EMISSIONS ACTIVITY CATEGORY FORM
STEEL MANUFACTURING

This form is to be completed for each fugitive dust emission unit that emits or has the potential to emit fugitive particulate matter emissions by means other than a stack. State/Federal regulations which may apply to a steel manufacturing facility 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.

Note: This emissions activity category (EAC) form does not include roadways and parking areas, storage piles, and material handling operations which may also be associated with a steel manufacturing facility. Therefore, additional EAC forms for these emissions units may need to be submitted.

1. Reason this form is being submitted (Check one)
   - ☐ New Permit
   - ☐ Renewal or Modification of Air Permit Number(s) (e.g. F001)

2. Maximum Operating Schedule: ________ hours per day; ________ days per year
   If the schedule is less than 24 hours/day and 365 days/year, what limits the schedule to less than maximum? See instructions for examples.

3. Identification of fugitive dust emissions units:

<table>
<thead>
<tr>
<th>Check Those Emissions Units Present</th>
<th>Fugitive Dust Emissions Units</th>
<th>How many?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Sintering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Hot metal transfer to charge ladles</td>
<td></td>
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<tr>
<td>☐ Hot metal desulfurization</td>
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<tr>
<td>☐ Basic oxygen furnace (charging, leaking, tapping, etc.)</td>
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<td></td>
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<tr>
<td>☐ Capped argon bubbling</td>
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<td></td>
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<tr>
<td>☐ Ladle metallurgy facility</td>
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<tr>
<td>☐ Electric arc furnace (charging, leaking, tapping, etc.)</td>
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<tr>
<td>☐ Ladle refining furnace</td>
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<tr>
<td>☐ Continuous casting</td>
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<tr>
<td>☐ Conventional teeming</td>
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<tr>
<td>☐ Leaded steel teeming</td>
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<tr>
<td>☐ Scarfing (hand)</td>
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<tr>
<td>☐ Slag handling facility</td>
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<tr>
<td>☐ Other (describe): below</td>
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</tbody>
</table>

4. Sintering
a. **Windbox**  
Maximum ___________________ tons/hour finished sinter  
Maximum ___________________ tons/year finished sinter  
b. **Sinter discharge**  
Maximum ___________________ tons/hour finished sinter  
Maximum ___________________ tons/year finished sinter  

5. **Hot metal transfer to charge ladles/hot metal desulfurization process data:**  
a. Maximum ladle capacity ___________________ tons  
b. Maximum quantity hot metal transferred ___________________ tons/hour  
c. Maximum quantity hot metal desulfurized ___________________ tons/hour  
d. Maximum quantity of hot metal transferred per year ___________________ tons/year  
e. Maximum quantity of hot metal desulfurized per year ___________________ tons/year  
f. Average desulfurization cycle time per ladle ___________________ hours  
g. Desulfurization agent(s) __________________________________________________  
____________________________________________________________________  
____________________________________________________________________  
h. Desulfurization agent injection rate ________________________________ pounds/ton hot metal  

6. **Basic oxygen furnace (BOF) process data:**  
a. BOF ID _________ _________ _________ _________  
b. BOF manufacturer _________ _________ _________ _________  
c. Maximum design steel production rate (tons/hour) _________ _________ _________ _________  
d. Maximum quantity of steel produced per hour (tons/hour) _________ _________ _________ _________  
e. Maximum quantity of steel produced per year (tons/year) _________ _________ _________ _________  
f. Average cycle time for one heat (hours) _________ _________ _________ _________  
g. Maximum quantity of hot metal charged per hour (tons/hour) _________ _________ _________ _________  
h. Maximum quantity of hot metal charged per year (tons/year) _________ _________ _________ _________  
i. Maximum quantity of steel tapped per hour (tons/hour) _________ _________ _________ _________  
j. Maximum quantity of steel tapped per year (tons/year) _________ _________ _________ _________  

7. **Capped argon bubbling process data:**  
a. Maximum ladle capacity ___________________ tons steel  
b. Maximum design steel process rate ________________________________ tons/hour  
c. Maximum quantity of steel processed per hour ________________________________ tons/hour  
d. Bulk alloys added (list alloys and amount per heat) __________________________________________________  
____________________________________________________________________  
e. Wire feed additions (list alloys and amount per heat) __________________________________________________  
____________________________________________________________________
8. Ladle metallurgy facility process data:
   a. Maximum ladle capacity ____________________ tons steel
   b. Maximum design steel process rate ______________ tons/hour
   c. Maximum quantity of steel processed per hour ______________ tons/hour
   d. Bulk alloys added (list alloys and amount per heat)
   e. Wire feed additions (list alloys and amount per heat)
   f. Argon stirring injection rate ____________________ cfm

9. Electric arc furnace (EAF) process data:
   a. EAF ID ____________________ ____________________ ____________________ ____________________
   b. EAF manufacturer ____________________ ____________________ ____________________ ____________________
   c. Maximum design steel production rate (tons/hour)
   d. Maximum quantity of steel produced per hour (tons/hour)
   e. Maximum quantity of steel produced per year (tons/year)
   f. Average cycle time for one heat (hours)

10. Ladle refining furnace process data:
    a. Maximum ladle capacity ____________________ tons steel
    b. Maximum design steel process rate ______________ tons/hour
    c. Maximum quantity of steel processed per hour ______________ tons/hour
    d. Bulk alloys added (list alloys and amount per heat)
    e. Wire feed additions (list alloys and amount per heat)
    f. Argon stirring injection rate ____________________ cfm

11. Continuous casting/conventional teeming/leaded steel teeming process data:
    a. Type of pouring performed (casting or teemed)
    b. Type of product molded (slabs, billets, bloom)
    c. Manufacturer of continuous casting equipment
12. Scarfing (hand) process data:

a. Describe hand scarfing operation __________________________________________
_____________________________________________________________________
_____________________________________________________________________

b. Maximum number of man hours of hand scarfing operations per year ____________
man-hours/year
13. Control methods to be used for fugitive dust emissions from steel manufacturing processes:

<table>
<thead>
<tr>
<th>Capture Method</th>
<th>Capture Efficiency</th>
<th>Control Method</th>
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<td>Electric arc furnace (EAF)</td>
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<tr>
<td>Other</td>
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GENERAL INSTRUCTIONS:

Provide complete responses to all applicable questions. If an item does not apply to the emissions unit, write in “Not Applicable” or “NA.” If the answer is not known, write in “Not Known” or “NK.” If you need assistance in understanding a question after reading the instructions below, contact your Ohio EPA District Office or Local Air Agency for assistance. Submittal of an incomplete application will delay application review and processing. In addition, the application may be returned as incomplete if all applicable questions are not answered appropriately.

APPLICABLE REGULATIONS:

The following State and Federal Regulations may be applicable to steel manufacturing. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

Federal:
- 40 CFR 60, (NSPS) Subparts A, N (Basic Process Oxygen Furnaces)
- 40 CFR 60, (NSPS) Subparts, AA and AAa (Steel Plants, Electric Arc Furnaces)
- 40 CFR 63, (MACT) Subparts A, FFFFF (Integrated Iron & Steel)

State:
- OAC rule 3745-31-02 (Permit to Install)
- OAC rule 3745-31-05 (Best Available Technology)
- OAC rule 3745-35-02 (Permit to Operate)
- OAC rule 3745-17-07 (Visible Particulate Emissions)
- OAC rule 3745-17-11 (Particulate Emissions)
- OAC rule 3745-18-06 (Sulfur Dioxide Emissions)

If you would like a copy of these regulations, contact your Ohio EPA District Office or Local Air Agency. State regulations may also be viewed and downloaded from the Ohio EPA website at http://www.epa.state.oh.us/dapc/regs/regs.html. Federal regulations may be viewed and downloaded at http://www.epa.gov/docs/epacfr40/chapt-I.info/subch-C.htm.

CALCULATING EMISSIONS:

Manufacturers of some types of emissions units and most types of control equipment develop emissions estimates or have stack test data which you can request. Stack testing of the emissions may be done. Emissions unit sampling test data may be either for this emissions unit or a similar one located at the facility or elsewhere. You may develop your own emission factors by mass balance or other knowledge of your process, if you can quantify inputs and outputs accurately. You may be able to do this on a small scale or over a short period of time, if it is not practical during regular production. If you have control equipment, you may be able to quantify the amount of pollutants collected over a known time period or production amount. Any emission factor calculation should include a reference to the origin of the emission factor or control efficiency.

SPECIFIC INSTRUCTIONS:

1. Indicate whether this is an application for a new permit or an application for permit renewal. If applying for a permit renewal, provide the 4-character OEPA emissions unit identification number.

2. Provide the maximum number of hours per day and days per year the steel manufacturing operation is expected to operate. The following are examples of why the maximum number of hours per day may be less than 24 or the maximum number of days per year may be less than 365 (this list is not all-inclusive):

   - The facility can only operate during daylight hours.
   - The process can only operate within a certain range of ambient temperatures.
   - The process is limited by another operation (i.e., a bottleneck).

3. This emissions activity category form is to be used for certain operations at steel manufacturing facilities. Typical emissions units to be included on this form are listed. Please use the specific emissions activity category forms for roadways and parking areas, storage piles, material handling operations for such fugitive dust emissions units.

   Paragraph (B)(6) of OAC Rule 3745-17-01 defines "fugitive dust" as "...particulate matter which is, or was prior to the installation of control equipment, emitted from any source by means other than a stack." Several emissions units at steel manufacturing facilities emit particulate matter in such fashion, and the requirements of OAC Rules 3745-17-07(B) (Visible particulate emission limitations for fugitive dust) and 3745-17-08 (Restriction of emissions of fugitive dust) may be applicable.

   Identify the emissions units at the facility by placing a check mark in the appropriate block adjacent to the respective emissions unit type. If there are other emissions units at the facility which are not specifically listed and do not have other applicable emissions activity category forms prepared for them, please identify such emissions unit(s) in the section marked "Other (describe)".

6. Complete the requested basic oxygen furnace process data in items (a) through (j). If there is more than one such furnace at the facility, use one of the four separate columns for each furnace in answering each item. If there are more than four basic oxygen furnaces at the facility, please make a duplicate copy of this form or obtain an additional form from the OEPA.

13. For each operation identified elsewhere in this form, describe how the emissions are captured and estimate the percentage of emissions which are captured. Also describe how the emissions are controlled and estimate the percentage of reduction attained. Efficiencies may be determined, in order of preference, by testing, design, published estimation methods or best engineering judgement. For multiple methods, enter them in the blank separated by a slash (/) and do the same for the efficiency.