e-GGRT Training Webinar

Reporting GHG Data for Subpart H

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You will see a number of e-GGRT screenshots throughout this webinar. These screenshots may differ slightly from the final version of e-GGRT that is made available for live GHG reporting later this year.
This training session focuses on using e-GGRT web forms to report data for Subpart H. In this training we have four topics to cover:

The first covers the procedures for entering Subpart H specific data for cement kilns using the clinker based methodology.

The second will focus on entering subpart H specific data for cement kilns which monitor emissions using a continuous emissions monitoring system (CEMS).

Next we will review the e-GGRT validation messages under Subpart H.

Finally, we will then review the basic steps for submitting your data report to EPA.

Now let’s turn to reviewing the web forms for Subpart H.
Once you have opened your facility through the data reporting tab, click the on the blue hyperlinked text from the facility overview page as shown to “ADD or REMOVE Subparts” so that you can add Subpart H – Cement Production to your facility.
You will then be on the Subpart Selection page. For this training session, we are selecting the checkbox next to Subpart H list.

If other subparts are applicable to your facility, such as subpart H this is where you would select those subparts.

Also note that if you remove or un-check a subpart on this page that you have already added, you will lose all data you have entered for that subpart.

To continue, you need to hit the green “SAVE” button at the bottom of the page to accept this selection as shown.
When you return to the “Facility or Supplier Overview” page, you should now see Subpart H listed in the REPORT DATA table as shown here in the third row.

Now that you have added Subpart H, you can click the blue “OPEN” button in the row with Subpart H – to begin entering data.
On the next page, you will see a question mark in the left hand corner of the screen in the blue side bar along the web form. By clicking here, you can get additional help, or link to Reporting Instructions for Subpart H (complement and supplement this webinar).
This webinar is designed to be a tutorial. In preparing to use the e-GGRT forms to report, you could begin by reviewing this webinar and then just walk through the Subpart H Reporting Instructions.

You should also refer to the e-GGRT Reporting Instructions if you have a specific questions about how to enter information as well.

This slide is what the Reporting Instructions screen looks like for Subpart H. You can choose one of the three main topics:
--Using e-GGRT to Prepare Your Subpart H Report;
--Using Subpart H Calculation Spreadsheets; and
--Subpart H Rule Guidance;
You will now be directed to the Subpart H overview page.

The overview page is an important page you that will be returning to after entering required data in different forms related to Subpart H. The text circled at the top of the page as shown will change as you navigate within the Subpart H reporting module – so this is a good way to check and understand which form you are on.

The Subpart H has there are 3 main sections where you will need to enter Subpart H specific data.

The first section, which should be completed as a second step, is the Subpart H summary information section for this facility. Here you need to enter the emissions from all kilns not monitored by a CEMS, the total number of kilns for the facility, and total number of operating kilns for the reporting year.

The second section is the Cement Kiln Summary table for kilns not monitored by a CEMS. Here you will enter information required for each kiln, such as the kiln identification information, information on methods to determine clinker production quantity, methods to determine calcined content of carbonates, and raw material inputs.

The last section, under CEMENT KILN SUMMARY (Cement kilns monitored by CEMS), is where you will enter production data for kilns that are monitored by a CEMS.

You can enter data in any order. For the purpose of today’s demonstration – but this is how we recommend entering information:
- we are first going to enter kiln information for cement kilns not monitored by a CEMS.
- then we are going to enter the facility summary information.
So let’s start by adding information for a cement kiln at our example facility that is not monitored by a CEMS.

Under the “CEMENT KILN SUMMARY” header, select the “Add a Cement Kiln” hyperlink. This will take you to where you will enter emissions data that are determined by using the clinker based method provided in Subpart H of the rule.
When you select Add a Cement Kiln – you will open the “Add/Edit a Cement Kiln>> CEMS” form

The form will ask you to identify whether the kiln is monitored by a CEMS or not. For kilns added under this summary table the question will default to “NO.” You do have the option to change your response. For this example, we are first entering a kiln not monitored by CEMS.

So let’s select “No” here and again “SAVE” this information to move on to the next form.
After you hit “SAVE” you will be directed to the Estimation Method Form for Raw Materials.

On this form select the method used to estimate Annual CO2 emissions from raw material consumption for each kiln.

You can estimate these emissions based on individual raw material consumption or based on the amount of raw kiln feed consumed annually.

For this example, this kiln is using a method “based on consumption of individual raw materials” so that is what we will select as shown by the arrow labeled number 1.

Again be sure to hit the green “SAVE” button to accept your selection and move on to the next form as shown by arrow 2.
Next you will proceed to the “Add/Edit a Cement Kiln” information form. Here this form has 5 main sections.

In the first section, add the kiln identification number and/or identification name.

In the second section, if you selected a method for estimating annual raw material CO2 emissions using consumption of individual raw materials, select “ADD a Raw Material” to list the materials on this page - this is consistent with equation H-5 in the rule. This section will only appear if you selected this method on the previous form.

In the third section, confirm that the unit is not monitored by CEMS. If you choose to make the switch to CEMS at this point, you still have the option to choose “Yes” and update your answer to this question. You will lose any previously entered information on raw materials.

Finally, on this page, confirm the method for estimating annual CO2 emissions for raw material consumption at this kiln. This answer should match your previous answer, but if that was incorrect, you have the opportunity to update you answer here.
Once again, as a reminder. The 2nd step only applies to kilns that calculate raw material CO2 emissions using the consumption of each raw material individually.

Since we indicated that we are using this method for this kiln, we need to add information about each material to complete data entry for this form.

Let’s select the blue hyperlink “ADD a Raw Material” to enter this information as shown by the arrow number 2.
After clicking on ADD a raw material, you will be directed to this form to enter the name for each raw material.

Once you enter the name, remember to hit the green “SAVE” button and you will be directed back to the previous kiln information form.
Once you have completed entering this kiln’s information, click the green “SAVE” button to accept your entries and selections and hit the Blue “BACK to Overview” to return to the Subpart H overview page.
When you return to the Subpart H overview page, you should see the kilns you have identified in the cement kiln summary table.

As you can see the “Status” field is still “incomplete” for Kilns 4 and 5 because we have not entered all information for these 2 kilns, including the annual CO2 emissions.

Click the blue “OPEN” button for “Kiln 005” to enter the other remaining required data for this kiln.
When you click the blue “OPEN” - button you will be directed to the GHG info form for the selected kiln.

The FORM name for this screen shows you which kiln you are entering information for.

You will now be directed to enter information required by the rule based on the frequency with which it is to be reported, beginning with annual information.

Emissions from raw material consumption are calculated using annual quantities based on monthly measurements. Here you will indicate whether missing data procedures were applied for any of the monthly values used to calculate the annual consumption quantity. On this form you will also indicate whether the annual organic carbon content is based on one or more substitute data values.

Once you have entered the annual information, select the blue “quarterly information” button to continue and enter quarterly information.
On the Quarterly Information form, again we are collecting information on methods used and whether missing data procedures were applied to determine any of the cement kiln dust (CKD) information reported under subpart H.

This includes where missing data procedures were applied to estimate
- Quantity of CKD not recycled to the kiln or
- Fraction of non-calcined CaO and MgO in CKD not recycled to the kiln

Also on this page you should indicate the method that is used to determine the fraction of non-calcined CaO and MgO in CKD, this includes choosing the default provided in the rule.

Once you have entered information for all Quarters, select the blue “Monthly INFO” button at the bottom of this form to continue to the next form to enter information that is reported on a monthly basis. If needed you can also go back and modify annual information that you entered on the previous form.
On the Monthly Information Form, again you will be reporting on methods used and if missing data procedures were applied to determine any of the clinker information reported under subpart H.

For each month identify the methods used to determine:
- Clinker production
- Non calcined fractions of CaO and MgO in clinker

If you have any questions about the information to reported, review the monitoring and qa/qc sections of the rule to better understand applicable methods.

You will need to confirm use of missing data procedures for each month. This screen shows only entry of information for January.

Note, once again, if the methods for determining these parameters are consistent across all months you have the option to select “Make all months same” next to the method entry field and simplify data entry.

Once you have entered information for all months, select the blue “FINISHED” button at the bottom of the form to return to the Subpart H overview page.

(If needed, you can also go back and update any of the “QUARTERLY” information by selecting the blue “QUARTERLY INFO” button.)
When you return to the subpart overview page, you will see the screen now indicates that data entry for Kiln 005 is complete, which is good.
You should also periodically review the Subpart H validation messages. In the upper right corner of the screen is a Subpart H Validation box.

When you have completed all required data entry and there are no critical data entry errors this box will turn green and read “no validation messages.”

In this case the validation box is red, indicating that there is information missing or there are errors.

You can click on the “view validation” hyperlink pointed out by the arrow to open the Validation Report page and identify more specifically where errors may exist.
We are now looking at the Subpart H Validation Report. There are many validation messages that could be generated based on the data you have entered for subpart H.

This is not a complete list, but it shows some of the messages that you may come across. In this example, the messages are grouped with 3 categories.

The first category provides facility-level validation messages. Currently this category is showing all those data elements as incomplete because we have not yet entered facility-level information.

The second category provides CEMS monitoring location (CML) validation messages. We have not added a CML yet, and therefore have no CML validation messages.

The third category provides the equation-level validation messages. This screen shows a data quality issue for Kiln 2 – indicating that the cement production quantity that we entered is outside of the an EPA estimate range. Users who see this message should review the information entered for Kiln 2 cement production and verify that the number is correct and there are no errors or typos. If upon review, you believe the data to be correct, then you should still submit that data.

In this third category section, we also see a data completion message. The message indicates that the Kiln information for Kiln 4 is incomplete.

Notice that, for your convenience, each message text is a hyperlink to the e-GGRT page where the warning was generated. Now let’s return to the Subpart H Overview page and address these validation messages.
In the interest of time, we have jumped a bit ahead. So let’s assume that we have completed data entry for Kiln 4 and corrected the cement production data for Kiln 2.

At this time, we have addressed all the equation-level data validation messages. Now we need to enter the facility-level information. Click the blue “OPEN” button on the Subpart H Summary Information table.
You will now be directed to the Summary Information form.

Here you enter the total Annual CO2 Emissions for kilns not monitored by CEMS. Remember you can download worksheets EPA has developed to calculate emissions using the clinker based methodology in Subpart H. Remember use of these worksheets is optional.

Next enter the annual cement production at the facility, the total number of kilns at the facility (both CEMS and non-CEMS) and the number of kilns that were operating during the reporting year as shown by arrow number 2 and number 3.

As with previous entries, remember to click SAVE to store this information and return to the Subpart H overview page.
Please note that if you used the Optional Calculation Spreadsheets during our Sandbox Testing opportunity earlier this year, those spreadsheets may have change since then. Be sure to download the most recent and correct version of the calculation spreadsheets from the e-GGRT Subpart H Help Content.

E-GGRT currently reflects the rule deferring reports of inputs to emission equations for direct emitters.

This means that in certain web forms in e-GGRT, you can view a required equation, but you will only enter the RESULT of that equation into e-GGRT. If you are using the XML upload option, the XML schema will also only include the RESULT of the equation as a data element.

The inputs of the equation are NOT currently collected by e-GGRT. EPA is providing OPTIONAL calculation spreadsheets that you can use to perform the calculations called for in the emission equations. These Microsoft Excel spreadsheets can be downloaded and opened on your own computer. Just click the hyperlink on the web-form to view and download the appropriate calculation spreadsheet for the equation you are working on. You can enter the data, including equation inputs, necessary to perform the calculation for the equation, and the spreadsheets will calculate the result for you. Once you have calculated the result, enter the result on to the e-GGRT web form.

E-GGRT will NOT collect the calculation spreadsheets and you do NOT need to submit them outside of e-GGRT. The use of these calculation spreadsheets is voluntary. The spreadsheets are meant to support reporters as they complete the e-GGRT online reporting process. You do not need to use EPA’s spreadsheets to perform the calculations for the emissions equations, but you do need to keep records of these calculations (under 40 CFR 98.3(g) and additional subpart-specific provisions). Whether or not you use the calculation spreadsheets provided by EPA. If you do not use the spreadsheets, you may choose to maintain copies to help meet your record-keeping requirements.
This is a screenshot of the Equation H-1 Worksheet that you could use to calculate annual CO2 emissions from all kilns at the facility.

As you scroll further down the worksheet, you will see that the worksheet highlights the data to be entered into e-GGRT with a red box identical to the one on the web form.
After completing entry of all information for all non-CEMS units and cross-checking validation messages, we get confirmation that, so far, our Subpart H information is complete and validated.

See that that Validation Bar has now changed – as circled on the screen. We see a checkmark symbol replacing the exclamation mark. We have successfully addressed all the validation messages.

Now let’s turn to adding information for a cement kiln that is monitored by a CEMS. As with the kilns not monitored by CEMs, we must begin by first adding a kiln.

Click on the “Add a Unit Monitored by CEMS” hyperlink as shown by the arrow at the bottom of the screen.
When you select Add a Cement Kiln – you will open the “Add/Edit a Cement Kiln CEMS” form.

On this form, you will be asked to confirm that the unit is monitored by CEMS. In this case, as you can see by the first arrow, the question will default to the response “Yes.”

Since this is true for this kiln, you can accept this default selection.

Make sure to again click the green “Save” button to continue to the next form.
You well then continue to the “Add/Edit a Cement Kiln” form.

Begin by entering the cement kiln name or ID. The description of the unit is an optional field, you can complete it as shown.

Again confirm that the unit is monitored by CEMS and hit the green “SAVE” button.

Hit the “Back to Overview” button to return to the Subpart H Overview form.
After clicking SAVE, you will return to the Subpart H Overview page.

You should now see the kiln you just entered (Kiln 001) in the CEMENT KILN SUMMARY (kilns monitored by CEMS) table as shown by the arrow.

Note the Status of this kiln is incomplete, this is because we still have some information to enter so let’s click OPEN to complete this entry.
After clicking OPEN, you will go to the “GHG info” form for Kiln 001.

For each kiln using a CEMS - for each month indicate whether missing data procedures were applied to estimate clinker production.

In addition, enter the clinker production for each month as shown. Note the units.

You also have the option to make all months the same if this is the case for some data.

When you have entered all the required monthly information, scroll down this form and hit the green “SAVE” button and you will return to the Subpart H overview page.
When you return to the Subpart Overview page, you should note that the Cement Kiln Summary indicates that information for Kiln 001 is now complete. This good.

But notice now that there is a NEW table at the bottom of the overview page which did not exist before. This table is titled the “CEMS MONITORING LOCATION SUMMARY” table. This table appears when you add a unit monitored by CEMS. This is where we will add the additional information required by Subpart C that is associated with use of the Tier 4 methodology, including annual emissions.

In this new table, you will need to add each unique CEMS monitoring location that is associated with one or more of the units identified in the CEMS UNIT summary table.

Let’s proceed with adding the CEMS monitoring location associated with Kiln 001. To begin with must first “ADD a CEMS Monitoring Location” as shown by arrow number 2. So let’s click on this hyperlink.
Now you will be on the “Add/Edit a CEMS Monitoring Location” form.

Let’s review the key elements of this longer form. This form reflects the reporting requirements for using the Tier 4 method required by Subpart C. As you proceed entering information on this form, dropdown menus and automated calendars are provided to facilitate data entry.

This screenshot shows the top half of the form. The first step shown by arrow 1 is naming and identifying the type of CEMS configuration. Is the CEMS unit monitoring a single process unit or monitoring multiple kilns sharing a common stack?

In this example, we have a CEMS that is monitoring a single unit, the Kiln 001 furnace. So we are calling our location Kiln 001 as well and selecting the appropriate configuration from the dropdown menu as shown.

You should also indicate the types of fuel combusted at this location.

Next as show by arrows 2 and 3, confirm the start and end dates associated with this location and add the quarterly CO2 emissions, annual CO2 emissions, and any biogenic emissions.

All entries must be completed as appropriate for this CEMS monitoring location.
One more thing to note – here is were you will indicate if a slipstream that bypasses your CEMS exists and if you followed methods in the rule to report these emissions.

This screen shows a continuation of this form, so as you scroll down the form you will see these additional data entry cells for total annual CH4 and N2O emissions and additional emissions information.

You can again download the optional calculation worksheet C-10 (using the link provided) to determine some of the data inputs required to calculate the total emissions, which you will then enter into these cells.

After completing all of the information on this page, the next step is to link the emissions monitored by the CEMS to the appropriate cement kiln(s).

To do this, go to the end of the form to the table marked by Arrow 6, and click the “Add/Remove a process unit that exhausts to this CEMS monitoring location” hyperlink.
This selection will open up to this simple form you see here.

We have only entered one cement kiln that is monitored by a CEMS, so e-GGRT only displays one kiln – 001- for us to choose from. Click the checkbox to link the CEMS monitoring location to a process unit that is monitored by CEMS, and then click SAVE.
As you can see, we have now linked the CEMS monitoring location to Kiln number 001. This means that the emissions from Kiln “001” are vented to the stack that is monitored by this CEMS.

If multiple units vent to a single stack, then you can add additional units by clicking on the ADD/REMOVE a process unit hyperlink. Because our example configuration type is a single process unit that exhausts to a dedicated stack, we only link Kiln 001 to this monitoring location.

Once you have confirmed that the CEMS location is linked to the appropriate units and all other data entry on this page is complete, hit the green “SAVE” button to return to the Subpart H Overview page.
Now when you return to the Subpart Overview Page – you should confirm that e-GGRT has accepted the information for the CEMS monitoring Location you just added. This good, as you can see, the entry shows the name of the CEMS monitoring Location “Kiln 001”, the correct configuration, the monitored unit-001, and the annual emissions total. The status of this entry is now complete.

After entering all information for all units and checking validation messages, we get confirmation that our Subpart H information is complete and validated.

We can return to the Facility Overview Page to Generate a Report and view GHG details.
When you return to the Facility Overview Page, you can review the details of your Subpart H emissions by clicking on the blue “View GHG Details button.”

In addition to reporting information for Subpart H, cement facilities will also need to enter information under Subpart C – General Stationary Fuel Combustion Sources. Combustion sources may include combustion emissions for kilns that are not monitored using a CEMS and emissions from other process heaters. Data entry for Subpart C is covered in a separate webinar.
Once you have entered all information for Subparts A, C, and H, you can click on the blue "Generate/Resubmit" button on the Submit Annual Report table as shown
This button will take you to the Generate Report page. Click on the green Generate Report button.
E-GGRT will being processing your annual report, which may take several minutes. This page gives you the option to review your report.
This is an example screen if you click “View Report” button on previous page.
This concludes our training session for today. We hope this overview has helped you better understand how to navigate and enter information using the e-GGRT reporting tool.

This slide lists some important links that you may want to refer to later.