State of Ohio Environmental Protection Agency

RE: FINAL PERMIT TO INSTALL MODIFICATION **CERTIFIED MAIL**
CUYAHOGA COUNTY

Street Address: 122 S. Front Street
Lazarus Gov. Center **TELE:** (614) 644-3020 **FAX:** (614) 644-2329
Mailing Address: Lazarus Gov. Center P.O. Box 1049

Application No: 13-03697

DATE: 10/9/2003

Advanced Energy Technology Inc.
Elizabeth Good
PO Box 94637 11709 Madison Ave
Cleveland, OH 441014637

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, Ohio 43215

Sincerely,

Michael W. Ahern

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA **CLAA**

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install **Issue Date: 10/9/2003**
Terms and Conditions **Effective Date: 10/9/2003**

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL
13-03697

Application Number:	13-03697
APS Premise Number:	1318458257
Permit Fee:	**$250**
Name of Facility:	Advanced Energy Technology Inc.
Person to Contact:	Elizabeth Good
Address:	PO Box 94637 11709 Madison Ave Cleveland, OH 441014637

Location of proposed air contaminant source(s) [emissions unit(s)]:
12300 Snow Road
Parma, **Ohio**

Description of proposed emissions unit(s):
administrative modification of advance flexible graphite line.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio

Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or

modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons Per Year
PE	1.44
SO2	10.77
OC (acetone)	199.29
CO	92.00
NOx	22.47

Emissions Unit ID: **P001**

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment		Applicable Rules/Requirements
P001 - Advanced Flexible Graphite Production Line consisting of a gas-fired furnace, mill, two graphite fabric filter collectors, liquid addition, gas-fired dryer, and production formation with a cyclone separator, quench stage, Venturi scrubber and 3 stage packed bed scrubber system, and fixed bed activated carbon adsorber system (liquid organic material recovery system)		OAC rule 3745-31-05 (A)(3)
		OAC rule 3734-31-05 (D) Synthetic minor to avoid Title V permit requirements and Prevention of Significant Deterioration requirements.
		OAC rule 3745-17-07 (A)
		OAC rule 3745-18-06 (E) (1)
		OAC rule 3745-21-07 (G)(1)

	Applicable Emissions Limitations/Control Measures	
		pursuant to OAC rule 3745-31-05 (A)(3)
OAC rule 3745-21-08 (B)	Visible particulate emissions (PE) 10% opacity, as a 6-minute average.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3)
OAC rule 3745-23-06 (B)	PE shall not exceed 0.33 lb/hr and 1.44 TPY;	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3)
	Sulfur dioxide (SO2) emissions shall not exceed 2.46 lbs/hr and 10.77 TPY.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3)
	Organic compound (OC) emissions shall not exceed 45.5 lbs/hr and 199.29 TPY	
	Nitrogen oxide (NOx) emissions shall not exceed 5.13 lbs/hr and 22.47 TPY; and	
	Carbon monoxide (CO) emissions shall not exceed 21.63 lbs/hr and 92.00 TPY;	
	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3)	
	The emission limitation specified by this rule is less stringent than the emission limitation established	

2. Additional Terms and Conditions

2.a Eighty five percent (85%) or more of the organic compound emissions shall be controlled by fixed bed activated carbon adsorber system.

B. Operational Restrictions

1. The maximum annual production rate and emission limitations for this emissions unit shall not exceed those specified by the formulas listed below, based upon a rolling 12-month summation.

2. The permittee shall document the monthly emissions by tracking the monthly Solid Material feed input quantity with the appropriate CO, NOx, OC, PE, and SO2 emission factors, for the Solid Material scenarios, and those developed for any new Solid Material scenarios, to calculate total monthly actual CO, NOx, OC, PE, and SO2 emissions from P001. Any new emission factors/Solid Material scenarios shall require the review and prior approval of Ohio EPA or its authorized representative in the area.

Solid Material Scenario	Actual Emission Factor (EF)	
#1 & #2	PE:	2.0 lbs PE/ton of Solid Material
#1 & #2	SO2:	5.0 lbs SO2/ton of Solid Material
#1 & #2	OC:	300.0 lbs OC/ton of Solid Material or Mass Balance
#1 & #2	CO:	186.0 lbs CO/ton of Solid Material
#1	Low NOx:	5.0 lbs NOx/ton of Solid Material
#2	High NOx:	26.5 lbs NOx/ton of Solid Material

Emission Factors (From AP-42) for Combustion of Natural Gas in Dryer Portion of Process:

#1 & #2	PE:	1.9 lbs PE/1,000,000 cubic feet of natural gas
#1 & #2	SO2	0.6 lb SO2/1,000,000 cubic feet of natural gas
#1 & #2	OC	5.5 lbs OC/1,000,000 cubic feet of natural gas
#1 & #2	CO	84 lbs CO/1,000,000 cubic feet of natural gas
#1	Low NOx	100 lbs NOx/1,000,000 cubic feet of natural gas
#2	High NOx	100 lbs NOx/1,000,000 cubic feet of natural gas

PE Emissions
(2.0 lbs PE/ton) X (tons/month Solid Material fed) X (1 ton/2000 lbs) + (1.9 lbs PE/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month PE

$\sum_{j=1} Ej < 1.44$ tons of PE per rolling 12-month period

Where: E = tons/month PE

SO2 Emissions
(5.0 lbs SO2/ton) X (tons/month Solid Material fed) X (1 ton/2000 lbs) + (0.6 lb SO2/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month SO2

$\sum_{m=1}^{12} Em < 10.77$ tons of SO2 per rolling 12-month period

Where: E = tons/month SO2

OC Emissions
(300.0 lbs OC/ton) X (tons/month Solid Material fed) X (1 ton/2000 lbs) + (5.5 lbs OC/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month OC

Or Mass Balance
(OC used, tons/month) + (OC initial inventory, tons) - (OC final inventory, tons) + (5.5 lbs OC/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month OC

$\sum_{m=1}^{12} Em < 199.29$ tons of OC per rolling 12-month period

Where: E = tons/month OC

CO Emissions
(186.0 lbs CO/ton) X (tons/month Solid Material fed) X (1 ton/2000 lbs) + (84.0 lbs CO/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month CO

$\sum_{k=1}^{12} Ek < 92.00$ tons of CO per rolling 12-month period

Where: E = tons/month CO

NOx Emissions

y

$$\sum_{n=1} Sn < \text{total tons/month NOx}$$

$$\sum_{m=1}^{12} Em < 22.47 \text{ tons of NOx per rolling 12-month period}$$

Where:
S = (lbs NOx/ton EF) X (tons/month Solid Material fed) X (1 ton/2000 lbs) + (100 lbs NOx/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month NOx
y = number of Solid Material scenarios
E = tons/month NOx

3. Following issuance of this permit, the permittee shall develop a rolling 12-month average emissions table. Monthly data will be collected immediately upon start-up to establish the first year's 12-month rolling average emission data. Once twelve (12) months of emission data have been established, the established emission factors and records of Solid Material feed on file for that previous 12-month operating period will be used to comply with the 12-month rolling average emission requirement.

4. During Solid Material scenario #1 (low NOx producing Solid Material operations), the wet scrubbing packed towers (Stages 4, 5 and 6) shall be maintained in the following manner:

Scrubber packed tower stage number	Scrubber chemicals	Minimum pH value	ORP* value, millivolts	minimum pressure drop across packed tower Stages 4, 5 and 6, inches water column	minimum scrubbing solution flow rate, gallons per minute
Stage 4	sodium hydroxide (NaOH)	= or > 7	not applicable	not applicable	= or > 20
Stage 5	sodium hydroxide and sodium hypochlorite (ClNaO)	= or > 8	> + 700 (greater than or equal to + 700)	not applicable	= or> 20
Stage 6	water only	Neutral	not applicable	= or> 3.5 and = or < 20	= or> 20

*ORP is oxidation and reduction potential

5. During Solid Material Scenario #2 (high NOx producing Solid Material operations), wet scrubbing towers (Stages 4, 5 and 6) shall be maintained in the following manner:

Scrubber packed tower stage number	Scrubber chemicals	Mini mum pH value	ORP value, millivolts	pressure drop across packed tower Stages 4, 5 and 6, inches water column	minimum scrubbing solution flow rate, gallons per minute
Stage 4	sodium hydroxide (NaOH)	= or> 7	not applicable	not applicable	= or> 20
Stage 5	sodium hydroxide and sodium chlorite (ClNaO2)	= or> 7.5	> + 250 (greater than or equal to plus 250)	not applicable	= or> 20
Stage 6	sodium hydroxide and sodium hydrosulfide (NaHS)	= or> 10.0	< - 250 (can be equal to or more negative than minus 250)	= or> 3.5 and = or< 20	= *o*> 20

6. The pH control and ORP control system will be calibrated weekly.

7. Maintain the pressure drop (pressure differential) across the wet scrubber in Stages 4, 5 and 6 at least 3.5 inches of water column but no more than 20 inches of water column as measured by transmitting (Magnehelic or equivalent) pressure gauge(s).

8. A scrubbing solution recirculation flow rate to the scrubber of not less than 20 gallons scrubbing solution per minute shall be maintained and monitored by a recycle flow transmitter. The actuation of this flow transmitter at equal or greater than (>) 20 gallons scrubbing solution per minute will be checked semi-annually.

9. Maintain the pressure drop (pressure differential) of the Graphite (formerly called edge trim) dust collector #1 (only when operating) at a minimum of 0.1 inch of water column as measured by Transmitting (Magnehelic or equivalent) pressure gauge(s).

10. Maintain the pressure drop (pressure differential) of the Graphite (formerly called edge trim) dust collector #2 (only when operating) at a minimum of 0.1 inch of water column as measured by Transmitting (Magnehelic or equivalent) pressure gauge(s).

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall install, calibrate, operate, and maintain, in good working condition, systems of monitors, in accordance with the manufacturers' recommendations, with any modification deemed necessary by the permittee. The monitoring devices shall be capable of accurately measuring the desired parameters. The permittee shall record on an hourly basis the following parameters whenever solid material is fed into the Advanced Flexible Graphite Production Line:

   a. The pH levels of the scrubbing solution in Stages 4, 5 and 6;

   b. ORP level of Stage 5 under Solid Material Scenario #1;

   c. ORP level of Stages 5 and 6 under Solid Material Scenario #2;

   d. The total pressure drop (pressure differential) across the scrubber in Stages 4, 5 and 6;

   e. The scrubbing solution recirculation rate in the scrubber via a flow transmitter. The recirculation rate will be recorded as "made" or "not made" in the flow transmitter. The flow transmitter will be maintained and checked semi-annually. At this time, verification of a flow rate equal or greater than (>) 20 gallons per minute will be recorded. The flow transmitter in the "made" position means the scrubbing solution is flowing at equal or greater than (>) 20 gallons per minute**;**

   f. The pressure drop across the graphite dust collector #1 (only when operating); and

   g. The pressure drop across the graphite dust collector #2 (only when operating).

   The unit for ORP is millivolts. The unit for pressure drop (pressure differential) is inches of water column. The unit for scrubbing solution recirculation flow rate is gallons per minute (gpm). The monitors shall be installed, calibrated, operated and maintained in accordance with the manufacturers' recommendations, with any modification deemed necessary by the permittee.

2. The permittee shall collect and record on an hourly basis the following information for each day the emission control equipment when the emissions unit is in operation (when Solid Material is being fed into the system):

   a. Total pressure drop (pressure differential) across the scrubber Stages 4, 5 and 6;

   b. ORP level of Stage 5 under Solid Material Scenario #1;

   c. ORP level of Stages 5 and 6 under Solid Material Scenario #2;

   d. pH readings of the scrubbing solutions in Stages 4, 5 and 6;

   e. The scrubbing solution recirculation flow transmitter position (i.e., the switch is either

"made" or "not made". "Made" means the scrubbing solution is flowing")**;**

f. The pressure drop across the graphite dust collector #1 (only when operating); and

g. The pressure drop across the graphite dust collector #2 (only when operating).

All parameters will be monitored continuously, however, snapshot average values will be recorded every 10 minutes. After 6 snapshots have been recorded (i.e., one hour's worth), these 6 snapshot values will be averaged and reported as an average hourly value. If an average hourly value exceeds the permit limit, such as below a minimum threshold value or above a maximum threshold value, the system will begin recording the time and the average hourly value of the a deviation. Due to the automated process control loop of this system, any parameter deviations less than or equal to 6 minutes will be considered normal operating conditions and is not recorded/reported as a deviation.

3. The permittee shall maintain monthly records of the Solid Material feed input quantity and all other information needed under Section B., Operational Restrictions, to determine compliance on a rolling 12-month basis.

4. The permit to install for this emissions unit (P001) was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetone

TLV (mg/m3): 1,187

Maximum Hourly Emission Rate (lbs/hr): 45.5

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 13,680

MAGLC (ug/m3): 28,265

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit semi-annually written reports, which identify all deviations (excursions), exceedance(s) and non-compliance periods of time of the following unless specified otherwise below:

a . The rolling 12-month limitations on the CO, NOx, OC, PE, and SO2 emissions after the first 12 months of data have been recorded and the rolling 12-month average emission table contains 12 months of data.

b . All scrubber pressure drop (pressure differential) readings less than 3.5 or greater than 20 inches of water column.

c . All pH readings of the scrubbing solution that are less than the following values:

Scrubber stage number	Low NOx producing Solid Material pH value	High NOx producing Solid Material pH value
4	7	7
5	8	7.5
6	Neutral	10

d . All ORP readings that are recorded as indicated below:

Scrubber stage number	Low NOx producing Solid Material ORP value	High NOx producing Solid Material ORP value
4	not applicable	not applicable
5	less than + 700	less than + 250
6	not applicable	greater than - 250

e . Any time period the scrubbing solution recirculation flow transmitter was "not made" (i.e., scrubbing solution was not flowing) when the emissions unit was in operation.

f . Graphite dust collector #1 pressure drop (pressure differential) reading less than 0.1 inch

of water column (only when operating).

g . Graphite dust collector #2 pressure drop (pressure differential) reading less than 0.1 inch of water column (only when operating).

The written semi-annual reports shall be submitted by January 31 and July 31 of each year and shall address the data obtained during the previous calendar semi-annual reporting period (July through December and January through June, respectively) to the Director (Cleveland Air Pollution Control). If reports or documented material(s) contain confidential information, submit a sanitized version for public record along with the required reports.

E. Testing Requirements

The following test method(s) shall be employed to demonstrate compliance with the following limits:

Solid Material Scenario	Emission Factors (From AP-42) for Combustion of Natural Gas in Dryer Portion of Process:	
#1 & #2	PE:	1.9 lbs PE/1,000,000 cubic feet of natural gas
#1 & #2	SO2	0.6 lb SO2/1,000,000 cubic feet of natural gas
#1 & #2	OC	5.5 lbs OC/1,000,000 cubic feet of natural gas
#1 & #2	CO	84 lbs CO/1,000,000 cubic feet of natural gas
#1	Low NOx	100 lbs NOx/1,000,000 cubic feet of natural gas
#2	High NOx	100 lbs NOx/1,000,000 cubic feet of natural gas

1. Testing shall be conducted while this emissions unit is venting SO2, NOx, CO and PE emissions to the scrubber and the two graphite fabric filter dust collectors. This emissions unit shall be operated at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central Office.

2. Emission Limitation: 0.33 lb PE/hr

Applicable Compliance Methods:

OAC rule 3745-17-03 (B)(10) using the Methods 1 through 5 of 40 CFR Part 60, Appendix A. If applicable, alternative U.S. EPA test methods may be used with prior approval from the Ohio EPA.

3. Emission Limitation: 2.46 lbs SO2/hr

Applicable Compliance Methods:

The following test methods shall be employed to determine the control efficiency of the SO2 emission control equipment (i.e., the percent of reduction in mass emissions between inlet and the outlet of the emission control equipment) serving this emissions unit: OAC rule 3745-18-04 (A) using the Methods 1 through 4 and 6C of 40 CFR Part 60, Appendix A. If applicable, alternative U.S. EPA test methods may be used with prior approval from the Ohio EPA.

4. Emission Limitation: 45.5 lbs OC/hr

Applicable Compliance Methods:

OC Emissions
(300.0 lbs OC/ton) X (tons/month Solid Material fed) X (1 ton/2000 lbs) + (5.5 lbs OC/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = lbs/ month OC

Or Mass Balance
(OC used, lbs/month) + (OC initial inventory, lbs) - (OC final inventory, lbs) + (5.5 lbs OC/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/mont) X (1 ton/2000 lbs) = lbs/month OC

(OC, lbs/ month) / (hrs/ month) = lbs/hr OC

5. Emission Limitation: 21.63 lbs CO/hr

Applicable Compliance Methods:

Methods 1 through 4 and 10 and 10B of 40 CFR Part 60, Appendix A. If applicable, alternative

U.S. EPA test methods may be used with prior approval from the Ohio EPA.

6. Emission Limitation: 5.13 lbs NOx/hr

Applicable Compliance Methods:

Methods 1 through 4 and 10 and 7E of 40 CFR Part 60, Appendix A. If applicable, alternative U.S. EPA test methods may be used with prior approval from the Ohio EPA.

7. Emission Limitation: 1.44 TPY PE

Applicable Compliance Methods:

Calculation of the monthly and rolling 12-month emissions using records of restricted amount of material processed and emission factors using the equation as follows:

PE Emissions
(2.0 lbs PE/ton) X (tons/month Solid Material fed) X (1 ton/2000 lbs) + (1.9 lbs PE/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month PE

$$\sum_{j=1}^{12} Ej < 1.44 \text{ tons of PE per rolling 12-month period}$$

Where: E = tons/month PE

8. Emission Limitation: 10.77 TPY SO2

Applicable Compliance Methods:

Calculation of the monthly and rolling 12-month emissions using records of restricted amount of material processed and emission factors using the equation as follows:

SO2 Emissions
(5.0 lbs SO2/ton) X (tons/month Solid Material fed) X (1 ton/2000 lbs) + (0.6 lb SO2/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month SO2

$$\sum_{m=1}^{12} Em < 10.77 \text{ tons of SO2 per rolling 12-month period}$$

Where: E = tons/month SO2

9. Emission Limitation: 199.29 TPY OC

Applicable Compliance Methods:

Calculation of the monthly and rolling 12-month emissions using records of restricted amount of material processed and emission factors using the equation as follows:

OC Emissions
(300.0 lbs OC/ton) X (tons/month Solid Material fed) X (1 ton/2000 lbs) + (5.5 lbs OC/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month OC

Or Mass Balance
(OC used, tons/month) + (OC initial inventory, tons) - (OC final inventory, tons) + (5.5 lbs OC/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month OC

$$\sum_{j=1}^{12} Ej < 199.29 \text{ tons of OC per rolling 12-month period}$$

Where: E = tons/month OC

10. Emission Limitation: 92.00 TPY CO

Applicable Compliance Methods:

Calculation of the monthly and rolling 12-month emissions using records of restricted amount of material processed and emission factors using the equation as follows:

CO Emissions
(186.0 lbs CO/ton) X (tons/month Solid Material fed) X (1 ton/2000 lbs) + (84.0 lbs CO/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month CO

$$\sum_{k=1}^{12} Ek < 92.00 \text{ tons of CO per rolling 12-month period}$$

Where: E = tons/month CO

11. Emission Limitation: 22.47 TPY NOx

Applicable Compliance Methods:

Calculation of the monthly and rolling 12-month emissions using records of restricted amount of material processed and emission factors using the equation as follows:

NOx Emissions

$$\sum_{n=1}^{y} Sn < \text{total tons/month NOx}$$

$$\sum_{m=1}^{12} Em < 22.47 \text{ tons of NOx per rolling 12-month period}$$

Where:
S = (lbs NOx/ton EF) X (tons/month Solid Material fed) X (1 ton/2000 lbs)+ (100 lbs NOx/1,000,000 cubic feet) X (# of 1,000,000 cubic feet/month) X (1 ton/2000 lbs) = tons/month NOx
y = number of Solid Material scenarios
E = tons/month NOx

Following issuance of this permit, the permittee shall develop a rolling 12-month average emission table. Monthly data will be collected immediately upon start-up to establish the first years' 12-month rolling average emission data. Once twelve (12) months of emission data have been established, the established emission factors and records of Solid Material feed on file for that previous 12-month operating period will be used to comply with the 12-month rolling average emission requirements.

F. Miscellaneous Requirements

The following terms and conditions of this PTI are federally enforceable: A-F.