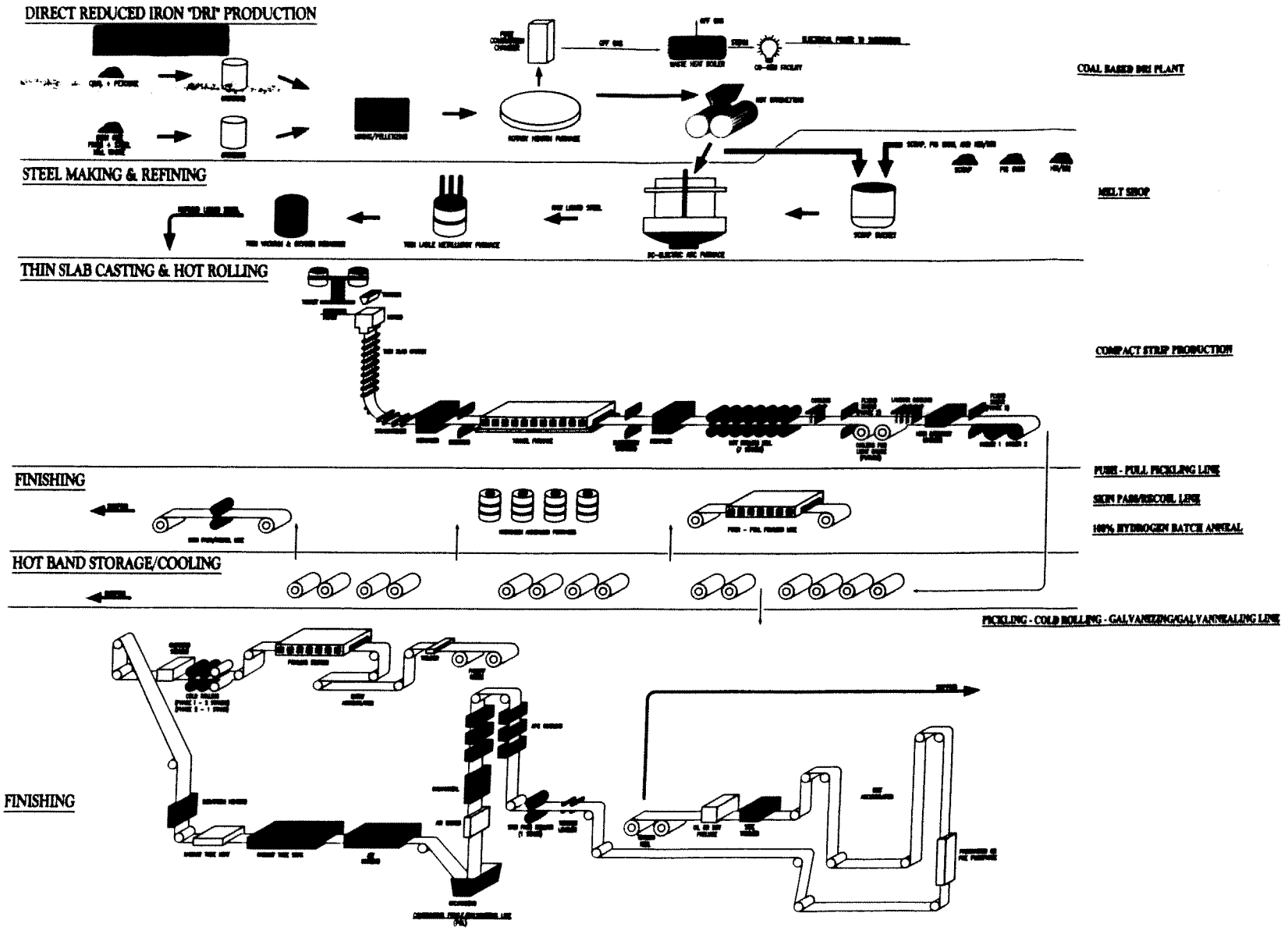
Figure 1-3
New Steel International, Inc.
Haverhill, Ohio
Process Flow Diagram



Rotary Hearth Furnace Boilers (B001-B006)/Rotary Hearth Furnaces (P001-P006)

NSI is proposing to install six (6) Rotary Hearth Furnaces (RHF) (P001-P006) and six (6) Coal Fired Waste Heat Boilers (B001-B006). Each RHF has a maximum production rate of 79 tons/hr of Direct Reduced Iron (DRI) and a maximum feed rate of 148 tons/hr of iron ore/coal pellets. DRI is manufactured in the RHF by heating pellets made of iron ore and coal in an oxygen depleted environment. Each RHF is coal fired and has a maximum heat input rating of 340 MMBtu/hr. Each Rotary Hearth Furnace Boiler (RHF Boiler) is coal fired and has a heat input rating of 60 MMBtu/hr. Each RHF has a dedicated boiler, a dedicated control system and a dedicated 50 MW generator. The heat from the RHF plus the heat from the combustion of coal in the RHF Boiler is used to produce steam to power a 50 MW generator. The exhaust gases from each RHF Boiler is vented to a control system that includes a Selective Catalytic Reduction (SCR) NO_x control device followed by a Dry Lime Scrubber SO_2 control device followed by a baghouse. A combination of AP-42 emission factors, control device manufacturer information, boiler manufacturer information and RHF manufacturer information is used to estimate emissions from these emissions units. Each boiler and RHF is permitted as a separate emissions unit because NSI may want the ability to operate each boiler while the RHF is offline. This permit application assumes the boilers and associated generators will only operate when the RHF is online.

Vacuum Degas Boilers Nos. 1 and 2 (B007 and B008)

NSI is proposing to install two (2) Vacuum Degas Boilers (B007-B008). Each Vacuum Degas Boiler is natural gas fired and has a heat input rating of 50.4 MMBtu/hr. Each Vacuum Degas Boiler is capable of servicing any two (2) of the four (4) Vacuum Degassers (P012). AP-42 emission factors are used to estimate emissions from these emissions units. These boilers will be equipped with low NO_x burners.

Emergency Generator Nos. 1 – 4 (B009 – B012)

NSI is proposing to install four (4) 22.3 MMBtu/hr diesel fired Emergency Generators that will produce approximately 2,000 kW/hr. NSI proposes to limit each emergency generator to 500 hrs/yr of operation. AP-42 emission factors were used to estimate emissions from these emission units. The emergency generators will be equipped with low NOx engines.

Scrap Yard (F001)

Scrap metal is delivered by truck and railcar and stored at the scrap yard. Based on a review of permits for scrap yards at other steel plants, the emissions from the scrap yard are assumed to be deminimis. No visible emissions except for 1 minute during any 60 minute time period is expected to satisfy LAER requirements.

Roadways (F002)

All of the roadways operated by NSI will be paved. A short section of unpaved road between the melt shop and the slag plant will be operated and permitted by a subcontractor. AP-42 emission

factors are used to estimate emissions from this emissions unit. Paved roadways will be swept and/or watered on an as need basis. Unpaved roadways will be watered on an as needed basis. Fifteen (15) mph speed limit signs will be posted on all roadways. For paved roadways, no visible emissions except for 1 minute during any 60 minute time period is expected to satisfy LAER requirements. For unpaved roadways, no visible emissions except for 3 minutes during any 60 minute time period is expected to satisfy LAER requirements.

Fuel Dispensing (G001)

This emissions unit includes two (2) gasoline storage tanks, two (2) diesel storage tanks, two (2) gasoline fuel pumps and two (2) diesel fuel pumps. This station will dispense approximately 9,300 gallons/yr of gasoline and 4,000 gallons/yr of diesel. As a worst case estimate all the fuel dispensed (13,300 gallons) is assumed to be gasoline. Stage I vapor balance will be used to control emissions. AP-42 emission factors are used to estimate emissions from this emissions unit.

RHF/Boiler Cooling Towers (P007)

The Rotary Hearth Furnace/Waste Heat Boiler Cooling Towers consist of 7 cooling towers with two cells for each tower. These cooling towers service the RHFs (P904 – P909) and the Waste Heat Boilers (B001 – B006). The cooling towers are all connected to a common water system. These are non-contact cooling towers. Each cooling tower has a water flow rate of 24,000 gpm, a drift rate of 0.001% and a total dissolve solids content of 1,500 ppm. Mass balance calculations are used to estimate emissions from this emissions unit. A drift rate of 0.001% is expected to satisfy LAER requirements.

Electric Arc Furnaces No. 1 and Ladle Metallurgy Furnace No. 1 (P008)

The Electric Arc Furnace (EAF) has a maximum production rate of 331 tons/hr and 2,204,624 tons/yr. [redacted] Molten steel is then transferred from the EAF No. 1 to the Ladle Metallurgy Furnace (LMF) No. 1. Molten steel from the LMF is transferred to the Vacuum Degasser (P012). Emissions from the EAF are captured by the EAF canopy and the EAF Direct Evacuation Control System (DEC). Emissions captured by the EAF canopy and the DEC system are controlled by EAF Baghouse No. 1. Emissions from the LMF are captured by the LMF canopy. Emissions captured by the LMF canopy are controlled by the EAF Baghouse No. 1. The capture efficiency of the EAF canopy, DEC system and LMF canopy are assumed to be 100%. The baghouse is designed to emit less than 0.0014 gr/dscf of filterable PE/PM_{10}. NOx, SO2, CO, VOC, Pb and Beryllium emissions are estimated using AP-42 emission factors. A capture efficiency of 100%, filterable PE/PM_{10} emission rate of 0.0014 gr/dscf, a condensable PE/PM_{10} emission rate of 0.0032 gr/dscf and 3% opacity as a 6-minute average is expected to satisfy LAER requirements. Use of the DEC is expected to satisfy BACT for CO and VOC. A continuous opacity monitor will be used to demonstrate compliance with the visible emissions limitations.

Electric Arc Furnaces No. 2 and Ladle Metallurgy Furnace No. 2 (P009)

The Electric Arc Furnace (EAF) has a maximum production rate of 331 tons/hr and 2,204,624 tons/yr. [redacted] Molten steel is then transferred from the EAF No. 2 to the Ladle Metallurgy Furnace (LMF) No. 2. Molten steel from the LMF is transferred to the Vacuum Degasser (P012). Emissions from the EAF are captured by the EAF canopy and the EAF Direct Evacuation Control System (DEC). Emissions captured by the EAF canopy and the DEC system are controlled by EAF Baghouse No. 2. Emissions from the LMF are captured by the LMF canopy. Emissions captured by the LMF canopy are controlled by the EAF Baghouse No. 2. The capture efficiency of the EAF canopy, DEC system and LMF canopy are assumed to be 100%. The baghouse is designed to emit less than 0.0014 gr/dscf of filterable PE/PM_{10}. NOx, SO2, CO, VOC, Pb and Beryllium emissions are estimated using AP-42 emission factors. A capture efficiency of 100%, filterable PE/PM_{10} emission rate of 0.0014 gr/dscf, a condensable PE/PM_{10} emission rate of 0.0032 gr/dscf and 3% opacity as a 6-minute average is expected to satisfy LAER requirements. Use of the DEC is expected to satisfy BACT for CO and VOC. A continuous opacity monitor will be used to demonstrate compliance with the visible emissions limitations.

Miscellaneous Melt Shop Activities (P010)

This emissions unit includes the following miscellaneous activities that occur within the Melt Shop Building: Continuous Casters, Tundish Preheaters, Tundish Dumping, Ladle Dumping, EAF Furnace Bottom Tearout/Bricking, Ladle Preheating, and Slag Pot Dumping. This emission unit includes eight (8) 22 MMBtu/hr natural gas fired Tundish Preheaters and nine (9) 5 MMBtu/hr Ladle Preheaters. All of these operations vent to Baghouse No. 12 (Melt Shop Baghouse). The baghouse is designed to emit less than 0.0022 gr/dscf of filterable PE/PM_{10}. Emissions from the Tundish Preheaters and the Ladle Preheaters are estimated using AP-42 emission factors. A capture efficiency of 100% and a filterable PE/PM_{10} emission rate of 0.0022 gr/dscf are expected to satisfy LAER requirements. All of these activities are permitted as one emissions unit because they are all vented to one stack and because it is not possible to test any one of these emissions units by itself.

Melt Shop Cooling Tower (P011)

The Melt Shop Cooling Tower consists of 6 cells. The Melt Shop Cooling Tower services the EAFs (P008 and P009) and is non-contact. The cooling tower has a water flow rate of 87,775 gpm, a drift rate of 0.001% and a total dissolve solids content of 1,500 ppm. Mass balance calculations are used to estimate emissions from this emissions unit. A drift rate of 0.001% is expected to satisfy LAER requirements.

Vacuum Degassers (P012)

NSI is proposing to install four (4) Vacuum Degassers. Each Vacuum Degasser is heated by one of the two Vacuum Degas Boilers (B007 and B008). All four Vacuum Degass Boilers are controlled by a common flare rated at 16 MMBtu/hr. Emissions from the flare are estimated using AP-42 emission factors. All four Vacuum Degassers are permitted as one emissions unit

because they are controlled by a common flare and it is not possible to test any one of these Vacuum Degassers by itself.

Tunnel Furnace Nos. 1 and 2 (P013 and P014)

NSI is proposing to install two (2) 187 MMBtu/hr natural gas fired Tunnel Furnaces. The Tunnel Furnaces uniformly heat the steel slabs prior to being rolled in the finishing mill. AP-42 emission factors are used to estimate emissions from this emissions unit. Low NOx burners are expected to satisfy BACT requirements.

Push-Pull Pickle Line (P015)

Coils from Hot Band Storage are unwound and fed through the Push-Pull Pickler (P015) which cleans the steel bands in a HCl bath. Following the Push-Pull Picker, the steel is either fed directly to the Hydrogen Annealing Furnace or through the Skin Pass Coiler then to the Hydrogen Annealing Furnace. This emissions unit is controlled by Wet Scrubber No. 1. The wet scrubber is designed to emit less than 6 ppm of HCl. Low NO_x burners are expected to satisfy BACT requirements.

Pickle Galvanizing Line (PGL) No. 1 (P016)

Steel coils from the Hot Band Storage area are unwound and fed through the PGL Scale Breaker No. 1 followed by the PGL Pickler No. 1 followed by PGL Cold Rolling No. 1 followed by PGL Cleaner No. 1 followed by PGL Galvanizing No. 1 followed by PGL Annealing Furnace No. 1.

The PGL Scale Breaker No. 1 bends the steel bands to remove scale and debris from the surface of the bands. The PGL Scale Breaker No. 1 is controlled by Baghouse No. 16. The baghouse is designed to emit less than 0.0022 gr/dscf of PE/PM_{10} emissions. A capture efficiency of 100% and a filterable PE/PM_{10} emission rate of 0.0022 gr/dscf are expected to satisfy LAER requirements.

The PGL Pickler No. 1 cleans the steel in a HCl bath. PGL Pickler No. 1 is controlled by Wet Scrubber No. 2. The wet scrubber is designed to emit less than 6 ppm of HCl.

The steel bands are sprayed with an oil mist and cold rolled in PGL Cold Roller No. 1. Oil mist from the PGL Cold Roller No. 1 is controlled with a mist eliminator. Emissions from this process are expected to be negligible (i.e., less than 1 ton/yr).

The PGL Cleaner No. 1 cleans the steel in a HCl bath. PGL Cleaner No. 1 is controlled by Wet Scrubber No. 3. The wet scrubber is designed to emit less than 6 ppm of HCl.

The steel bands are coated with zinc in PGL Galvanizing No. 1 by dipping the steel in a zinc bath. Emissions from this process are expected to be negligible (i.e., less than 1 ton/yr).

The steel bands are heated in a natural gas fired PGL Annealing Furnace No. 1. Low NO_x burners are expected to satisfy BACT requirements.

Pickle Galvanizing Line (PGL) No. 2 (P017)

Steel coils from the Hot Band Storage area are unwound and fed through the PGL Scale Breaker No. 2 followed by the PGL Pickler No. 2 followed by PGL Cleaner No. 2 followed by PGL Galvanizing No. 2 followed by PGL Annealing Furnace No. 2.

The PGL Scale Breaker No. 2 bends the steel bands to remove scale and debris from the surface of the bands. The PGL Scale Breaker No. 2 is controlled by Baghouse No. 17. The baghouse is designed to emit less than 0.0022 gr/dscf of PE/PM_{10} emissions. A capture efficiency of 100% and a filterable PE/PM_{10} emission rate of 0.0022 gr/dscf are expected to satisfy LAER requirements.

The PGL Pickler No. 2 cleans the steel in a HCl bath. PGL Pickler No. 2 is controlled by Wet Scrubber No. 4. The wet scrubber is designed to emit less than 6 ppm of HCl.

The PGL Cleaner No. 2 cleans the steel in a HCl bath. PGL Cleaner No. 2 is controlled by Wet Scrubber No. 5. The wet scrubber is designed to emit less than 6 ppm of HCl.

The steel bands are coated with zinc in PGL Galvanizing No. 2 by dipping the steel in a zinc bath. Emissions from this process are expected to be negligible (i.e., less than 1 ton/yr).

The steel bands are heated in the natural gas fired PGL Annealing Furnace No. 2. Low NO_x burners are expected to satisfy BACT requirements.

Acid Regeneration Plant Nos. 1 and 2 (P018 and P019)

NSI proposes to install two (2) Acid Regeneration Plants. The spent acid from the Push-Pull Pickle Line (P015), the Pickle Galvanizing Line No. 1 (P016) and the Pickle Galvanizing Line No. 2 (P017) is pumped to one of the two acid regeneration plants to regenerate the HCl. The spent acid liquid contains iron chloride. The spent acid liquid is evaporated in the reactor to form iron oxide and HCl. The iron oxide is separated from the gaseous HCl by a cyclone. The gaseous HCl is removed from the gas stream by a venturi scrubber, absorber column and wet scrubber. The iron oxide is reintroduced into the steel making process and the regenerated HCl is reintroduced into the pickling and cleaning processes. Each reactor is heated with a 46.36 MMBtu/hr natural gas fired burner. Each wet scrubber is designed to emit less than 12 ppm of HCl, 6 ppm of Cl_2 and 0.0022 gr/dscf of particulate emissions. AP-42 emission factors are used to estimate emissions from the combustion of natural gas in the reactor. A filterable PE/PM_{10} emission rate of 0.0022 gr/dscf is expected to satisfy LAER requirements. Low NOx burners are expected to satisfy BACT requirements.

Laminar Cooling Tower (P020)

The Laminar Cooling Tower services the Finishing Operations and is non-contact. The cooling tower has a water flow rate of 31,605 gpm, a drift rate of 0.001% and a total dissolve solids content of 1,500 ppm. Mass balance calculations are used to estimate emissions from this emissions unit. A drift rate of 0.001% is expected to satisfy LAER requirements.

Caster ICW Cooling Tower (P021)

The Caster ICW Cooling Tower services the continuous casters and is non-contact. The cooling tower has a water flow rate of 68,725 gpm, a drift rate of 0.001% and a total dissolve solids content of 1,500 ppm. Mass balance calculations are used to estimate emissions from this emissions unit. A drift rate of 0.001% is expected to satisfy LAER requirements.

Caster DCW Cooling Tower (P022)

The Caster DCW Cooling Tower services the continuous casters and is direct contact. The cooling tower has a water flow rate of 79,160 gpm, a drift rate of 0.001% and a total dissolve solids content of 1,500 ppm. Mass balance calculations are used to estimate emissions from this emissions unit. A drift rate of 0.001% is expected to satisfy LAER requirements.

Pickle Line Cooling Tower (P023)

The Pickle Line Cooling Tower services the Pickling Line and is direct contact. The cooling tower has a water flow rate of 20,600 gpm, a drift rate of 0.001% and a total dissolve solids content of 1,500 ppm. Mass balance calculations are used to estimate emissions from this emissions unit. A drift rate of 0.001% is expected to satisfy LAER requirements.

Barge/Railcar Unloading and Storage (P901)

Iron ore and coal are transported to the site by barge and railcar. These materials are transported by a combination of cranes, trucks and conveyors into the storage building where they are piled and stored indoors. As a worst case assumption, emissions from these operations were calculated assuming all coal and iron ore used is delivered by barge. AP-42 emission factors were used to estimate emissions from this emissions unit. All transfer points will be controlled with a baghouse. Baghouse filterable PE/PM_{10} emission rate of 0.0022 gr/dscf and fugitive emissions of 20% opacity as a 3-minute average is expected to satisfy LAER requirements.

Coal Grinding and Handling (P902)

Coal from the raw materials storage building (P901) is transported by conveyors to one of two coal processing buildings. Each building is identical in operation. It is assumed that all the coal used at the facility is processed at this emissions unit (2,536,262 tons/yr). This emissions unit includes six (6) grizzly feeders, six (6) conveyors, six (6) hopper, six (6) hot gas generators, six (6) grinders and six (6) baghouses. Each grinder is heated by a 10 MMBtu/hr natural gas fired hot gas generator and controlled by a baghouse. Each baghouse is designed to emit less than 0.0022 gr/dscf of filterable PE/PM_{10}. AP-42 emission factors are used to estimate emissions from natural gas combustion and for all transfer points. All transfer points will be controlled with a baghouse. Baghouse filterable PE/PM10 emission rate of 0.0022 gr/dscf and fugitive emissions of 20% opacity as a 3-minute average is expected to satisfy LAER requirements.

Iron Ore Grinding and Handling (P903)

Iron ore from the raw materials storage building (P901) is transported front-end loader to one of six grizzly feeders. All of the iron ore used at the facility passes through this emissions unit (5,714,385 tons/yr). This emissions unit includes six (6) grizzly feeders, six (6) conveyors, six (6) hoppers, six (6) hot gas generators, six (6) grinders, twelve (12) cyclones and six (6) baghouses. Each transfer point is controlled by one of the six baghouses. Each grinder is controlled by two cyclones and one baghouse all operating in series. Each baghouse is designed to emit less than 0.0022 gr/dscf of filterable PE/PM_{10}. AP-42 emission factors are used to estimate emissions from natural gas combustion and for all transfer points. All transfer points will be controlled with a baghouse. Baghouse filterable PE/PM10 emission rate of 0.0022 gr/dscf and fugitive emissions of 20% opacity as a 3-minute average is expected to satisfy LAER requirements.

RHF Charge Mixers (P904)

This emissions unit includes twenty-two (22) storage silos (hoppers), twenty-five (25) conveyors and two (2) mixers. Coal, iron ore, filter dust, calcium hydroxide, bentonite and filter are stored and mixed together in this emissions unit before being transferred over to the RHF Building (P905) to be processed into pellets before being introduced into the RHFs (P001-P006). AP-42 emission factors are used to estimate emissions from all transfer points. All transfer points will be controlled with a baghouse. Baghouse filterable PE/PM10 emission rate of 0.0022 gr/dscf and fugitive emissions of 20% opacity as a 3-minute average is expected to satisfy LAER requirements.

RHF Building (P905)

This emissions unit includes one (1) grizzly feeder, thirty-five (35) conveyors, fourteen (14) hoppers, six (6) screens, six (6) pelletizers and two (2) baghouses. The RHF feed material that is mixed in the RHF Charge Mixers (P904) are formed into pellets and sized in this emissions unit before being introduced into the RHFs (P001-P006). AP-42 emission factors are used to estimate emissions from all transfer points. All transfer points will be controlled with a baghouse. Baghouse filterable PE/PM10 emission rate of 0.0022 gr/dscf and fugitive emissions of 20% opacity as a 3-minute average is expected to satisfy LAER requirements.

DRI Storage and Handling (P906)

This emission unit includes one (1) traveling hopper, two (2) conveyors and one (1) baghouse. DRI produced from the RHFs is transported in sealed containers to the DRI storage building. From the storage building the DRI briquettes are transferred by conveyors into the melt shop. Emissions from load in, load out and storage of DRI are negligible because the emission calculations are a function of wind speed and these activities occur within the DRI storage building. AP-42 emission factors are used to estimate emissions from DRI transfer points. All transfer points will be controlled with a baghouse. Baghouse filterable PE/PM10 emission rate of 0.0022 gr/dscf and fugitive emissions of 20% opacity as a 3-minute average is expected to satisfy LAER requirements.

Alloy-Flux Handling and Storage (P907)

This emissions unit includes railcar/truck unloading, one (1) unloading chute bin, eight (8) hoppers, seven (7) conveyors and one (1) baghouse. Alloy and flux materials are delivered by railcar or truck then conveyed to one of eight storage hoppers. All transfer points will be controlled with a baghouse. Baghouse filterable PE/PM10 emission rate of 0.0022 gr/dscf and fugitive emissions of 20% opacity as a 3-minute average is expected to satisfy LAER requirements.

Slag Plant

NSI proposes to use a subcontractor to operate the Slag Plant. A PTI Application for the Slag Plant will be submitted by the subcontractor. Emissions from the Slag Plant are included in this application for PM_{10} offset and PM_{10} modeling purposes only.

PTI Application
Forms

Ohio Environmental Protection Agency
Lazarus Government Center
P.O. Box 1049
Columbus, Ohio 43216-1049

For EPA Use Only
Application
Or ID Number _____

Date Received _____

Check No. _____ Check ID No. _____

Check Date _____ Amount _____

Revenue ID No. _____

- ☐ DAPC
- ☐ DDAGW
- ☐ DHWM
- ☐ DSW
- ☐ DSIWM
- ☐ RTK
- ☐ DEFA
- ☐ TRI
- ☐ _____

GENERAL COVER SHEET

1. Facility Information

Core Place ID	
Legal Name	**New Steel International, Inc.**
Alternate Name	
Street Address	**Gallia Pike**
City/State/Zip	**Franklin Furnace, OH 45629**
Location	**Between the Ohio River and SR 52, along Gallia Pike SE of Portsmouth.**
County	**Scioto**

2. Owner Information

Owner Name	**New Steel International, Inc.**
Effective Date	**Upon startup**
Mailing Address	**New Steel International, Inc.**
	6730 Roosevelt Ave.
City/State/Zip	**Franklin, OH 45005**
Phone Number	**513 422-0100**
Billing Address	**New Steel International, Inc**
	6730 Roosevelt Ave
City/State/Zip	**Franklin, OH 45005**

Operator Information

Operator Name	**New Steel International, Inc**
Effective Date	**Upon Submittal of PTI application**
Mailing Address	
City/State/Zip	
Phone Number	
Billing Address	
City/State/Zip	

4. Division/Program Specific Secondary ID Numbers (for existing facilities only)

DAPC	Facility ID	
DAPC	TRI ID	
DDAGW	PWS ID	
DHWM	RCRA ID	
DSW	NPDES ID	
DSIWM	Facility ID	
RTK	RTK ID	
Other	(_____)	

5. Supplemental Information

Primary SIC Code	**3312**
Primary NAICS Code	
D&B D-U-N-S No.	
Lat./Long.	**38 35" 33" / 82 50' 00"**
Point Description	

Section I - General Permit To Install (PTI) Application Information

This section should be filled out for each permit to install (PTI) application. A PTI is required for all air contaminant sources (emissions units) installed or modified after 1/1/74. See the line by line PTI instructions for additional information.

State the reason(s) for the application.

☒ new installation (for which construction has not yet begun)
☐ initial application for an air contaminant source already installed or under construction
☐ modification to an existing air contaminant source/facility - List previous PTI number(s) for air contaminant sources included in this application, if applicable, and describe requested modification (attach an additional sheet, if necessary):

_____

☐ reconstruction of an existing air contaminant source/facility. Please explain:

_____

☐ startup of an air contaminant source/facility that has been shutdown for _____ years.
☐ other, please explain: _____

2. Please check the appropriate boxes below. If you check exempt/not subject, explain why.

☐ not affected ☒ subject to Subpart:
☐ exempt/not subject - explain below

New Source Performance Standards (NSPS)

NSPS subpart AAa. Refer to LAER/BACT study for applicable NSPS requirements for fuel combustion sources.
NSPS subpart Y.
New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

☒ not affected ☐ subject to Subpart: _____
☐ exempt/not subject - explain below
☐ unknown

National Emission Standards for Hazardous Air Pollutants (NESHAPS)

National Emissions Standards for Hazardous Air Pollutants are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

☐ not affected ☒ subject to Subpart: **DDDDD CCC**
☐ exempt/not subject - explain below
☒ unknown

Maximum Achievable Control Technology (MACT)

The Maximum Achievable Control Technology standards are listed under 40 CFR 63 and OAC rule 3745-31-28.

☐ not affected ☒ subject to regulation
☐ unknown

Prevention of Significant Deterioration (PSD)

These rules are found under OAC rule 3745-31-10 through OAC rule 3745-31-20.

☐ not affected ☒ subject to regulation
☐ unknown

Non-Attainment New Source Review

These rules are found under OAC rule 3745-31-21 through OAC rule 3745-31-27.

Please describe any of the above applicable rules and/or exemptions. Identify whether they apply to the entire facility and/or to specific air contaminant sources included in this PTI application (attach additional page if necessary):

Section I - General Permit To Install (PTI) Application Information

3. Do you qualify for permit to install registration status as determined by Ohio Administrative Code(OAC) rule 3745-31-05?

☐ yes
☒ no

If yes, are you requesting registration status per OAC rule 3745-31-05?

☐ yes
☐ no

4. Is any information included in this application being claimed as a trade secret per Ohio Revised Code (ORC) 3704.08?

☒ yes (A "non-confidential" version must be submitted in order for this application to be deemed complete.)
☐ no

5. Person to contact for this application:

Mike Apgar	**President and COO**
Name	Title

6730 Roosevelt Avenue, Franklin, Ohio 45005
Address (Street, City/Township, State and Zip Code)

(513) 422-0100	**(513) 422-4078**	**mike.apgar@n-steel.com**
Phone	Fax	E-mail

6. Authorized Signature: Under OAC rule 3745-31-04, this signature shall constitute personal affirmation that all statements or assertions of fact made in the application are true and complete, comply fully with applicable state requirements, and shall subject the signatory to liability under applicable state laws forbidding false or misleading statements.

Authorized Signature (for facility) — Oct. 3, 2007 — Date

PRESIDENT & COO
Title

OAC rule 3745-31-04 states that applications for permits to install shall be signed:

(1) In the case of a corporation, by a principal executive officer of at least the level of vice president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility.

(2) In the case of a partnership by a general partner.

(3) In the case of sole proprietorship, by the proprietor, and

(4) In the case of a municipal, state, federal or other governmental facility, by the principal executive officer, the ranking elected official, or other duly authorized employee.

RHF Boiler No. 1
(B001)

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): **RHF Boiler No. 1 (B001)**

List all equipment that are part of this air contaminant source: **60 MMBtu/hr Pulverized Coal Fired Boiler**

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

When did/will you begin to install or modify the air contaminant source? (month/year)**Upon Issuance of PTI**

When did/will you begin to operate the air contaminant source? (month/year) **After issuance of PTI**

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

- If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
- If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
- Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
- If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
- Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutants	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Emissions From Rotary Hearth Furnace #1 (P001) and RHF Boiler #1 (B001) Stack Combined					
PM	4,296.00	NA	NA	21.48	86.80
PM10	4,296.00	NA	NA	21.48	86.80
NOx	243.03	NA	NA	112.60	460.12
SO2	2,106.96	NA	NA	141.17	515.07
CO	43,301.14	NA	NA	220.00	963.60
VOC	1,227.92	NA	NA	4.20	18.40
H2SO4	50.47	NA	NA	3.38	13.33
HF	2.50	NA	NA	1.36	5.36
HCl	20.00	NA	NA	10.87	42.84

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

■ **Yes - The No. 1 RHF Boiler (B001) will be controlled with a 195,965.22 dscf per minute baghouse capable of achieving a PE/PM10 (filterable + condensable) emission rate of 21.48 lbs/hr. Baghouses with a PE/PM10 (filterable + condensable) emission rate of 21.48 and a fugitive visible emission of 20% opacity as a 6-minute average is expected to satisfy Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER) requirements.**

The No. 1 RHF Boiler (B001) will control NOx from the RHF burners so that they emit no more than 0.10 lb NOx per MMBtu of coal combusted. The emissions from the RHF wicket will be controlled so that they emit no more than 0.919 lb NOx per ton of DRI produced. These controls efficiencies will be reached with a Selective Catalytic Reduction control device. These controlled emission rates are expected to satisfy Best Available Control Technology (BACT) requirements.

The No. 1 RHF Boiler (B001) will be controlled with a Spray Dryer Absorber capable of achieving a control efficiency of SO2 of 93.3%. Dry Lime Injection with a control efficiency of 93.3% and emission rate of 1.22 lb SO2 per ton of DRI produced is expected to satisfy Best Available Control Technology (BACT) requirements. This will also control HF and HCl with an efficiency of 45.66%.

Emissions of Lead and H2SO4 emissions are controlled by these control devices also.

☐ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

■ **Fabric Filter/Baghouse**

Manufacturer: **To Be Determined** Year installed: **Upon Permit Issuance**
What do you call this control equipment: **Baghouse 9A**
Pollutant(s) controlled: ■ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ■ Other **Lead**
Estimated capture efficiency (%): **100** Basis for efficiency: **System Design**
Design control efficiency (%): **99** Basis for efficiency: **Equivalent to 0.0022 gr/dscf**
Operating pressure drop range (inches of water): Minimum: **TBD** Maximum: **TBD**
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
■ Lime injection or fabric coating agent used: Type: **CaO Lime Purity** Feed rate: **TBD**
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ■ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment: **No. 1 RHF (P001)**

■ **Dry Scrubber**

Manufacturer: **To Be Determined** Year installed: **Upon Permit Issuance**
What do you call this control equipment: **Spray Dryer Absorber 1A**
Pollutant(s) controlled: ☐ PE ☐ OC ■ SO_2 ☐ NOx ☐ CO ■ Other **HF, HCl and H2SO4**
Estimated capture efficiency (%): **100** Basis for efficiency: **System Design**
Design control efficiency (%): **93.3** Basis for efficiency: **Engineering Calculations**
Reagent(s) used: Type: **CaO Lime Purity** Injection rate(s): **TBD**
Operating pressure drop range (inches of water): Minimum: **TBD** Maximum: **TBD**
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ■ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment **No. 1 RHF (P001)**

Section II - Specific Air Contaminant Source Information

■ **Other, describe Selective Catalytic Reduction**

Manufacturer: **To Be Determined** Year installed: **Upon Permit Issuance**

What do you call this control equipment: **SCR 1A**

Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ■ NOx ☐ CO ☐ Other _____

Estimated capture efficiency (%): **100** Basis for efficiency: **System Design**

Design control efficiency (%): **30** Basis for efficiency: **Engineering Calculations**

☐ This is the only control equipment on this air contaminant source

If no, this control equipment is: ■ Primary ☐ Secondary ☐ Parallel

List any other air contaminant sources that are also vented to this control equipment: **No. 1 RHF (P001)**

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

- Particulate Matter (PM10): 10 tons per year
- Sulfur Dioxide (SO2): 25 tons per year
- Nitrogen Oxides (NOx): 25 tons per year
- Carbon Monoxide (CO): 100 tons per year
- Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
B001/P001	A	Round 98.43 inch ID	400	350	275,000	164

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.

B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.

C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Section II - Specific Air Contaminant Source Information

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
None					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
B001/P001	121	575	1,156

8. Request for Federally Enforceable Limits

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
■ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

Section II - Specific Air Contaminant Source Information

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
B001/P001	Continuous Opacity Monitor	40 CFR 60 Appendix B Performance Specification 1	PM_{10}
B001/P001	Continuous Emissions Monitor	40 CFR 60 Appendix B Performance Specification 2	NOx
B001/P001	Continuous Emissions Monitor	40 CFR 60 Appendix B Performance Specification 4	CO
B001/P001	Continuous Emissions Monitor	40 CFR 60 Appendix B Performance Specification 2	SO2

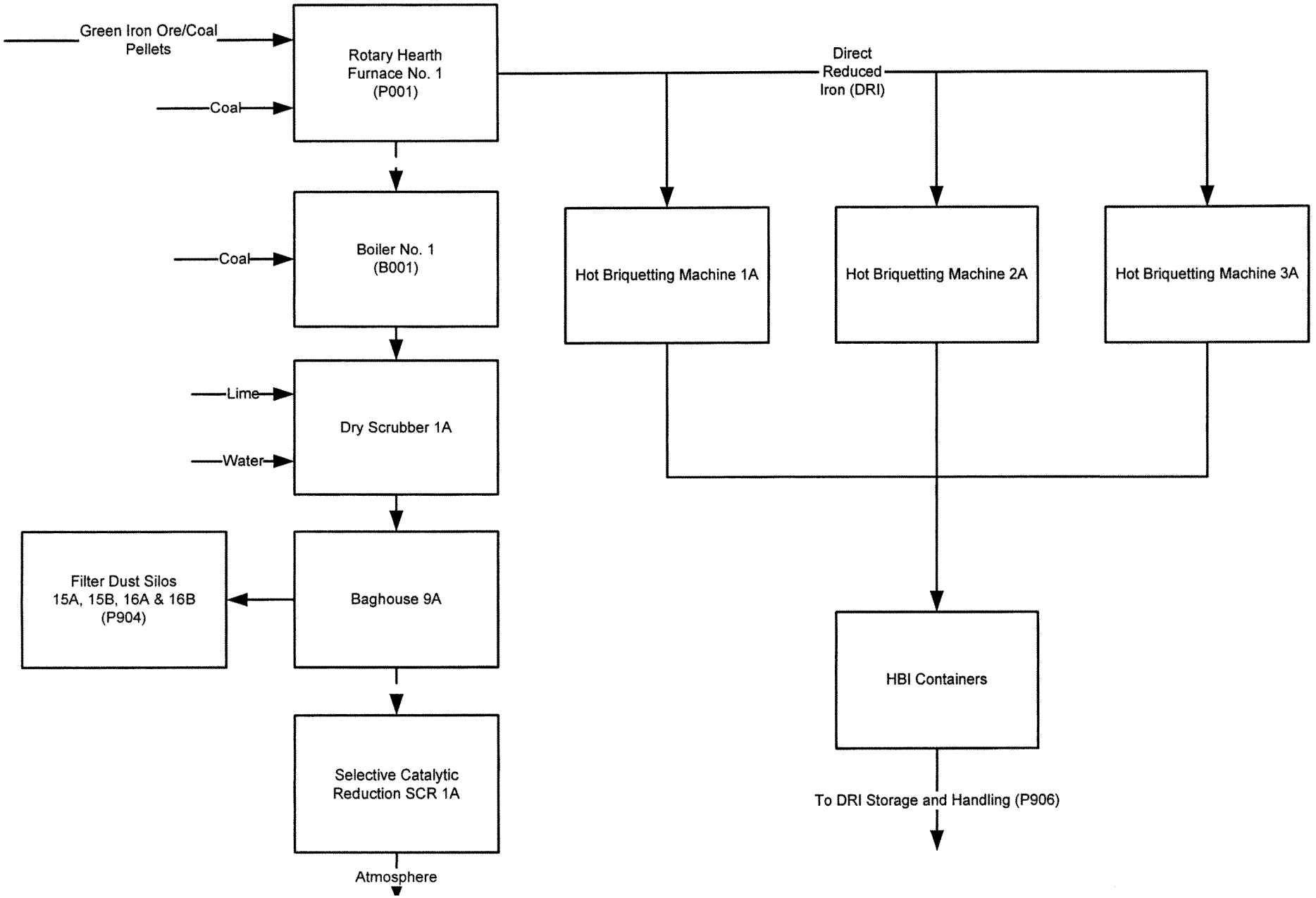
10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.

■ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

New Steel International, Inc.
Haverhill, Ohio
Rotary Hearth Furnace No. 1 (P001) and RHF
Boiler No. 1 (B001)



FOR OHIO EPA USE
FACILITY ID: _____

EU ID: _____ PTI #: _____

EMISSIONS ACTIVITY CATEGORY FORM
FUEL BURNING OPERATION

This form is to be completed for each fuel burning operation. State/Federal regulations which may apply to fuel burning operations are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list

1. Reason this form is being submitted (check one)

■ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. B001)

RHF Boiler No. 1 (B001)
60 MMBtu/hr Pulverized Coal Fired Boiler

2. Maximum Operating Schedule: **24 hours per day; 365 days per year**

If the schedule is less than 24 hours/day or 365 days/year, what limits the schedule to less than maximum? See instructions for examples. _____

3. Input Capacity (million Btu/hr):

Rated *(Indicate units if other than mmBtu/hr)*	Maximum *(Indicate units if other than mmBtu/hr)*	Normal *(Indicate units if other than mmBtu/hr)*
60	**60**	**60**

4. Output Capacity:

Rated *(lb steam/hr)*	Maximum *(lb steam/hr)*	Normal *(lb steam/hr)*
471,477	**471,477**	**471,477**

☐ Not applicable - operation does not produce steam.

5. Percent of Operating Time Used for:

Process: **100 %**
Space Heat: **0 %**

6. Type of Draft (check one):

☐ Natural ☐ Induced ☐ Forced

7. Type of combustion monitoring (check one):

☐ Fuel/Air Ratio ☐ Oxygen ☐ None
☐ Other (describe) _____

8. Type of Fuel Fired (complete all that apply):

Fuel*	Fired as...	Min. Heat Content (Btu/unit)	Max. % Ash	Max. % Sulfur	Max. Annual Fuel Use	Average Hourly Fuel Use	Maximum Hourly Fuel Use
Coal	■ Primary ☐ Backup	**12,000 Btu/lb**	**10%**	**1.5%**	**21,900 tons**	**2.50 tons**	**2.50 tons**

* Please identify all combinations of fuels that are co-fired: _____

** Identify other fuel(s): _____

Coal-Fired Units

9. Type of Coal Firing (check one):

■ Pulverized-Wet Bottom ☐ Hand-Fired ☐ Chain Grate ☐ Traveling Grate
☐ Pulverized-Dry Bottom ☐ Cyclones ☐ Spreader Stoker ☐ Fluidized Bed
☐ Underfeed Stoker ☐ Other (describe) _____

10. Flyash Reinjection:

☐ Yes ☐ No

11. Overfire Air:

☐ Yes ☐ No

Oil-Fired Units

12. Oil Preheater:

☐ Yes - Indicate Temperature_____deg. F
☐ No

RHF Boiler No. 2
(B002)

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): **RHF Boiler No. 2 (B002)**

List all equipment that are part of this air contaminant source: **60 MMBtu/hr Pulverized Coal Fired Boiler**

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

When did/will you begin to install or modify the air contaminant source? (month/year)**Upon Issuance of PTI**

When did/will you begin to operate the air contaminant source? (month/year) **After issuance of PTI**

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

- If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
- If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
- Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
- If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
- Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutants	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Emissions From Rotary Hearth Furnace #2 (P002) and RHF Boiler #2 (B002) Stack Combined					
PM	4,296.00	NA	NA	21.48	86.80
PM10	4,296.00	NA	NA	21.48	86.80
NOx	243.03	NA	NA	112.60	460.12
SO2	2,106.96	NA	NA	141.17	515.07
CO	43,301.14	NA	NA	220.00	963.60
VOC	1,227.92	NA	NA	4.20	18.40
H2SO4	50.47	NA	NA	3.38	13.33
HF	2.50	NA	NA	1.36	5.36
HCl	20.00	NA	NA	10.87	42.84

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

■ **Yes - The No. 2 RHF Boiler (B002) will be controlled with a 195,965.22 dscf per minute baghouse capable of achieving a PE/PM10 (filterable + condensable) emission rate of 21.48 lbs/hr. Baghouses with a PE/PM10 (filterable + condensable) emission rate of 21.48 and a fugitive visible emission of 20% opacity as a 6-minute average is expected to satisfy Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER) requirements.**

The No. 2 RHF Boiler (B002) will control NOx from the RHF burners so that they emit no more than 0.10 lb NOx per MMBtu of coal combusted. The emissions from the RHF wicket will be controlled so that they emit no more than 0.919 lb NOx per ton of DRI produced. These controls efficiencies will be reached with a Selective Catalytic Reduction control device. These controlled emission rates are expected to satisfy Best Available Control Technology (BACT) requirements.

The No. 2 RHF Boiler (B002) will be controlled with a Spray Dryer Absorber capable of achieving a control efficiency of SO2 of 93.3%. Dry Lime Injection with a control efficiency of 93.3% and emission rate of 1.22 lb SO2 per ton of DRI produced is expected to satisfy Best Available Control Technology (BACT) requirements. This will also control HF and HCl with an efficiency of 45.66%.

Emissions of Lead and H2SO4 emissions are controlled by these control devices also.

☐ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

■ **Fabric Filter/Baghouse**

Manufacturer: **To Be Determined** Year installed: **Upon Permit Issuance**
What do you call this control equipment: **Baghouse 9B**
Pollutant(s) controlled: ■ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ■ Other **Lead**
Estimated capture efficiency (%): **100** Basis for efficiency: **System Design**
Design control efficiency (%): **99** Basis for efficiency: **Equivalent to 0.0022 gr/dscf**
Operating pressure drop range (inches of water): Minimum: **TBD** Maximum: **TBD**
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
■ Lime injection or fabric coating agent used: Type: **CaO Lime Purity** Feed rate: **TBD**
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ■ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment: **No. 2 RHF (P002)**

■ **Dry Scrubber**

Manufacturer: **To Be Determined** Year installed: **Upon Permit Issuance**
What do you call this control equipment: **Spray Dryer Absorber 1B**
Pollutant(s) controlled: ☐ PE ☐ OC ■ SO_2 ☐ NOx ☐ CO ■ Other **HF, HCl and H2SO4**
Estimated capture efficiency (%): **100** Basis for efficiency: **System Design**
Design control efficiency (%): **93.3** Basis for efficiency: **Engineering Calculations**
Reagent(s) used: Type: **CaO Lime Purity** Injection rate(s): **TBD**
Operating pressure drop range (inches of water): Minimum: **TBD** Maximum: **TBD**
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ■ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment: **No. 2 RHF (P002)**

Section II - Specific Air Contaminant Source Information

■ **Other, describe Selective Catalytic Reduction**

Manufacturer: **To Be Determined** Year installed: **Upon Permit Issuance**

What do you call this control equipment: **SCR 1B**

Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ■ NOx ☐ CO ☐ Other _____

Estimated capture efficiency (%): **100** Basis for efficiency: **System Design**

Design control efficiency (%): **30** Basis for efficiency: **Engineering Calculations**

☐ This is the only control equipment on this air contaminant source

If no, this control equipment is: ■ Primary ☐ Secondary ☐ Parallel

List any other air contaminant sources that are also vented to this control equipment: **No. 2 RHF (P002)**

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

- Particulate Matter (PM10): 10 tons per year
- Sulfur Dioxide (SO2): 25 tons per year
- Nitrogen Oxides (NOx): 25 tons per year
- Carbon Monoxide (CO): 100 tons per year
- Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
B002/P002	A	Round 98.43 inch ID	400	350	275,000	550

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.

B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.

C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Section II - Specific Air Contaminant Source Information

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
None					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions o the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

ompany ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
B002/P002	121	575	1,156

8. Request for Federally Enforceable Limits

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
■ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

Section II - Specific Air Contaminant Source Information

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
B002/P002	Continuous Opacity Monitor	40 CFR 60 Appendix B Performance Specification 1	PM_{10}
B002/P002	Continuous Emissions Monitor	40 CFR 60 Appendix B Performance Specification 2	NOx
B002/P002	Continuous Emissions Monitor	40 CFR 60 Appendix B Performance Specification 4	CO
B002/P002	Continuous Emissions Monitor	40 CFR 60 Appendix B Performance Specification 2	SO2

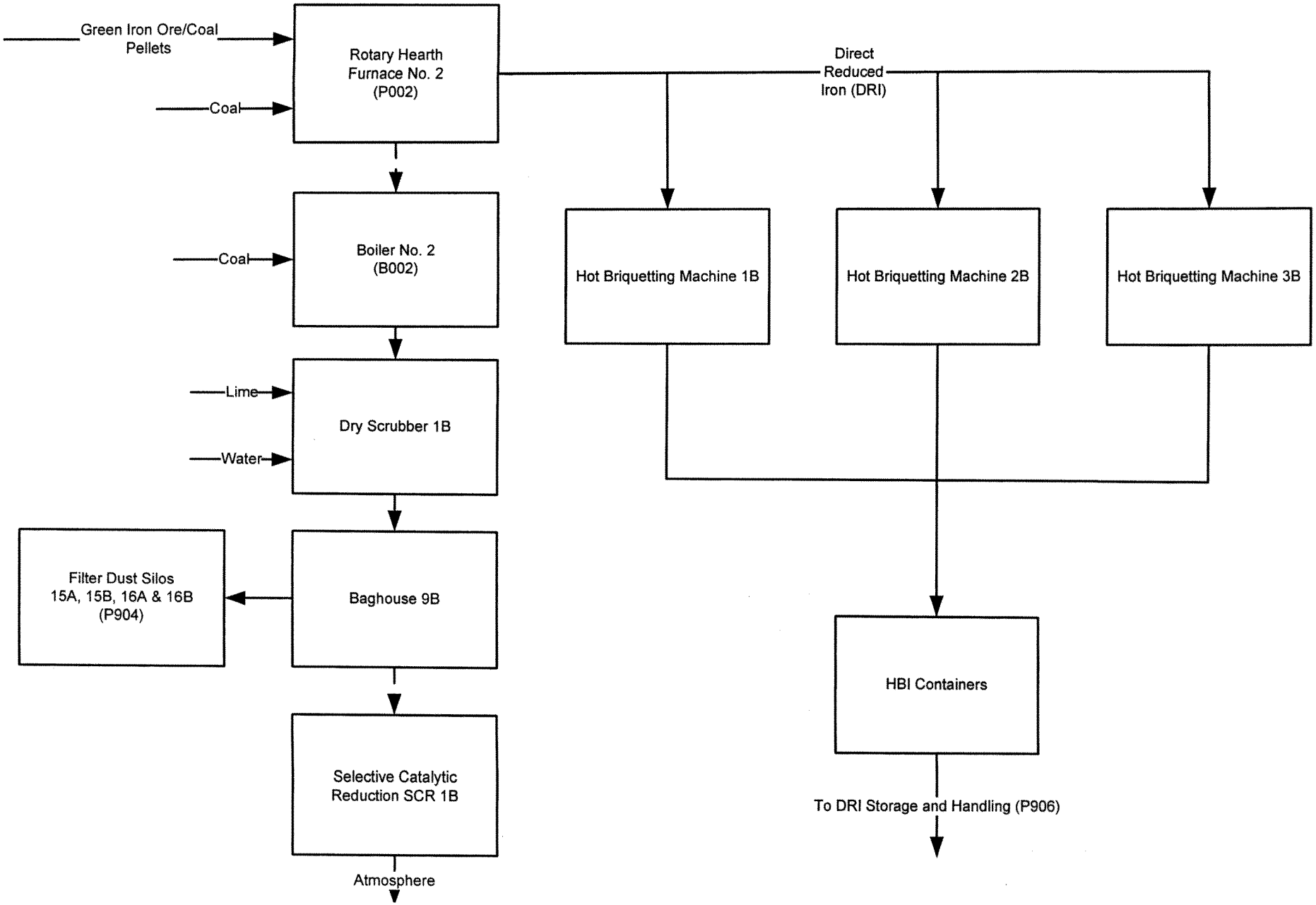
10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.

■ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

New Steel International, Inc.
Haverhill, Ohio
Rotary Hearth Furnace No. 2 (P002) and RHF
Boiler No. 2 (B002)



FOR OHIO EPA USE
FACILITY ID: _____

EU ID: _____ PTI #: _____

EMISSIONS ACTIVITY CATEGORY FORM
FUEL BURNING OPERATION

This form is to be completed for each fuel burning operation. State/Federal regulations which may apply to fuel burning operations are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list

1. Reason this form is being submitted (check one)

■ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. B001)

RHF Boiler No. 2 (B002)
60 MMBtu/hr Pulverized Coal Fired Boiler

2. Maximum Operating Schedule: **24 hours per day; 365 days per year**

If the schedule is less than 24 hours/day or 365 days/year, what limits the schedule to less than maximum? See instructions for examples. _____

3. Input Capacity (million Btu/hr):

Rated *(Indicate units if other than mmBtu/hr)*	Maximum *(Indicate units if other than mmBtu/hr)*	Normal *(Indicate units if other than mmBtu/hr)*
60	**60**	**60**

4. Output Capacity:

Rated *(lb steam/hr)*	Maximum *(lb steam/hr)*	Normal *(lb steam/hr)*
471,477	**471,477**	**471,477**

☐ Not applicable - operation does not produce steam.

5. Percent of Operating Time Used for:

Process: **100 %**
Space Heat: **0 %**

6. Type of Draft (check one):

☐ Natural ☐ Induced ☐ Forced

7. Type of combustion monitoring (check one):

☐ Fuel/Air Ratio ☐ Oxygen ☐ None
☐ Other (describe) _____

8. Type of Fuel Fired (complete all that apply):

Fuel*	Fired as...	Min. Heat Content (Btu/unit)	Max. % Ash	Max. % Sulfur	Max. Annual Fuel Use	Average Hourly Fuel Use	Maximum Hourly Fuel Use
Coal	■ Primary ☐ Backup	**12,000 Btu/lb**	**10%**	**1.5%**	**21,900 tons**	**2.50 tons**	**2.50 tons**

* Please identify all combinations of fuels that are co-fired: _____

** Identify other fuel(s): _____

Coal-Fired Units

9. Type of Coal Firing (check one):

■ Pulverized-Wet Bottom ☐ Hand-Fired ☐ Chain Grate ☐ Traveling Grate
☐ Pulverized-Dry Bottom ☐ Cyclones ☐ Spreader Stoker ☐ Fluidized Bed
☐ Underfeed Stoker ☐ Other (describe) _____

10. Flyash Reinjection:

☐ Yes ☐ No

11. Overfire Air:

☐ Yes ☐ No

Oil-Fired Units

12. Oil Preheater:

☐ Yes - Indicate Temperature_____deg. F
☐ No