels is not permitted until such time as a kiln exit pressure gauge is installed with the approval of the Department.

6. Within 10 minutes of alarm and thereafter, every 30 minutes, an operator shall inspect the kiln seals and APC ducting for fugitive emissions until the differential pressure drops to below 9.4 " wg. An inspection log shall be maintained. If fugitive emissions are observed, hazardous waste feed shall be cut off as soon as practicable but within 5 minutes.

7. Norlite shall submit results of evaluation of pressure testing and obtain Department approval prior to installing pressure gauge.

8. Written authorization will be given for themaximum liquid low grade fuel (LLGF) feed rate to rise to 10.3 GPM from 10.1 GPM and solid LGF (SLGF) to be burned at the maximum rate of 114 gallons/hour when to the satisfaction of the Department: A) the permanent wastewater treatment plant is completed and operating as per approved plans and SPDES permit and B) the APC scrubbers are operating at their optimum removal efficiency and blowdown rate.

9. In addition to the frequency specified, one randomly selected WFCO parameter shall be tested at least once every 7 days to verify the system accuracy and operation of the LLGF and SLGF control valves. An authorized DEC representative may, at random, request additional parameters to be tested in his or her presence.

10. Or whatever lower WFCO limits are required to comply with the metals and halogen feed rate limits. If lower WFCO limits are required, the corresponding alarm set points shall be set at a level of 0.4 gpm below the LLGF, used oil cutoff limits and 2 gal/hr below the SLGF cutoff limit.

(4) The Permittee shall operate the incinerator as well as monitor, maintain and calibrate the monitoring system as specified below:

System	Operating Limit	Monitoring/ Recording Frequency	Calibration Frequency
Oxygen	NA	Continuous[1]/ OMA	Daily calib. Quarterly CE tests. Annual Performance Specification Test
Opacity, Max.	20%		
Minimum scrubber water blowdown rate, gpm/kiln	>15 gpm[2]	Daily	Quarterly
LLGF Feed Line Pressure (psi)	>45	Daily	Monthly
SLGF Atomization Pressure"wg	>82"	Daily	Monthly
LLGF atomization pressure,"wg	>40"	Daily	Monthly

1. Continuous shall mean monitoring at least every 15 seconds and recording the averaged value every minute.

2. The permittee shall accomplish the following: 1) conduct sampling and analysis of the scrubber blowdown at the 28, 15 and 4.4 gpm rates for regulated metals, total suspended solids (TSS) and total dissolved solids (TSD), expressed as lb/hr, as per the approved test protocol dated 12/4/96 (modified by the Department 12/23/96). Testing is to commence in January, 1997. A final report of the results is due 30 days following the completion of the test. Should the Department determine that operation of the scrubbers at the 15 gpm/kiln blowdown rate produces removal efficiencies below that obtained at the 28 gpm/kiln rate then the Department can require the permittee to either increase the blowdown rate to 28 gpm/kiln or adjust total metals feedrates in the LGF and if necessary the shale. Such adjustments in feedrates shall be based on the scrubber blowdown analytical results provided to the Department in the final report covered above and will be determined for a maximum feed rate of 10.1 gpm for LGF and 22 tons/hour for shale according to the following formula:

LGF Feed rate in gpm:

$$= \frac{\text{Lb/hr of total regulated metal in blowdown at 15 gpm} \times 10.1}{\text{Lb/hr of total regulated metal in blowdown at 28 gpm}}$$

Shale Feed rate in Tons:

$$= \frac{\text{Lb/hr of total regulated metal in blowdown at 15 gpm} \times 22}{\text{Lb/hr of total regulated metal in blowdown at 28 gpm}}$$

(5) The Permittee shall suspend feeding hazardous wastes to the incinerator if and when the automatic waste feed cutoff system has been activated more than 30 times in a calendar month operating period. (Automatic cutoffs due to power outages will not be counted toward this total). Within three days from suspending operations, the Permittee shall

notify EPA Region II and the Department of the involuntary suspension. Such notification may also include a request for resumption of operation. This request shall describe the corrections made to the operation of the unit to prevent such frequent shutdowns. A decision concerning the resumption of operation shall be ordered by the Regional Administrator or Commissioner of the Department within five working days of the request being delivered by the source. The source shall not resume operations if the Regional Administrator or Commissioner denies the request.

(6) The Permittee shall report all process deviations from allowed operating limits listed in the permit and a summary of operations in a monthly report. This must be filed by the third week of the following month with the appropriate office of NYSDEC and EPA Region II Hazardous Waste Compliance Branch. At a minimum, the report must address the following items:

a. Process Operating Summary

- hours the unit was operated with hazardous waste (LLGF)
- brief explanation of the reasons for downtime

b. Continuous Monitor Operating Summary

-for each parameter exceeding the operating limit and/or waste feed cutoff limit during the month, list the following:

*parameter
*operating and interlock limit
*number of exceedances
*number of interlock shutdowns
*interlock shutdowns for the year to date
*cause of each exceedance and/or shutdown
*corrective action taken
*duration of exceedance
*duration of interlock shutdowns
*alarm activations and steps taken to prevent shutdown

-for the CO and O_2 monitors found to exceed the acceptable drift range during an audit or a daily span check, list the following:

*parameter
*date
*indicated drift

*corrective action performed

c. Metals Feed Summary

Concentrations and mass feed rates of each of the metals specified in Condition VII.C.4 in raw material and pumpable hazardous waste (LLGF and SLGF) and Waste Fuel A.

d. Used oil/Waste Fuel A (burnt in the absence of hazardous waste)

- Grade of Waste Fuel A (used oil)
- Hazardous or nonhazardous
- Date, starting and ending time used oil was burnt
- Metal concentration
- Metal feed rate
- Feed rate and specific gravity

(7) The kilns may be operated on LLGF for a maximum period of 30 minutes prior to introducing shale to the kilns, provided that all operating conditions specified in Condition VII.D are met prior to feeding LLGF. If a cessation of shale feed results during operation, the Permittee shall, within 30 minutes, stop the feed of LLGF to the kilns.

(8) The permittee shall submit within 30 days of the effective date of this permit to the Department for review and approval a revised control system package to implement any revised operating limits and monitoring parameters contained in Module VII, Section D, paragraphs (3) and (4). The control system package incorporating these changes shall be implemented within 5 days of Department approval. If any revisions to this package are necessary, they shall be submitted within 15 days of receiving notice from the Department that changes are required. Until approved, the permittee shall operate according to the operating parameters in VII.D (3) and (4) prior to the permit modification.

E. MONITORING AND INSPECTION

(1) The Permittee shall install, maintain, calibrate, and operate monitoring equipment which continuously records operating parameters specified in VII.D.3 and D.4 and required by 6NYCRR 373-2.15(g)(1)(I) and (ii).

(2) The incinerator and associated equipment shall be inspected, at least daily, for leaks, spills, emissions, and signs of a malfunction as required by 6NYCRR 373-2.15(g)(2).

(3) The Permittee shall perform testing of the automatic waste feed cut off systems and all associated alarms specified in Conditions VII.D.3 by simulating upset conditions for

each parameter, as required by 6NYCRR 373-2.15(g)(3). The automatic waste feed cutoff system and alarm levels shall be tested at least monthly for all system parameters providing there is continuing testing performed on at least one system parameter on a random basis once at least every 7 days to verify proper operation of the control valves. If the Permittee experiences an automatic WFCO (or OPCO), the Permittee may document this event as a test. If the testing data shows significant deviations, the Department reserves the right to require more frequent testing.

(4) The monitoring and inspection data required by Conditions VII.E.1, VII.E.2 and VII.E.3 must be recorded and the records must be placed in the operating log as required by 6NYCRR 373-2.5(c).

(5) Upon request of the Commissioner, the Permittee shall conduct the tests required by 6NYCRR 373-2.15(g)(1) iii). These performance tests shall follow the procedure and the protocol to be approved by the Commissioner. By 2/1/96 the Permittee will submit a trial burn plan to the NYSDEC. This trial burn plan will be designed so that the performance of the incinerator may be reevaluated before the renewal of this Permit.

The NYSDEC will review and approve, comment upon, or deny the trial burn plan. The Permittee shall conduct the trial burn only after obtaining written authorization from the NYSDEC. Trial burn results including all back up data must be submitted to the NYSDEC six months before the expiration of this Permit (This date may be modified based upon the date upon which the Trial Burn Plan is approved by the Department.). The Permittee may conduct additional trial burns or tests subject to prior written approval by the NYSDEC (and the terms of this Permit).

(6) The Permittee shall operate the air pollution control equipment in compliance with the Operation and Maintenance (O&M) Plan, Attachment K.

(7) The permittee shall conduct training for all kiln burner operators according to the document titled "Kiln Burner Operator Training Program," dated 4/25/95.

(8) The Air Pollution Control dust must meet the requirements listed under 6 NYCRR Part 374-1.8(m) for availing the hazardous waste exemption allowed under 373.1(e)(2)(vi). The waste derived residues must be characterized by composite samples with composite period not to exceed 24 hours to ensure that the residues are managed properly.

F. CLOSURE

The Permittee shall close the incinerator and all associated equipment as required by 6NYCRR 373-2.15(h) and as described within the applicable portions of Attachment I, Facility Closure Plan.