



State of Ohio Environmental Protection Agency

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Columbus, Ohio 43266-0149
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P080, P081, P082
F011 MH

George V. Voinovich
Governor

Re: Permit to Install
Lorain County
Application No: 02-7768
SYNTHETIC MINOR
NETTING

CERTIFIED MAIL

May 12, 1994

USS-KOBE STEEL COMPANY
RUSSELL STINSON
1807 E 28TH ST
LORAIN, OH 44055

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 Board of Review 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 with the Environmental Board of Review within thirty (30) days after notice of the Director's 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 Board. An appeal may be filed with the Environmental Board of Review at the following address:

Environmental Board of Review
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

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

cc: US EPA
NORTHEAST DISTRICT OFFICE, DAPC



Permit to Install Terms and Conditions

Application No. 02-7768
APS Premise No. 0247080229
Permit Fee: \$3200.00

Name of Facility: USS-KOBE STEEL COMPANY

Person to Contact: RUSSELL STINSON

Address: 1807 E 28TH ST
LORAIN, OH 44055

Location of proposed source(s): 1807 E 28TH ST
LORAIN, OHIO

Description of proposed source(s):
#2 LADLE METALLURGY FACILITY, BLOOM REHEAT FURNACE, VACUUM D
EGASSER AND #2 CONTINUOUS BLOOM CASTER.

Date of Issuance: May 12, 1994

Effective Date: May 12, 1994

The above named entity is hereby granted a permit to install for the above described source(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 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 and specifications, the above described source(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

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(S)

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)

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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.

PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 15 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 made at least 90 days prior to start-up of the source.

NINETY DAY OPERATING PERIOD

The facility will be permitted to operate during a 90-day period in accordance with OAC Rule 3745-35-02(C)(4)(b). The purpose of this period of operation is to fulfill the performance tests conditions used in the determination of compliance with the provisions of this Permit to Install or other applicable Ohio EPA rules.

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, regulations, and policies.

AIR EMISSION SUMMARY

The air contaminant sources listed below comprise the Permit to Install for USS-KOBE STEEL COMPANY located in Lorain County. The sources 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.

<u>Ohio EPA Source Number</u>	<u>Source Identification Description</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P080	No. 2 Ladle Metallurgy Facility	Fabric Filter Dust Collector *	3745-31-05 3745-17-07 3745-17-08 3745-17-11	0.0052 Gr/DSCF TSP (PM ₁₀) *
P081	Bloom Reheat Furnace (421.6 MMBH)	Natural Gas (Low NO _x Burners) *	3745-31-05 3745-17-07 3745-17-11 3745-23-06	0.17 lb NO _x /MMBTU *
P082	Vacuum Degasser	Condenser System and Flare *	3745-31-05 3745-17-07 3745-17-08 3745-17-11 3745-23-06	*
F011	No. 2 Continuous Bloom Caster	Argon Gas Shrouding *	3745-31-05 3745-17-07 3745-17-08	*

* Subject to the attached additional special terms and conditions.

SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons/Year</u>
TSP	20.61
PM ₁₀	14.71
NO _x	165.81
CO	51.90
SO ₂	0.57
VOC	1.42

PERFORMANCE TEST REQUIREMENTS

The permittee shall conduct, or have conducted, performance testing on the air contaminant source(s) in accordance with procedures approved by the Agency. Two copies of the written report describing the test procedures followed and the results of such tests shall be submitted and signed by the person responsible for the test. The Director, or an Ohio EPA representative, shall be allowed to witness the test, examine testing equipment, and require the acquisition or submission of data and information necessary to assure that the source operation and testing procedures provide a valid characterization of the emissions from the source and/or the performance of the control equipment.

- a. a completed Intent to Test form shall be submitted to the appropriate Ohio EPA District Office or Local Air Pollution Control Agency where the original permit application was filed. This notice shall be made 30 days in advance and shall specify the source operating parameters, the proposed test procedures, and the time, date, place and person(s) conducting such tests.
- b. two copies of the test results shall be submitted within 30 days after the completion of the performance test.
- c. Tests shall be performed for the following source(s) and pollutants(s):

<u>Source</u>	<u>Pollutants</u>
(P080) No. 2 LMF Baghouse	Particulate
(P081) Bloom Reheat Furnace	NO _x
(P082) Vacuum Degasser Flare System	CO

- D. Test shall include a determination of the uncontrolled mass rate of emissions.

RECORD(S) RETENTION AND AVAILABILITY

All records required by this Permit to Install shall be retained on file for a period of not less than three years unless otherwise indicated by Ohio Environmental Protection Agency. All records shall be made available to the Director, or any representative of the Director, for review during normal business hours.

REPORTING REQUIREMENTS

Unless otherwise specified, reports required by the Permit to Install need only be submitted to OEPA Northeast District Office - DAPC, 2110 East Aurora Road, Twinsburg, Ohio 44087.

WASTE DISPOSAL

The owner/operator shall comply with any applicable state and federal requirements governing the storage, treatment, transport and disposal of any waste material generated by the operation of the sources.

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 OEPA Northeast District Office - DAPC, 2110 East Aurora Road, Twinsburg, Ohio 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

1. No. 2 Ladle Metallurgy Facility (P080)

The No. 2 Ladle Metallurgy Facility, including a ladle arc furnace and attached alloy handling system, shall be installed with a water cooled hood covering the ladle and fume collection systems capable of capturing a minimum of 99% of the generated emissions of particulate from the source operation including bulk alloy material handling, alloy system conveyors and transfer points, and steel processing in the ladle arc furnace. Visible particulate emissions of fugitive dust from the No. 2 Ladle Metallurgy Facility shall not exceed five percent opacity as a six-minute average.

Particulate emissions captured by the fume collection systems for the No. 2 Ladle Metallurgy Facility shall be exhausted to a fabric filter dust collector which shall operate at a control efficiency of at least 94.6%. Particulate emissions from the fabric filter dust collector outlet shall not exceed (0.0052) grains of particulate emissions per dry standard cubic foot of exhaust gases and visible particulate emissions from the outlet shall not exceed five percent opacity as a six-minute average.

2. Bloom Reheat Furnace (P081)

USS/Kobe Steel Company shall install the lowest NO_x burners that are commercially and practically available and shall operate these burners to optimize the reduction of emissions of nitrogen oxides. The Bloom Reheat Furnace (P081) shall be subject to an emission limitation of 0.17 lbs NO_x/MMBTU.

3. Vacuum Degasser (P082)

The Vacuum Degasser including a vacuum ejector and condenser system with a natural gas fired flare shall be installed and operated to minimize emissions of particulate, carbon monoxide and nitrogen oxides from the flare stack. The carbon monoxide burner (Flare) shall be maintained and operated in accordance

with the current U.S. EPA flare policy to achieve a minimum of 98% (by weight) reduction of carbon monoxide emissions. In addition, there shall be no objectionable odors in the exhaust gases and visible emissions shall not exceed five percent opacity as a six-minute average from the flare stack.

4. No. 2 Continuous Bloom Caster (F011)

Argon gas shrouding shall be employed to minimize or eliminate visible particulate emissions of fugitive dust from molten steel transfers between steel ladle and tundish and tundish to bloom casting machine. Visible particulate emissions of fugitive dust from all operations associated with the No. 2 Continuous Bloom Caster including the addition of fluxes, tundish and ladle slag dumping, caster pouring and cast steel cut-off torches shall not exceed five percent opacity as a six-minute average.

5. New Source Production Limitations (Steel Throughput)

USS/Kobe Steel Company shall restrict steel throughput for the sources subject to (PTI #02-7768) as follows:

<u>Source</u>	<u>Steel Throughput Limitation</u>
(P080) No. 2 Ladle Facility	1,200,000 tons/yr
(P082) Vacuum Degasser	1,000,000 tons/yr
(F011) No. 2 Continuous Bloom Caster	1,200,000 tons/yr

Each of the steel throughput limitations shall be based upon a consecutive 365 day period, rolled on a daily basis.

6. Natural Gas Usage Limitation (P081)

USS/Kobe Steel Company shall restrict the usage of natural gas in the Bloom Reheat Furnace (P081) to 1864.08 MMCF per year based upon a consecutive 365 day period rolled on a daily basis.

7. Conventional Steel Teeming Limitation

Within six (6) months of completion of the "Continuous Caster Project" consisting of installation of the No. 2 Ladle Metallurgy Facility (P080), Bloom Reheat Furnace (P081), Vacuum Degasser (P082) and the No. 2 Continuous Bloom Caster (F011), USS/Kobe Steel Company shall thereafter restrict the conventional teeming steel throughput to 500,000 tons per

year, based upon a consecutive 365 day period rolled on a daily basis.

8. Record keeping and Reporting Requirements

Upon commencement of operation of the No. 2 Continuous Bloom Caster, the No. 2 Ladle Metallurgy Facility (P080) and the Vacuum Degasser (P082), USS/Kobe Steel Company shall maintain individual source daily steel throughput production records to document compliance with the limitations specified herein. In addition, daily natural gas usage records shall be maintained for the Bloom Reheat Furnace (P081) to document compliance with the fuel usage limitation for this source.

Beginning with the first full calendar quarter after installation of these sources, USS/Kobe Steel Company shall submit quarterly reports to Ohio EPA and U.S. EPA which shall include individual daily steel throughput for each restricted source and daily natural gas usage for the Bloom Reheat Furnace (P081). Beginning with the first 365 day period after installation, rolling 365 day steel throughput and fuel usage totals shall be included with each quarterly report. The reports shall be submitted by January 15, April 15, July 15 and October 15 of each year.

Upon completion of the "Continuous Caster Project" installations, USS/Kobe Steel Company shall begin recording daily conventional teeming steel throughput. Beginning with the first full calendar quarter after completion of the new source installations of the "Continuous Caster Project", USS/Kobe Steel Company shall submit quarterly reports to the Ohio EPA and U.S. EPA which shall include the daily conventional teeming steel throughput records. To document compliance with the steel throughput limitations for the conventional steel teeming operations, USS/Kobe Steel company shall record and submit rolling 365 day steel throughput totals with the quarterly reports. The reports shall be submitted January 15, April 15, July 15 and October 15 of each year.

SUPPLEMENTAL INFORMATION/ADDITIONAL SPECIAL TERMS AND CONDITIONS
(Required by the Consent Decree)

1. Consent Decree Netting Requirements

a. Plantwide Netting

In settlement of a dispute regarding the Permit to Install for #3 Blast Furnace (No. 02-5573 issued August 20, 1991), USS/KOBE and U.S. EPA entered into a Consent Decree (filed and entered in the Northern District of Ohio on November 23, 1992) whereby USS/KOBE agreed to

perform plantwide netting, using a baseline that assumes production of 2,100,000 tons of iron, to determine whether the #3 Blast Furnace renovation triggered the Prevention of Significant Deterioration (PSD) rules or nonattainment New Source Review rules (NSR). Baseline emissions are calculated using a reasonable distribution between emission units and operations based upon a historic division of operations. Future emissions are to be calculated assuming maximum emission conditions, unless federally enforceable restrictions are imposed in permits that limit capacity below the maximum potential based on a consecutive 365 day period rolled on a daily basis.

b. Subnetting

For other Near Term Modernization projects, which include the No. 2 Continuous Bloom Caster, the No. 2 Ladle Metallurgy Furnace, the Vacuum Degasser, and the Bloom Reheat Furnace, the Consent Decree requires USS/KOBE to perform a netting analysis that assumes for purposes of calculating baseline emissions that total iron production is 1,800,000 tons. The netting is to compare baseline emissions to future emissions of the operations downstream of the Basic Oxygen Process (BOP). Similar to the #3 Blast Furnace netting, baseline emissions must be calculated using a reasonable distribution between operations based upon a historic division of operations, and future emissions are to be based on maximum emission assumptions, unless federally enforceable restrictions are imposed in permits that limit capacity on a 365 daily rolling basis at less than the maximum potential.

If USS/KOBE demonstrates in the netting analyses under subparagraphs a. and b. above that emissions will not exceed the "significance" levels under PSD and NSR, it may obtain a Permit To Install reflecting that it complied with PSD/NSR by netting out. Permits to Install and Operate are to include any relevant throughput restrictions that reflect lower-than-worst-case assumed capacity used in the netting analysis.

2. USS/KOBE's Netting Analysis

USS/KOBE has performed the netting analysis using the Consent Decree procedures summarized in Paragraphs 1.a. and b. above, which demonstrates that emissions of TSP, PM₁₀, NO_x, CO and SO₂ do not reach significance levels when comparing baseline to future maximum emissions. The netting has received approval by U.S. EPA for purposes of the installation of the Near Term Modernization projects listed in Paragraph 1b. and subject to this permit to install.

3. Throughput Restrictions

The netting under Paragraph 1.b. compared baseline emissions at 1.8 mm ton iron production level to future emissions at 2.3 mm tons iron production, when the Near Term Modernization facilities identified in Paragraph 1.b. are in operation. Because the netting assumed less than maximum production for Teeming operations, USS/KOBE must meet a steel throughput restriction for Teeming of 500,000 tons per year, based on a consecutive 365 day period rolled on a daily basis. USS/KOBE must also meet steel throughput restrictions, based on a consecutive 365 day period rolled on a daily basis, for the No. 2 LMF (P080) of 1,200,000 tons per year, the No. 2 Continuous Bloom Caster (F011) of 1,200,000 tons per year, and the Vacuum Degasser (P082) of 1,000,000 tons per year.

4. Elimination of Throughput Restrictions in 10" Bar Mill Furnace Permit to Install

Under the Federal Consent Decree, USS/KOBE submitted, in conjunction with a permit to install application, a netting analysis for its 10" Bar Mill Walking Beam and Holding Furnaces (also a Near Term Modernization Project) which assumed, in the modernization case, emissions at a less-than-maximum iron production level of 1.9 mm tons per year. Because this netting was based on less-than-maximum emission assumptions, throughput restrictions were set forth in the 10" Bar Mill permit to install (Application No. 02-6920, effective February 5, 1993) for ironmaking, the No. 1 Caster, Teeming, the #3 and #4 Seamless Pipe Mills, and the 10" and 12" Bar Mills. Because the netting analysis under Paragraph 1.b. now assumes maximum iron production of 2.3 mm tons per year, all throughput limitations specified in the Additional Special Terms and Conditions of the permit to install for the 10" Bar Mill Walking Beam and Holding Furnaces (Application No. 02-6920) shall no longer be effective upon (1) commencement of operation of the Near Term Modernization Projects identified in Paragraph 1.b. and subject to this permit to install, and (2) all emission reductions assumed in such netting analysis are achieved.

5. Netting Results

Based on the netting analysis for the Near Term Modernization Projects identified in Paragraph 1.b., the net change in emissions in TPY is as follows:

	<u>TSP</u>	<u>PM₁₀</u>	<u>NO_x</u>	<u>CO</u>	<u>SO₂</u>
Post-modernization 2.3 mm tons iron	175.85	89.04	882.85	181.70	2.51
Pre-modernization 1.8 mm tons iron	176.99	92.14	853.79	125.65	1.88
Net Change	-1.14	-3.10	29.06	56.05	0.63
Significance Level	25.00	15.00	40.00	100.00	40.00

6. NO_x Limitation for Bloom Reheat Furnace

Under the Consent Decree, USS/KOBE is required to install and operate the lowest NO_x burners that are commercially and practically available on the Bloom Reheat Furnace. The furnace must be subject to a limit of no more than 0.30 lbs. NO_x/mm BTU, or 1.2 multiplied by the results of the compliance demonstration test (see Air Emission Summary in permit for NO_x limitation and BAT Determination). In addition, USS/KOBE shall operate these burners to optimize the reduction of NO_x.

7. Emissions Testing for Bloom Reheat Furnace

The Consent Decree requires USS/KOBE to perform an annual NO_x emission test on the Bloom Reheat Furnace in accordance with U.S. EPA Reference Test Methods, which must be submitted to U.S. EPA within 45 days. USS/KOBE shall simultaneously forward all test results under the Consent Decree to Ohio EPA's Northeast District Office.

8. Reduction in Soaking Pit Capacity

Within six (6) months of completion of the projects identified in Paragraph 1.b. and subject to this permit to install, USS/KOBE shall thereafter utilize at any one time no more than 20% of its total soaking pit capacity (in tons of steel charged).

9. NO_x Controls and Limitation for #3 and #4 Seamless Pipe Mill Furnaces

Prior to commencement of operation of the Bloom Reheat Furnace, USS/KOBE shall install and operate low NO_x natural gas burners on the #1 and #2 Reheat Furnaces and the Sizing Furnace at the #3 Seamless Pipe Mill, and the Reheat Furnace at the #4 Seamless Pipe Mill in place of the existing conventional burners, pursuant to Modified Paragraph 41 of the Consent Decree. The low NO_x natural gas burners shall not exceed 0.15 lb No_x per million BTU, and shall be operated to optimize the reduction of NO_x.