



State of Ohio Environmental Protection Agency

Street Address:

Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

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Mailing Address:

Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

**RE: FINAL PERMIT TO INSTALL
LAKE COUNTY
Application No: 02-2947**

CERTIFIED MAIL

<input checked="" type="checkbox"/>	TOXIC REVIEW
<input type="checkbox"/>	PSD
<input type="checkbox"/>	SYNTHETIC MINOR
<input type="checkbox"/>	CEMS
<input type="checkbox"/>	MACT
<input checked="" type="checkbox"/>	NSPS
<input type="checkbox"/>	NESHAPS
<input type="checkbox"/>	NETTING
<input type="checkbox"/>	MAJOR NON-ATTAINMENT
<input type="checkbox"/>	MODELING SUBMITTED
<input type="checkbox"/>	GASOLINE DISPENSING FACILITY

DATE: July 14, 1999

Lonza, Inc.
Thomas Wilson
679 Hardy Road
Painesville, OH 44077

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

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
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo, Manager
Field Operations and Permit Section
Division of Air Pollution Control

cc: USEPA
DAPC, NEDO
Lake County Health Dept



AGENCY

Permit To Install

Issue Date: July 14, 1999

Terms and Conditions

Effective Date: July 14, 1999

DIRECT FINAL PERMIT TO INSTALL 02-2947

Application Number: 02-2947

APS Premise Number: 0243000074

Permit Fee: **\$400**

Name of Facility: Lonza, Inc.

Person to Contact: Thomas Wilson

Address: 679 Hardy Road
Painesville, OH 44077

Location of proposed air contaminant source(s) [emissions unit(s)]:

**679 Hardy Road, 1 M NW of SR 535 & SR 2
Painesville Township, Ohio**

Description of proposed emissions unit(s):

**A 33.5 MMBTU/HR NATURAL GAS BOILER FOR LANDFILL DERIVED METHANE/NG BACKUP;
IFGR FOR NOX CONTROL/ DUAL FUEL BURNERS.**

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit 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 emissions unit(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 and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

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 Related to Monitoring and Recordkeeping 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 are inadequate 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 prove to be inadequate 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 application must be made to the Director for the installation or modification of any other emissions unit(s).

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

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This 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 thirty (30) days after commencing operation of the emissions unit(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**

<u>Pollutant</u>	<u>Tons Per Year</u>
CO	49.93
HCL	2.80
NO _x	14.67
PM	2.93
SO ₂	.96
VOC	2.35

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
A 33.5 MMBTU/hr natural gas boiler using landfill derived methane gas with natural gas back-up; use of induced flue gas recirculation for NOX control; duel fuel burner	OAC rule 3745-31-05	0.64 pound HCL per hour; 2.80 tons per year; NO _x : 0.10 pound/MMBTU; 14.67 tons per year; VOC: 0.54 lb/hr and 2.35tpy CO: 11.4 lbs per hour; 49.93 tpy; NMOC: 98% reduction by weight or <20ppmv on a dry basis as hexane at 3 % O ₂ SO ₂ : 0.22 lb/hr and 0.96 tpy
	OAC rule 3745-17-07(A)	visible particulate emissions from any stack shall not exceed 20% opacity, as a six minute average, except as provided by rule
	OAC rule 3745-17-10(B)(1)	0.020 pound PM per MMBTU of actual heat input; 2.93 tpy;
	OAC rule 3745-18-06	Limit from this rule is less stringent than 3745-31-05
	40 CFR, Part 60, Subpart Dc	

2. Additional Terms and Conditions

INTRODUCTION:

This is a Permit To Install for a 33.5 MMBTU/HR Cleaver Brooks, Model CB700-800-200, natural gas/landfill derived methane gas firetube steam boiler, EPA emission unit number B009, primarily using landfill derived methane gas and natural gas as a back-up fuel. The landfill gas will run through a suction scrubber with a mist pack equipped with a manometer, a compressor, an after cooler, a centrifugal separator equipped with a manometer, and a dryer prior to burning in the boiler. The system will include a 5-micron, polypropylene particulate filter.

The Cleaver Brooks natural gas boiler is subject to the Federal New Source Performance Standard, 40 CFR, Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units .

B. Operational Restrictions

1. The permittee shall burn only landfill gas or natural gas in this emissions unit.
2. The quality of the fuel burned in this emissions unit shall meet standards necessary to comply with the limits specified in this permit to install.
3. This boiler shall operate with the use of a Induced Flue Gas Recirculation system.

C. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas or landfill gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. Lonza, Inc. shall record and maintain records of the amounts of each fuel combusted during each day and/or any other record keeping as required in 40 CFR, Part 60, Subpart Dc, Section 60.48c(g).
3. 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 that the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings, if a strip-chart recorder is employed, for continuous monitoring instrumentation, and copies of all reports required by the permit. Such records may be maintained in computerized form. All records required by this permit shall be made available to the Director, or any representative , upon request, for review during normal business hours.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or landfill gas was burned in this emissions unit.
2. 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 Northeast District Office of the Ohio EPA.
- 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.)

E. Testing Requirements

1. Compliance with the emission limitation(s) in these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation-

Visible particulate emissions from any stack shall not exceed twenty percent opacity , as a six minute average, except as provided by rule.

Applicable Compliance Method-

Compliance shall be demonstrated by Method 9, Visible Determination of the Opacity of Emissions from Stationary Sources, 40CFR, Part 60, Appendix A, as specified in Ohio Administrative Code section 3745-17-03(B)(1).
 - b. Emission Limitation-

0.10 pound NO_x per MMBTU of actual heat input for this boiler.

Applicable Compliance Method-

For the use of natural gas, compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (0.0323 MMft³/hr) by the nitrogen oxide uncontrolled emission factor for natural gas (100 lbs/MMft³), and dividing by the maximum hourly heat input capacity of the emissions unit (33.5 MMBTU/hr) and multiplying by (1-.40). Where the control Efficiency of Induced Flue Gas Recirculation for this boiler shall be 40%.

When using landfill derived methane gas or natural gas, compliance with this emission limitation shall be demonstrated by using Method 1-4 and Method 7 of 40 CFR Part 60, Appendix A if required by the Ohio EPA.

The above emission factors are taken from USEPA reference document AP-42 (Fifth Edition) Compilation of Air Pollution Emission Factors, Section 1.4 (Table 1.4-1). (7/98)

c. Emission Limitation-

14.67 tons NO_x per year

Applicable Compliance Method-

Because this limit was established by multiplying the short-term limit of 0.10 lb NO_x/MMBTU heat input by the maximum heat input of the boiler and by 8760 hours of operation per year, compliance with the annual limit is assumed provided that compliance with the short-term limit is maintained.

d. Emission Limitation-

11.4 pounds of Carbon Monoxide per hour

Applicable Compliance Method-

For the use of natural gas, compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (0.0323 MMft³/hr) by the carbon monoxide emission factor for natural gas (84 lbs/MMft³), and dividing by the maximum hourly heat input capacity of the emissions unit (33.5 MMBTU/hr).

When using landfill derived methane gas, compliance shall demonstrated by multiplying the maximum methane gas capacity (551.7 ft³/min) of the emissions unit by the carbon monoxide emission factor for landfill gas (.00034 lb/hr/dscfm of methane), and by 60 minutes per hour.

The above emission factors are taken from USEPA reference document AP-42 (Fifth Edition) Compilation of Air Pollution Emission Factors Section 1.4(Table 1.4-1)(7/98) and Section 2.4 (Table 2.4-5) (11/98) .

e. Emission Limitation-

49.93 tons CO per year

Applicable Compliance Method-

Because this limit was established by multiplying the short-term limit of 11.4 lbs CO/hr by 8760 hours of operation per year, compliance with the annual limit is assumed provided that compliance with the short-term limit is maintained.

f. Emission Limitation-

0.54 pound of VOC per hour

Applicable Compliance Method-

Compliance with the above emission limitation shall be demonstrated by using Method 25 or 25A of 40CFR, Part 60, Appendix A, if required by the Ohio EPA.

g. Emission Limitation-

2.35 tons VOC per year

Applicable Compliance Method-

Because this limit was established by multiplying the short-term limit of 0.54 lb VOC/hr by 8760 hours of operation per year, compliance with the annual limit is assumed provided that compliance with the short-term limit is maintained.

h. Emission Limitation-

0.64 pound of HCL per hour

Applicable Compliance Method-

Compliance shall be demonstrated by using Method 26 of 40 CFR, Part 60, Appendix A, if required by the Ohio EPA.

i. Emission Limitation-

2.80 tons HCl per year

Applicable Compliance Method-

Because this limit was established by multiplying the short-term limit of 0.64 lb HCl/hr by 8760 hours of operation per year, compliance with the annual limit is assumed provided that compliance with the short-term limit is maintained.

j. Emission Limitation-

.020 pound of particulate matter per MMBTU of actual heat input

Applicable Compliance Method-

For the use of natural gas, compliance shall be demonstrated by multiplying the maximum hourly gas burning capacity of the emissions unit (0.0323 MMft³/hr) by the particulate matter emission factor for natural gas (1.9 lbs/MMft³), and dividing by the maximum hourly heat input capacity of the emissions unit (33.5 MMBTU/hr).

When using landfill derived methane gas, compliance shall be demonstrated by multiplying the maximum landfill methane gas flow rate (551.7 ft³/min) by the particulate matter emission factor for landfill gas (0.00049 lbs/hr/dscfm of methane) and by 60 (minutes/hour).

The above emission factors are taken from USEPA reference document AP-42 (Fifth Edition) Compilation of Air Pollution Emission Factors Section 1.4 (Table 1.4-1) (7/98) and Section 2.4 (Table 2.4-5). (11/98)

k. Emission Limitation-

2.93 tons PM per year

Applicable Compliance Method-

Because this limit was established by multiplying the short-term limit of 0.020 lb PM/MMBTU heat input by the maximum heat input of the boiler and by 8760 hours of operation per year, compliance with the annual limit is assumed provided that compliance with the short-term limit is maintained.

l. Emission Limitation-

.22 lb per hour SO₂

Applicable Compliance Method-

Compliance shall be demonstrated by using Method 6 of 40 CFR, Part 60, Appendix A if required by the Ohio EPA.

m. Emission Limitation-

0.96 ton SO₂ per year

Applicable Compliance Method-

Because this limit was established by multiplying the short-term limit of 0.22 lb SO₂/hr by 8760 hours of operation per year, compliance with the annual limit is assumed provided that compliance with the short-term limit is maintained.

n . Emission Limitation-

NMOC:98% reduction by weight or <20ppmv on a dry basis as hexane at 3 % O₂

Applicable Compliance Method-

Compliance with this emission limitation shall be demonstrated in accordance with 40 CFR Part 60, Appendix A, Method 25 or 25 A.

2. Emission testing requirements

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 6 months after issuance of this permit.
- b. The emission testing shall be conducted to demonstrate compliance with the control efficiency limitation for NMOC.
- c. The following test method(s) shall be employed to demonstrate compliance with the control efficiency for NMOC:

Method 25 of 40 CFR, Part 60, Appendix A, if the VOC concentrations as carbon in the outlet are greater than 50 ppm; or

Method 25A of 40 CFR, Part 60, Appendix A, if the VOC concentrations as carbon in the outlet are less than 50 ppm.

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

- d. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Northeast District Office of the Ohio EPA.

- e. The control efficiency (i.e. the percent reduction in mass emissions between the inlet and outlet of the boiler) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 or the approved alternative test protocol.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Northeast District Office of the Ohio EPA. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Northeast District Office of the Ohio EPA refusal to accept the results of the emission test(s).

Personnel from the Northeast District Office of the Ohio EPA shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Northeast District Office of the Ohio EPA within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Northeast District Office of the Ohio EPA.

F. Miscellaneous Requirements

BAT for this boiler shall include the exclusive use of natural gas and landfill derived methane gas and the use of Induced Flue Gas Recirculation.