Facility Name: **Ohio Edison Co - Niles Plant**
Application Number: **02-1726**
Date: **August 25, 1999**

GENERAL PERMIT CONDITIONS

TERMINATION OF PERMIT TO INSTALL

Substantial construction for installation must take place within 18 months of the effective date of this permit. 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.

NOTICE OF INSPECTION

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

CONSTRUCTION OF NEW SOURCES

The proposed source(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 source(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 Ohio Administrative Code (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 applicable standards.

PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 30 days of the effective date of this permit to install.

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.

APPLICABILITY

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

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.

PERMIT TO OPERATE APPLICATION

A Permit to Operate application must be submitted to the appropriate field office for each air contaminant source in this Permit to Install. In accordance with OAC Rule 3745-35-02, the application shall be filed no later than thirty days after commencement of operation.

SOURCE OPERATION 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 and regulations.

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Facility Name: **Ohio Edison Co - Niles Plant**
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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements

AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **Ohio Edison Co - Niles Plant** located in **Trumbull** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

Ohio EPA Source Number	B001 Cont'd	B002 Cont'd	Source Identification Description
B001			Modification to existing Boiler No. 1, to allow the co-firing of d-RDF with coal. The boiler has a nominal cap. of 1,227.0 mmbtu/hour.

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
Modification to existing Boiler No. 2, to allow the co-firing of d-RDF with coal. The boiler has a nominal cap. of 1,227.0 mmbtu/hour.				

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
		BAT Determination		
		Compliance with listed emission limits and Ohio EPA's Air Toxic Policy		
			Compliance with listed emission limits and Ohio EPA's Air Toxic Policy	

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
		3745-31-05	3745-17-10	
	Applicable Federal & OAC Rules			
	3745-17-07		3745-18-84 (d)	
			3745-31-05	
		3745-17-07		
	3745-17-10			
	3745-18-84 (d)			

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
	Permit Allowable Mass Emissions and/or Control/Usage Requirements When co-firing dRDF: Visible particulate emissions shall not exceed 20 percent opacity as a 6-minute average except for no more than 6 consecutive minutes in any 60 minutes, but shall not exceed 60 percent opacity, as a 6- minute average, at any time. PM: 0.1 pound/MMBTU 122.7 pounds/hour 537.43 tons/year	SO_2: 5.7 pounds/MMBTU, as a rolling 30 day average. 30,633.28 tons/year NO_x: 1.4 pounds/MMBTU, 1,717.8 pounds/hour 7,524 tons/year CO: 0.036 pound/MMBTU* 44.17 pounds/hour 193.5 tons/year HCl: 0.28 pound/MMBTU 341.63 pounds/hour 1,496.3 tons/year When co-firing dRDF: Visible particulate emissions shall not exceed 20 percent opacity as a 6-minute average except for no more than 6 consecutive minutes in any 60 minutes, but shall not exceed 60 percent opacity, as a 6-minute average, at any time.	PM: 0.1 pound/MMBTU 122.7 pounds/hour 537.43 tons/year SO_2: 5.7 pounds/MMBTU, as a rolling 30-day average. 30,633.28 tons/year NO_x: 1.4 pounds/MMBTU, 1,717.8 pounds/hour, 7,524.0 tons/year CO: 0.036 pound/MMBTU* 44.17 pounds/hour 193.5 tons/year HCl: 0.28 pound/MMBTU 341.63 pounds/hour 1,496.3 tons/year	

Facility Name: **Ohio Edison Co - Niles Plant**
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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements

* CO emission limit based upon AP-42 emission factors, may be modified later based upon emission test results.

SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons/Year
Particulate Matter	1,074.86
Sulfur Dioxide	61,266.56
Nitrogen Oxides	15,048.0
Carbon Monoxide	387.0
Hydrogen Chloride	2,992.6 (1/14/99)

MAINTENANCE OF EQUIPMENT

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

MALFUNCTION/ABATEMENT

In accordance with OAC RULE 3745-15-06, any malfunction of the source(s) or associated air pollution control system(s) shall be reported immediately to the **Ohio EPA, Northeast District Office, 2110 E. Aurora Road, Twinsburg, OH 44087.**

Except as provided by OAC Rule 3745-15-06(A)(3), scheduled maintenance of air pollution control equipment that requires the shutdown or bypassing of air pollution control system(s) must be accompanied by the shutdown of the associated air pollution sources.

AIR POLLUTION NUISANCES PROHIBITED

The air contaminant source(s) identified in this permit may not cause a public nuisance in violation of OAC Rule 3745-15-07.

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.

ADDITIONAL SPECIAL TERMS AND CONDITIONS

A. Emissions Units Description

1. Boilers Nos. 1 and 2 are identical, existing, cyclone furnace-type coal-fired utility boilers.

   Each emissions unit has a nominal heat input capacity of 1,227 MMBTU per hour and each is equipped with an electrostatic precipitator particulate control device. Both boilers are currently equipped with continuous emission monitors for $N0_x$, SO_2, opacity and stack exhaust flow.

   This permit will allow the co-firing of densified Refuse Derived Fuel (dRDF) with coal. Per the federal New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Eb definition, dRDF qualifies as 'municipal solid waste'.

   The listed terms and conditions shall apply only during co-firing of dRDF with coal.

B. Operational Restrictions

1. The co-firing of densified Refuse Derived Fuel (dRDF) with coal shall be limited to 10 percent of the total hourly heat input to each boiler, or 122.7 MMBTU per hour per boiler. This limit is equivalent to firing approximately 14% dRDF, by weight, with coal on an hourly basis at the maximum heat input capacity. This is assuming that the heat contents of the dRDF and coal are 7,530 BTU/lb and 12,164 BTU/lb, respectively, per the permit application.

   Further, on a calendar quarterly basis, the co-firing of dRDF shall be limited to less than 30 percent by weight, of the total fuel burned (dRDF and coal).

   The term 'co-fired combustor' as defined in the federal New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Eb, means a unit combusting municipal solid waste (dRDF) with non-municipal solid waste fuel (e.g. coal) and subject to a federally enforceable permit limiting the unit to combusting a fuel feed stream, 30 percent or less of the weight of which is comprised, in aggregate, of municipal solid waste as measured on a calendar quarter basis.

C. <u>Monitoring and Recordkeeping Requirements</u>

1. The permittee shall maintain quarterly records of the total quantity of dRDF and coal burned in pounds or tons, for each calendar quarter, for both emissions units Also, the number of hours per quarter during which dRDF is co-fired, for both emissions units.

   For each calendar quarter during which co-firing occurs, the average hourly percent dRDF firing rate, by weight, shall be determined by dividing the total sum of dRDF and coal co-fired by the hours during which co-firing occurred.

2. The permittee shall operate and maintain equipment to continuously monitor and record the opacity of the visible particulate emissions from both emissions units.

   Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR part 60.13.

   Each continuous monitoring system consists of all the equipment used to acquire data and includes the sample extraction and transport hardware,

sample conditioning hardware, analyzers, and data recording/processing hardware and software.

The permittee shall maintain a certification letter from the Ohio EPA documenting that the continuous opacity monitoring system has been certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1. The letter of certification shall be made available to the Director upon request.

The permittee shall maintain records of the following data obtained by the continuous opacity monitoring system: percent opacity on a 6-minute block average basis, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

3. If the continuous sulfur dioxide monitoring systems are used to demonstrate compliance with the sulfur dioxide emission limitation, the permittee shall operate and maintain equipment to continuously monitor and record sulfur dioxide emissions from both emissions units in units of the applicable standard(s). Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 75.

   Each continuous monitoring system consists of all the equipment used to acquire data and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

   The permittee shall maintain documentation from the USEPA or the Ohio EPA that the continuous sulfur dioxide monitoring system has been certified in accordance with 40 CFR Part 75. The letter of certification shall be made available to the Director upon request.

   The permittee shall maintain records of the following data obtained by the continuous sulfur dioxide monitoring system: the average daily and rolling, 30-day average emission rates of sulfur dioxide in lb/mmBtu actual heat input, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments. In addition, the permittee shall maintain daily records of the total actual heat input values as determined through F-Factor and carbon dioxide/oxygen calculations as specified in 40 CFR Part 60, Appendix A, Method 19.

4. The permittee shall operate and maintain equipment to continuously monitor and record nitrogen oxides emissions from both emissions units in units of the applicable standard(s). Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 75.

   Each continuous monitoring system consists of all the equipment used to acquire data and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

   The permittee shall maintain documentation from the USEPA or the Ohio EPA that the continuous nitrogen oxides monitoring system has been certified in accordance with 40 CFR Part 75. The letter of certification shall be made available to the Director upon request.

   The permittee shall maintain records of the following data obtained by the continuous nitrogen oxides monitoring system: emissions of nitrogen oxides in lb/MMBTU actual heat input, the hourly mass and annual nitrogen oxide emission rate, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

D. <u>Reporting Requirements</u>

1. The permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA Northeast District Office documenting any exceedance of the 10 percent by heat input or 14 percent, by weight, hourly limitation on dRDF co-firing from either or both emissions units.

   The permittee shall submit reports within 30 days following the end of each calendar quarter to the United States EPA and the Ohio EPA Northeast District Office documenting an exceedance of the 30 percent, by weight, limitation on dRDF co-firing on a calendar quarter basis from either or both emissions units.

2. The permittee shall submit reports (hard copy or electronic format) within 30 days following the end of each calendar quarter to the Ohio EPA Northeast District Office documenting all instances of opacity values in excess of the limitations specified in OAC rule 3745-17-07, detailing the date, commencement and completion times, duration, magnitude (percent opacity), reason (if known), and corrective action(s) taken (if any) of each 6-minute block average above the applicable opacity limitation(s).

   The reports shall also identify any excursions of the start-up and shutdown provisions specified in OAC rule 3745-17-07(A)(3) and

document any continuous opacity monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report.

These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

3. If the continuous sulfur dioxide monitoring systems are used to demonstrate compliance with the sulfur dioxide emission limitation, the permittee shall submit reports (hard copy or electronic format) within 30 days following the end of each calendar quarter to the Ohio EPA Northeast District Office documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of sulfur dioxide values in excess of the applicable rolling, 30-day average sulfur dioxide emission rate (lb/MMBTU). These reports shall also contain average daily sulfur dioxide emission rates (lb/MMBTU) which are greater than 1.5 times the sulfur dioxide emission limitation specified above.

   The reports shall also document any continuous sulfur dioxide monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total

operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report.

These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

4. The permittee shall submit reports (hard copy or electronic format) within 30 days following the end of each calendar quarter to the Ohio EPA, Northeast District Office documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all nitrogen oxide values in excess of the applicable hourly nitrogen oxide emission rate (lbs/MMBTU).

   The reports shall also document any continuous nitrogen oxide monitoring system downtime while the emissions unit was on line (date, time, duration and reason), along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

   If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions, The total operating time of the

emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report.

These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

E. Testing Requirements

1. The permittee shall conduct, or have conducted, particulate, carbon monoxide and HCl emission testing for both emissions units to demonstrate compliance with the allowable mass emission rates of 0.10 lb/MMBTU, 0.032 lb/MMBTU actual heat input, and 0.28 lb/MMBTU respectively, in accordance with the following requirements:

   Emissions testing shall be conducted within 6 months of the completion of construction/boiler modifications and commencement of dRDF co-firing.

   Compliance with the allowable mass emission rate for particulates shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures in OAC rule 3745-17-03(B)(9).

   Compliance with the allowable mass emission rate for carbon monoxide shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 10.

   Compliance with the allowable mass emission rate for HCl shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 26.

   The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity.

   Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. 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 Ohio EPA Northeast District Office's refusal to accept the results of the emission test(s).

   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 Ohio EPA Northeast District Office 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 appropriate Ohio EPA Northeast District Office.

2. The continuous opacity monitoring data shall be used to demonstrate compliance with the requirements of OAC rule 3745-17-07(A)(1). The permittee shall be deemed in compliance with OAC rule 3745-17-07(A)(1) if less than 1.5 percent of the nonexempt* 6-minute average opacity values during a calendar quarter exceed 20 percent opacity. (Historical continuous opacity monitoring data for coal-fired boilers equipped with electrostatic precipitators or baghouses indicate that an excess emissions level of 1.5 percent (nonexempt emissions) is representative of good operation and maintenance of the emissions unit and the associated control equipment.)

   Compliance with the visible emission limitations in OAC rule 3745-17-07(A)(1) may also be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures in OAC rule 3745-17-03(B)(1). In the event of a discrepancy between the continuous opacity monitoring data and observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 during the same time period, the Method 9 data will take precedence for that time period.

   * exempt emissions are defined in OAC rule 3745-17-07

3. Compliance with the sulfur dioxide emission limitation shall be based upon a rolling, 30-day average of the daily sulfur dioxide emission rates, in accordance with the USEPA's policy entitled "Enforcement Policy for Sulfur Dioxide Emission Limitations in Ohio" and dated February 11, 1980 (45 FR 9101). The daily and rolling 30-day sulfur dioxide emission rates shall be determined and reported in accordance with the applicable requirements of this permit. The permittee may be required to perform sulfur dioxide emission tests if warranted by the USEPA's enforcement policy. In such cases, the methods and procedures specified in 40 CFR Part 60.46 shall be employed.

4. Compliance with the nitrogen oxides emission limitation shall be based upon the records and report data specified in the above sections of this permit. If required, the permittee shall demonstrate compliance with the allowable mass emission rate for nitrogen oxides in accordance with the methods and procedures specified in 40 CFR Part 75.

F. <u>Miscellaneous Requirements</u>

1. NSPS Exemption

   Emissions units B001 and B002 shall be exempt from the requirements of NSPS Subpart Eb per Section 60.50(j) if the owner or operator (the

permittee) of the co-fired combustion:

a. notifies the Administrator of an exemption claim;

b. provides a copy of the federally enforceable permit (specified in the definition of co-fired combustion); and,

c. keeps a record on a calendar quarter basis of the weight of municipal solid waste (dRDF) combusted and the weight of all other fuels combusted at the co-fired combustion.

2. PSD Exemption

Emissions units B001 and B002 shall be exempt from the requirements of 40 CFR Part 52, Section 52.21 "Prevention of significant deterioration of air quality" in accordance with Section 52.21 (b)(2)(iii)(d) which states that the use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste is not a physical change or change in the method of operation and, therefore, not a 'Major Modification'.

3. Emissions Summary

The table below lists a summary of the actual pollutant emissions from Boilers Nos. 1 and 2, based upon an of the average annual rates for calendar years 1996 and 1997. Emission rates are in terms of tons per year.

	B001	B002	Total	New PTI Allowable Rate
Particulate Matter	44.0	33.0	77.0	1,074.86
Sulfur Dioxide	11,242	6,669	17,911	61,266.56
Nitrogen Oxides	3,100	2,538	5,638	12,898.2
Carbon Monoxide	78.0	57.0	138.0	387.0
Hydrogen Chloride	485	475	960	2,992.6