GERDAU AMERISTEEL

Monday, April 05, 2004

Ms. Mary Tom Kissell
USEPA Mailroom (c439-03)
Research Triangle Park, NC 27711

Dear Ms. Kissell;

Enclosed is the HAPS survey as requested by the USEPA for Gerdau AmeriSteel, Jackson Tennessee Steel Mill. The attached includes general information, tables 1, 2, 3, 4, 5, & 6. Also attached is our scrap management procedures and specifications, HAPS data from dust samples, and a copy of our Title V permit. Our facility does not have emission test data per the time period requested on the survey.

If you need further information or have any questions please feel free to call me at (731) 423-5274.

Sincerely,

Stephen King

Stephen King
Environmental Specialist
Gerdau AmeriSteel
Jackson Tennessee Steel Mill

Cc: Jim Turner (Gerdau AmeriSteel Corporate Office)
Eric Stuart (Steel Manufactures Association)
File

CERTIFIED MAIL – 7002 1000 0005 4455 4858

Jackson Steel Mill
801 AmeriSteel Road • Jackson, Tennessee 38305 • (731) 424-5600 • Fax: (731) 422-4247

Enclosure 1 - Electric Arc Furnace Survey

I. General Information

A. Name of parent company: Gerdau AmeriSteel

B. Name of plant: Jackson Tennessee Steel Mill

C. Mailing address:
P. O. Box 3670 Jackson Tennessee 38303

D. Street address of plant (if different from mailing address):
801 AmeriSteel Rd, Jackson Tennessee 38305

E. Latitude and longitude (in degrees and minutes) or UTM coordinates of the plant:
35° 43' 49" 88° 48' 47"

F. Names, telephone numbers, and e-mail addresses of contact persons who are able to answer technical questions about this survey:
Stephen King, 731-423-5274, SSK3964@GerdauAmeriSteel.com

G. Number of employees at your plant: 300

H. Are you part of a larger corporate entity? (Yes) No

If **Yes**, number of employees in parent company: 5082

If **Yes**, check the statement below that best applies:

___ The facility is fully independent of the parent organization (independent sources of capital, different Boards of Directors, etc.).

___ The parent organization provides some financial support.

X Operations of the parent organization and this facility are fully integrated (full access to investment capital, same Board of Directors, etc.).

I. Total production of raw steel in 2003: 498512.44 tons

J. Total scheduled operating hours for the melt shop in 2003: 5533 hrs

K. Emission tests None

Enclose summary data from emission tests conducted on all steelmaking processes and APC devices in the melt shop. Provide either the results for the 3 most recent tests or for all tests conducted over the past 5 years, whichever is fewer. Include results for emissions of particulate matter (PM) and any hazardous air pollutants. Do not include field data sheets. The following details (at a minimum) must be included:

(1) pollutants and emission rates measured (e.g., lb/hr, gr/dscf, lb/ton),

(2) the test methods or procedures used,

(3) for PM, whether it is filterable (front half) PM, total PM (filterable plus condensables), or PM_{10},

(4) information on actual production or processing rates during the test, and

(5) a statement that the process and any control devices were operating normally during the test, or if not, identify any abnormal or unrepresentative conditions.

L. Permit conditions

Please provide a complete copy of your current air operating permit for the entire facility.

See Attached.

II. Tables

Tables 1 through 3 apply to processes and equipment, Table 4 applies to scrap specifications, and Tables 5 and 6 apply to air pollution control devices.

NOTE: No new information need be developed for this survey. If the information requested is not known, simply state "Not known".

1. Furnaces

Use copies of Table 1 to describe unique configurations of melting furnaces. One form may be used for multiple furnaces if they are the same size and have the same control device configuration.

2. Scrap Preheaters

Use copies of Table 2 to describe scrap preheaters.

3. Ladle Metallurgy

Complete a copy of Table 3 for each ladle that is used for ladle metallurgy.

4. Scrap Specifications and Inspection

Complete Table 4 to describe your scrap specifications and inspection procedures.

5. Fabric Filters (baghouses) and Cartridge Collectors

Complete a copy of Table 5 for **each** fabric filter or cartridge dust collector system used in the melt shop.

6. Other APC Devices

Complete a copy of Table 6 to describe **each** device (used in the melt shop) other than those listed in above that controls air emissions (such as afterburners, wet scrubbers, cyclones, suppression techniques).

ABREVIATIONS AND ACRONYMS

acf	Actual cubic feet
acfm	Actual cubic feet per minute
APC	Air pollution control
EC	Degrees Centigrade
EF	Degrees Fahrenheit
fpm	Feet per minute (acfm divided by ft^2 of filter area)
gr/dscf	Grains per dry standard cubic foot
HAPs	Hazardous air pollutants
lbs	Pounds mass
lbs/hr	Pounds mass per hour
sq.ft.	Square feet
TCLP	Toxicity characteristic leaching procedure
tpy	Tons per year

TABLE 1. FURNACE DATA

1. Number of furnaces described in this table: 1

2. Furnace ID number(s) or description: EAF1

3. Circle the code number for furnace application:

   (1) Electric arc furnace **2** Electric induction furnace

4. For each melting furnace, indicate the type(s) of steel produced and give the annual actual production for 2003 for each type:

	Annual actual production (tpy)
Stainless steel:	0
High alloy (>9%) steel:	0
Carbon or low alloy steel:	498512.44
Other (specify): _____	0

5. Rated capacity of **each melting furnace:** 140 tons per heat **and** 90 tons per hour

For charging, melting, and tapping operations, indicate the types of air pollution control devices and fume capture systems used.

6. **Charging:**

APC device:

- __ No device is used
- X Fabric filter
- __ Cartridge collector
- __ Wet scrubber
- __ Other: _____

Fume capture system:

- __ None
- __ Side-draft hood
- __ Close-fitting hood
- X Canopy hood
- __ Other: _____

7. **Melting:**

APC device:

__ No device is used
X Fabric filter
__ Cartridge collector
__ Wet scrubber
__ Other: _____

Fume capture system:

__ None
__ Close-fitting hood
X Canopy hood
X Direct evacuation (4th hole)
__ Side-draft hood
__ Other: _____

8. **Tapping:**

APC device:

__ No device is used
X Fabric filter
__ Cartridge collector
__ Wet scrubber
__ Other: _____

Fume capture system:

__ None
__ Side-draft hood
__ Close-fitting hood
X Canopy hood
__ Other: _____

9. Describe any work practices or other measures that reduce emissions, such as scrap selection, cleaning, or drying.

See attached scrap management plan table 4

10. Describe any emission control techniques applied to the transfer ladle (e.g., suppression, cover, capture with control by the furnace APC device).

Canopy Evacuation to Baghouse

11. Additional comments and information:

N/A

TABLE 2. SCRAP PREHEATER DATA (e.g., Consteel® system)

[Note: Most melt shops do not have a scrap preheater. In that case, no response is necessary for the following questions.]

1. Number of identical preheaters described in this table: N/A

2. Preheater ID number(s) or description: _____

3. Indicate the type of heating method:

   __ Furnace exhaust gas __ Direct gas fired __ Indirect gas fired __ Electric

   __ Other (describe): _____

4. Indicate the type of scrap transport method:

   __ Moving belt or conveyor __ Vibratory motion

   __ Other (describe):

5. Scrap processing capacity **per preheater**: _____ tons per hour

For preheater operations, indicate the type of APC device used.

6. APC device:

   __ None
   __ Fabric filter
   __ Cartridge collector
   __ Wet scrubber
   __ Afterburner/thermal incinerator
   __ Other (describe): _____

7. Describe any work practices or other measures that reduce emissions, such as scrap selection, cleaning, or drying.

   _____

   _____

8. Additional comments and information:

TABLE 3. LADLE METALLURGY

1. Capacity of the ladle: 140 tons

2. Indicate the type of ladle metallurgy used:

   ____ argon-oxygen decarburization

   ____ argon bubbling or stirring

   ____ lance powder injection

   ____ vacuum degassing

   X other ladle refining (describe): Nitrogen Stirring

   [Note: If the vessel is controlled by the same APCD as for the melting furnace, simply check here ___and do not answer Question 3.]

3. Indicate control device(s) used to capture or treat emissions from ladle metallurgy:

APC device:	Fume capture system:
X No device is used	X None
__ Fabric filter	__ Side-draft hood
__ Cartridge collector	__ Close-fitting hood
__ Wet scrubber	__ Canopy hood
__ Other: _____	__ Other: _____

TABLE 4. SCRAP SPECIFICATIONS AND INSPECTION

1. Please provide a copy of your **scrap specifications and scrap management plan**. This should include the type of scrap accepted (e.g., according to the codes and descriptions of scrap by the Institute of Scrap Recycling Industries or similar information) and any special conditions or limitations.

   [Note: Answer Questions 2, 3, and 4 only if the information is not included in the copy of scrap specifications and management plan that you attach.]

2. Please provide written procedures for **scrap inspection**, or alternatively, briefly describe below how often incoming scrap is inspected (e.g., all deliveries or some percentage) and what it is inspected for. Also explain why it might be rejected (based on past experience).

   Frequency of inspection: See Attached Scrap Procedures

   Inspected for: See Attached Scrap Procedures

   Reasons for rejection (based on past experience): See Attached Scrap Procedures

3. Do you perform any **pretreatment** (e.g., cleaning, degreasing) of scrap prior to charging to the electric arc furnace that generates emissions? If so, describe:

   No

4. Briefly describe any **other pollution prevention procedures** you have implemented for scrap that might reduce emissions of hazardous air pollutants:

   No

TABLE 5. FABRIC FILTER/CARTRIDGE COLLECTOR DESCRIPTION

1. Device description and ID number: BH # 1

2. Year installed/rebuilt: 1980 / 1996

3. Design collection efficiency and/or outlet concentration:

   _____ percent/ 0.0052 gr/dscf

4. Circle device type:

   (Fabric filter) Cartridge collector

5. Circle the pressure mode of operation:

   (Positive pressure) Negative pressure

6. Circle the bag cleaning method:

   Pulse jet (Shaker) Reverse air

   Other (describe): _____

7. Circle the bag cleaning mode:

   (On line) Off line

8. Cloth type: Polyester

9. Number of compartments: 6

10. Maximum or design gas inlet temperature: 110 EF

11. Gas flow rate: 500000 acfm

12. Gross filtering area: 185472 sq.ft.

13. Net filtering area: 154560 sq.ft.

14. Air to cloth ratio: 2.69:1 fpm

15. Identify each process served by this device. If furnaces are served, distinguish between charging, melting, and tapping operations.

Table No.	Process ID/Description	Operation
1	EAF 1	Charging & Tapping

16. Has the collected dust been analyzed?

No (Yes)

[If yes, provide the average and range for each HAP constituent analyzed over the past year or last 9 samples, whichever is fewer. Alternatively, attach the results of the analyses.]

17. Indicate (circle) how the device is monitored to ensure it is operating properly.

bag leak detection system continuous opacity monitor volumetric flow rate

(fan amperage) (pressure drop) (visible emissions observations)

other (specify): _____

18. What level of an operating limit triggers corrective action (e.g., 5% opacity)?

3%, 265 amps, 13" H2O

19. Additional comments and information:

None

TABLE 5. FABRIC FILTER/CARTRIDGE COLLECTOR DESCRIPTION

1. Device description and ID number: BH # 2

2. Year installed/rebuilt: 1996 /

3. Design collection efficiency and/or outlet concentration:

percent/ 0.0052 gr/dscf

4. Circle device type:

(Fabric filter) Cartridge collector

5. Circle the pressure mode of operation:

(Positive pressure) Negative pressure

6. Circle the bag cleaning method:

Pulse jet Shaker (Reverse air)

Other (describe):

7. Circle the bag cleaning mode:

(On line) Off line

8. Cloth type: polyester

9. Number of compartments: 10

10. Maximum or design gas inlet temperature: 275 EF

11. Gas flow rate: 700000 acfm

12. Gross filtering area: 316670 sq.ft.

13. Net filtering area: 285003 sq.ft.

14. Air to cloth ratio: 2.21:1 fpm

15. Identify each process served by this device. If furnaces are served, distinguish between charging, melting, and tapping operations.

Table No.	Process ID/Description	Operation
1	EAF 1	Charging,Melting,Tapping

16. Has the collected dust been analyzed?

No (Yes)

[If yes, provide the average and range for each HAP constituent analyzed over the past year or last 9 samples, whichever is fewer. Alternatively, attach the results of the analyses.]

17. Indicate (circle) how the device is monitored to ensure it is operating properly.

bag leak detection system continuous opacity monitor volumetric flow rate

(fan amperage) (pressure drop) (visible emissions observations)

other (specify):_____.

18. What level of an operating limit triggers corrective action (e.g., 5% opacity)?

3%, 265 Amps, 13" H2O

19. Additional comments and information:

None

TABLE 6. OTHER APC DEVICES USED IN THE MELT SHOP

1. Device description and ID number: N/A

2. Design efficiency for this application: _____ percent

3. Basis for efficiency: _____

4. Relevant design and operating data:

_____

_____

5. Identify each process served by this device. If furnaces are served, distinguish between charging, melting, and tapping operations.

Table No.	Process ID/Description	Operation

6. What is monitored to ensure the capture and control system is operating properly?

_____

7. What value of an operating parameter triggers corrective actions?

_____

8. Additional comments and information:

_____

HAPS Data Analysed in Dust

	Pb	Cd	Cr	Mn	Ni
Average	2.55	0.0481	0.182	1.92	0.0226
Minimum	1.77	0.031	0.134	1.5	0.0104
Maximum	4	0.0613	0.235	2.39	0.0306

GERDAU AMERISTEEL™

Jackson, TN

IRON & STEEL SCRAP SPECIFICATIONS

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GERDAU AMERISTEEL CORPORATION
IRON & STEEL SCRAP SPECIFICATIONS

GENERAL INFORMATION

I. Commitment to Performance

Gerdau Ameristeel recognizes the contribution of its suppliers to its business and prosperity. We will recognize high levels of performance in quality and reliability with loyalty and increased commercial opportunities. We will maintain high standards of conduct and ethical dealings with our suppliers. We will expect compliance with our specifications and timely shipment of materials committed. We will act cooperatively to resolve problems and exploit mutual opportunities for improvement. We will conduct our business in an environment of mutual respect.

II. Limitations

All scrap grades described in this specification document are subject to the following limitations:

- Prohibited Materials:

    1) Sealed containers or other explosives
    2) Radiation Sources (see specific guideline)
    3) Hazardous Materials

In general, prohibited materials are defined as those which may endanger people or the environment. Discovery of prohibited materials in any delivery of scrap shall be cause for immediate rejection, subject to any applicable regulatory requirements, and may expose the shipper to loss of subsequent business or penalties under law.

- Objectionable Materials:

    1) Non-Metallics - wood, concrete, rubber, etc.
    2) Non-Ferrous - copper, tin, zinc, etc.
    3) Alloys - stainless, Corten, leaded steels, etc.
    4) Volatiles - grease, oil, tar, etc.
    5) Composites - slags, brake shoes, motors, etc.
    6) Refuse - dirt, scale, debris, trash, etc.

Objectionable materials will be a sufficient condition for rejection when included in a shipment of scrap. Where variances are permitted, this is noted in the detailed specification for individual grades. Gerdau Ameristeel recognizes that, due to the raw materials employed and the level of processing technology available for

producing some scrap grades, objectionable materials may appear in commercially acceptable material. In practice, Gerdau Ameristeel will exercise its best judgment concerning the acceptability of minor amounts of these materials on a shipment by shipment basis, and reserves the sole right to accept or reject any shipment based upon that judgment. Scrap suppliers are expected to control objectionable materials to minimal levels for the grade supplied.

III. Density

Minimal density requirements are specified in pounds per cubit foot units for most grades. Because the value in use of any scrap grade is, in part, a function of its density, Gerdau Ameristeel reserves the right to accept, reject or downgrade materials received based upon this criterion.

IV. Inspection/Acceptance

All shipments of scrap received by Gerdau Ameristeel shall be subject to inspection under the guidelines and specifications set forth herein. Appropriate training and guidance will be provided to inspection personnel to assure an informed assessment of all materials inspected.

Materials found to be out of compliance with these guidelines and specifications may be subject to the following disposition.

1) Rejection

If rejected, shipments will be returned to the shipper at the shipper's expense. Handling costs (e.g. reloading of trucks, etc.) may be charged back to the shipper. Prohibited or objectionable materials discovered after initial inspection may result in partial rejection of a shipment.

2) Adjustment

Materials which are received by Gerdau Ameristeel and, upon inspection, deemed to fail to meet the grade specification for the ordered grade supplied may, at Gerdau Ameristeel's sole discretion, be adjusted to an alternate grade if the material supplied meets the description of such alternate grade. Gerdau Ameristeel will adjust the price paid for any such shipment to reflect its lowest current price in effect for the as-received grade from any then current shipper of the alternate grade. Due to the potential costs in handling, paperwork, and related activities caused by receipt of substandard materials, Gerdau Ameristeel may impose a penalty in addition to such price adjustment if circumstances warrant.

V. Penalty

Although Gerdau Ameristeel will exercise reasonable effort to inspect scrap shipments, materials supplied can contain constituents not readily detected during normal inspection which expose the company to hazards associated with use. Such constituents may include, for example, sealed containers, radiation sources, hazardous volatiles, etc. In all cases, Gerdau Ameristeel's acceptance of any shipment shall not constitute any waiver of its rights to pursue a claim of damages if subsequent use results in damage or injury to people or property.

GERDAU AMERISTEEL CORPORATION
IRON & STEEL SCRAP SPECIFICATIONS

RADIOACTIVE SCRAP

I. Policy

Radioactive scrap materials from any source are prohibited under Gerdau Ameristeel's specifications for iron & steel scrap to protect our employees, customers and the environment. Federal, state and local regulations will be fully observed in dealing with these materials. Gerdau Ameristeel maintains radiation detection equipment of various kinds to help protect its employees and operations, and strongly urges its suppliers to do likewise. Detection equipment is a safeguard, but no substitute for diligent monitoring on the part of Gerdau Ameristeel's suppliers to assure that these materials do not enter our scrap supply. All scrap materials purchased by Gerdau Ameristeel are bought on the basis that suppliers bear full responsibility for the results of shipping radiation sources into our melting facilities or raw materials storage.

II. Procedures

Gerdau Ameristeel has detailed, written procedures developed for each of its facilities concerning steps to be taken upon detection of a source of radiation. In general, any such materials will be investigated immediately, and appropriate steps taken to minimize exposure. A written report of any such incident will be made.

Gerdau Ameristeel will promptly notify the shipper or seller of any contaminated load, as well as appropriate local, state, and/or federal agencies and any other parties considered by the company to require notice. Inbound materials determined to contain such prohibited materials will be returned to their origin, subject to applicable regulations regarding handling and shipment.

III. Liability

Radioactive materials are strictly prohibited from all grades of scrap purchased by Gerdau Ameristeel under its specifications for iron & steel scrap. All scrap purchases are made on the basis of such prohibition. Therefore, Gerdau Ameristeel shall accept no liability to people, property or the environment arising from the inclusion of sources of radiation in any shipment of raw materials made to its melting facilities.

GRADE SPECIFICATIONS

The following grade specifications apply to all Gerdau Ameristeel Corporation melt shops when such grades are purchased. Due to differences in mill equipment and facilities, some size requirements and density limits vary for some grades depending upon the receiving plant. Where applicable, these differences are shown in tabular form below the descriptive grade specification.

Grades which do not appear in the following section must be inquired specifically as to their suitability for use and determination of value to Gerdau Ameristeel. Such inquiry should be directed to Gerdau Ameristeel's Vice President - Material Procurement at its corporate offices.

SHREDDED SCRAP

Homogeneous iron and steel scrap originating from automobiles, unprepared #1 and #2 scrap, miscellaneous baling and sheet scrap, and white goods. Must be fragmentized, magnetically separated and have an average density of 70 lbs. per cubic foot. Shredded scrap must be free from dirt, concrete, grindings, turnings, borings, fabric, and combustible material. Loose copper and/or aluminum in any form are not acceptable.

Residuals:

Copper	-	.25% max
Chrome	-	.10% max
Nickel	-	.10% max
Tin	-	.03% max
Phos	-	.04% max
Sulphur	-	.05% max
Sil	-	.25% max
Carbon	-	.50% max

GERDAU AMERISTEEL CORPORATION
IRON & STEEL SCRAP SPECIFICATIONS

CUT SCRAP GRADES

PLATE AND STRUCTURAL 1000 Series Steel

Plate and structural steel such as I-beams, angles, H-beams, plate, crop ends, etc. sized as shown below; minimum thickness is ¼". May contain up to 10% heavy walled pipe. Pipe in diameters 8" and over must be split. Can include clean railroad scrap. Free of rebar (any size) and attachments. May not include cast iron, machinery bases, dies, shafts, gears or other similar co-products of demolition activity. No boiler pipe, hi moly P&S, paper mills, petrochemical or power plants. Minimum thickness ¼".

Chemistry:

Copper	- .19% max	Chromium	- .10% max
Nickel	- .10% max	Sulfur	- .03% max
Moly	- .02% max	Phos	- .03% max
Tin	- .015% max		

	Baldwin	Charlotte	Jackson	Knoxville	Cartersville
Sizing (Max.)	4' x18" x 4"	3' x 18" x 4"	5' x 3' x 6"	3' x 18" x 3"	5' x 2' x 4"
Density (Min.)	50	55	45	55	50

RAILROAD HEAVY MELT

Cut alloy-free railroad scrap to include track, spikes, tie plates, wheels, drawbars, knuckles, etc. Car sides are specifically excluded. Wheels must be pressed or cut off axles or axles cut flush with wheels.

The following limits apply to this grade:

Springs	1% max
Wheels, drawbars, knuckles	20% max
Track, spikes, tie plates	20% max

All wood, brass, journal socks and heavy coatings (tar, oil, grease) must be removed.

Sizing (Max.)	Baldwin	Charlotte	Jackson	Knoxville	Cartersville
	4' x 2'	3' x 2'	5' x 3'	3' x 2'	5' x 2'

CUT SCRAP GRADES (CONTINUED)

#1 STEEL

Wrought iron and/or steel scrap sized as specified below. Minimum thickness 1/4". May include I-beams, H-beams, angles and any low carbon structurals. May include miscellaneous agricultural equipment, truck frames and heavy caterpillar equipment not to exceed 5% crawler pads. May include cut up RR car trucks, wheels, axles, rails, couplers and framework. Heavy rebar, 3/4" minimum, may be included to a maximum of 15% of load. New plate and structurals 3/16" minimum thickness may be included. Heavy torch cut pipe 8" and over must be split. Barge scrap must be single wall only, cannot be double wall. Maximum 3% cast iron.

Must be free of automotive scrap, tangled rebar, shocks, uncut hydraulic units, uncut tanks or cylinders, air compressors, starters and generators, electric motors, and batteries. Busheling, clippings, strapping and other thin gauge material will not be accepted as #1. No cast iron pipe unless phos free. Minimum density - 55 lbs./cu. Ft.

Chemistry:	Copper	-	.35% max	Chromium	-	.20% max
	Nickel	-	.15% max	Sulfur	-	.04% max
	Moly	-	.04% max	Phos.	-	.02% max
	Tin	-	.02% max			

	Baldwin	Charlotte	Jackson	Knoxville	Cartersville
(Sizing Max.)	4' x 18" x 4"	3' x 18" x 6"	5' x 3' x 6"	4' x 18" x 6"	5' x 2' x 6"

#2 STEEL

Wrought iron steel sized to meet 3' maximum x 18" maximum x 1/8" minimum. May include automobile scrap such as rims, frames and bumpers. May include rebar (no tangled forms) and miscellaneous machinery steel. Will accept up to 25% new light gauge sheet, shear cut and properly sized. Maximum 5% cast. Minimum Density – 45#/Cubic Foot.

Material must be free of automobile slabs, automobile tin, appliances, and appliance slabs (even if electric motors are removed), uncut shocks, hydraulic cylinders, electric motors, starters, batteries and generators. Uncut torque converters are not acceptable. Must be free of heater baskets and motor lamination material.

Chemistry:	Copper	-	.35% max	Chromium	-	.20% max
	Nickel	-	.15% max	Sulfur	-	.04% max
	Moly	-	.04% max	Phos.	-	.02% max
	Tin	-	.02% max			

	Baldwin	Charlotte	Jackson	Knoxville	Cartersville
(Sizing Max.)	4' x 18" x 4"	3' x 18" x 6"	5' x 3' x 6"	4' x 18" x 6"	5' x 2' x 6"

CUT SCRAP GRADES (CONTINUED)

#1 & #2 MIXED STEEL

Must conform to requirements of #2 steel grade with sufficient #1 steel (minimum 40%) included to qualify for price adjustment.

Minimum Density - 50 lbs./cu.ft.

Chemistry:	Copper	-	.40% max	Chromium	-	.20% max
	Nickel	-	.20% max	Sulfur	-	.04% max
	Moly	-	.05% max	Phos.	-	.03% max
	Tin	-	.02% max			

	Baldwin	Charlotte	Jackson	Knoxville	Cartersville
(Sizing Max.)	4' x 18" x 4"	3' x 18" x 6"	5' x 3' x 6"	4' x 18" x 6"	5' x 2' x 6"

GERDAU AMERISTEEL CORPORATION
IRON & STEEL SCRAP SPECIFICATIONS

SHEET SCRAP GRADES

#1 BUSHELING

Clean low-residual black and galvanized sheet sized 24" and under. May not include old sheet. Must be free of tin plate, terne, and vitreous enameled coatings. Electrical sheet over 0.5% Si is not acceptable.

Chemistry:	Copper	-	.10% max	Chromium	-	.08% max
	Nickel	-	.10% max	Sulfur	-	.02% max
	Moly	-	.02% max	Phos.	-	.015% max
	Tin	-	.01% max			

BLACK SHEET CLIPS

Sheet clippings sized 4' maximum x 18" maximum, essentially free of coatings. Skeleton material cut 4' maximum x 2' maximum generally acceptable. 5% maximum galvanized.

MIXED SHEET CLIPS

Painted, galvanized, and black sheet clips sized 4' maximum x 18" maximum. Skeleton material cut 4' maximum x 2' maximum generally acceptable.

BLACK AND TIN PLATE CLIPS

Black and tin plated sheet clips sized 4' maximum x 18" maximum. Must be no more than 25% tin bearing material. If more than 25%, cars must be special noticed and price negotiated.

GERDAU AMERISTEEL CORPORATION
IRON & STEEL SCRAP SPECIFICATIONS

PROCESSED SHEET SCRAP GRADES

#1 BUNDLES

New black, painted and galvanized low-residual steel clips and wire, hydraulically pressed so as not to come apart during magnet handling. Free of tin, terne, copper, limed, vitreous enameled and similar coatings, drums, gas tanks, motor lamination steel, heater baskets or other high phosphorus or high silicon material. Maximum 20% painted and galvanized. May include mandrel wound edge trimmings or skeleton reels tightly secured so long as material is low residual steel otherwise included in this specification. May include cleaned and bundled drum material.

No grease, volatiles or environmentally restricted material will be accepted. May not include old sheet.

Chemistry:	Copper	-	.14% max	Chromium	-	.10% max
	Nickel	-	.10% max	Sulfur	-	.03% max
	Moly	-	.02% max	Phos.	-	.03% max
	Tin	-	.015% max			

Minimum Density - 75 lbs./cu. ft. Maximum Size: 24" x 24" x length as shown

Baldwin	Charlotte	Jackson	Knoxville	Cartersville
36"	24"	36"	36"	44"

#2 BUNDLES

New and old mixed sheet and wire hydraulically baled so as not to come apart during magnet handling. May include shopping carts up to 25% of total.

Must be free of wood, non-ferrous, plastic, rags, carpet, heater baskets, motor laminations, or other high phosphorus or high silicon material. Bales must be generally free of gas tanks, used drums, and automobile mufflers.

Chemistry:	Copper	-	.35% max	Chromium	-	.20% max
	Nickel	-	.15% max	Sulfur	-	.04% max
	Moly	-	.04% max	Phos.	-	.02% max
	Tin	-	.02% max			

Maximum Size: 24" x 24" x length as shown Minimum Density - 65 lbs./cu. ft.

Baldwin	Charlotte	Jackson	Knoxville	Cartersville
36"	24"	36"	36"	44"

PROCESSED SHEET SCRAP GRADES (CONTINUED)

MANDREL WOUND COILS OF BANDING, WIRE OR STRAPPING

Black, galvanized or painted, banding or wire material sized as shown. May not include tinplate, terne, limed, vitreous enameled or electrical sheet containing over 0.5% Si.

Must be banded with a minimum of 3 steel bands suitable for magnet handling without unwinding and creating long stringers.

Sizing (Max.)	Baldwin	Charlotte	Jackson	Knoxville	Cartersville
	4' x 2'	3' x 2'	4' x 2'	4' x 2'	4' x 2'

TURNINGS & BORINGS

TURNINGS

Mixed short and machine shop turnings free from lumps, tangled or matted material, cast iron borings, and any non-metallics. Oil content 4% maximum. Badly oxidized or wet scrap is not acceptable.

Chemistry:	Copper	-	.25% max	Chromium	-	.15% max
	Nickel	-	.15% max	Sulfur	-	.08% max
	Moly	-	.15% max	Phos.	-	.04% max
	Tin	-	.02% max			

Minimum density - 50 lbs./cu. ft.

CAST IRON BORINGS

New clean cast iron borings and drillings containing not more than 1% oil. Free from steel turnings, chips, lumps, scale, corroded or rusty material.

Chemistry:	Copper	-	.20% max	Chromium	-	.15% max
	Nickel	-	.12% max	Sulfur	-	.08% max
	Moly	-	.015% max	Phos.	-	.04% max
	Tin	-	.02% max			

MISCELLANEOUS GRADES

CAST IRON OR DROP BROKEN MACHINERY:

Clean heavy cast iron machinery scrap that has been broken under a drop. All pieces must be cupola size, not over 24 inches x 30 inches, and no piece over 500 pounds in weight. Must be free of lead.

Residuals:

P	-	.075% Max
S	-	.10% Max

MOTOR BLOCKS

Whole unstripped motor blocks with transmissions removed. Minimal quantities of diesel blocks acceptable with auto engines. Oil pans and torque converters must be punched or preferably removed. May not include counterweights, heavy cast iron or oversized cast. Sealed units or closed containers are specifically excluded.

PIT SKULLS

Maximum 3' x 2' x 6" size. No more than 10% slag. May not contain B scrap.

B SCRAP

Screenings no smaller than 1/2". No more than 20% slag.

GERDAU AMERISTEEL - Jackson TN
SCRAP RECEIVING POLICY AND PROCEDURES

SHIPPING NOTICES – MISAPPLICATIONS

Gerdau Ameristeel has had a long-standing policy with regard to railcars arriving at the mill without prior notification. Due to the increasing frequency of cars arriving at the mills with no prior notification, we feel it is important to review and re-emphasize that policy.

CARS ARRIVING WITHOUT PRIOR NOTIFICATION WILL BE ASSESSED A CHARGE OF $150 PER CAR. Please send shipment notification to Gerdau Ameristeel or the DJJ Company at least **three** full working days prior to the arrival of the rail car; preferably at the time that the car is released to the railroad.

Advance notice can be a fax containing the following information: (See sample following)

- Shipper name
- Origin city
- Date shipped
- Contract number
- Grade of scrap
- Weight at origin, if available
- Car number
- RR Contract number

If you do not have a standard shipment notification form/fax that you use, we can e-mail you a sample for your use.

This information needs to be faxed to the following applicable person:

SHIPMENTS TO:	CARTERSVILLE:	Stan McLane	770-387-5710
	ALL OTHER MILLS:	DJJ Office	843-971-8517

NOTE: This policy also applies to misapplication of grade or contract number. If you are unsure of your contract number, call your representative or Marcia Smith, the system administrator in Tampa, FL at 813-207-2394.

With your cooperation, we will assure that neither you nor Gerdau Ameristeel incur unnecessary costs associated with scrap shipments.

Sample

SHIPPING NOTICE

DATE:	
TO:	STAN MCLANE
COMPANY:	AMERISTEEL CARTERSVILLE
FAX #:	770-387-5710
FROM:	JOE MILLER
COMPANY:	XYZ IRON & METAL, HUNTSVILLE
PHONE#:	256-555-1212
FAX #:	256-555-1213

Shipper name	XYZ IRON
Origin city	HUNTSVILLE, AL
Date shipped	DEC. 17, 2002
Contract number	875
Grade of scrap	SHRED
Weight at origin	83,989
Car number	CSXT 5546009X
RR Contract number	11459

WEIGHT DISCREPANCIES

RAIL CARS

Shippers are encouraged to weigh rail cars before and after loading, and to communicate the "light" and "heavy" scale weights to Gerdau Ameristeel via a Shipping Notice at time of shipment. If a rail car is received for which "light" and "heavy" scale weights at origin have NOT been communicated to Gerdau Ameristeel before the car arrives at our plant site, and Gerdau Ameristeel unloads the car, then Gerdau Ameristeel will NOT consider an "origin" or other "third party" scale weight as a basis for adjusting the settlement weight determined at destination. Mill weights govern, but we will investigate any substantial differences.

TRUCK SHIPMENTS

After a truck shipment leaves Gerdau Ameristeel plant property, Gerdau Ameristeel will NOT accept a shipper's or other "third party" scale weights as a basis for settlement. The burden is upon the shipper to assure that he is notified by the truck driver, BEFORE UNLOADING, in the event that an unacceptable difference occurs between Gerdau Ameristeel's gross weight at time of weigh-in and the gross weight determined at yard of origin. Gerdau Ameristeel will not accept responsibility for pointing out truck scale weight discrepancies to shippers or carriers.

GERDAU AMERISTEEL
SCRAP RECEIVING POLICY AND PROCEDURES

DOWNGRADES – REJECTIONS

REJECTIONS

All scrap grades received at Gerdau Ameristeel mill locations are subject to ABSOLUTE REJECTION if the following PROHIBITED MATERIALS are present in the load(s):

1. Sealed containers or other explosives
2. Radiation Sources (see guidelines under "Safety and Environmental")
3. Hazardous Materials

In general, prohibited materials are defined as those which may endanger people or the environment. Discovery of prohibited materials in any delivery of scrap shall be cause for immediate rejection, subject to any applicable regulatory requirements, and may expose the shipper to loss of subsequent business or penalties under law.

Discovery of the following OBJECTIONABLE MATERIALS may result in a warning, followed by a rejection, or an outright rejection if excessive:

1. Excess Foreign materials
    a. Non-Metallics: wood, concrete, rubber, etc.
    b. Non-Ferrous: Lead, copper, tin, zinc, etc.
    c. Alloys: stainless, Corten, leaded steels, etc.
    d. Volatiles: grease, oil, tar, etc.
    e. Composites: slags, brake shoes, motors, etc.
    f. Refuse: dirt, scale, debris, trash, etc.

2. Violation of Material Specs
    a. Oversize
    b. Turnings cast in material
    c. Graded wrong
    d. Deteriorating quality

Objectionable materials will be a sufficient condition for rejection when included in a shipment of scrap. Where variances are permitted, this is noted in the detailed specification for individual grades. Gerdau Ameristeel recognizes that, due to the raw materials employed and the level of processing technology available for producing some scrap grades, objectionable materials may appear in commercially acceptable material. In practice, Gerdau Ameristeel will exercise its best judgment concerning the acceptability of minor amounts of these materials on a shipment by shipment basis, and reserves the sole right to accept or reject any shipment based upon that judgment. Scrap suppliers are expected to control objectionable materials to minimal levels for the grade supplied.

If rejected, shipments will be returned to the shipper at the shipper's expense. Handling costs (e.g. reloading of trucks, etc.) may be charged back to the shipper. Prohibited or objectionable materials discovered after initial inspection may result in partial rejection of a shipment.

DOWNGRADES

All shipments of scrap received by Gerdau Ameristeel shall be subject to inspection under the guidelines and specification set forth herein. Appropriate training and guidance will be provided to inspection personnel to assure an informed assessment of all materials inspected.

Materials found to be out of compliance with these guidelines and specifications may be subject to either REJECTION or DOWNGRADE. Materials which are received by Gerdau Ameristeel, and, upon inspection, are deemed to fail to meet the grade specification for the ordered grade supplied may be adjusted to an alternate grade. Downgrades will be issued on a limited case basis.

OTHER PENALTIES

Although Gerdau Ameristeel will exercise reasonable effort to inspect scrap shipments, materials supplied can contain constituents not readily detected during normal inspection which expose the company to hazards associated with use. Such constituents may include, for example, sealed containers, radiation sources, hazardous volatiles, etc. In all cases, Gerdau Ameristeel's acceptance of any shipment shall not constitute any waiver of its rights to pursue a claim of damages if subsequent use results in damage or injury to people or property.

As a condition of doing business with Gerdau Ameristeel, suppliers accept in advance that Gerdau Ameristeel may impose penalties upon receiving items that are prohibited or objectionable, or that otherwise jeopardize the health or safety of Gerdau Ameristeel employees or property, or threaten Gerdau Ameristeel's ability to comply with environmental laws and regulations, or threaten Gerdau Ameristeel's productivity or cost of operations. Examples for which penalties may be imposed:

- Shipments containing radioactive sources.
- Shipments containing capacitors or "PCB" items.
- Shipments containing one or more Lead Acid batteries.
- Shipments contaminated with toxic substances or hazardous waste.
- Shipments containing one or more "closed containers", or other items that present risk of explosion.

GERDAU AMERISTEEL
SCRAP RECEIVING POLICY AND PROCEDURES

SAFETY & ENVIRONMENTAL

At Gerdau Ameristeel, we value the safety of our employees foremost, as we're sure you do at your own facilities. Prohibited materials, including radioactive and hazardous/explosive materials, arriving in loads of scrap to our melt facilities have seriously endangered lives. A recent load of scrap received at one of our locations contained an item that caused an explosion at the furnace.

Due to this and other potentially harmful and costly events, we are reaffirming the Gerdau Ameristeel "Zero Tolerance" policy at our mills, in regard to potentially radioactive or hazardous/explosive materials. In the event that a load of inbound material triggers the Gerdau Ameristeel radiation detection system, the material will be immediately returned to the origin at the shipper's expense. Gerdau Ameristeel will promptly notify the shipper or seller of any contaminated load, as well as appropriate local, state and/or federal agencies.

We recognize that some items (with limited likelihood of damaging our systems or employees) can trigger the system. Even though these items represent no potential danger in the furnace, I am sure you can appreciate the fact that we're unable to take a risk on ANY load that sets off our radiation detection equipment. You can rest assured that we are taking steps to maintain our monitoring systems in good reliable condition with frequent calibration to assure valid results.

Due to the significance of this and other events, we ask that you analyze your current receiving and inspecting procedures to insure removal of any potentially hazardous scrap materials. By making your yard personnel more aware of explosive and radioactive items (hazardous or not), you will be doing both Gerdau Ameristeel and yourself a service. By removing these items at your facility, you will save Gerdau Ameristeel the cost involved in identifying these problem loads, while saving yourself the additional freight and handling cost.

An on-site audit to determine your capabilities in identifying radioactive and hazardous materials will be conducted before delivery to any Gerdau Ameristeel facility. Industry resources for instructional materials include isri.org, amazon.com and other commercial and industry sources.

We consider a vendor's radiation detection capability and their hazardous inspection process important in choosing our supplier base. In addition to the on-site audit, any shipper to Gerdau Ameristeel is REQUIRED to monitor scrap for radiation before delivery. If you are brokering material from another source, it must pass through your inspection process before it can be delivered to our mill, or you must ensure that the vendor is monitoring material for radiation.

A copy of Gerdau Ameristeel's Safety and Environmental Compliance Agreement is attached, along with a recent copy of our Specification for Iron and Steel Scrap. Please review the Specifications and return the agreement via fax to 813-207-2343, so that we can be certain that you have received this information.

GERDAU AMERISTEEL

SAFETY AND ENVIRONMENTAL COMPLIANCE AGREEMENT

The undersigned Seller has read GERDAU AMERISTEEL'S Specifications for Iron and Steel Scrap. This includes General Information regarding prohibited and objectionable materials, Iron and Steel Scrap Specifications and the Radioactive Scrap policy of GERDAU AMERISTEEL Corporation. In addition, I understand that no scrap material may be brokered from another source, unless it has passed through Seller's radiation detection equipment or is an otherwise certified shipper having also signed this Agreement.

Seller acknowledges that GERDAU AMERISTEEL may not accept any shipment in whole or in part that does not meet the conditions and specifications described in the specification document. Seller also acknowledges that vendors found to violate this Agreement may be disqualified from supplying scrap materials to GERDAU AMERISTEEL.

Although GERDAU AMERISTEEL will exercise reasonable effort to inspect scrap shipments, materials supplied can contain constituents not readily detected during normal inspection, which expose the company to hazards associated with use. Such constituents may include, for example, sealed containers, radiation sources, hazardous volatiles, etc. In all cases, GERDAU AMERISTEEL'S acceptance of any shipment shall not constitute any waiver of its rights to pursue a claim of damages if subsequent use results in damage or injury to people or property.

I, the undersigned Seller, or authorized representative of Seller, do hereby acknowledge receipt and understanding of the aforementioned specifications and conditions. Seller also agrees to supply scrap materials for recycling that are in accordance with the Radiation, Safety and Environmental Policy of GERDAU AMERISTEEL Corporation.

PLEASE COMPLETE AND RETURN BY FAX TO MARCIA SMITH AT 813-207-2343.

SELLER'S NAME: _____

COMPANY NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

PHONE: _____ **FAX:** _____

EMAIL: _____

SIGNATURE: _____

TITLE: _____

GERDAU AMERISTEEL
SCRAP RECEIVING POLICY AND PROCEDURES

RADIATION DETECTION EQUIPMENT

MODEL #: HAND HELD_____ TRUCK_____ RAIL_____

RADIOACTIVE SCRAP

I. Policy

Radioactive scrap materials from any source are prohibited under AmeriSteel's specifications for iron & steel scrap to protect our employees, customers and the environment. Federal, state and local regulations will be fully observed in dealing with these materials. AmeriSteel maintains radiation detection equipment of various kinds to help protect its employees and operations, and strongly urges its suppliers to do likewise. Detection equipment is a safeguard, but no substitute for diligent monitoring on the part of AmeriSteel's suppliers to assure that these materials do not enter our scrap supply. All scrap materials purchased by AmeriSteel are bought on the basis that suppliers bear full responsibility for the results of shipping radiation sources into our melting facilities or raw materials storage.

II. Procedures

AmeriSteel has detailed, written procedures developed for each of its facilities concerning steps to be taken upon detection of a source of radiation. In general, any such materials will be investigated immediately, and appropriate steps taken to minimize exposure. A written report of any such incident will be made.

AmeriSteel will promptly notify the shipper or seller of any contaminated load, as well as appropriate local, state, and/or federal agencies and any other parties considered by the company to require notice. Inbound materials determined to contain such prohibited materials will be returned to their origin, subject to applicable regulations regarding handling and shipment.

III. Liability

Radioactive materials are strictly prohibited from all grades of scrap purchased by AmeriSteel under its specifications for iron & steel scrap. All scrap purchases are made on the basis of such prohibition. Therefore, AmeriSteel shall accept no liability to people, property or the environment arising from the inclusion of sources of radiation in any shipment of raw materials made to its melting facilities.

SAFETY

Safety rules to be followed while at a Gerdau Ameristeel facility:

1. Truck driver safety while on Gerdau Ameristeel property

    a. Truck drivers entering Gerdau Ameristeel property must wear a hard hat, shirt, long pants, and shoes ("flip-flop", open toe, or open heel shoes are not acceptable). It is the responsibility of the truck driver or the driver's employer to provide required safety apparel.
    b. Truck drivers must obey all traffic control and warning signs, and not exceed the plant-wide speed limit of 20 MPH.
    c. Drivers must remain with their trucks at all times except in designated parking areas.

2. Riders accompanying truck drivers

    a. Riders accompanying truck drivers will not be allowed to enter a Gerdau Ameristeel plant site without prior permission. Permission for an adult rider to enter a Gerdau Ameristeel plant site may be granted under special circumstances that include:

        - A second driver (long distance haulers only)
        - A driver in training
        - And other reasons judged suitable by authorized personnel.

    b. The Gerdau Ameristeel personnel authorized to grant permission for a rider to enter the plant site are: A shredder or scrap yard operations supervisor or Gerdau Ameristeel Security personnel

    c. If permission is granted, an adult rider may wait in the scrap scalehouse waiting area until the truck has been unloaded and returns to the scalehouse. Riders that accompany a driver into the plant site will be regarded as "Visitors", and will be required to sign in at the plant security office.

    d. Only the truck driver will be allowed in unloading areas.

    e. Children and minors will not be permitted to enter a Gerdau Ameristeel plant site.

GERDAU AMERISTEEL
SCRAP RECEIVING POLICY AND PROCEDURES

RECEIVING CHANGES

It is the policy of Gerdau Ameristeel to give shippers plenty of advance notice to any changes in receiving hours due to closures for holidays, maintenance, etc. This usually comes in the form of a fax from specific mill personnel or the DJJ Company. Please advise Vicki Roche at 813-207-2331 if you do not receive prompt (at least two days prior) notice of receiving changes.

When there are instances where, due to uncontrollable circumstances, we have to shut down receiving quickly, we will work with vendors that have trucks loaded.

TENNESSEE AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-1531

OPERATING PERMIT (TITLE V) Issued Pursuant to Tennessee Air Quality Act

This permit fulfills the requirements of Title V of the Federal Clean Air Act (42 U.S.C. 7661a-7661e) and the federal regulations promulgated thereunder at 40 CFR Part 70. (FR Vol. 57, No. 140, Tuesday, July 21, 1992 p.32295-32312). This permit is issued in accordance with the provisions of paragraph 1200-3-9-.02(11) of the Tennessee Air Pollution Control Regulations. The permittee has been granted permission to operate an air contaminant source in accordance with emissions limitations and monitoring requirements set forth herein.

Date Issued: September 20, 2001 **Permit Number:** 548094

Date Expires: August 1, 2006

Issued To:

AmeriSteel

Installation Address:

U.S. Highway 45 North
801 AmeriSteel Road
Jackson, TN 38303

Installation Description: **STEEL SCRAP RECYCLING MILL**

01: One Electric Arc (EAF) Steel Melting Furnace with Continuous Caster, EAF Dust Silo and Lime-Storage Silos with Baghouse Controls
02: One Reheat Furnace
03: One Product Straightener Process with Baghouse Control
04: Nine Preheaters
05: One Steel Scrap Shredder
06: Dust Processing Facility
07: One Rotary Hearth Furnace
08: Shot Blasting Operation

Emission Source Reference No.: 57-0189

Renewal Application Due Date: Between November 4, 2005 and February 2, 2006

Primary SIC: 33

Responsible Official:
Name: Wilburn G. Manuel
Title: Vice President/Divisional Manager

Facility Contact Person:
Name: Stephen King
Title: Environmental Specialist
Phone: (731) 424-5600

Information Relied Upon:
Application dated: March 24, 2000
Revisions dated: January 4, 2001

Additional Information dated: April 18, 2000, November 13, 2000, and December 01, 2000

(continued on next page)

TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

POST OR FILE AT INSTALLATION ADDRESS

87-50

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SECTION A
GENERAL PERMIT CONDITIONS

A permit issued under the provisions of paragraph 1200-3-9-.02(11) is a permit issued pursuant to the requirements of Title V of the Federal Act and its implementing Federal regulations promulgated at 40 CFR, Part 70.

A1. **Definitions.** Terms not otherwise defined in the permit shall have the meaning assigned to such terms in the referenced regulation.

TAPCR 1200-3

A2. **Compliance requirement.** All terms and conditions in a permit issued pursuant to paragraph 1200-3-9-.02(11) including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act.

The permittee shall comply with all conditions of its permit. Except for requirements specifically designated herein as not being federally enforceable (State Only), non-compliance with the permit requirements is a violation of the Federal Act and the Tennessee Air Quality Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Non-compliance with permit conditions specifically designated herein as not being federally enforceable (State Only) is a violation of the Tennessee Air Quality Act and may be grounds for these actions.

TAPCR 1200-3-9-.02(11)(e)2(i) and 1200-3-9-.02(11)(e)1(vi)(I)

A3. **Need to halt or reduce activity.** The need to halt or reduce activity is not a defense for noncompliance. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this item shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations.

TAPCR 1200-3-9-.02(11)(e)1(vi)(II)

A4. **The permit.** The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. This permit supersedes any previous permits for sources included in the Title V application.

TAPCR 1200-3-9-.02(11)(e)1(vi)(III)

A5. **Property rights.** The permit does not convey any property rights of any sort, or any exclusive privilege.

TAPCR 1200-3-9-.02(11)(e)1(vi)(IV)

A6. **Submittal of requested information.** The permittee shall furnish to the Technical Secretary, within a reasonable time, any information that the Technical Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or termination of the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Technical Secretary copies of records required to be kept by the permit. If the permittee claims that such information is confidential, the Technical Secretary may review that claim and hold the information in protected status until such time that the Board can hear any contested proceedings regarding confidentiality disputes. If the information is desired by EPA, the permittee may mail the information directly to EPA. Any claims of confidentiality for federal purposes will be determined by EPA.

TAPCR 1200-3-9-.02(11)(e)1(vi)(V)

A7. **Severability clause.** The requirements of this permit are severable. A dispute regarding one or more requirements of this permit does not invalidate or otherwise excuse the permittee from their duty to comply with the remaining portion of the permit.

TAPCR 1200-3-9.02(11)(e)1(v)

A8. **Fee payment.**

5

(a) The permittee shall pay an annual major source emission fee based upon the responsible official's choice of actual emissions or allowable emissions. An emission cap of 4,000 tons per year per regulated pollutant per major source SIC Code shall apply to actual or allowable based emission fees. A major source annual emission fee will not be charged for emissions in excess of the cap (s) or for carbon monoxide.

(b) Major sources who have filed a timely, complete operating permit application in accordance with 1200-3-9-.02(11), shall pay allowable emission based fees until the beginning of the next annual accounting period following receipt of their major source operating permit. At that time, the permittee shall begin paying their annual emission fee based upon their choice of actual or allowable based fees, or mixed actual and allowable based fees as stated under SECTION E of this permit. Once permitted, altering the existing choice shall be accomplished by a written request of the major source, filed in the office of the Technical Secretary at least one hundred eighty days prior to the expiration or reissuance of the major source operating permit.

(c) Major sources must conform to the following requirements with respect to fee payments:

1. If a major source choosing an allowable based annual emission fee wishes to restructure its allowable emissions for the purposes of lowering its annual emission fees, a mutually agreed upon, more restrictive regulatory requirement may be established to minimize the allowable emissions and thus the annual emission fee. The more restrictive requirement must be specified on the permit, and must include the method used to determine compliance with the limitation. The documentation procedure to be followed by the major source must also be included to insure that the limit is not exceeded. Restructuring the allowable emissions is permissible only in the annual accounting periods of eligibility and only, if the written request for restructuring is filed with the Technical Secretary at least 120 days prior to the beginning of the annual accounting period of eligibility. These periods of eligibility occur upon expiration of the initial major source operating permit, renewal of an expired major source operating permit or reissuance of a major source operating permit.

2. Beginning with the annual accounting period beginning July 1, 1997 to June 30, 1998, major sources paying on allowable based emission fees will be billed by the Division no later than April 1 prior to the end of the accounting period. The major source annual emission fee is due July 1 following the end of the accounting period.

3. Beginning with the annual accounting period beginning July 1, 1997 to June 30, 1998, major sources choosing an actual based annual emission fee shall file an actual emissions analysis with the Technical Secretary which summarizes the actual emissions of all regulated pollutants at the air contaminant sources of their facility. Based upon the actual emissions analysis, the source shall calculate the fee due and submit the payment and the analysis each July 1st following the end of the annual accounting period.

4. Beginning with the annual accounting period beginning July 1,1997 to June 30, 1998, major sources choosing a mixture of allowable and actual based emission fees shall file an actual emissions and allowable emissions analysis with the Technical Secretary which summarizes the actual and allowable emissions of all regulated pollutants at the air contaminant sources of their facility. Based upon the analysis, the source shall calculate the fee due and submit the payment and the analysis each July 1st following the end of the annual accounting period.

The mixed based fee shall be calculated utilizing the 4,000 ton cap specified in subparagraph 1200-3-26-.02(2)(i). In determining the tonnages to be applied toward the regulated pollutant 4,000 ton cap in a mixed based fee, the source shall first calculate the actual emission based fees for a regulated pollutant and apply that tonnage toward the regulated pollutant's cap. The remaining tonnage available in the 4,000 ton category of a regulated pollutant shall be subject to allowable emission based fee calculations for the sources that were not included in the actual emission based fee calculations. Once the 4,000 ton cap has been reached for a regulated pollutant, no additional fee shall be required.

5. Major sources choosing to pay their major source annual emission fee based on actual based emissions or a mixture of allowable and actual based emissions may request an extension of time to file their emissions analysis with the Technical Secretary. The extension may be granted by the Technical Secretary up to ninety (90) days. The request for extension must be postmarked no later than July 1 or the request for extension shall be denied. The request for extension to file must state the reason and give an adequate explanation.

An estimated annual emission fee payment of no less than eighty percent (80%) of the fee due July 1 must accompany the request for extension to avoid penalties and interest on the underpayment of the annual emission fee. A remaining balance due must accompany the emission analysis. If there has been an overpayment, a refund may be requested in writing to the Division or be applied as a credit toward next year's major source annual emission fee. The request for extension of time is not available to major sources choosing to pay their major source annual emission fee based on allowable emissions.

6. Newly constructed major sources or minor existing sources modifying their operations such that they become a major source in the midst of the standard July 1st to June 30th annual accounting period, shall pay allowable based annual emission fees for the fractional remainder of the annual accounting period commencing upon their start-up. At the beginning of the next annual accounting period, the "responsible official" of the source may choose to pay annual emission fees based on actual or allowable emissions or a mixture of the two as provided for in this rule 1200-3-26-.02.

(d) Where more than one (1) allowable emission limit is applicable to a regulated pollutant, the allowable emissions for the regulated pollutants shall not be double counted. Major sources subject to the provisions of paragraph 1200-3-26-.02(9) shall apportion their emissions as follows to ensure that their fees are not double counted.

1. Sources that are subject to federally promulgated hazardous air pollutant standards that can be imposed under Chapter 1200-3-11 or Chapter 1200-3-31 will place such regulated emissions in the specific hazardous air pollutant under regulation. If the pollutant is also in the family of volatile organic compounds or the family of particulates, the pollutant shall not be placed in that respective family category.

2. A miscellaneous category of hazardous air pollutants shall be used for hazardous air pollutants listed at part 1200-3-26-.02(2)(i)12 that do not have an allowable emission standard. A pollutant placed in this category shall not be subject to being placed in any other category such as volatile organic compounds or particulates.

3. Each individual hazardous air pollutant and the miscellaneous category of hazardous air pollutants is subject to the 4,000 ton cap provisions of subparagraph 1200-3-26-.02(2)(i).

4. Major sources that wish to pay annual emission fees for PM_{10} on an allowable emission basis may do so if they have a specific PM_{10} allowable emission standard. If a major source has a total particulate emission standard, but wishes to pay annual emission fees on an actual PM_{10} emission basis, it may do so if the PM_{10} actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM_{10} emission levels must be made as part of the source's major source operating permit in advance in order to exercise this option. The PM_{10} emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000 ton cap provisions of subparagraph 1200-3-26-.02(2)(i) shall also apply to PM_{10} emissions.

TAPCR 1200-3-26-.02 (3) and (9) and 1200-3-9-.02(11)(e)1(vii)

A9. **Permit revision not required.** A permit revision will not be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or process for changes that are provided for in the permit.

TAPCR 1200-3-9-.02(11)(e)1(viii)

A10. **Inspection and entry.** Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Technical Secretary or his authorized representative to perform the following for the purposes of determining compliance with the permit applicable requirements:

(a) Enter upon, at reasonable times, the permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) As authorized by the Clean Air Act and Chapter 1200-3-10 of TAPCR, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(e) "Reasonable times" shall be considered to be customary business hours unless reasonable cause exists to suspect noncompliance with the Act, Division 1200-3 or any permit issued pursuant thereto and the Technical Secretary specifically authorizes an inspector to inspect a facility at any other time.

TAPCR 1200-3-9-.02(11)(e)3.(ii)

A11. **Permit shield.**

(a) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date of permit issuance, provided that:

1. Such applicable requirements are included and are specifically identified in the permit; or

2. The Technical Secretary, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

(b) Nothing in this permit shall alter or affect the following:

1. The provisions of section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section. Similarly, the provisions of T.C.A. §68-201-109 (emergency orders) including the authority of the Governor under the section;

2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

3. The applicable requirements of the acid rain program, consistent with section 408(a) of the Federal Act; or

4. The ability of EPA to obtain information from a source pursuant to section 114 of the Federal Act.

(c) Permit shield is granted to the permittee.

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A12. Permit renewal and expiration.

(a) Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted at least 180 days, but no more than 270 days prior to the expiration of this permit.

(b) Provided that the permittee submits a timely and complete application for permit renewal the source will not be considered in violation of paragraph 1200-3-9-.02(11) until the Technical Secretary takes final action on the permit application, except as otherwise noted in paragraph 1200-3-9-.02(11).

(c) This permit, its shield provided in Condition A11, and its conditions will be extended and effective after its expiration date provided that the source has submitted a timely, complete renewal application to the Technical Secretary.

TAPCR 1200-3-9-.02(11)(f)3 and 2, 1200-3-9-.02(11)(d)1(i)(III), and 1200-3-9-.02(11)(a)2

A13. Reopening for cause.

(a) A permit shall be reopened and revised prior to the expiration of the permit under any of the circumstances listed below:

1. Additional applicable requirements under the Federal Act become applicable to the sources contained in this permit provided the permit has a remaining term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the permit expiration date of this permit, unless the original has been extended pursuant to 1200-3-9-.02(11)(a)2.

2. Additional requirements become applicable to an affected source under the acid rain program.

3. The Technical Secretary or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

4. The Technical Secretary or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(b) Proceedings to reopen and issue a permit shall follow the same proceedings as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists, and not the entire permit. Such reopening shall be made as expeditiously as practicable.

(c) Reopenings for cause shall not be initiated before a notice of such intent is provided to the permittee by the Technical Secretary at least 30 days in advance of the date that the permit is to be reopened except that the Technical Secretary may provide a shorter time period in the case of an emergency. An emergency shall be established by the criteria of T.C.A. 68-201-109 or other compelling reasons that public welfare is being adversely affected by the operation of a source that is in compliance with its permit requirements.

(d) If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit as identified in A13, he is required under federal rules to notify the Technical Secretary and the permittee of such findings in writing. Upon receipt of such notification, the Technical Secretary shall investigate the matter in order to determine if he agrees or disagrees with the Administrator's findings. If he agrees with the Administrator's findings, the Technical Secretary shall conduct the reopening in the following manner:

1. The Technical Secretary shall, within 90 days after receipt of such notification, forward to EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate. If the Administrator grants additional time to secure permit applications or additional information from the permittee, the Technical Secretary shall have the additional time period added to the standard 90 day time period.

2. EPA will evaluate the Technical Secretary's proposed revisions and respond as to their evaluation.

3. If EPA agrees with the proposed revisions, the Technical Secretary shall proceed with the reopening in the same manner prescribed under Condition A13 (b) and Condition A13 (c).

4. If the Technical Secretary disagrees with either the findings or the Administrator that a permit should be reopened or an objection of the Administrator to a proposed revision to a permit submitted pursuant to Condition A13(d), he shall bring the matter to the Board at its next regularly scheduled meeting for instructions as to how he should proceed. The permittee shall be required to file a written brief expressing their position relative to the Administrator's objection and have a responsible official present at the meeting to answer questions for the Board. If the Board agrees that EPA is wrong in their demand for a permit revision, they shall instruct the Technical Secretary to conform to EPA's demand, but to issue the permit under protest preserving all rights available for litigation against EPA.

TAPCR 1200-3-9-.02(11)(f)6 and 7.

A14. **Permit transference.** An administrative permit amendment allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that the following requirements are met:

(a) Transfer of ownership permit application is filed consistent with the provisions of 1200-3-9-.03(6), and

(b) written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Technical Secretary.

TAPCR 1200-3-9-.02(11)(f)4(i)(IV) and 1200-3-9-.03(6)

A15. **Air pollution alert.** When the Technical Secretary has declared that an air pollution alert, an air pollution warning, or an air pollution emergency exists, the permittee must follow the requirements for that episode level as outlined in TAPCR 1200-3-9-.03(1) and TAPCR 1200-3-15-.03.

A16. **Construction permit required.** Except as exempted in TAPCR 1200-3-9-.04, TAPCR 1200-3-9-.02(11)(f)5, and sources considered insignificant under TAPCR 1200-3-9-.04(5), this facility shall not begin the construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants without first having applied for and received from the Technical Secretary a construction permit for the construction or modification of such air contaminant source.

TAPCR 1200-3-9-.01(1)(a)

A17. **Notification of changes.** The permittee shall notify the Technical Secretary 30 days prior to commencement of any of the following changes to an air contaminant source which would not be a modification requiring a construction permit.

(a) change in air pollution control equipment

(b) change in stack height or diameter

(c) change in exit velocity of more than 25 percent or exit temperature of more than 15 percent based on absolute temperature.

TAPCR 1200-3-9-.02(7)

A18. **Schedule of compliance.** The permittee will comply with any applicable requirement that becomes effective during the permit term on a timely basis. If the permittee is not in compliance the permittee must submit a schedule for coming into compliance which must include a schedule of remedial measure(s), including an enforceable set of deadlines for specific actions.

TAPCR 1200-3-9-.02(11)(d)3 and 40 CFR Part 70.5(c)

A19. **Title VI.**

(a) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR, Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:

1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to Section 82.156.

2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to Section 82.158.

3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to Section 82.161.

(b) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR, Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

(c) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program(SNAP) promulgated pursuant to 40 CFR, Part 82, Subpart G, Significant New Alternatives Policy Program.

A20. **112 (r).** The permittee shall comply with the requirement to submit to the Administrator or designated State Agency a risk management plan, including a registration that reflects all covered processes, by June 21, 1999, if the permittee's facility is required pursuant to 40 CFR, 68, to submit such a plan.

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SECTION B

GENERAL CONDITIONS for MONITORING, REPORTING, and ENFORCEMENT

B1. **Recordkeeping.** Monitoring and related record keeping shall be performed in accordance with the requirements specified in the permit conditions for each individual permit unit. In no case shall reports of any required monitoring and record keeping be submitted less frequently than at least 180 days.

(a) Where applicable, records of required monitoring information include the following:

1. The date, place as defined in the permit, and time of sampling or measurements;
2. The date(s) analyses were performed;
3. The company or entity that performed the analysis;
4. The analytical techniques or methods used;
5. The results of such analyses; and
6. The operating conditions as existing at the time of sampling or measurement.

(b) Digital data accumulation which utilizes valid data compression techniques shall be acceptable for compliance determination as long as such compression does not violate an applicable requirement and its use has been approved in advance by the Technical Secretary.

TAPCR 1200-3-9-.02(11)(e)1(iii)

B2. **Retention of monitoring data.** The permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

TAPCR 1200-3-9.02(11)(e)1(iii)(II)II

B3. **Reporting.** Reports of any required monitoring and record keeping shall be submitted to the Technical Secretary in accordance with the frequencies specified in the permit conditions for each individual permit unit. Reporting periods will be dated from the end of the first complete calendar quarter following issuance of this permit unless otherwise noted. Reports shall be submitted within 60 days of the close of the reporting period unless otherwise noted. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. Reports required under "State only requirements" are not required to be certified by a responsible official.

TAPCR 1200-3-9-.02(11)(e)1(iii)

B4. **Certification.** Except for reports required under "State Only" requirements, any application form, report or compliance certification submitted pursuant to the requirements of this permit shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

TAPCR 1200-3-9-.02(11)(d)4

B5. **Annual compliance certification.** The permittee shall submit annually compliance certifications with terms and conditions contained in Sections D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

(a) The identification of each term or condition of the permit that is the basis of the certification;

(b) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period;

(c) Whether such method(s) or other means provide continuous or intermittent data. Such methods and other means shall include, at a minimum, the methods and means required by this permit If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;

(d) The status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the method or means designated in B5(b) above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and

(e) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

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* "Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** "Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol.62, No.204, October 22, 1997, pages 54946 and 54947

B6. **Submission of compliance certification.** The compliance certification shall be submitted to:

The Technical Secretary
Division of Air Pollution Control
ATTN: Operating Permits Program
9th Floor, L & C Annex
401 Church Street
Nashville, Tennessee 37243-1531,

and

Air and EPCRA Enforcement Branch
US EPA Region IV
61 Forsyth Street, SW
Atlanta, Georgia 30303

TAPCR 1200-3-9-.02(11)(e)3(v)(IV)

B7. **Emergency provisions.** An emergency constitutes an affirmative defense to an enforcement action brought against this source for noncompliance with a technology based emission limitation due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

(a) The affirmative defense of the emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An emergency occurred and that the permittee can identify the probable cause(s) of the emergency. "Probable" must be supported by a credible investigation into the incident that seeks to identify the causes and results in an explanation supported by generally accepted engineering or scientific principles.

2. The permitted source was at the time being properly operated. In determining whether or not a source was being properly operated, the Technical Secretary shall examine the source's written standard operating procedures which were in effect at the time of the noncompliance and any other code as detailed below that would be relevant to preventing the noncompliance. Adherence to the source's standard operating procedures will be the test of adequate preventative maintenance, careless operation, improper operation or operator error to the extent that such adherence would prevent noncompliance. The source's failure to follow recognized standards of practice to the extent that adherence to such a standard would have prevented noncompliance will disqualify the source from any claim of an emergency and an affirmative defense.

3. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.

4. The permittee submitted notice of the emergency to the Technical Secretary according to the notification criteria for malfunctions in rule 1200-3-20-.03. For the purposes of this condition, "emergency" shall be substituted for "malfunction(s)" in rule 1200-3-20-.03 to determine the relevant notification threshold. The notice shall include a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding the permittee seeking to establish the occurrence of an emergency has the burden of proof.

(c) The provisions of this condition are in addition to any emergency, malfunction or upset requirement contained in Division 1200-3 or other applicable requirement.

TAPCR 1200-3-9-.02(11)(e)7

B8. **Excess emissions reporting.**

(a) The permittee shall promptly notify the Technical Secretary when any emission source, air pollution control equipment, or related facility breaks down in such a manner to cause the emission of air contaminants in excess of the applicable emission standards contained in Division 1200-3 or any permit issued thereto, or of sufficient duration to cause damage to property or public health. The permittee must provide the Technical Secretary with a statement giving all pertinent facts, including the estimated duration of the breakdown. Violations of the visible emission standard which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Division's Nashville office. The Technical Secretary shall be notified when the condition causing the failure or breakdown has been corrected. In attainment and unclassified areas if emissions

other than from sources designated as significantly impacting on a nonattainment area in excess of the standards will not and do not occur over more than a 24-hour period (or will not recur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required.

(b) Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Division's Nashville office and to the State Civil Defense.

(c) A log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in Division 1200-3 or any permit issued thereto must be kept at the plant. All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected. Any later discovered corrections can be added in the log as footnotes with the reason given for the change. This log must record at least the following:

1. Stack or emission point involved
2. Time malfunction, startup, or shutdown began and/or when first noticed
3. Type of malfunction and/or reason for shutdown
4. Time startup or shutdown was complete or time the air contaminant source returned to normal operation
5. The company employee making entry on the log must sign, date, and indicate the time of each log entry

The information under items 1. and 2. must be entered into the log by the end of the shift during which the malfunction or startup began. For any source utilizing continuous emission(s) monitoring, continuous emission(s) monitoring collection satisfies the above log keeping requirement.

TAPCR 1200-3-20-.03 and .04

B9. **Malfunctions, startups and shutdowns - reasonable measures required.** The permittee must take all reasonable measures to keep emissions to a minimum during startups, shutdowns, and malfunctions. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions. This provision does not apply to standards found in 40 CFR, Parts 60(Standards of performance for new stationary sources), 61(National emission standards for hazardous air pollutants) and 63(National emission standards for hazardous air pollutants for source categories).

TAPCR 1200-3-20-.02

B10. **Sources located in non-attainment areas or having significant impact on air quality in a non-attainment area.** The owner or operator of all sources located in non-attainment areas or having a significant impact on air quality in a non-attainment area (for the pollutant designated) must submit a report to the Technical Secretary within thirty (30) days after the end of each calendar quarter listing the times at which malfunctions, startups and/or shutdowns, which resulted in emissions greater than any applicable emission limits and the estimated amount of emissions discharged during such times. This report shall also include total emissions during the quarter and be reported in a format specified by the Technical Secretary.
TAPCR 1200-3-20-.04(2)

B11. **Report required upon the issuance of a notice of violation for excess emissions.** The permittee must submit within twenty (20) days after receipt of the notice of violation, the data shown below to assist the Technical Secretary in deciding whether to excuse or validate the violation. If this data has previously been available to the Technical Secretary prior to the issuance of the notice of violation no further action is required of the violating source. However, if the source desires to submit additional information, then this must be submitted within the same twenty (20) day time period. The minimum data requirements are:

(a) The identity of the stack and/or other emission point where the excess emission(s) occurred;

(b) The magnitude of the excess emissions expressed in pounds per hour and the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

(c) The time and duration of the emissions;

(d) The nature and cause of such emissions;

(e) For malfunctions, the steps taken to correct the situation and the action taken or planned to prevent the recurrence of such malfunctions;

(f) The steps taken to limit the excess emissions during the occurrence reported, and

(g) If applicable, documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good operating practices for minimizing emissions.

Failure to submit the required report within the twenty (20) day period specified shall preclude the admissibility of the data for consideration of excusal for malfunctions.

TAPCR 1200-3-20-.06(2),(3) and (4)

SECTION C
PERMIT CHANGES

C1. **Operational flexibility changes.** The source may make operational flexibility changes that are not addressed or prohibited by the permit without a permit revision subject to the following requirements:

(a) The change cannot be subject to a requirement of Title IV of the Federal Act or Chapter 1200-3-30.

(b) The change cannot be a modification under any provision of Title I of the federal Act or Division 1200-3.

(c) Each change shall meet all applicable requirements and shall not violate any existing permit term or condition.

(d) The source must provide contemporaneous written notice to the Technical Secretary and EPA of each such change, except for changes that are below the threshold of levels that are specified in Rule 1200-3-9-.04.

(e) The change shall not qualify for a permit shield under the provisions of part 1200-3-9-.02(11)(e)6.

(f) The permittee shall keep a record describing the changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes. The records shall be retained until the changes are incorporated into subsequently issued permits.

TAPCR 1200-3-9-.02(11)(a)4 (ii)

C2. **Section 502(b)(10) changes.**

(a) The permittee can make certain changes without requiring a permit revision, if the changes are not modifications under Title I of the Federal Act or Division 1200-3 and the changes do not exceed the emissions allowable under the permit. The permittee must, however, provide the Administrator and Technical Secretary with written notification within a minimum of 7 days in advance of the proposed changes. The Technical Secretary may waive the 7 day advance notice in instances where the source demonstrates in writing that an emergency necessitates the change. Emergency shall be demonstrated by the criteria of TAPCR 1200-3-9-.02(11)(e)7 and in no way shall it include changes solely to take advantages of an unforeseen business opportunity. The Technical Secretary and EPA shall attach each such notice to their copy of the relevant permit.

(b) The written notification must include the following:

1. brief description of the change within the permitted facility;

2. specifies the date on which the change will occur;

3. declares any change in emissions; and

4. declares any permit term or condition that is no longer applicable as a result of the change.

(c) The permit shield provisions of TAPCR 1200-3-9-.02(11)(e)6 shall not apply to Section 502(b)(10) changes.

TAPCR 1200-3-9-.02(11)(a)4 (i)

C3. **Administrative amendment.**

(a) Administrative permit amendments to this permit shall be in accordance with 1200-3-9-.02(11)(f)4. The source may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.

(b) The permit shield shall be extended as part of an administrative permit amendment revision consistent with the provisions of TAPCR 1200-3-9-.02(11)(e)6 for such revisions made pursuant to item (c) of this condition which meet the relevant requirements of TAPCR 1200-3-9-.02(11)(e), TAPCR 1200-3-9-.02(11)(f) and TAPCR 1200-3-9-.02(11)(g) for significant permit modifications.

(c) Proceedings to review and grant administrative permit amendments shall be limited to only those parts of the permit for which cause to amend exists, and not the entire permit.

TAPCR 1200-3-9-.02(11)(f)4

C4. **Minor permit modifications.**

(a) The permittee may submit an application for a minor permit modification in accordance with TAPCR 1200-3-9-.02(11)(f)5(ii).

(b) The permittee may make the change proposed in its minor permit modification immediately after an application is filed with the Technical Secretary.

(c) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

(d) Minor permit modifications do not qualify for a permit shield.

TAPCR 1200-3-9-.02(11)(f)5(ii)

C5. **Significant permit modifications.**

(a) The permittee may submit an application for a significant modification in accordance with TAPCR 1200-3-9-.02(11)(f)5(iv).

(b) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

TAPCR 1200-3-9-.02(11)(f)5(iv)

C6. **New construction or modifications.**

Future construction at this source that is subject to the provisions of TAPCR 1200-3-9-.01 shall be governed by the following:

(a) The permittee shall designate in their construction permit application the route that they desire to follow for the purposes of incorporating the newly constructed or modified sources into their existing operating permit. The Technical Secretary shall use that information to prepare the operating permit application submittal deadlines in their construction permit.

(b) Sources desiring the permit shield shall choose the administrative amendment route of TAPCR 1200-3-9-.02(11)(f)4 or the significant modification route of TAPCR 1200-3-9-.02(11)(f)5(iv).

(c) Sources desiring expediency instead of the permit shield shall choose the minor permit modification procedure route of TAPCR 1200-3-9-.02(f)5(ii) or group processing of minor modifications under the provisions of TAPCR 1200-3-9-.02(11)5(iii) as applicable to the magnitude of their construction.

TAPCR 1200-3-9-.02(11)(d) 1(i)(V)

SECTION D
GENERAL APPLICABLE REQUIREMENTS

D1. **Visible emissions.** With the exception of air emission sources exempt from the requirements of TAPCR Chapter 1200-3-5 and air emission sources for which a different opacity standard is specifically provided elsewhere in this permit, the permittee shall not cause, suffer, allow or permit discharge of a visible emission from any air contaminant source with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1)hour or more than twenty (20) minutes in any twenty-four (24) hour period; provided, however, that for fuel burning installations with fuel burning equipment of input capacity greater than 600 million btu per hour, the permittee shall not cause, suffer, allow, or permit discharge of a visible emission from any fuel burning installation with an opacity in excess of twenty (20) percent (6-minute average) except for one six minute period per one (1) hour of not more than forty (40) percent opacity. Sources constructed or modified after July 7, 1992 shall utilize 6-minute averaging.

Consistent with the requirements of TAPCR Chapter 1200-3-20, due allowance may be made for visible emissions in excess of that permitted under TAPCR 1200-3-5 which are necessary or unavoidable due to routine startup and shutdown conditions. The facility shall maintain a continuous, current log of all excess visible emissions showing the time at which such conditions began and ended and that such record shall be available to the Technical Secretary or his representative upon his request.

TAPCR 1200-3-5-.01(1), TAPCR 1200-3-5-.03(6) and TAPCR 1200-3-5-.02(1)

D2. **General provisions and applicability for non-process gaseous emissions.** Any person constructing or otherwise establishing a non-portable air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize the best equipment and technology currently available for controlling such gaseous emissions.

TAPCR 1200-3-6-.03(2)

D3. **Non-process emission standards.** The permittee shall not cause, suffer, allow, or permit particulate emissions from non-process sources in excess of the standards in TAPCR 1200-3-6.

D4. **General provisions and applicability for process gaseous emissions.** Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize equipment and technology which is deemed reasonable and proper by the Technical Secretary.

TAPCR 1200-3-7-.07(2)

D5. **Particulate emissions from process emission sources.** The permittee shall not cause, suffer, allow, or permit particulate emissions from process sources in excess of the standards in TAPCR 1200-3-7.

D6. **Sulfur dioxide emission standards.** The permittee shall not cause, suffer, allow, or permit Sulfur dioxide emissions from process and non-process sources in excess of the standards in TAPCR 1200-3-14. Regardless of the specific emission standard, new process sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

D7. **Fugitive Dust.**

(a) The permittee shall not cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;

2. Application of asphalt, oil, water, or suitable chemicals on dirt roads, material stock piles, and other surfaces which can create airborne dusts;

3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

(b) The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (20) minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in Chapter 1200-3-20.

TAPCR 1200-3-8

D8. **Open burning.**

(a) The permittee shall not cause, suffer, allow, or permit open burning except as specifically exempted by Rule 1200-3-4-.04, exceptions to prohibition. An exception for one time burning may be applied for through the Regional Environmental Assistance Center and conducted by permission from the Technical Secretary.

(b) Open burning except for the exemptions contained in Rule 1200-3-4-.04 will not be allowed in any area where the open burning would interfere with the attainment or maintenance of the air quality standards.

(c) No open burning permit shall be issued in any non-attainment or additional control area that might be affected by applicable contaminants from such open burning, nor any location within one half (1/2) miles of such a nonattainment or additional control area.

(d) The open burning of tires, vinyl shingles and/or asphalt shingles is expressly prohibited.

TAPCR 1200-3-4

D9. **Asbestos.** Where applicable, the permittee shall comply with the requirements of 1200-3-11-.02(d) when conducting any renovation or demolition activities at the facility.

TAPCR 1200-3-11-.02(d) and 40 CFR, Part 61

D10. **Annual certification of compliance.** The generally applicable requirements set forth in Section D of this permit are intended to apply to activities and sources that are not subject to source-specific applicable requirements contained in State of Tennessee and U.S. EPA regulations. By annual certification of compliance, the permittee shall be considered to meet the monitoring and related record keeping and reporting requirements of TAPCR 1200-3-9-.02(11)(e)1.(iii) and 1200-3-10-.04(2)(b)1 and compliance requirements of TAPCR 1200-3-9-.02(11)(e)3.(i). The permittee shall submit compliance certification for these conditions annually.

SECTION E

SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, and MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS

57-0189	**Facility Description:**	Scrap Steel Recycling Mill with one Electric Arc (EAF) Steel Melting Furnace with Continuous Caster and Storage Silos with a baghouse, one Reheat Furnace, one Product Straightener with baghouse control , three Preheaters, one Steel Scrap Shredder, one Dust Processing facility, one Rotary Hearth Furnace, and one Shot Blasting operation.

Conditions E1 through E3-6 apply to all sources in Section E of this permit unless otherwise noted.

E1. **Fee payment: Mixed emissions basis.**

FEE EMISSIONS SUMMARY TABLE FOR MAJOR SOURCE 57-0189

REGULATED POLLUTANTS	ALLOWABLE EMISSIONS (tons per AAP) Point 04	ACTUAL EMISSIONS (tons per AAP) Points 01, 02, 03, 05, 06, 07, and 08	COMMENTS
PARTICULATE MATTER (PM)	8.3	AEAR	Includes all PM_{10} emissions.
PM_{10}	N/A	N/A	
SO_2	0.4	AEAR	
VOC	1.1	AEAR	
NO_X	31.0	AEAR	
Lead	N/A	AEAR	
CATEGORY OF MISCELLANEOUS HAZARDOUS AIR POLLUTANTS (HAP WITHOUT A STANDARD)*			
VOC FAMILY GROUP	N/A	N/A	
NON-VOC GASEOUS GROUP	N/A	N/A	
PM FAMILY GROUP	N/A	AEAR	Lead, included in PM emissions above
CATEGORY OF SPECIFIC HAZARDOUS AIR POLLUTANTS (HAP WITH A STANDARD)**			
VOC FAMILY GROUP	N/A	N/A	
NON-VOC GASEOUS GROUP	N/A	N/A	
PM FAMILY GROUP	N/A	N/A	
CATEGORY OF NSPS POLLUTANTS NOT LISTED ABOVE***			
EACH NSPS POLLUTANT NOT LISTED ABOVE	N/A	N/A	

NOTES

AAP The **Annual Accounting Period (AAP)** is a twelve (12) consecutive month period that **begins each July 1st and ends June 30th of the following year**. The **present Annual Accounting Period began July 1, 2001 and ends June 30, 2002.** The **next Annual Accounting Period begins July 1, 2002 and ends June 30, 2003.**

N/A **N/A** indicates that no emissions are specified for fee computation.

AEAR **AEAR** indicates that an Actual Emissions Analysis is Required to determine the actual emissions of

(1) **each regulated pollutant** (Particulate matter, SO_2, VOC, NO_X and so forth. See TAPCR 1200-3-26-.02(2)(i) for the definition of a regulated pollutant.),

(2) **each pollutant group** (VOC Family, Non-VOC Gaseous, and Particulate Family), and

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(3) the **Miscellaneous HAP Category**
under consideration during the **Annual Accounting Period**.

* **Category Of Miscellaneous HAP (HAP Without A Standard):** This category is made-up of hazardous air pollutants that do not have a federal or state standard. Each HAP is classified into one of three groups, the **VOC Family** group, **the Non-VOC Gaseous** group, or the **Particulate (PM) Family** group. **For fee computation**, the **Miscellaneous HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-3-26-.02(2)(i).

** **Category Of Specific HAP (HAP With A Standard):** This category is made-up of hazardous air pollutants (HAP) that are subject to Federally promulgated Hazardous Air Pollutant Standards that can be imposed under Chapter 1200-3-11 or Chapter 1200-3-31. Each individual hazardous air pollutant is classified into one of three groups, the **VOC Family** group, **the Non-VOC Gaseous** group, or the **Particulate (PM) Family** group. **For fee computation**, each individual hazardous air pollutant of the **Specific HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-3-26-.02(2)(i).

*** **Category Of NSPS Pollutants Not Listed Above:** This category is made-up of each New Source Performance Standard (NSPS) pollutant whose emissions are not included in the **PM, SO_2, VOC** or **NO_X** emissions from each source in this permit. **For fee computation**, each **NSPS pollutant not listed above** is subject to the 4,000 ton cap provisions of subparagraph 1200-3-26-.02(2)(i).

END NOTES

The permittee shall:

(1) Pay annual **allowable based emission fees** for the **present Annual Accounting Period.**

(2) Pay major source annual mixture (allowable and actual) based emission fees, as requested by the responsible official, beginning July 1, **2002**, of the **next annual accounting period**.

(3) Prepare an **actual emissions and allowable emissions analysis** beginning July 1, **2002**, in accordance with the above **Fee Emissions Summary Table.** The **actual emissions and allowable emissions analysis** shall include:

- **(a)** the completed **Fee Emissions Summary Table**,
- **(b)** each **AEAR** required by the above **Fee Emissions Summary Table, and**
- **(c)** the records required by the logs required by condition E3-4 of this permit. These records shall be used to complete the **AEARs** required by the above **Fee Emissions Summary Table**.

(4) Submit the **actual emissions and allowable emissions analysis** at the time the fees are paid in full.

(5) Calculate the fee due based upon the **actual emissions and allowable emissions analysis,** and submit the payment on July 1st following the end of the **annual accounting period**. If any part of any fee imposed under TAPCR 1200-3-26-.02 is not paid within fifteen (15) days of the due date, penalties shall at once accrue as specified in TAPCR 1200-3-26-.02(8). Major sources may request an extension of time to file their emissions analysis with the Technical Secretary as specified in Condition A8(c)5 of this permit. Emissions for regulated pollutants shall not be double counted as specified in Condition A8(d) of this permit.

Payment of the fee due and the actual emissions and allowable emissions analysis shall be submitted to The Technical Secretary at the address in Condition E2(b) of this permit.

TAPCR 1200-3-26-.02 (3) and (9), and 1200-3-9-.02(11)(e)1 (iii) and (vii)

E2. **Reporting requirements**.

(a) **Semiannual reports.** The first report shall cover the 6-month period from **January 1, 2002** to **June 30, 2002** and shall be submitted within 60 days after the 6-month period ending **June 30, 2002**. Subsequent reports shall be submitted within 60 days after the end of each 6-month period following the first report.

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These semiannual reports shall include:

(1) Any monitoring and recordkeeping required by the following logs and conditions logs 1 and 2 of E4-9; log 3 of E4-10; logs 4 and 5 of E4-11; log 7 of E6-2; log 9 of E8-5; log 10 of E9-2; log 13 of E10-5; and condition E9-3 of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

(2) The visible emission evaluation readings from Conditions E3-1, E4-13, E5-9, E7-8, and E10-10 of this permit if required. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

(3) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS**.

These reports must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to The Technical Secretary at the address in Condition E2(c) of this permit.

TAPCR 1200-3-9-.02(11)(e)1.(iii)

(b) **Annual compliance certification.** The permittee shall submit annually compliance certifications with terms and conditions contained in Sections D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

(1) The identification of each term or condition of the permit that is the basis of the certification;

(2) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period;

(3) Whether such method(s) or other means provide continuous or intermittent data. Such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;

(4) The status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the method or means designated in E2(b)2 above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and

(5) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* "Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** "Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

The first certification shall cover the 12-month period from **January 1, 2002** to **December 31, 2002** and shall be submitted within 60 days after the 12-month period ending **December 31, 2002**. Subsequent certifications shall be submitted within 60 days after the end of each 12-month period following the first certification.

These certifications shall be submitted to:

The Technical Secretary
Division of Air Pollution Control
ATTN: Operating Permits Program
9th Floor, L & C Annex
401 Church Street
Nashville, Tennessee 37243-1531

and

Air and EPCRA Enforcement Branch
US EPA Region IV
61 Forsyth Street, SW
Atlanta, Georgia 30303

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol.62, No.204, October 22, 1997, pages 54946 and 54947

E3. General Permit Requirements.

E3-1. Visible emissions from the sources at this facility shall not exceed 20 percent opacity specified in Rule 1200-3-5-.01(3) of the TAPCR. Visible emissions shall be determined by EPA Method 9, as published in the Federal Register, Volume 39, Number 219 on November 12, 1974 (6 minute average).

TAPCR 1200-3-5-.01(3) and information contained in the agreement letters dated October 30, 1985, January 11, 1999 and June 30, 1999 from the permittee.

Compliance Method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 that is enclosed as Attachment 1.

E3-2. The permittee is placed on notice that Industrial, Commercial and Institutional Boilers and Process Heaters are scheduled for regulation under Section 112 of the Clean Air Act for promulgation of MACT (Maximum Achievable Control Technology) standards as 40 CFR 63 Subpart DDDDD by February 2002.

E3-3. Fugitive emissions from this source shall not produce a visible emission in excess of five minutes per hour or twenty minutes per day beyond the property line as determined by Tennessee Visible Emission Evaluation Method 4, excluding malfunction of equipment as provided in TAPCR 1200-3-20.

TAPCR 1200-3-8-.01

E3-4. Fee Emissions Summary Table

TAPCR 1200-3-26-.02(9)(b)

Compliance Method: The sum of the actual emissions as calculated on a monthly basis in accordance with Conditions E4-9, E5-10, E6-4, E8-5, E9-5, E10-4 and E11-6 shall be entered into the table provided below:

FEE ACCOUNTING PERIOD OF JULY 1, 20__ TO JUNE 30, 20__ SOURCE 57-0189

Source	PM (ton per year)	SO_2 (tons per year)	VOC (tons per year)	NOx (tons per year)	Lead (tons per year)
-01					
-02					
-03					
-05					
-06					
-07					
-08					
Total					

No additional fees shall be paid on lead as it is emitted as particulate.

E3-5. Reasonable precautions must be taken to prevent the generation of fugitive dust from all sources.

TAPCR 1200-3-8-.01

Compliance Method: The Technical Secretary may require proof of compliance with this standard.

E3-6. Fugitive emissions from road(s) shall meet 10% opacity utilizing Tennessee Visible Emission Evaluation Method 1, as adopted by the Tennessee Air Pollution Control Board on April 29, 1982, as amended on September 15, 1982, and as amended on August 24, 1984.

Permit 945765P

57-0189-01	**One Electric Arc (EAF) Steel Melting Furnace with Continuous Caster, EAF Dust Silo and Lime Storage Silos with Baghouse Controls**	One Electric Arc (EAF) Steel Melting furnace with Continuous Caster, EAF dust silo and lime-storage with baghouse controls. The EAF has six (6) burners with a total maximum rated heat capacity of 54,000,000 Btu per hour. The EAF uses natural gas a supplemental fuel to the electric supply. The EAF is controlled by a direct evacuation control system and a canopy hood evacuation system. EAF dust is collected in a baghouse and stored in a silo, which has an additional baghouse. Lime storage silos are controlled by a baghouse. **PSD – NSPS**

Conditions E4-1 through E4-11 apply to source 02-0078-01

E4-1. The Electric Arc Furnace (EAF) shall not be charged more than twice per heat.

Permit 948765P

Compliance Method: The permittee shall complete log 4 of condition E4-11.

E4-2. Steel produced by this source shall not exceed 110 tons per hour based on a 24-hour average and 788,400 tons during all intervals of twelve consecutive months. The maximum capacity of the EAF shall not exceed 140 tons per heat with a maximum of two charges per heat.

Permit Number 948765P and information contained in agreement letters dated November 13, 1995 (788,400 tons) and January 30, 1996 (140 tons per heat) from permittee.

Compliance Method: The permittee shall enter the amount of steel produced in Logs 1 and 2 of condition E4-9 and shall enter the number of operating hours in Log 2 of condition E4-9.

E4-3. Particulate Matter emitted from all control systems serving this source shall not exceed 0.0052 grains per dry standard cubic foot and 41.3 pounds per hour in total.

40 CFR §60.272 (a)(1)

Compliance Method: Compliance shall be assured by complying with Conditions E4-10—E4-11, which detail the NSPS standards from §60.270-276, Subpart AA—"Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974, and On or Before August 17, 1983."

E4-4. Particulate Matter emissions from this source not passing through the control system shall not exceed 3.1 pounds per hour and 11.04 tons per all consecutive 12 month intervals.

TAPCR 1200-3-7-.01(5) and the agreement letter dated November 26, 1997

Compliance Method: Compliance with the annual limit shall be assured by completing Log 2. Compliance with the hourly limit shall be assured by complying with conditions E4-10 and E4-11, which detail the NSPS standards from §60.270-276, Subpart AA—"Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974, and On or Before August 17, 1983." When conditions E4-10 and E4-11 are met, the following calculation demonstrates compliance with the hourly limit.

$$E_{PM,i} = (APR_i)x(1.4)x(1\text{-}98\%)$$

Where:
- $E_{PM,i}$: Particulate emission rate during a particular production period, pounds per hour;
- APR_i: Average actual production rate (steel produced) for the source during the production period, tons/hr;
- i: Individual production period (limited to 24 hours);
- 1.4: Uncontrolled particulate emission factor for the operation, pounds of particulate per ton of steel produced as published in AP-42 Table 12.5-1, Section 12.5 Iron and Steel Production dated 10/86; and
- 98%: Overall dust capture efficiency when both of the baghouses are functional, percent by weight.

E4-5. Sulfur Dioxide emitted from this source shall not exceed 22.0 pounds per hour and 78.8 tons per all consecutive 12 month intervals.

TAPCR 1200-3-14-.01(3) and information contained in July 11, 1997 letter from permittee

Compliance Method: Compliance with the annual limit shall be assured by completing Log 1. Compliance with the hourly limit shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emissions limit for Sulfur Dioxide (SO_2). The calculation is performed by multiplying the maximum amount of steel produced as listed in Condition E4-2 by the emission factor of 0.2 pounds of Sulfur Dioxide per ton steel produced as provided in the materials enclosed with the letter dated July 11, 1997 from permittee. (See Attachment 3)

E4-6. Volatile Organic Compounds (VOC) emitted from this source shall not exceed 36.3 pounds per hour and 130.1 tons per all consecutive 12 month intervals.

TAPCR 1200-3-7-.07(2)

Compliance Method: Compliance with the annual limit shall be assured by completing Log 1. Compliance with the hourly limit shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emissions limit for Volatile Organic Compounds (VOC). The calculation is performed by multiplying the maximum amount of steel produced as listed in Condition E4-2 by the emission factor of 0.33 pounds VOC per ton steel produced as provided in the materials enclosed with the letter dated July 11, 1997 from permittee. (See Attachment 3)

E4-7. Nitrogen Oxides emitted from this source shall not exceed 59.4 pounds per hour and 212.9 tons per all consecutive 12 month intervals.

TAPCR 1200-3-7-.07(2)

Compliance Method: Compliance with the annual limit shall be assured by completing Log 1. Compliance with the hourly limit shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emissions limit for Nitrogen Oxides (NOx). The calculation is performed by multiplying the maximum amount of steel produced as listed in Condition E4-2 by the emission factor of 0.54 pounds Nitrogen Oxides per ton steel produced as provided in the materials enclosed with the letter dated July 11, 1997 from permittee. (See Attachment 3)

E4-8. Carbon Monoxide emitted from this source shall not exceed 1,642.3 pounds per hour and 5,885 tons per all consecutive 12 month intervals.

TAPCR 1200-3-7-.07(2) and TAPCR 1200-3-9-.01(4)

Compliance Method: Compliance with the annual limit shall be assured by completing Log 1. Compliance with the hourly limit shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emissions limit for Carbon Monoxide (CO). The calculation is performed by multiplying the maximum amount of steel produced as listed in Condition E4-2 by the emission factor of 14.93 pounds Carbon Monoxide per ton of steel provided in the materials enclosed with the letter dated July 11, 1997 from permittee. (See Attachment 3)

E4-9. Per TAPCR 1200-3-26-.02(9), actual emissions, steel production, and hours of operation shall be determined for compliance purposes and for each fee accounting period for the billable pollutants by completing logs 1 and 2.

LOG 1

LOG OF STEEL PRODUCTION AND POLLUTANT EMISSIONS FOR SOURCE 01 FOR FEE PURPOSES AND ANNUAL EMISSIONS RATE COMPLIANCE

Month/Year	Tons of Steel Produced	SO_2		VOC		NO_x		CO	
		tons	tons/12 months	tons	tons/12 months	tons	tons/12 months	tons	tons/12 months
July/Year									
June/Year									
12 Month Total									

Note: CO is NOT included for billing purposes, only for compliance purposes.
The emission factors to be used are in tons emissions / ton of steel produced SO2, 0.0001; VOC, 0.000165; NOx, 0.00027; and CO, 0.00746.
The "tons/12 months" values are the sum of the pollutant emissions in the 11 months preceding the month just completed + the pollutant emissions in the month just completed. If data is not available for the 11 months preceding the initial use of this table, this value will be equal to the value for tons per month. For the second month it will be the sum of the first month and the second month. Indicate in parentheses the number of months summed [i e., 6 (2) represents 6 tons emitted in 2 months].

LOG 2[1]

LOG OF PARTICULATE AND LEAD EMISSION TONNAGE FOR SOURCE 01 FOR GENERAL FEE PURPOSES AND FOR COMPLIANCE WITH THE ANNUAL LIMIT FOR PARTICULATE NOT PASSING THROUGH THE CONTROL DEVICE.

Month/ Year	Steel Produced		PM not passing through the control system		Total Hours of Operation	PM passing through the control device tons[3]	Total PM tons	Lead[4] tons
	tons	tons/12 months	tons[2]	tons/12 months[5]				
July/Year								
June/Year								
12 month Total								

Notes: 1—Only the column tons/12 month for Steel Produced and PM not passing through a control device shall be used for compliance purposes.
2— To calculate emission in tons/month use the equation: $EF \times MaterialInput$ where EF is 0.0000144 per Condition E4-4.
3— To calculate emission in tons/month use the equation: $EF \times HoursofOperation$ where EF is 0.0207 per Condition E4-3.
4—Lead emissions are 2.6 percent of particulate, per the permit application. Billing for particulate includes the billing for lead.
5—The "tons/12 months" values are the sum of the pollutant emissions in the 11 months preceding the month just completed + the pollutant emissions in the month just completed. If data is not available for the 11 months preceding the initial use of this table, this value will be equal to the value for tons per month. For the second month it will be the sum of the first month and the second month. Indicate in parentheses the number of months summed [i.e., 6 (2) represents 6 tons emitted in 2 months].

Conditions E4-10 through E4-11 are derived from the NSPS source standards at §60.270-276 as they apply to source 02-0078-01.

E4-10. No owner or operator subject to TAPCR 1200-3-16-.26 shall discharge or cause the discharge from an electric arc furnace any gases which:

a. Exit from a control device that exceeds 3% opacity.

b. Exit from a shop and , due solely to the operations of any EAF that exceeds 6% opacity

(i) Shop opacity shall not exceed 20% during charging periods, and

(ii) Shop opacity shall not exceed 20% during tapping periods.

40 CFR §60.272 and information contained in the agreement letter January 15, 1998 (20% during tapping periods) from the permittee.

Compliance Method: For the shop opacity during charging and tapping the permittee shall assure compliance by utilizing the opacity matrix dated June 18, 1996 that is enclosed as Attachment 1.

The permittee shall assure compliance with all opacity standards by utilizing EPA Method 9, as published in the Federal Register, Volume 39, Number 219 on November 12, 1974 (6 minute average)

a) The following procedures shall be used for opacity readings from both the EAF baghouses and shop areas during melting and refining periods:

1. Emissions readings shall be conducted by a certified visible emission evaluators on forms prescribed by the Technical Secretary.
2. Visible emission observations of baghouse opacity shall be conducted at least once per day when the furnace is operating in the melting and refining period for at least three six-minute periods each reading.
3. Visible emission observations of shop opacity shall be conducted at least once per day when the furnace is operating in the melting and refining period for at least one six minute periods each reading.
4. Visible emissions evaluations shall be performed on at least ninety-three (93) percent of the EAF's operational days during each calendar quarter.
5. Permittee shall bear responsibility of conducting the visible emissions evaluations, except when division personnel conduct readings.
6. Copies of all aforementioned records shall be submitted to the Technical Secretary within thirty (30) days of the end of each calendar quarter pursuant to 40 CFR 60.7. Verification that these quarterly reports have been submitted shall be documented in each semiannual report in accordance with Condition E2(a)(1)..
7. The highest opacity value shall be used when more than one opening exhibits opacity from the same cause.

Written responses by the Division to the quarterly reports of excess emissions shall constitute prima facie evidence of compliance with the applicable visible emission standard. For purposes of annual certification of compliance with the applicable visible emissions condition, the acceptance, by the Division, of the quarterly reports of excess emissions shall be the basis of said certification.

Consistent with the requirements of Chapter 1200-3-20 and Rule 1200-3-5-.02, due allowance shall be made for visible emissions in excess of that allowed in this permit which are necessary or unavoidable due to routine startup and shutdown conditions.

E4-11. Daily records shall be maintained with the following information per 40 CFR 60.274:

1. Time and duration of each charge;
2. Time and duration of each tap;
3. Flow data obtained by either
   a. checking and recording the control system's fan motor amperes and damper position once per shift, or
   b. installing a continuous monitoring device that records the volumetric flow rate through each separately ducted hood;
4. The permittee shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., ductwork, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of hole in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed.

40 CFR §60.274

Compliance Method: Compliance shall be assured by (a) maintaining Log 4 of the time and duration of each charge and each tap and the fan's amperes (once per shift) and the damper positions (once per shift) and log 5 of monthly inspections. This log must be retained for a period of not less than five years and be made available for inspection by the Technical Secretary or his representative.

LOG 4
DAILY LOG MONITORING OPERATIONS FOR COMPLIANCE PURPOSES FOR SOURCE 01

Date	Heat	Charge			Tap			Controls*	
		Start Time	Stop Time	Total Time	Start Time	Stop Time	Total Time	Fan Amperes	Damper Position

Notes: *Check and record the control system fan motor amperes and record damper positions once per shift.

LOG 5

MONTHLY OPERATIONAL STATUS INSPECTION LOG FOR SOURCE 01

Month/ Year	Observations and Deficiencies			Maintenance Performed**
	Visual inspection of ductwork and mechanical parts*	Dampers	Damper Switches	

Notes: * Physical appearance: presence of hole in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, fan erosion, etc.
** Note what maintenance was performed, by whom, and when

57-0189-02	**Reheat Furnace**	The reheat furnace, used to heat billets to rolling temperature, has a maximum rated heat capacity of 144,000,000 Btu per hour. Natural gas is the primary fuel with No. 2 fuel oil as standby fuel.

Conditions E5-1 through E5-10 apply to source 57-0189-02.

E5-1. Natural gas and No. 2 fuel oil only shall be used as fuel for this source. No. 2 fuel oil usage for this source shall not exceed 1,000,000 gallons for any 12-month period.

Permit 951479P and information contained in the agreement letter dated December 16, 1999 from permittee.

Compliance Method: The permittee shall enter the amount of fuel oil used in Log 6.

E5-2. Maximum rated heat input for this source shall not exceed 144,000 BTU per hour. (144,000 cubic feet per hour of natural gas per hour). The Technical Secretary may require the permittee to demonstrate compliance with this rate.

Permit Number 951479P

E5-3. The sulfur content of the No.2 fuel oil shall not exceed 0.5% by weight.

TAPCR 1200-3-14-.01(3) and the information contained in the agreement letter dated December 16, 1999.

Compliance Method: Certification from the fuel supplier of the sulfur content (by weight) for each shipment of fuel oil must be maintained at the source location and kept available for inspection by the Technical Secretary or his representative. Alternatively, the vendor may provide a statement to the effect that all shipments of fuel oil shall not exceed 0.5 percent sulfur by weight. All records shall be kept for a period of not less than five years.

E5-4. Particulate Matter (PM) emitted from this source shall not exceed 2.6 pound per hour.

TAPCR 1200-3-7-.01(5), Construction permit 951479P and information contained in agreement letter dated June 30, 1999 from permittee.

Compliance Method: Compliance shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emission limit for PM. The calculation is performed by multiplying the maximum heat input of 0.144 MMBtu/hour by the emission factor of 4.5 pounds per million cubic feet for PM as provided by the permittee. This emission factor is higher than the factor provided for natural gas combustion as listed in section 1.4 of AP-42 dated 3/98 or for fuel oil combustion as listed in section 1.3 of AP-42 dated 9/98.

E5-5. Sulfur Dioxide emitted from this source shall not exceed 73.0 pounds per hour.

TAPCR 1200-3-14-.03(5) and Construction permit 951479P

Compliance Method: Compliance shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emission limit for SO_2 for natural gas and fuel oil containing less than 0.5 percent sulfur. The calculation is performed by multiplying the maximum heat input of 0.144 mmBtu/hour by the emission factor of 0.6 pounds per million cubic feet for SO_2 as published in Table 1.4-2, Section 1.4 for Natural Gas Combustion of AP-42 dated 3/98 or 142S (where S is the percent sulfur) pounds per 1000 gallons of No. 2 Fuel Oil for SO_2 as published in Table 1.3-1, Section 1.3 for Fuel Oil Combustion of AP-42 dated 9/98.

E5-6. Volatile Organic Compounds (VOC) emitted from this source shall not exceed 2.0 pounds per hour.

TAPCR 1200-3-7-.07(2) and Construction permit 951479P

Compliance Method: Compliance shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emission limit for VOC. The calculation is performed by multiplying the maximum heat input of 0.144 mmBtu/hour by the emission factor of 5.5 pounds per million cubic feet for VOC as published in Table 1.4-2, Section 1.4 for Natural Gas Combustion of AP-42 dated 3/98 or 0.34 pounds per 1000 gallons of No. 2 Fuel Oil for VOC as published in Table 1.3-3, Section 1.3 for Fuel Oil Combustion of AP-42 dated 9/98.

E5-7. Nitrogen Oxides emitted from this source shall not exceed 60.0 pound per hour.

TAPCR 1200-3-7-.07(2) and Construction permit 951479P

Compliance Method: Compliance shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emission limit for NOx. The calculation is performed by multiplying the maximum heat input of 144 mmBtu/hour by the emission factor of 400 pounds Nitrogen Oxides per million standard cubic feet of Natural gas as provided in a letter dated April 18, 2000 from permittee. This emission factor is higher than the factor provided for natural gas combustion as listed in section 1.4 of AP-42 dated 3/98 or for fuel oil combustion as listed in section 1.3 of AP-42 dated 9/98.

E5-8. Carbon Monoxide emitted from this source shall not exceed 12.1 pound per hour.

TAPCR 1200-3-7-.07(2) and Construction permit 951479P

Compliance Method: Compliance shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emission limit for CO. The calculation is performed by multiplying the maximum heat input of 144 mmBtu/hour by the emission factor of 84 pounds per million cubic feet for CO as published in Table 1.4-1, Section 1.4 for Natural Gas Combustion of AP-42 dated 3/98 or 5.0 pounds per 1000 gallons of No. 2 Fuel Oil for CO as published in Table 1.3-1, Section 1.3 for Fuel Oil Combustion of AP-42 dated 9/98.

2ℓ

E5-9. Visible emissions from this source shall not exceed 10 percent opacity specified in Rule 1200-3-5-.01(3) of the TAPCR. Visible emissions shall be determined by EPA Method 9, as published in the Federal Register, Volume 39, Number 219 on November 12, 1974 (6 minute average).

TAPCR 1200-3-5-.01(3) and the information contained in the agreement letter dated June 30, 1999.

Compliance Method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 that is enclosed as Attachment 1.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

E5-10. Per TAPCR 1200-3-26-.02(9), actual emissions shall be determined for fee purposes for each fee accounting period for the billable pollutants by completing log 6.

LOG 6

LOG OF POLLUTANT EMISSION TONNAGE FOR SOURCE 02 FOR FEE PURPOSES AND FOR COMPLIANCE PURPOSES FOR THE ANNUAL USE OF FUEL OIL

Month/Year	Fuel Usage			Emissions			
	Natural Gas (million ft^3)	Fuel Oil (1000 gals)	Sulfur Content of Fuel Oil in Percent	PM lbs	SO_2 lbs	VOC lbs	NO_x lbs
July/Year							
June/Year							
12 Month Total							
12 Month Total (tons)							

Note: Emission factors to be used are as follows:

Pollutant	Natural Gas (lbs/million cubic feet)	Fuel Oil (lbs/1000 gals.)
PM	1.9	2.0
SO_2	0.6	142(S) where S is the sulfur content in percent
VOC	5.5	0.2
NO_x	400.0	20

CO is not included above since it is not a billable pollutant.

57-0189-03	**One Product Straightener Process with Baghouse Control**	A product straightener process and a baghouse. powered. The baghouse is used to control PM.	This product straightener is electrically

Conditions E6-1 through E6-4 apply to source 57-0189-03.

E6-1. Material input into this process shall not exceed 250,000 pounds per hour on a daily average basis. The Technical Secretary may require the permittee to demonstrate compliance with this limitation.

Permit Number 952118P

E6-2. Particulate Matter emitted from this process shall not exceed 2.15 pounds per hour.

TAPCR 1200-3-7-.01(5) and information contained in agreement letter dated October 22, 1985 from TDEC.

Compliance Method: Compliance with this requirement shall be assured by maintaining a pressure drop across the baghouse greater than or equal to 1.0 inch of water. Log 7 below shall be used to assure compliance with this condition and in the reporting requirements of Condition E2 of this permit. Reports and certifications shall be submitted in accordance with Condition E2 of this permit

LOG 7

PRODUCT STRAIGHTENER BAGHOUSE PRESSURE DROP (ΔP) FOR SOURCE 03

Month Year

Date	ΔP in H_2O

E6-3. The Technical Secretary reserves the right to reopen this permit to insure the ambient air quality standard for PM in Madison County is not exceeded.

Permit 952118P

E6-4. Per TAPCR 1200-3-26-.02(9), actual emissions shall be determined for fee purposes for each fee accounting period for the billable pollutants by completing log 8.

LOG 8

LOG OF POLLUTANT EMISSION TONNAGE FOR SOURCE 03 FOR FEE PURPOSES

Month/Year	Hours of Operation	PM (lbs)
July/Year		
June/Year		
12 Month Total (lbs)		
12 Month Total (tons)		

Notes: To calculate particulate emission multiply the number of hours operated by 2.15 lbs/hour

57-0189-04	**Nine Preheaters**	Nine preheaters with a total maximum heat input capacity of 48,000,000 BTU per hour. Fuel burning sources include three (3) ladle preheaters, two (2) tundish preheaters, one ladle dryout preheater, one ladle cover dryout preheater, one tundish dryout preheater, and one tapping spout dryout preheater. Natural gas is the primary fuel with propane as standby fuel. This source pays fees based on allowables.

Conditions E7-1 through E7-8 apply to source 57-0189-04.

E7-1. Natural gas and propane only shall be used as fuel for this source. The Technical Secretary may require the permittee to demonstrate compliance with this requirement.

Permit Number 743814P

E7-2. Maximum rated heat input for this source shall not exceed 48,000,000 BTU per hour. The Technical Secretary may require the permittee to demonstrate compliance with this rate.

Permit Number 953572P

E7-3. Particulate Matter emitted from this source shall not exceed 0.001 grains per dry standard cubic foot (1.9 pound per hour).

TAPCR 1200-3-7-.01(5) and information contained in agreement letter dated February 28, 1996 from permittee.

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Compliance Method: Compliance shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emissions limit for Particulate Matter (PM). The calculation is performed by multiplying the maximum amount of fuel used as indicated by conditions E7-2 by the emission factor of 1.9 pounds per million cubic feet for PM as published in Table 1.4-2, Section 1.4 for Natural Gas Combustion of AP-42 dated 3/98 or 0.4 pounds per 1000 gallons for Particulate Matter as published in Table 1.5-1, Section 1.5 for Liquefied Petroleum Gas Combustion of AP-42 dated 10/96.

E7-4. Sulfur Dioxide emitted from this source shall not exceed 0.1 pounds per hour.

TAPCR 1200-3-14-.03(5)

Compliance Method: Compliance shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emissions limit for Sulfur Dioxide (SO_2). The calculation is performed by multiplying the maximum amount of fuel used as indicated by conditions E7-2 by the emission factor of 0.6 pounds per million cubic feet for Sulfur Dioxide as published in Table 1.4-2, Section 1.4 for Natural Gas Combustion of AP-42 dated 3/98 and 0.10 x % sulfur pounds per 1000 gallons for Sulfur Dioxide as published in Table 1.5-1, Section 1.5 for Liquefied Petroleum Gas Combustion of AP-42 dated 10/96.

E7-5. Volatile Organic Compounds (VOC) emitted from this source shall not exceed 0.26 pounds per hour.

TAPCR 1200-3-7-.07(2)

Compliance Method: Compliance shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emissions limit for Volatile Organic Compounds (VOC). The calculation is performed by multiplying the maximum amount of fuel used as indicated by conditions E7-2 by the emission factor of 5.5 pounds per million cubic feet for Volatile Organic Compounds for uncontrolled small boiler as published in Table 1.4-2, Section 1.4 for Natural Gas Combustion of AP-42 dated 3/98 and 0.3 pounds per 1000 gallons for Volatile Organic Compounds as published in Table 1.5-1, Section 1.5 for Liquefied Petroleum Gas Combustion of AP-42 dated 10/96.

E7-6. Nitrogen Oxides emitted from this source shall not exceed 7.07 pound per hour.
TAPCR 1200-3-7-.07(2)

Compliance Method: Compliance shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emissions limit for Nitrogen Oxides (NOx). The calculation is performed by multiplying the maximum amount of fuel used as indicated by conditions E7-2 by the emission factor of 100 pounds per million cubic feet for Nitrogen Oxides for uncontrolled small boiler as published in Table 1.4-1, Section 1.4 for Natural Gas Combustion of AP-42 dated 3/98 and 14 pounds per 1000 gallons for Nitrogen Oxides as published in Table 1.5-1, Section 1.5 for Liquefied Petroleum Gas Combustion of AP-42 dated 10/96.

E7-7. Carbon Monoxide emitted from this source shall not exceed 4.03 pound per hour.

TAPCR 1200-3-7-.07(2)

Compliance Method: Compliance shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emissions limit for Carbon Monoxide (CO). The calculation is performed by multiplying the maximum amount of fuel used as indicated by conditions E7-2 by the emission factor of 84 pounds per million cubic feet for Carbon Monoxide for uncontrolled small boiler as published in Table 1.4-1, Section 1.4 for Natural Gas Combustion of AP-42 dated 3/98 and 1.9 pounds per 1000 gallons for Carbon Monoxide as published in Table 1.5-1, Section 1.5 for Liquefied Petroleum Gas Combustion of AP-42 dated 10/96.

E7-8. Visible emissions from this source shall not exceed 10 percent opacity specified in Rule 1200-3-5-.01(3) of the TAPCR. Visible emissions shall be determined by EPA Method 9, as published in the Federal Register, Volume 39, Number 219 on November 12, 1974 (6 minute average).

TAPCR 1200-3-5-.01(3) and information contained in letter of agreement dated February 28, 1996 from permittee.

Compliance Method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 that is enclosed as Attachment 1.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

57-0189-05	Scrap Steel Shredder	An electrically powered scrap steel shredder for recycling steel with three cyclones.

Conditions E8-1 through E8-5 apply to source 57-0189-05

E8-1. Input capacity for this source shall not exceed 145 tons per hour on a daily basis. The Technical Secretary may require the permittee to demonstrate compliance with this rate.

Permit Number 050995P

E8-2. Particulate Matter emitted from this source shall not exceed 25.0 pounds per hour.

TAPCR 1200-3-7-.01(5) and the information contained in the agreement letter dated January 22, 1999, from the permittee.

Compliance Method: This process shall not be operated without the use of cyclone control. Each cyclone shall be inspected daily to see if there are any abrasion holes. Any abrasion holes shall be promptly repaired. All plugging problems shall be remedied promptly. Compliance with the annual limit shall be assured by compliance with condition E8-3 and by completing Log 9 of condition E8-5.

E8-3. Total hours of operation of this source shall not exceed 2,080 hours per year.

Permit Number 050995P

Compliance Method: The permittee shall complete log 9 of condition E8-4.

E8-4. Per TAPCR 1200-3-26-.02(9), actual emissions shall be determined for fee purposes for each fee accounting period for the billable pollutants by completing Log 9. Total operating hours shall be recorded for compliance purposes.

LOG 9

LOG OF POLLUTANT EMISSION TONNAGE FOR SOURCE 05 FOR FEE AND COMPLIANCE PURPOSES

Month/Year	Hours of Operation	PM (lbs)
July/Year		
June/Year		
12 Month Total (lbs)		
12 Month Total (tons)		

Notes: To calculate particulate emission multiply the number of hours operated by 25.0 lbs/hour

3c

57-0189-06	**Dust Processing Facility with Baghouse Controls**	Dust Processing Facility includes an unloading and material handling facility. Unloading and material handling includes conveyors for K061 EAF dust, zinc oxide, mill scale and coal/carbon for storage, a coal grinder, and conveyors for charging these materials into the rotary hearth furnace. Equipment includes nine storage silos with baghouses.

Conditions E9-1 through E9-4 apply to source 57-0189-06

E9-1. Total Particulate Matter emitted from this combined source shall not exceed 3.0 pounds per hour.

TAPCR 1200-3-7-.05(1) and information contained in agreement letter dated June 30, 1999 from permittee.

Compliance Method: Compliance with this standard shall be assure by
a) complying with conditions E9-2 through E9-3
b) discharging the exhaust from stack G (Coal Baghouse) inside the rotary hearth building.
c) discharging baghouses ULB, RHF, RB, and LOS inside a building,
d) maintaining baghouses ULB, RB, RHF, CG, and LOS in good operating condition and inspecting them semiannually. Documentation of the semiannual inspections and any maintenance performed will be kept on site for a period of not less than five (5) years.

E9-2 Particulate Matter emitted from Stack A (Filter Receiver, FR) shall not exceed 0.43 pounds per hour nor 1.88 tons per all periods of 12 consecutive months.

TAPCR 1200-3-7-.05(1) and information contained in agreement letter dated June 30, 1999 from permittee.

Compliance Method: Compliance with this requirement shall be assured by maintaining a pressure drop across the baghouse greater than or equal to 1.0 inch of water for the baghouse serving the Filter Receiver (baghouse id. FR.). Log 10 below shall be used to assure compliance with this portion of the standard.

LOG 10

DUST PROCESSING BAGHOUSES PRESSURE DIFFERENTIALS FOR THE FILTER RECEIVER AT SOURCE 06

Month ____ Year ____

Date	Baghouse FR ΔP in H_2O

E9-3 Particulate Matter emitted from Stacks C (EAF Silos Bin Vent, EAFS), F (Coal Silo Bin Vent, CS), and H (Briquetter Bin Vent, CZOS) shall each not exceed 0.34 pounds per hour nor 1.50 tons per all periods of 12 consecutive months.

TAPCR 1200-3-7-.01(5) and information contained in the agreement letter dated June 30, 1999 from permittee.

Compliance Method: The discharge of Stacks C, F, and H must each exit through an eighty (80) foot (above grade) vertical stack with a discharge area of two (2) square feet. Baghouses EAFS, RB, and CZOS shall be maintained, kept in good operating condition, and inspected semiannually to ensure compliance with the applicable particulate matter limits. Documentation of the semiannual inspections and any maintenance performed will be kept on site for a period of not less than five (5) years. A monthly summary of these logs in a format chosen by the permittee shall be kept and reported in accordance with Condition E2.

E9-4. No portion of this process with baghouse control shall be operated without its baghouse control. The Technical Secretary may require the permittee to demonstrate compliance with this requirement.

Permit 950338P

E9-5. Per TAPCR 1200-3-26-.02(9), actual emissions shall be determined for fee purposes for each fee accounting period for the billable pollutants by completing Log 11

LOG 11

LOG OF POLLUTANT EMISSION TONNAGE FOR SOURCE 06 FOR FEE PURPOSES

Month/Year	Hours of Operation of the Process Associated with each Stack Below				PM lbs per month by stack					
	FR	EAFS	CS	CZOS	FR	EAFS	CS	CZOS	All Other Stacks	Total
July/Year									1131	
									1131	
June/Year									1131	
12 Month Total (lbs)									13580	
12 Month Total (tons)									6.79	

Notes: To calculate particulate emission multiply the number of hours for each Stack by the appropriate emission factor: FR, 0.43 lbs/hr.; EAFS, 0.34 lbs./hr.; CS, 0.34 lbs./hr.; and CZOS, 0.34 lbs./hr. All other stacks will be assumed to emit 1131 lbs of particulate per month total.

57-0189-07	**Rotary Hearth Furnace**	The rotary hearth furnace has a maximum rated heat capacity of 48,000,000 BTU per hour. The rotary hearth furnace is fueled by natural gas and uses coal to reduce iron oxides.

Conditions E10-1 through 10-11 apply to source 57-0189-07

E10-1. Natural gas only shall be used as a fuel for this source. The Technical Secretary may require the permittee to demonstrate compliance with this requirement.

Permit Number 950339P

E10-2. The maximum input capacity for this source shall not exceed 21,000 pounds per hour (10.5 tons/hour) of EAF dust, mill scale, and coal/carbon/petro. The coal/carbon/petro are used to reduce iron oxide to elemental iron. The Technical Secretary may require the permittee to demonstrate compliance with this rate.

Permit Number 950339P

E10-3. The permittee shall notify the Technical Secretary upon addition of mill scale to the furnace. TDEC may request that an emissions test for PM and VOC be required to show compliance with these pollutants.

Information contained in TDEC letter of July 25, 2000 validating January 4, 2000 stack test.

E10-4. Per TAPCR 1200-3-26-.02(9), actual emissions shall be determined fee purposes for each fee accounting period for the billable pollutants using the emission factors in Table 1 and completing Log 12 below. Lead emissions shall be included in the total for particulate.

Table 1--Calculation of Emission Factors from the Stack Test of January 4, 2000.

Pollutant	Material Input (lbs/hr)	Emissions (lbs/hr)	Calculated Emission Factor (lbs pollutant/tons of input)	Estimated Maximum Annual Emissions (Tons)
Particulate	7450	0.64	0.17	7.4
Nitrogen Oxides (NOx)	7450	4.19	1.12	51.5
Sulfur Dioxide (SO2)	7450	0.19	0.051	2.3
Carbon Monoxide (CO)	7450	0.05	0.013	0.60
Volatile Organic Compounds (VOC)	7450	0.27	0.073	3.4
Lead	7450	0.0037	0.0010	0.05

LOG 12

LOG OF POLLUTANT EMISSIONS FOR SOURCE 07 FOR FEE PURPOSES

Month/ Year	Hours of Operation	Material Input (Tons)	lbs of Emissions				
			PM	NOx	SO2	VOC	Lead
July/ Year							
June/ Year							
12 Month Total (lbs)							
12 Month Total (tons)							

Notes for Log 12: Lead emissions shall be included in the particulate emissions totals

To calculate the emission in lbs per month use the equation: $EF \times MaterialInput$ where EF is the appropriate emission factor from Table 1.

E10-5. Particulate Matter emitted from this source shall not exceed 11.71 pound per hour.

TAPCR 1200-3-7.04(1)

Compliance Method: Compliance with this requirement shall be assured by maintaining a pressure drop across the baghouse greater than or equal to 1.0 inch of water. Log 13 below shall be used to assure compliance with this condition and in the reporting requirements of Condition E2 of this permit. Reports and certifications shall be submitted in accordance with Condition E2 of this permit

LOG 13

ROTARY HEARTH FURNACE BAGHOUSE PRESSURE DIFFERENTIALS FOR SOURCE 07
MONTH _____ YEAR _____

Date	Baghouse RHFBH1 ΔP in H_2O

E10-6. Sulfur Dioxide emitted from this source shall not exceed 25.6 pounds per hour.

TAPCR 1200-3-14-.03(5) and the information in the letter of agreement dated January 11, 1999 from the permittee

Compliance Method: This is a process emission source whose potential to emit sulfur dioxide is less than five tons per year per condition E10-4. By annual certification of compliance, the permittee shall be considered to meet the monitoring and related recordkeeping and reporting requirements of TAPCR 1200-3-9-.02(11)(e)(1.(iii) and 1200-3-10-.04(2)(b)1., and the compliance requirements of subpart 1200-3-.02(11)(e)3.(i). The permittee shall submit annually compliance certification for sulfur dioxide emissions from this rotary hearth furnace.

TAPCR 1200-3-9-.04(5)(c)3.

E10-7. Volatile Organic Compounds (VOC) emitted from this source shall not exceed 2.0 pounds per hour.

TAPCR 1200-3-7-.07(2)

Compliance Method: This is a process emission source whose potential to emit VOC's is less than five tons per year per condition E10-4. By annual certification of compliance, the permittee shall be considered to meet the monitoring and related recordkeeping and reporting requirements of TAPCR 1200-3-9-.02(11)(e)(1.(iii) and 1200-3-10-.04(2)(b)1., and the compliance requirements of subpart 1200-3-.02(11)(e)3.(i). The permittee shall submit annually compliance certification for VOC emissions from this rotary hearth furnace.

TAPCR 1200-3-9-.04(5)(c)3.

E10-8. Nitrogen Oxides emitted from this source shall not exceed 22.8 pound per hour.

TAPCR 1200-3-7-.07(2)

Compliance Method: Compliance shall be assured by the calculation that emissions on an hourly basis at maximum capacity are less than the stated allowable emission limit for NOx. The calculation is performed by multiplying the maximum feed rate of 10.5 tons per hour by the emission factor of 1.12 pounds of NOx per ton of feed input as shown in condition 10-4.

E10-9. Carbon Monoxide emitted from this source shall not exceed 13.5 pound per hour.

TAPCR 1200-3-7-.07(2)

Compliance Method: This is a process emission source whose potential to emit carbon monoxide is less than five tons per year per condition E10-4. By annual certification of compliance, the permittee shall be considered to meet the monitoring and related recordkeeping and reporting requirements of TAPCR 1200-3-9-.02(11)(e)(1.(iii) and 1200-3-10-.04(2)(b)1., and the compliance requirements of subpart 1200-3-.02(11)(e)3.(i). The permittee shall submit annually compliance certification for carbon monoxide emissions from this rotary hearth furnace.

TAPCR 1200-3-9-.04(5)(c)3.

E10-10. Visible emissions from this source shall not exceed 10 percent opacity specified in Rule 1200-3-5-.01(3) of the TAPCR. Visible emissions shall be determined by EPA Method 9, as published in the Federal Register, Volume 39, Number 219 on November 12, 1974 (6 minute average).

TAPCR 1200-3-5-.01(1) and permit number 950339P.

Compliance Method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 that is enclosed as Attachment 1.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

57-0189-08	**Shot Blasting Operation**	Shot Blasting Operation with a 2000 cubic foot per minute baghouse controls

Conditions E11-1 through E11-6 apply to source 57-0189-08

E11-1. The maximum material input rate for this source shall not exceed 180 tons per hour. The Technical Secretary may require the permittee to demonstrate compliance with this rate.

Construction permit 953681P

E11-2. Particulate matter emitted from this source shall not exceed 0.02 grains per dry standard cubic foot and 0.34 pounds per hour.

TAPCR 1200-3-7-.04(1)

Compliance Method: This is a process emission source whose potential to emit particulate matter is less than five tons per year. By annual certification of compliance, the permittee shall be considered to meet the monitoring and related recordkeeping and reporting requirements of TAPCR 1200-3-9-.02(11)(e)(1.(iii) and 1200-3-10-.04(2)(b)1., and the compliance requirements of subpart 1200-3-.02(11)(e)3.(i). The permittee shall submit annually compliance certification for particulate emissions from this shot blasting operation.

TAPCR 1200-3-9-.04(5)(c)3.

E11-3. This shot blasting operation shall only be operated inside the building.

Construction permit 953681P

E11-4. The Technical Secretary reserves the right to reopen this permit to insure the ambient air quality standards for particulate matter in Madison County are not exceeded.

Construction permit 953681P

E11-5. Per TAPCR 1200-3-26-.02(9), actual emissions shall be determined for fee purposes for each fee accounting period for the billable pollutants by completing Log 14.

LOG 14

LOG OF POLLUTANT EMISSION TONNAGE FOR SOURCE 26 FOR FEE PURPOSES

Month/Year	Hours of Operation	PM lbs
July/Year		
June/Year		
12 Month Total (lbs)		
12 Month Total (tons)		

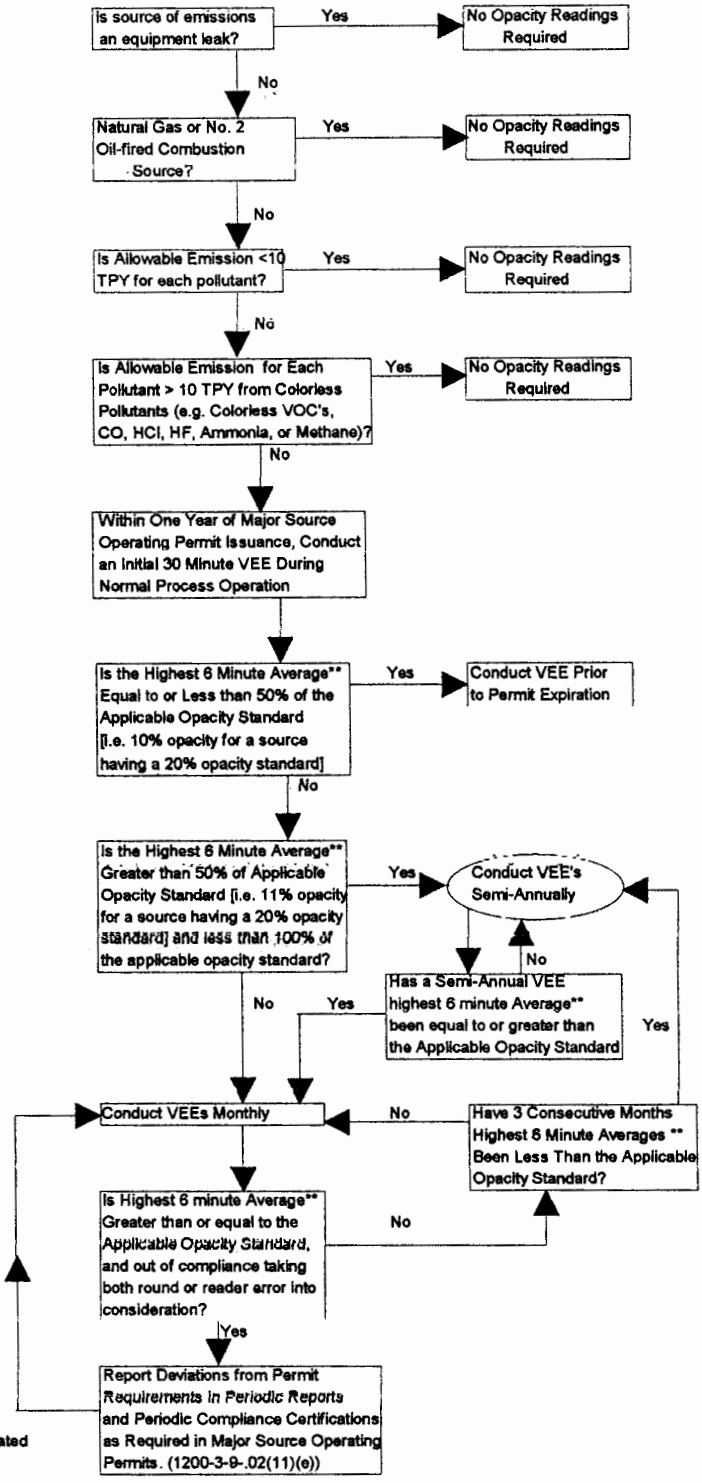
The lbs of particulate per month shall be calculated by multiplying the hours of operation by 0.34 pounds per hour.

END OF PERMIT NUMBER 548094

ATTACHMENT 1

OPACITY MATRIX DECISION TREE for VISIBLE EMISSION EVALUATION METHOD 9 dated JUNE 18, 1996

Decision Tree PM for Opacity for Sources Utilizing EPA Method 9



Notes:

PM = Periodic Monitoring required by 1200-3-9-.02(11)(e)(1)(iii)

This Decision Tree outlines the criteria by which major sources can meet the periodic monitoring and testing requirements of Title V for demonstrating compliance with the visible emissions standards in paragraph 1200-3-5-.01. It is not intended to determine compliance requirements for EPA's Compliance Assurance Monitoring (CAM) Rule (formerly refferred to as Enhanced Monitoring - Proposed 40 CFR 64).

Examine each emission source using this Decision Tree to determine PM required.

Use of continuous emission monitoring systems eliminates the need to do any additional periodic monitoring.

Visible Emission Evaluations (VEEs) are to be conducted utilizing EPA Method 9. The observer must be properly certified to conduct valid evaluations.

Typical Pollutants
Particulates, VOC, CO, SO_2, NO_x, HCl, HF, HBr, Ammonia, and Methane

Initial observation to be repeated within 90 days of startup of a modified source if a new construction permit is issued for modification of the source.

A VEE conducted by TDAPC personnel after the Title V permit is issued will also constitute an initial reading.

Reader Error
EPA Method 9, Non-NSPS or Neshaps stipulated opacity standards:
The TDAPC guidance is to declare non-compliance when the highest six-minute average** exceeds the standard plus 6.8% opacity (e.g. 26.8% for a 20% standard).

EPA Method 9, NSPS or NESHAPS Stipulated Opacity Standards:
EPA guidance is to allow only engineering round. No allowance for reader error is given.

*Not Applicable to Asbestos Manufacturing Subject to 40 CFR 61.142

**Or second highest six minute average, if the source has an exemption period stipulated in either the Regulations or in the permit.

ATTACHMENT 2

AP-42 EMISSION FACTORS

Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION[a]

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO_x[b]		CO	
	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS)[c]	280	A	84	B
Uncontrolled (Post-NSPS)[c]	190	A	84	B
Controlled - Low NO_x burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	100	B	84	B
Controlled - Low NO_x burners	50	D	84	B
Controlled - Low NO_x burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (<0.3) [No SCC]				
Uncontrolled	94	B	40	B

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from $lb/10^6$ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

[b] Expressed as NO_2. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_X emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_X emission factor.

[c] NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION[a]

Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
CO_2[b]	120,000	A
Lead	0.0005	D
N_2O (Uncontrolled)	2.2	E
N_2O (Controlled-low-NO_X burner)	0.64	E
PM (Total)[c]	7.6	D
PM (Condensable)[c]	5.7	D
PM (Filterable)[c]	1.9	B
SO_2[d]	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $lb/10^6$ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

[b] Based on approximately 100% conversion of fuel carbon to CO_2. $CO_2[lb/10^6 \text{ scf}] = (3.67)(CON)(C)(D)$, where CON = fractional conversion of fuel carbon to CO_2, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2×10^4 $lb/10^6$ scf.

[c] All PM (total, condensible, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM_{10}, $PM_{2.5}$ or PM_1 emissions. Total PM is the sum of the filterable PM and condensible PM. Condensible PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

[d] Based on 100% conversion of fuel sulfur to SO_2. Assumes sulfur content is natural gas of 2,000 grains/10^6 scf. The SO_2 emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf.

Table 1.5-1. EMISSION FACTORS FOR LPG COMBUSTION[a]

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EMISSION FACTOR RATING: E

Pollutant	Butane Emission Factor ($lb/10^3$ gal)		Propane Emission Factor ($lb/10^3$ gal)	
	Industrial Boilers[b] (SCC 1-02-010-01)	Commercial Boilers[c] (SCC 1-03-010-01)	Industrial Boilers[b] (SCC 1-02-010-02)	Commercial Boilers[c] (SCC 1-03-010-02)
PM[d]	0.6	0.5	0.6	0.4
SO_2[e]	0.09S	0.09S	0.10S	0.10S
NO_x[f]	21	15	19	14
N_2O[g]	0.9	0.9	0.9	0.9
CO_2[h,j]	14,300	14,300	12,500	12,500
CO	3.6	2.1	3.2	1.9
TOC	0.6	0.6	0.5	0.5
CH_4[k]	0.2	0.2	0.2	0.2

[a] Assumes emissions (except SO_x and NO_x) are the same, on a heat input basis, as for natural gas combustion. The NO_x emission factors have been multiplied by a correction factor of 1.5, which is the approximate ratio of propane/butane NO_x emissions to natural gas NO_x emissions. To convert from $lb/10^3$ gal to $kg/10^3$ L, multiply by 0.12. SCC = Source Classification Code.

[b] Heat input capacities generally between 10 and 100 million Btu/hour.

[c] Heat input capacities generally between 0.3 and 10 million Btu/hour.

[d] Filterable particulate matter (PM) is that PM collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. For natural gas, a fuel with similar combustion characteristics, all PM is less than 10 μm in aerodynamic equivalent diameter (PM-10).

[e] S equals the sulfur content expressed in gr/100 ft^3 gas vapor. For example, if the butane sulfur content is 0.18 gr/100 ft^3, the emission factor would be (0.09 x 0.18) = 0.016 lb of $SO_2/10^3$ gal butane burned.

[f] Expressed as NO_2.

[g] Reference 12.

[h] Assuming 99.5% conversion of fuel carbon to CO_2.

[j] EMISSION FACTOR RATING = C.

[k] Reference 13.

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Table 1.3-1. CRITERIA POLLUTANT EMISSION FACTORS FOR FUEL OIL COMBUSTION[a]

Firing Configuration (SCC)[a]	SO_2[b]		SO_3[c]		NO_x[d]		CO[e]		Filterable PM[f]	
	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING
Boilers > 100 Million Btu/hr										
No. 6 oil fired, normal firing (1-01-004-01), (1-02-004-01), (1-03-004-01)	157S	A	5.7S	C	47	A	5	A	9.19(S)+3.22	A
No. 6 oil fired, normal firing, low NO_x burner (1-01-004-01), (1-02-004-01)	157S	A	5.7S	C	40	B	5	A	9.19(S)+3.22	A
No. 6 oil fired, tangential firing, (1-01-004-04)	157S	A	5.7S	C	32	A	5	A	9.19(S)+3.22	A
No. 6 oil fired, tangential firing, low NO_x burner (1-01-004-04)	157S	A	5.7S	C	26	E	5	A	9.19(S)+3.22	A
No. 5 oil fired, normal firing (1-01-004-05), (1-02-004-04)	157S	A	5.7S	C	47	B	5	A	10	B
No. 5 oil fired, tangential firing (1-01-004-06)	157S	A	5.7S	C	32	B	5	A	10	B
No. 4 oil fired, normal firing (1-01-005-04), (1-02-005-04)	150S	A	5.7S	C	47	B	5	A	7	B
No. 4 oil fired, tangential firing (1-01-005-05)	150S	A	5.7S	C	32	B	5	A	7	B
No. 2 oil fired (1-01-005-01), (1-02-005-01), (1-03-005-01)	157S	A	5.7S	C	24	D	5	A	2	A
No.2 oil fired, LNB/FGR (1-01-005-01), (1-02-005-01), (1-03-005-01)	157S	A	5.7S	A	10	D	5	A	2	A

Table 1.3-1. (cont.)

Firing Configuration (SCC)[a]	SO_2[b]		SO_3[c]		NO_x[d]		CO[e]		Filterable PM[f]	
	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING
Boilers < 100 Million Btu/hr										
No. 6 oil fired (1-02-004-02/03) (1-03-004-02/03)	157S	A	2S	A	55	A	5	A	10	B
No. 5 oil fired (1-03-004-04)	157S	A	2S	A	55	A	5	A	9.19(S)+3.22	A
No. 4 oil fired (1-03-005-04)	150S	A	2S	A	20	A	5	A	7	B
Distillate oil fired (1-02-005-02/03) (1-03-005-02/03)	142S	A	2S	A	20	A	5	A	2	A
Residential furnace (A2104004/A2104011)	142S	A	2S	A	18	A	5	A	0.4[g]	B

[a] To convert from $lb/10^3$ gal to $kg/10^3$ L, multiply by 0.120. SCC = Source Classification Code.

[b] References 1-2,6-9,14,56-60. S indicates that the weight % of sulfur in the oil should be multiplied by the value given. For example, if the fuel is 1% sulfur, then S = 1.

[c] References 1-2,6-8,15,57-60. S indicates that the weight % of sulfur in the oil should be multiplied by the value given. For example, if the fuel is 1% sulfur, then S = 1.

[d] References 6-7,15,19,22,56-62. Expressed as NO_2. Test results indicate that at least 95% by weight of NO_x is NO for all boiler types except residential furnaces, where about 75% is NO. For utility vertical fired boilers use 105 $lb/10^3$ gal at full load and normal (>15%) excess air. Nitrogen oxides emissions from residual oil combustion in industrial and commercial boilers are related to fuel nitrogen content, estimated by the following empirical relationship: lb NO_2 $/10^3$ gal = 20.54 + 104.39(N), where N is the weight % of nitrogen in the oil. For example, if the fuel is 1% nitrogen, then N = 1.

[e] References 6-8,14,17-19,56-61. CO emissions may increase by factors of 10 to 100 if the unit is improperly operated or not well maintained.

[f] References 6-8,10,13-15,56-60,62-63. Filterable PM is that particulate collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. Particulate emission factors for residual oil combustion are, on average, a function of fuel oil sulfur content where S is the weight % of sulfur in oil. For example, if fuel oil is 1% sulfur, then S = 1.

[g] Based on data from new burner designs. Pre-1970's burner designs may emit filterable PM as high as 3.0 $lb/10^3$ gal.

Table 1.3-3. EMISSION FACTORS FOR TOTAL ORGANIC COMPOUNDS (TOC), METHANE, AND NONMETHANE TOC (NMTOC) FROM UNCONTROLLED FUEL OIL COMBUSTION[a]

EMISSION FACTOR RATING: A

Firing Configuration (SCC)	TOC[b] Emission Factor ($lb/10^3$ gal)	Methane[b] Emission Factor ($lb/10^3$ gal)	NMTOC[b] Emission Factor ($lb/10^3$ gal)
Utility boilers			
No. 6 oil fired, normal firing (1-01-004-01)	1.04	0.28	0.76
No. 6 oil fired, tangential firing (1-01-004-04)	1.04	0.28	0.76
No. 5 oil fired, normal firing (1-01-004-05)	1.04	0.28	0.76
No. 5 oil fired, tangential firing (1-01-004-06)	1.04	0.28	0.76
No. 4 oil fired, normal firing (1-01-005-04)	1.04	0.28	0.76
No. 4 oil fired, tangential firing (1-01-005-05)	1.04	0.28	0.76
Industrial boilers			
No. 6 oil fired (1-02-004-01/02/03)	1.28	1.00	0.28
No. 5 oil fired (1-02-004-04)	1.28	1.00	0.28
Distillate oil fired (1-02-005-01/02/03)	0.252	0.052	0.2
No. 4 oil fired (1-02-005-04)	0.252	0.052	0.2
Commercial/institutional/residential combustors			
No. 6 oil fired (1-03-004-01/02/03)	1.605	0.475	1.13
No. 5 oil fired (1-03-004-04)	1.605	0.475	1.13
Distillate oil fired (1-03-005-01/02/03)	0.556	0.216	0.34
No. 4 oil fired (1-03-005-04)	0.556	0.216	0.34
Residential furnace (A2104004/A2104011)	2.493	1.78	0.713

[a] To convert from $lb/10^3$ gal to $kg/10^3$ L, multiply by 0.12. SCC = Source Classification Code.
[b] References 29-32. Volatile organic compound emissions can increase by several orders of magnitude if the boiler is improperly operated or is not well maintained.

Table 12.5-1 (cont.).

Source	Units	Emission Factor		EMISSION FACTOR RATING	Particle Size Data
Electric arc furnace					
Melting and refining	kg/Mg (lb/ton) steel				
Uncontrolled carbon steel		19.0	(38.0)	C	Yes
Charging, tapping, and slagging	kg/Mg (lb/ton) steel				
Uncontrolled emissions escaping monitor		0.7	(1.4)	C	
Melting, refining, charging, tapping, and slagging	kg/Mg (lb/ton) steel				
Uncontrolled					
Alloy steel		5.65	(11.3)	A	
Carbon steel		25.0	(50.0)	C	
Controlled by:[e]					
Building evacuation to baghouse for alloy steel		0.15	(0.3)	A	
Direct shell evacuation (plus charging hood) vented to common baghouse for carbon steel		0.0215	(0.043)	E	Yes

ATTACHMENT 3

OTHER EMISSION FACTORS INFORMATION

Exhibit A3

Supporting data on emission factors used in this permit application and submitted to the Title V permit program.

This exhibit discusses in greater detail the reasons for the changes in EAF emission factors for NOx, SO2, and VOCs listed on APC Form V.30 of the Title V application. These revised factors were used to calculate the actual emission rates in lbs/hr that could be expected at the maximum steel production rate of 110 tons/hr. Some of the factors found during the search are higher than the factors used for the Form V.30 of the Title V application, and some factors are lower. Emission factor references used for this exhibit are on page 6.

AmeriSteel's July 11, 1997, Title V cover letter (enclosed with this submittal) also discusses the reasons - and provides support - for the Title V updating of the factors and the resulting calculated emission rate estimates. Refer to Permit No. 743813P issued April 12, 1996, conditions 6, 7, 8 for the rates that were based on the old emission factors.

1. Nitrogen oxides (NOx)

An EAF NOx emission factor of 0.54 lbs/ton is proposed (see APC V.30, section 7, and Permit 743813, condition 8) to replace the factor used to calculate the mass emission rate of 9.0 lbs/hr, which is the rate contained in the existing permit. The old emissions rate was calculated using EPA's obsolete factor of 0.1 lbs/ton at 90 tons/hr steel production rate. Recent data obtained by EPA at other EAF shops shows that the factor could be as high as 0.54 lbs/ton according to the Charles River Associates tests. The old factor apparently was obtained from the EPA document titled Emission Factors for Iron and Steel Sources, and the EAF Background Information for Proposed Revision to [New Source Performance] Standards. These documents are now outdated. The recent technical literature and talks with EPA at OAQPS indicate a higher lb/ton emission factor that has been tested using EPA Method 7 in recent years. EPA data now show an *average* emission factor of 0.32 lbs NOx/ton of liquid steel.

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There are also results of recent (August 1997) tests that show a rate consistent with our requested rate of 0.54 lbs/ton in APC V.30. These new data show an NOx rate for the EAF of 0.581 lbs/ton. Therefore, our selected factor of 0.54 lbs/ton and the resulting actual mass emission rate of 59.4 lbs/hr (at a steel production rate of 110 tons/hr) are consistent with recent findings.

NOx formation takes place at temperatures above 2000 degrees F, when both nitrogen and oxygen are present and sufficient residence time is allowed. In an EAF, where the furnace temperature reaches 3000 to 3400 degrees F, conditions exist for the formation of NOx. This is especially true if shop air, containing oxygen and nitrogen precursors to NOx, is inspired into the furnace under periods of negative furnace pressure. Control of NOx is mainly practiced in the electric utility industry which generates large quantities of NOx. There have never been any add-on controls available for an EAF. To some extent NOx emissions can be regulated by controlling the temperature in the furnace, but this would upset the process and could increase emissions of other gaseous pollutants.

2. Sulfur Dioxide (SO2)

AmeriSteel has proposed an EAF SO2 emission factor of 0.2 lbs/ton (see APC V.30, section 7, and Permit 743813, condition 7) to replace the old calculated emission rate that was based on EPA's obsolete factor of 0.01 lbs/ton at 90 tons/hr. Recent data obtained by EPA at other EAF shops shows that the factor could be as high as 0.7 lbs/ton. EPA's AIRS document (reference 8) lists an SO2 factor of 0.7 lbs/ton for an EAF, which is well above the factor that we are proposing (along with the maximum production rate) as an estimated mass emissions limit. The 0.7 lbs/ton factor is found in Table 1 of the AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants, EPA 450/4-90-003, March 1990 (reference 8). The obsolete 1970's-based EPA SO2 factor of 0.01 lbs/ton was listed in Emission Factors for Iron and Steel Sources and the EAF - AOD Background Information for Proposed Revisions to Standards, and formed the basis of many SO2 estimates from EAF shops until the early 1990's. AP-42 does not contain any factors for NOx, SO2, or VOCs.

Controlling SO2: The literature indicates that the sulfur content of the scrap for a normal furnace operation at a carbon steel shop is around 0.04 percent. Sulfur also enters the furnace through the addition of carbon, which will contain small amounts

3. Volatile organic compounds (VOC)

A VOC emission factor of 0.33 lbs/ton is proposed (see APC V.30 and Permit 743813, condition 9) to replace the emission rate of 0.5 lbs/hr that was calculated using an obsolete factor of 0.055 lbs/ton at 90 tons/hr. Recent data obtained by EPA at other EAF shops shows that the factor should be 0.33 lbs/ton. Much of the confusion at arriving at a representative and accurate emission factor for VOCs comes from the test methods used. Early test methods were developed for processes such as coating lines and were never meant to apply to EAFs. These early methods yielded erroneous results that were inadvertently used to estimate emission.

VOC emissions at the EAF originate from the contamination of scrap charged into the EAF. Residual oil in scrap contributes to VOC formation during the initial period of scrap charge. Thus, the VOC emissions are intermittent and predominantly limited to brief periods during and immediately following scrap charging or during the initial phases of scrap preheating. VOC add-on controls are considered impractical and have never been employed at an EAF shop.

VOC emissions can result from the volatilization and partial combustion of oils, plastic and other organic matter in the scrap charge and from the volatile components of the electrodes and added carbon. An EAF performs as a superior organic materials oxidizer, and detectable VOC emissions are expected to be intermittent and predominantly limited to brief periods during scrap charging.

The proposed maximum average emission rate at the baghouse is based on an EAF emission factor of 0.33 lb/ton of steel produced at a maximum production 0f 110 tons/hr. This yields an estimated limit of 36.3 lbs/hr.

ATTACHMENT 4

OTHER EMISSION POINT INFORMATION

Point	Stack ID	Process	DSCFM	Control Device
01	EAFBH1	EAF1 Baghouse #1 Canopy hood evacuation	464,912	Baghouse Serves Canopy Hood
01	EAFBH2	EAF1 Baghouse #2 DEC	695,082	Baghouse Serves DEC of Furnace
01	DSBV1	EAF1 Dust Silo Bin Vent	3000	Bin Vent—Small Pulse Jet Bags, continuous screw feed from EAFBH2
01	LSBV1	EAF1-Lime Silo Bin Vent	650	Bin Vent—Small Pulse Jet Bags
02	RH1	RH1 Reheat Furnace	35,000	Fuel Burning--No Control
03	BSBH1	BSI Bar Straightener	11,771	Pulse Jet Baghouse
04	PH1	Preheater exhaust fan #1 LP1, LP2, LP3, TP1, TP2, LD1, LCD1, TD1, TSD1	217,213	Fuel Burning--No Control
04	PH2	Preheater exhaust fan #2 LP1, LP2, LP3, TP1, TP2, LD1, LCD1, TD1, TSD1	217,213	Fuel Burning--No Control
05	Shred1	Shred Scrap Metal Shredder Stack	101,242	Cyclone
06 A	FR	UL1 Stack A Filter Receiver	2500	Small Pulse Jet Bags, Attached Process not Used Continuously
06 B	ULB	UL1 Stack B Unloading Building Housekeeping	1000	Bin Vent—Pulse Jet Bags
06 C	EAFS	UL1 Stack C Unloading Building EAF Dust Silo	2000	Bin Vent—Pulse Jet Bag
06 D	RHF	UL1-Stack D Rotary Hearth Furnace Housekeeping	2000	Bin Vent—Pulse Jet Bag—
06 E	RB	UL1 Stack E ribbon Blender	1000	Bin Vent—Pulse Jet Bag
06 F	CS	UL1 Stack F Coal Silo	2000	Bin Vent—Pulse Jet Bag
06 G	CG	UL1 Stack G Coal Grinder	3000	Bin Vent—Pulse Jet Bag
06 H	CZOS	UL1 Stack H Zinc Oxide Silo	2000	Bin Vent—Pulse Jet Bag
06 I	LOS	UL1 Stack I Load Out Station	1200	Bin Vent—Pulse Jet Bag
07 J	RHFBH1	RHF1 Stack J Rotary Hearth Furnace Baghouse	90,864	Baghouses—48 MMBtu
08	SBBH1	SB1—Shot Blaster	2000	"Shot Blaster Bin Vent Filter:--Pulse Jet Fabric Filter