# Subpart Q Emissions Information for Units NOT Monitored by CEMS for RY2014 and Later Years

This page provides step-by-step instructions on how to enter and edit Subpart Q Iron and Steel Production emissions information for process units that are NOT monitored by a Continuous Emissions Monitoring System (CEMS).

#### Step 1. Select a Process Unit

To select a process unit NOT monitored by CEMS for which to enter emissions data, find the unit in the UNITS table and click OPEN.

If the CO<sub>2</sub> process emissions from the selected unit will be estimated using the **carbon mass balance method**, proceed to Section A - Carbon Mass Balance Method and execute **steps A1-A5** for each type of process unit.

If the CO<sub>2</sub> process emissions from the selected unit will be estimated using the **site-specific emission factor method**, proceed to Section B - Site-specific Emission Factor Method and execute **steps B1-B3** for each process unit.

|                                         | itates<br>mental Protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 8-                                                                                                                                                                                                                                              | GGRT 옱                          |
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| HOME FACILITY REGIST                    | ATION FACILITY MANAGEMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | DATA REPORTING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Electronic Gi                                                                                                                                                                                                                                   | Reporting Tool                  |
|                                         | Matt Foley's Rocking Facilit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | h.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Hello, Mi                                                                                                                                                                                                                                       | att Foley   My Profile   Logo   |
| Using e-GGRT for Subpart Q<br>reporting | Subpart Q: Iron and S<br>Subpart Overview                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | teel Production (2014)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                 |                                 |
|                                         | OVERVIEW OF SUBPART Q RE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | PORTING REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                 |                                 |
|                                         | Subpart Q requires affected facilit<br>indurating functione, basic couper)<br>stacks, coke pushing operation, sini<br>vessel and direct reduction function<br>procedures set out in Subpart V of<br>this page to identify each taxometer<br>recovery coke wore halding, sinter<br>function and electric arc function. Sub-<br>nide that respective headings, A<br>faue, cick on "Open" to entra Gree<br>Annual mass of tudi consumed on<br>sommed across at units at a facilit<br>additional information abod Subpart | tes lo report carbon dioxide (CO2); from emance, non-recovery cole over battery oche overb lattery oche verb lattery other processe, electric ar Limance, decarba. Within this moldal, you must also toped statuse caps and coke oven pass a cocromers and the heading "Unico coses, dicarbatrotation versid, direct in milah/, diatter display concess, discrationation versid, direct in the adding "Unico coses, dicarbatrotation versid, direct in the adding "Unico coses, dicarbatrotation versid, direct in the adding a forcess and the cose and the cose and the cose of the adding and coses and the cose and the | ach taconte<br>ombustion<br>rization<br>1CO2<br>ding to<br>below, use<br>below, use<br>below, use<br>futmace, non-<br>duction<br>and faires<br>operation or<br>part Q.<br>operation or<br>part Q.<br>to used, are<br>to used. For<br>the de GRT |                                 |
|                                         | help init(3) provided in the sidebal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Subpart                                                                                                                                                                                                                                         | Q: View Validation              |
|                                         | SUBPART Q SUMMARY INFORM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ATION FOR THIS FACILITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                 |                                 |
|                                         | Annual mass of fuel consumed<br>(metric tons)                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Annual mass of non-fuel<br>consumed (metric tons)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Annual mass of products and<br>use                                                                                                                                                                                                              | d byproducts<br>d (metric tons) |
|                                         | UNITS<br>Add any of the following as units: tac<br>process, electric arc furnace, decarb                                                                                                                                                                                                                                                                                                                                                                                                                              | onite indurating furnace, basic oxygen pr<br>urization vessel and direct reduction furn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ocess furnace, non-recovery coke o<br>ace.                                                                                                                                                                                                      | oven battery, sinter            |
|                                         | Name/ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Туре                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CO2 (metric tons) Status                                                                                                                                                                                                                        | <sup>1</sup> Delet              |
|                                         | ADD a Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                 |                                 |
|                                         | UNIT SUMMARY (Units monitored                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | i by CEMS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                 |                                 |
|                                         | Name/ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Туре                                                                                                                                                                                                                                            | Status <sup>1</sup> Delete      |
|                                         | No units have been added                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                 |                                 |
|                                         | P ADD a CEMS Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                 |                                 |
|                                         | CORE POSHING OPERATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | COs (metric tens) 01-                                                                                                                                                                                                                           |                                 |
|                                         | ADD a Coke Pushing Operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | туре                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CO2 (metric tons) Sta                                                                                                                                                                                                                           | tus Delet                       |
|                                         | • rob a color asing operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                 |                                 |
|                                         | FLARES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                 |                                 |
|                                         | Name/ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Туре                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CO2 (metric tons) Sta                                                                                                                                                                                                                           | tus <sup>1</sup> Delet          |
|                                         | ADD a Flare                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                 |                                 |
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | e or more required data elements are incom                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | plete. For details, refer to the Data Co                                                                                                                                                                                                        | mpleteness validation           |
|                                         | messages in your Validation Report by<br>see this link).                                                                                                                                                                                                                                                                                                                                                                                                                                                              | CICKING THE "View Validation" link above (Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | e: it there are no validation messages t                                                                                                                                                                                                        | or this subpart you will not    |
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                 |                                 |

| HUME FACILITY REGISTR | ATION FACILITY MANAGEMENT                                                                                                                                                                                                                                      | DATA REPORTING                                                                                                                                                                                                                                                                        |                                                                                                                                               | Rep                              | orting Tool                |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------|
|                       |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                       |                                                                                                                                               |                                  |                            |
| 2 e-GGRT Help         | Matt Foley's Rocking Faci                                                                                                                                                                                                                                      | llity                                                                                                                                                                                                                                                                                 |                                                                                                                                               |                                  |                            |
|                       | Subpart Q: Iron and                                                                                                                                                                                                                                            | Steel Production (2014                                                                                                                                                                                                                                                                | 4)                                                                                                                                            |                                  |                            |
| reporting             | Subpart Overview                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                       |                                                                                                                                               |                                  |                            |
|                       | OVERVIEW OF SUBPART Q                                                                                                                                                                                                                                          | REPORTING REQUIREMENTS                                                                                                                                                                                                                                                                |                                                                                                                                               |                                  |                            |
|                       | Subpart Q requires affected facil<br>indurating furnace, basic oxygen<br>stack; coke pushing operation; s<br>vessel and direct reduction furna<br>emissions from flares that burn b<br>procedures set out in Subpart Y.                                        | lities to report carbon dioxide (CO2)<br>furnace, non-recovery coke oven bat<br>inter process, electric arc furnace; de<br>ce. Within this module, you must also<br>last furnace gas and coke oven gas<br>of Part 08. Einst under the heading."                                       | from each taconite<br>ttery combustion<br>ecarburization<br>o report CO2<br>according to                                                      |                                  |                            |
|                       | this page to identify each taconit<br>recovery coke over battery, sinte<br>furnace and electric arc furnace.<br>under their respective headings.<br>flare, click on "Open" to enter Gr<br>Annual mass of fuel consumed, r<br>summed across all units at a faci | e indurating furnace, basic oxygen pr<br>process, decarburization vessel, di<br>Similarly, identify coke pushing oper:<br>After adding a process unit, coke pu<br>eenhouse gas (GHG) data required t<br>non-fuel consumed, products and by p<br>lilly for which the mass balance meth | rocess furnace, non-<br>rect reduction<br>ations and flares<br>shing operation or<br>by Subpart Q.<br>broducts used, are<br>od were used. For |                                  |                            |
|                       | additional information about Sub<br>Help link(s) provided in the sideb                                                                                                                                                                                         | part Q reporting and Subpart Y, plea<br>par.                                                                                                                                                                                                                                          | se use the e-GGRT                                                                                                                             | Subpart Q: V                     | /iew Validation            |
|                       | SUBPART Q SUMMARY INFOR                                                                                                                                                                                                                                        | MATION FOR THIS FACILITY                                                                                                                                                                                                                                                              |                                                                                                                                               |                                  |                            |
|                       | Annual mass of fuel consume<br>(metric ton                                                                                                                                                                                                                     | ed Annual mass of nor<br>s) consumed (metric                                                                                                                                                                                                                                          | n-fuel Annual mas<br>; tons)                                                                                                                  | ss of products and by<br>used (m | rproducts<br>netric tons)  |
|                       | UNITS<br>Add any of the following as units: tr<br>process, electric arc furnace, deca<br>Name/ID                                                                                                                                                               | aconite indurating furnace, basic oxyg<br>irburization vessel and direct reductio<br>Type                                                                                                                                                                                             | gen process furnace, r<br>on furnace.<br>CO2 (me                                                                                              | non-recovery coke over           | battery, sinter            |
|                       | No Units Present                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                       |                                                                                                                                               |                                  |                            |
|                       | 🖶 ADD a Unit                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                       |                                                                                                                                               |                                  |                            |
|                       | UNIT SUMMARY (Units monitor                                                                                                                                                                                                                                    | ed by CEMS)                                                                                                                                                                                                                                                                           |                                                                                                                                               |                                  |                            |
|                       | Name/                                                                                                                                                                                                                                                          | ID                                                                                                                                                                                                                                                                                    | Туре                                                                                                                                          |                                  | Status <sup>1</sup> Delete |
|                       | No units have been added                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                       |                                                                                                                                               |                                  |                            |
|                       |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                       |                                                                                                                                               |                                  |                            |
|                       | Neme/ID                                                                                                                                                                                                                                                        | Turne                                                                                                                                                                                                                                                                                 | C0.                                                                                                                                           | (motric tonc) Status             | Delete                     |
|                       | ADD a Coke Pushing Operation                                                                                                                                                                                                                                   | on <b>Type</b>                                                                                                                                                                                                                                                                        |                                                                                                                                               | 2 (metric tons) Status           | Delete                     |
|                       | FLARES                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                       |                                                                                                                                               |                                  |                            |
|                       | Name/ID                                                                                                                                                                                                                                                        | Туре                                                                                                                                                                                                                                                                                  | CO                                                                                                                                            | 2 (metric tons) Status           | Delete                     |
|                       | 🕂 ADD a Flare                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                       |                                                                                                                                               |                                  |                            |
|                       | ★ Facility Overview                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                       |                                                                                                                                               |                                  |                            |

# Section A - Carbon Mass Balance Method

# Step A1: Access the Inputs Verifier Tool (IVT)

For each process unit that is NOT monitored by CEMS at your facility and for which CO<sub>2</sub> process emissions will be estimated using the carbon mass balance method, Subpart Q requires the following emissions information:

• The annual CO<sub>2</sub> process emissions (the results from Equation Q-1, Q-2, Q-3, Q-4, Q-5, Q-6, or Q-7 in metric tons)

In the Equation Summary and Result section, you will see a block labeled "Use Inputs Verifier to calculate" and a green "Go" button. Click "Go" to open the inputs verifier module for Subpart Q.

|                            | nmental Protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | e-GGKT 🚄                                                                                                                                                                                                                                  |
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| HOME FACILITY REGIS        | TRATION FACILITY MANAGEMENT DATA R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | EPORTING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Electronic Greenhouse Gas<br>Reporting Tool<br>Hello, Matt Foley   My Profile   Lo                                                                                                                                                        |
| 🕝 e-GGRT Help              | Matt Foley's Rocking Facility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                           |
| Using e-GGRT for Subpart Q | Subpart Q: Iron and Steel Pr<br>Subpart Overview & Direct Reduction Euroace                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | oduction (2014)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                           |
| reporting1                 | Capar orement a preenteauann anae                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                           |
|                            | GREENHOUSE GAS DATA AND ASSOCI<br>Use this page to enter the GHG data require                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ATED INFORMATION<br>d by Subpart Q. Please enter the information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                           |
|                            | shown for this taconite indurating furnace, ba<br>coke oven battery, sinter process, decarburia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | sic oxygen process furnace, non-recovery<br>ation vessel, direct reduction furnace or                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Annual CO <sub>2</sub> mass emissions from the Dire<br>Reduction Furnace (metric tons).                                                                                                                                                   |
|                            | electric arc furnace, as applicable. For additi<br>this page, please use the e-GGRT Help link(s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | onal information about the data collected on<br>s) provided.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                           |
|                            | EQ. Q-7: CO2 EMISSIONS CALCULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                           |
|                            | Use equation Q-7 to calculate annual CO2 m<br>Furnace.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ass emissions for this Direct Reduction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                           |
|                            | FACILITY'S INPUTS VERIFIER FILE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | What is the Inputs Verifier I                                                                                                                                                                                                             |
|                            | No inputs verifier file exists                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Instructions: No Inputs Verifier file exists t<br>of equation inputs. After ente<br>a file copy of the inputs you h<br>important to save a copy t<br>save or store equation inp<br>"What is the Inputs Verifier Fi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ecause you have not yet begun data entry<br>ring equation inputs you will be able to sav<br>ave entered to your computer. It is<br>refore you log off as e-GGRT will not<br>uts data! For more information use the<br>le?" link provided. |
|                            | EQUATION Q-7 SUMMARY AND RESULT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                           |
|                            | CO <sub>2</sub> =44/12×[(F <sub>9</sub> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | $\times (C_{gf}) \times \frac{MW}{MVC} \times 0.001 + (Ore) \times (C_{Ore}) + (Ca$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | arbon)×(C <sub>Carbon</sub> )                                                                                                                                                                                                             |
|                            | + (Other)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | × (C <sub>Other</sub> ) - (Iron) × (C <sub>Iron</sub> ) - (NM) × (C <sub>NM</sub> ) - (R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | )×(C <sub>R</sub> )                                                                                                                                                                                                                       |
|                            | Hover over an                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | element in the equation above to reveal a defin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ition of that element                                                                                                                                                                                                                     |
|                            | Annual CO2 mass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | (metric tons)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                           |
|                            | emissions (metric tons)<br>Use Inputs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Verifier to calculate GO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                           |
| 4                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                           |
|                            | INPUT: GASEOUS FUEL - FUEL 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                           |
|                            | INPUT: GASEOUS FUEL - FUEL 1<br>Annual mass or volume is based on one                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                           |
|                            | INPUT: GASEOUS FUEL - FUEL 1<br>Annual mass or volume is based on one<br>or more substitute monthly data values<br>Number of months that missing data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | (months)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                           |
|                            | INPUT: GASEOUS FUEL - FUEL 1<br>Annual mass or volume is based on one<br>or more substitute monthy data values<br>Number of months that missing data<br>procedures were followed, if applicable<br>Method used to develo the substitute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | (months)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                           |
|                            | NPUT: GASEOUS FUEL FUEL 1<br>Annual mass or volte. FUEL 1<br>annual mass or volte. FUEL 1<br>or more substitute monthly data values<br>Number of months that missing data<br>procedures were followed, if applicable<br>Method used to develop the substitute<br>data value(s), if applicable<br>Carbon content dataministics method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (months)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                           |
|                            | NPUT: CASEOUS FUEL - FUEL 1<br>Annual mass or volume is based on one<br>or more substitute monthly data values.<br>Number of months that missing data<br>procedures were followed, if applicable<br>Method used to develop the substitute<br>data value(s), tapplicable<br>Carbon content determination method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (months) (Select Select | Nods used to determine carbon content of<br>ng and QA/QC requirements for fuel inputs<br>1.176(e)(2)).                                                                                                                                    |
|                            | NPUT: CASEOUS FUEL - FUEL 1 Annual mass or volume is based on one or more substitute monthly data values Number of months that missing data procedures were followed, if applicable Method used to develop the substitute data value(s), if applicable Carbon content determination method OUTPUT: IRON PRODUCED - OUTPUT 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | C (months) Select 'Other' ONLY when identifying the me<br>process incyst har FUELS (see monitor)<br>98. 174(b)(2)(v) and reporting requirement 98                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ■<br>hods used to determine carbon content of<br>grand QA/QC requirements for fuel inputs<br>1176(e)(2)).                                                                                                                                 |
|                            | NPUT: CASEOUS FUEL - FUEL 1 Annual mass or volume is based on one or more substitute monthly data values Number of months that missing data procedures were followed, if applicable Method used to develop the substitute data value(s), if applicable Carbon content determination method OUTPUT:RON PRODUCED - OUTPUT 1 Annual mass or volume is based on one or more substitute monthly data values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ■<br>hods used to determine carbon content of<br>grand QA/QC requirements for fuel inputs<br>1176(e)(2)).                                                                                                                                 |
|                            | NPUT: CASEOUS FUEL - FUEL 1 Annual mass or volume is based on one or more substitute monthly data values Number of months that missing data procedures were followed, if applicable Carbon content determination method OUTPUT: RON PRODUCED - OUTPUT 1 Annual mass or volume is based on one or more substitute monthly data values Number of months that missing data values Procedures were followed, if applicable Determination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Solution of the determine carbon content of<br>and QAVQC requirements for fuel inputs<br>1176(e)(2)).                                                                                                                                     |
|                            | NPUT: CASEOUS FUEL - FUEL 1 Annual mass or volume is based on one or more substitute monthly data values Number of months that missing data procedures were followed, if applicable Method used to develop the substitute Carbon content determination method OUTPUT: IRON PRODUCED - OUTPUT 1 Annual mass or volume is based on one or more substitute monthly data values Number of months that missing data Number of months that missing data values Mumber of months that missing data values Number of |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Index of the determine carbon content of<br>nod GAVGC requirements for fuel inputs<br>176(e)(2).                                                                                                                                          |
|                            | NPUT: CASECOUS FUEL - FUEL 1<br>Annual mass or volume is based on one<br>or more substitute monthly data values<br>Number of months that missing data<br>procedures were followed, if applicable<br>data value(s), if applicable<br>Carbon content determination method<br>OUTPUT ROM PRODUCED - OUTPUT 1<br>Annual mass or volume is based on one<br>or more substitute monthly data values<br>Number of months that missing data<br>procedures were followed, if applicable<br>data value(s), if applicable<br>data value(s), if applicable<br>Carbon content determination method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Index of the determine carbon content of<br>node super the determine carbon content of<br>node (A)(C) requirements for fuel inputs<br>176(e)(2)).                                                                                         |
|                            | NPUT: CARECOUS FUEL FUEL 1 Annual mass or volume is based on one or more substitute monthly data values Number of months that missing data procedures were followed, if applicable Method used to develop the substitute data values], if applicable Carbon content determination method OUTPUT IRON PRODUCED - OUTPUT 1 Annual mass or volume is based on one or more substitute monthly data values Number of months that missing data procedures were followed, if applicable Method used to develop the substitute Muthod taka values], if applicable Method used to develop the substitute Muthod data values is applicable Carbon content determination method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                           |
|                            | NPUT CARECUS FUEL FUEL 1 Annual mass or volume is based on one diat value(s), if applicable Method used to develop the substitute diat value(s), if applicable Carbon content determination method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Index used to determine carbon content of gand QAQC requirements for fuel inputs     T76(e)(2))                                                                                                                                           |

| Agency                                   | nmental Protection                                                                              |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HOME FACILITY REGIS                      | TRATION FACILITY MANAGEMENT DATA R                                                              | EPORTING                                                                                                                                                                                                        | Reporting Tool Hello, Matt Foley   My Profile   Logout                                                                                                                                                                                        |
|                                          | Matt Foley's Rocking Facility                                                                   |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | Subpart Q: Iron and Steel Pr                                                                    | roduction (2014)                                                                                                                                                                                                |                                                                                                                                                                                                                                               |
| Using e-GGRT for Subpart Q<br>reporting1 | Subpart Overview » Direct Reduction Furnace                                                     | » GHG Info                                                                                                                                                                                                      |                                                                                                                                                                                                                                               |
|                                          | GREENHOUSE GAS DATA AND ASSOCI                                                                  | ATED INFORMATION                                                                                                                                                                                                |                                                                                                                                                                                                                                               |
|                                          | Use this page to enter the GHG data required                                                    | d by Subpart Q. Please enter the information                                                                                                                                                                    |                                                                                                                                                                                                                                               |
|                                          | coke oven battery, sinter process, decarburiz                                                   | sic oxygen process furnace, non-recovery<br>zation vessel, direct reduction furnace or                                                                                                                          | Reduction Furnace (metric tons).                                                                                                                                                                                                              |
|                                          | electric arc furnace, as applicable. For additi<br>this page, please use the e-GGRT Help link(s | ional information about the data collected on s) provided.                                                                                                                                                      |                                                                                                                                                                                                                                               |
|                                          |                                                                                                 |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | Eq. Q-7: CO2 EMISSIONS CALCULATION                                                              | N<br>assemissions for this Direct Reduction                                                                                                                                                                     |                                                                                                                                                                                                                                               |
|                                          | Furnace.                                                                                        |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | FACILITY'S INPUTS VERIFIER FILE                                                                 |                                                                                                                                                                                                                 | What is the Inputs Verifier File?                                                                                                                                                                                                             |
|                                          | No inputs verifier file exists                                                                  | Instructions: No Inputs Verifier file exists t<br>of equation inputs. After ent<br>a file copy of the inputs yout<br>important to save a copy I<br>save or store equation inp<br>"What is the Inputs Verifier F | because you have not yet begun data entry<br>ering equation inputs you will be able to save<br>ave entered to your computer. It is<br>pefore you log off as e-GRAT will not<br>uts data! For more information use the<br>ije?" link provided. |
|                                          | EQUATION Q-7 SUMMARY AND RESULT                                                                 |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | <b>CO</b> <sub>0</sub> = <sup>44</sup> × [ (E <sub>0</sub> )                                    | $(C_{r}) \times (C_{r}) \times \frac{MW}{2} \times 0.001 + (C_{r}) \times (C_{r}) + (C_{r})$                                                                                                                    | arbon) x (Goston)                                                                                                                                                                                                                             |
|                                          |                                                                                                 |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | + (Other)                                                                                       | ) × (C <sub>Other</sub> ) - (Iron) × (C <sub>Iron</sub> ) - (NM) × (C <sub>NM</sub> ) - (R                                                                                                                      | (C <sub>R</sub> ) (C <sub>R</sub> )                                                                                                                                                                                                           |
|                                          | Hover over an                                                                                   | element in the equation above to reveal a defin                                                                                                                                                                 | nition of that element.                                                                                                                                                                                                                       |
|                                          | Annual CO2 mass                                                                                 | (metric tons)                                                                                                                                                                                                   |                                                                                                                                                                                                                                               |
|                                          | emissions (metric tons)<br>Use Inputs                                                           | Verifier to calculate GO                                                                                                                                                                                        |                                                                                                                                                                                                                                               |
|                                          | INPUT: GASEOUS FUEL - FUEL 1                                                                    |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | Annual mass or volume is based on one                                                           |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | or more substitute monthly data values Number of months that missing data                       | (months)                                                                                                                                                                                                        |                                                                                                                                                                                                                                               |
|                                          | procedures were followed, if applicable<br>Method used to develop the substitute                |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | data value(s), if applicable                                                                    |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | Carbon content determination method                                                             | Select<br>Select "other" ONLY when identifying the met<br>process inputs that are FUELS (see monitori<br>98.174(b)(2)(vi) and reporting requirement 98                                                          | thods used to determine carbon content of<br>ng and QA/QC requirements for fuel inputs in<br>8.176(e)(2)).                                                                                                                                    |
|                                          |                                                                                                 |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | Annual mass or volume is based on one                                                           |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | or more substitute monthly data values                                                          |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | Number of months that missing data procedures were followed, if applicable                      | (months)                                                                                                                                                                                                        |                                                                                                                                                                                                                                               |
|                                          | Method used to develop the substitute<br>data value(s), if applicable                           |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                               |
|                                          | Carbon content determination method                                                             | Select                                                                                                                                                                                                          |                                                                                                                                                                                                                                               |
|                                          |                                                                                                 | Select "other" ONLY when identifying the met                                                                                                                                                                    | thods used to determine carbon content of<br>ring and QA/QC requirements for fuel outputs                                                                                                                                                     |
|                                          |                                                                                                 | in 98.174(b)(2)(vi) and reporting requirement                                                                                                                                                                   | 98.176(e)(2)).                                                                                                                                                                                                                                |
|                                          |                                                                                                 | in 98.174(b)(2)(v)) and reporting requirement                                                                                                                                                                   | 98.176(e)(2)).                                                                                                                                                                                                                                |

## **Step A2: Enter Equation Inputs in IVT**

See Subpart Q Entering Equation Inputs Using IVT for instructions on how to enter your equation inputs in the inputs verifier module.

After entering you equation inputs in the inputs verifier module, the results will be displayed on the Greenhouse Gas Data and Associated Information page.

NOTE: If you wish to report your own result, click on the "Enter/Report Alternate Result" check box and enter the data in the "Enter Own Result" field.

#### Step A3: Input and Output Substitute Data

For each input and output assigned to the process unit, enter the following substitute data information:

- Annual mass or volume is based on one or more substitute monthly data values. If this is not selected or is not applicable, you must enter zero, "0" in the box for the number of months with missing data. If you do not remember, you will receive a UNIT level validation message indicating that you have not completed entering data on this form in the validation report.
- Number of months that missing data procedures were followed, if applicable
- Method used to develop the substitute data value(s), if applicable. Enter information only if you applied missing data procedures, otherwise leave blank.
- Carbon content determination method, selected from the following, be sure the method selected is appropriate to the material being tested:
   Supplier
  - ASTM C25-06
  - ASTM 020 00
     ASTM D5373-08
  - ASTM E1915-07a
  - ASTM E1019-08
  - ASM CS-104 UNS No. G10460
  - ° ISO/TR 15349-3:1998
  - Other (specify)

#### Step A4: Save Your Data

When you have finished entering annual emissions, inputs and outputs and identifying whether substitute data were used to determine mass or volume of input/outputs, click SAVE. You will then return to the Subpart Overview page and you should see the status of data entry for the unit change to "Complete" in the Status column in the UNITS table.

After you save the data on this page, the next time you open the page, the calculator on the top of the page will display the CO<sub>2</sub> process emissions, rounded to the nearest 0.1 of a metric ton. The value displayed is for informational purposes only.

## Step A5: Repeat Steps A1-A4

Repeat Steps A1-A4 until data have been entered for all process units NOT monitored by CEMS for which emissions were estimated using the carbon mass balance methods provide in the rule.

# Section B - Site-specific Emission Factor Method

## Step B1. Access the Inputs Verifier Tool (IVT)

For each process unit that is NOT monitored by CEMS at your facility and for which CO<sub>2</sub> process emissions will be estimated using the site-specific emission factor method, Subpart Q requires the following emissions information:

- The annual CO<sub>2</sub> process emissions (the results from Equation Q-8 and associated procedures in 98.73(b)(2)(i)-(iv) multiplied by the total amount of feed or production, as applicable, for the reporting period, in metric tons)
- The number of times that missing data procedures were followed and the performance test was repeated to determine the site-specific emission factor
- The number of times that missing data procedures were followed or the performance test was repeated to determine the site-specific emission factor
- Average hourly CO<sub>2</sub> emission rate during test (in metric tons/hour)

In the Annual Result section, you will see a block labeled "Use Inputs Verifier to calculate" and a green "Go" button. Click "Go" to open the inputs verifier module for Subpart Q.

For assistance in calculating the average hourly  $CO_2$  emission rate during test, access the calculation spreadsheets for this subpart by clicking the link titled "Use Q EF spreadsheet to calculate," located below the "Average hourly  $CO_2$  emission rate during test" data entry box, then follow the instructions provided (Note that the Equation Q-8 EF Approach Calculation Spreadsheet executes the additional step of dividing the result of Equation Q-8 by the total amount of feed or production, as applicable and required by the rule, for the reporting period to calculate annual  $CO_2$  process emissions for the process unit).

When you have finished entering the required emissions data, click SAVE.

After you save the data on this page, the next time you open the page, the calculator on the top of the page will display the CO<sub>2</sub> process emissions, rounded to the nearest 0.1 of a metric ton.

## **Step B2: Enter Equation Inputs in IVT**

See Subpart Q Entering Equation Inputs Using IVT for instructions on how to enter your equation inputs in the inputs verifier module.

## Step B3: Repeat Steps B1-B2

Repeat Steps B1-B2 until data have been entered for all process units for which emissions were estimated using the site-specific emission factor method.

When you have finished entering the required emissions data, click SAVE.

>> Click this link to expand





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#### See Also

Using e-GGRT to Prepare Your Subpart Q Report for RY2014 and Later Years

- Subpart Q Summary Information for this Facility for RY2014 and Later Years
- Subpart Q Process Unit Information for Units NOT Monitored by CEMS for RY2014 and Later Years
- Subpart Q Process Unit Information for Units Monitored by CEMS for RY2014 and Later Years
- Subpart Q Coke Pushing Operations Information for RY2014 and Later Years •
- ٠ Subpart Q Flares Information for RY2014 and Later Years
- Subpart Q Emissions Information for Units NOT Monitored by CEMS for RY2014 and Later Years
- Subpart Q Emissions Information for Units Monitored by CEMS for RY2014 and Later Years Subpart Q Emissions Information for Coke Pushing Operations for RY2014 and Later Years ٠
- ٠
- . Subpart Q Emissions Information for Flares for RY2014 and Later Years
- •
- Subpart Q Entering Equation Inputs Using IVT

Screen Errors Subpart Validation Report