e-GGRT Training Webinar on
Reporting GHG Data for Subparts P, Y, and X

U.S. Environmental Protection Agency
Greenhouse Gas Reporting Program (GHGRP)

Updated 2/23/12

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Webinar Outline / Overview

- Calculation Spreadsheets & CBI
- Subpart P
- Subpart Y
  - Reporting Facility-wide Emission Sources
  - Reporting Unit-Level Emission Sources
- Subpart X
  - Reporting Using Mass Balance Method
  - Reporting Using Ethylene Method
- Help Resources

Calculation Spreadsheets, CBI and Inputs

- All elements included in e-GGRT are required reporting elements, as applicable
- E-GGRT currently reflects the rule deferring reporting of inputs to emission equations that was signed by the Administrator on August 19, 2011. Information on the rule can be found at the GHG Reporting Program Website: http://www.epa.gov/ghgreporting/reporters/cbi/index.html
- Data elements that have been determined to be CBI must be reported
- Reporting elements that have been determined to be CBI will be protected under the Clean Air Act (Sec. 114 (c)) and EPA regulations (40 CFR Part 2)

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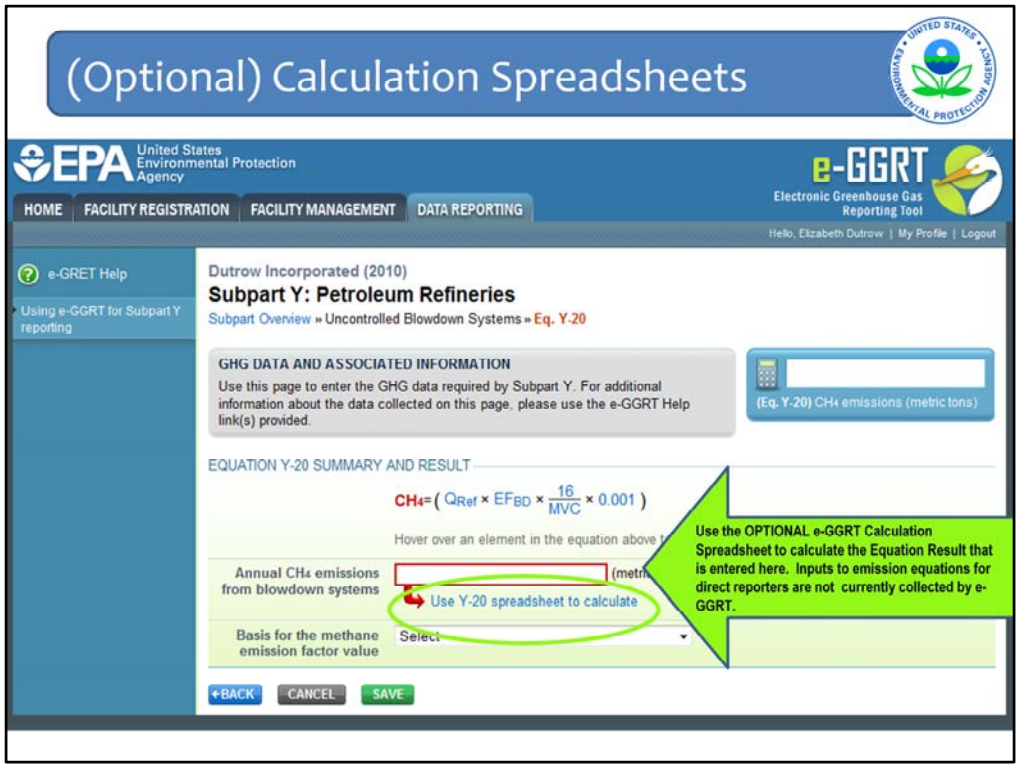


As mentioned in the prior slide, E-GGRT reflects the final rule that deferred the reporting of inputs to emission equations that was signed by the Administrator on August 19, 2011.

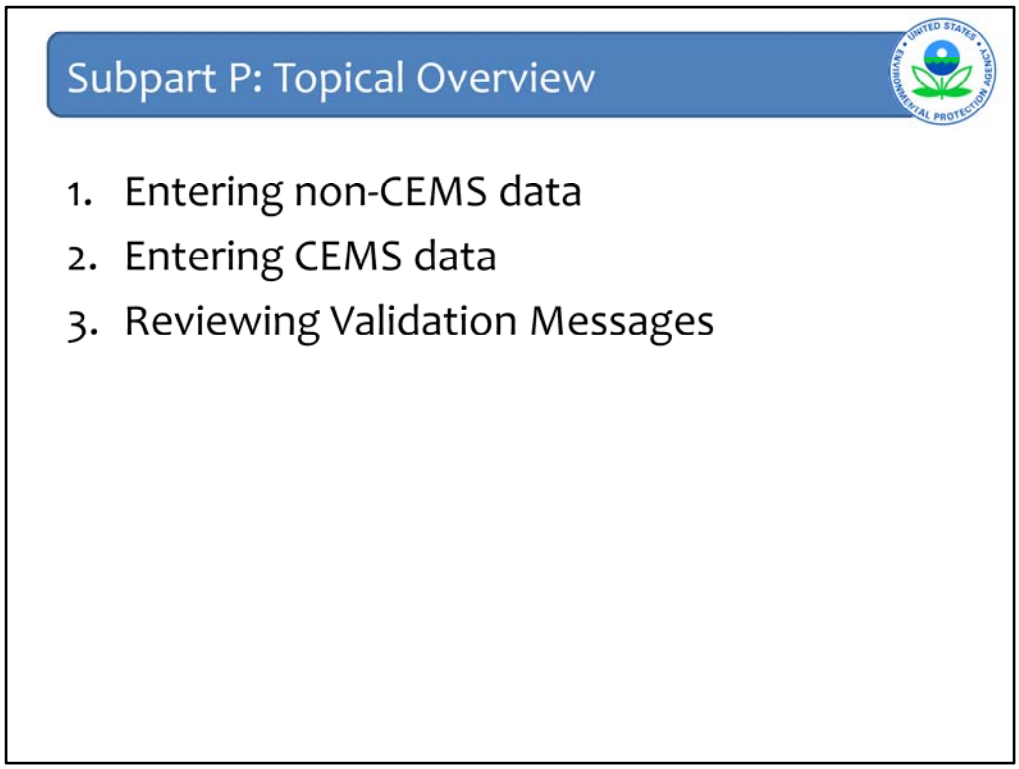
This means that in certain web forms in e-GGRT, you can view a required equation, but you will only enter the RESULT of that equation into e-GGRT. If you are using the XML upload option, the XML schema will also only include the RESULT of the equation as a data element.

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 onto 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 use the spreadsheets, you may choose to maintain copies to help meet your record-keeping requirements.

Subpart P

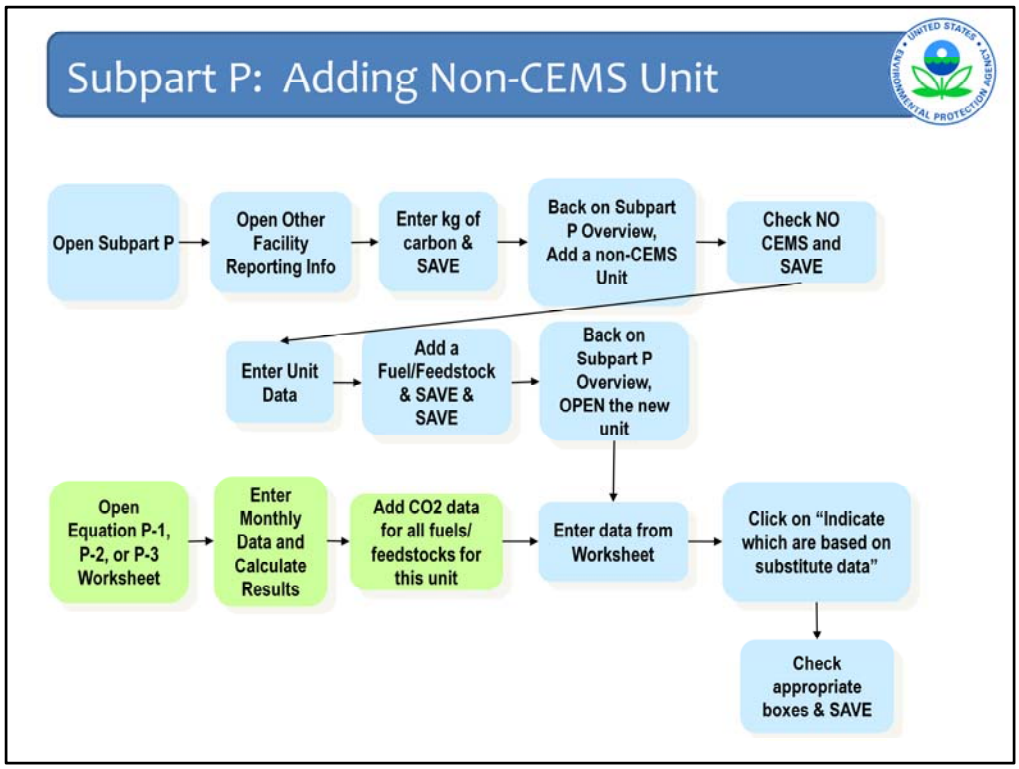


In this training session, we have three major topics to cover.

The first covers the procedure for adding Subpart P specific data for hydrogen production units using the fuel and feedstock mass balance approach.

The second will focus on adding Subpart P specific data for hydrogen production units which collect emissions data using a continuous emissions monitoring system (CEMS).

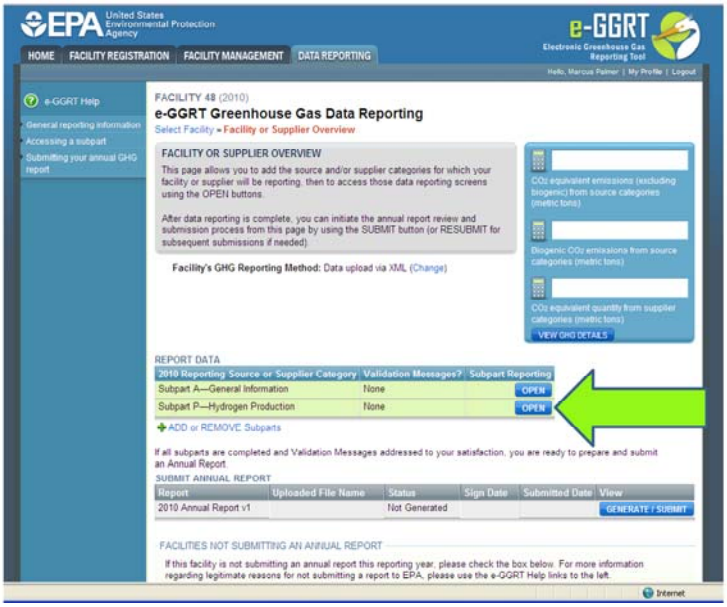
Finally we will have a general review of the e-GGRT validation messages.



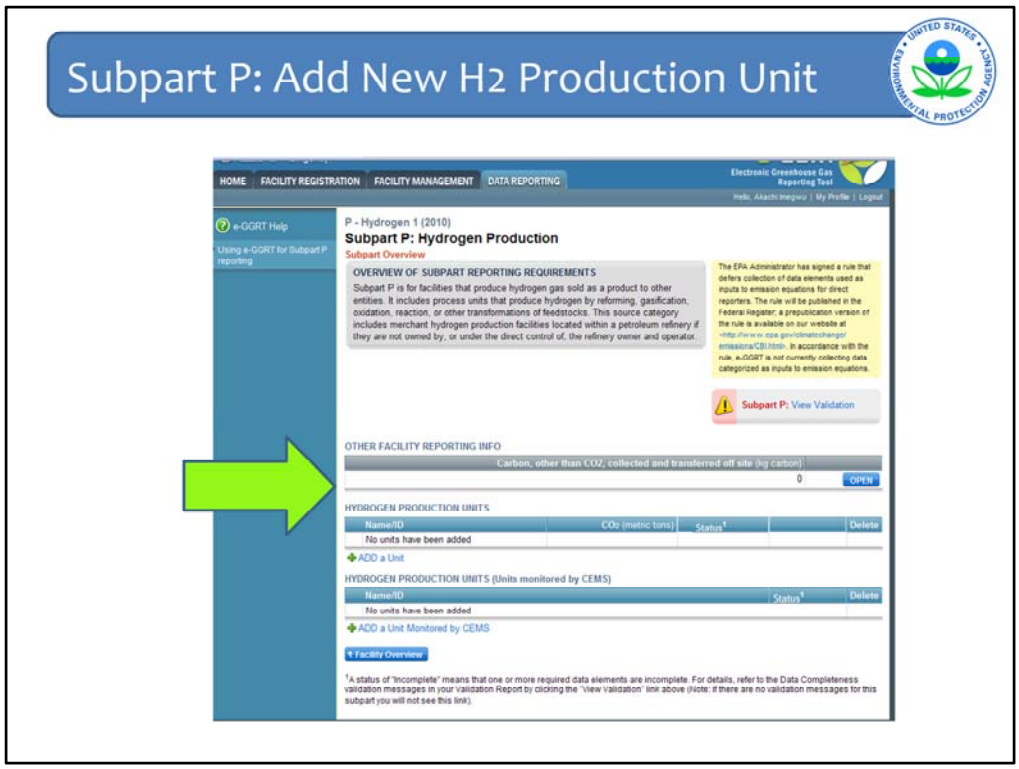
This chart shows the flow of the e-GGRT screens for entering data for subpart P using the mass balance (non-CEMS) approach.

The blue boxes represent screens that are built into e-GGRT, while the green boxes represent external calculations performed by the user. As noted earlier, use of Equation P-1, P-2, or P-3 worksheets are optional, however, the calculations must be completed.

Subpart P: Open New Subpart P



Click the “open” button by the Subpart P - Hydrogen Production entry to begin entering data.



On the Subpart P overview page, there are three main sections where you will need to enter subpart P specific data.

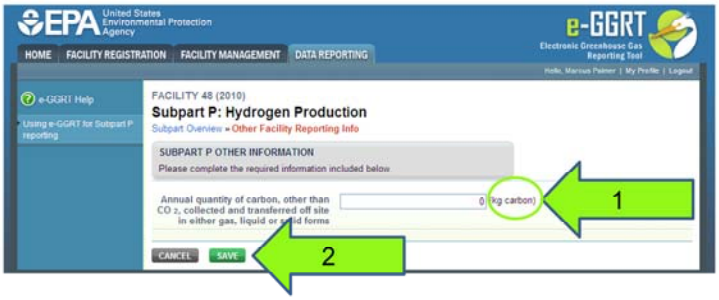
The first is the “Other Facility Reporting Info” section. Here you will enter the amount of “carbon other than CO2” that is collected and transferred offsite in either solid, liquid, or gaseous form.

The second section, under the “Hydrogen Production Units” header, is where you will enter emissions data that are determined using the fuel and feedstock mass balance approach.

The last section, under the “Hydrogen Production Units – Units monitored by CEMS” header, is where you will enter emissions data that are monitored by CEMS.

Let’s select the “Open” box under the “Other Facility Reporting Info” header.

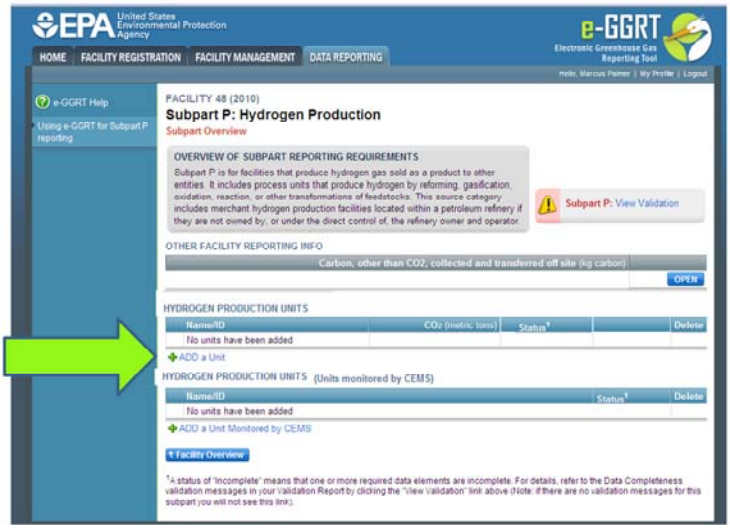
Subpart P: Enter kg Carbon and SAVE



On this page, you are asked to enter the annual amount of carbon other than CO2 that is collected and transferred off site in gas, liquid, or solid forms. The value that you enter here has the units of **kilograms of carbon**. It is easy to make the mistake of entering tons of carbon or tons of CO2).

Once you have entered your amount, then select the "Save" button at the bottom of the page and you will be taken back to the subpart overview page.

Subpart P: Add New H2 Production Unit



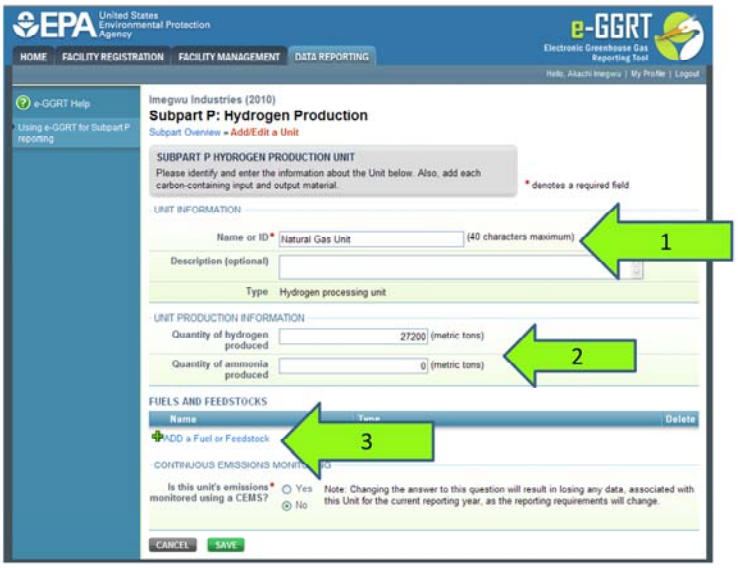
Under the "Hydrogen **Production** Units" header, select the "Add a Unit" hyperlink. This will take you to where you will enter emissions data that are determined by using the fuel and feedstock mass balance approach.

Subpart P: Check "No" and SAVE

On this page, confirm that your unit's emissions are not monitored using CEMS. If you choose to make the switch to CEMS at this point, you still have the option of selecting "Yes" in answer to the question.

Click "Save" at the bottom of the page to accept your selection.

Subpart P: Add Fuel/Feedstock

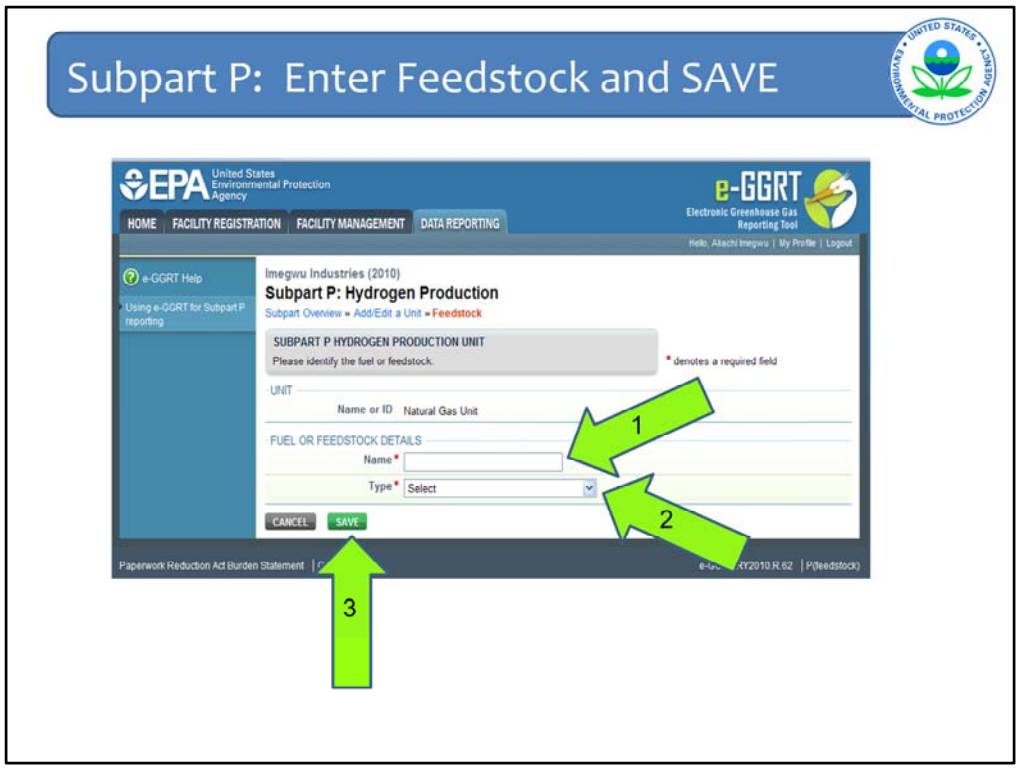


Begin by entering the hydrogen production process unit name or ID. The description of the unit is an optional field.

Next, enter the annual quantity of hydrogen produced and the annual quantity of ammonia produced for this particular unit.

Now select the “Add a Fuel or Feedstock” hyperlink under the “Fuels and Feedstocks” header. This is because we still need to identify the fuels/feedstocks associated with this unit and also identify whether they are solid, liquid or gaseous fuels/feedstock. In addition, the CO2 emissions for the unit still need to be entered.

You can change this unit to a CEMS unit under the heading “Continuous Emissions Monitoring”. If you choose to make the switch to CEMS, you still have the option of selecting “Yes” in answer to the question. Keep in mind that if you do decide to switch at this point, then you will lose any previously entered fuel and feedstock data for this unit once you hit the Save button (except the four data input fields shown on this page).

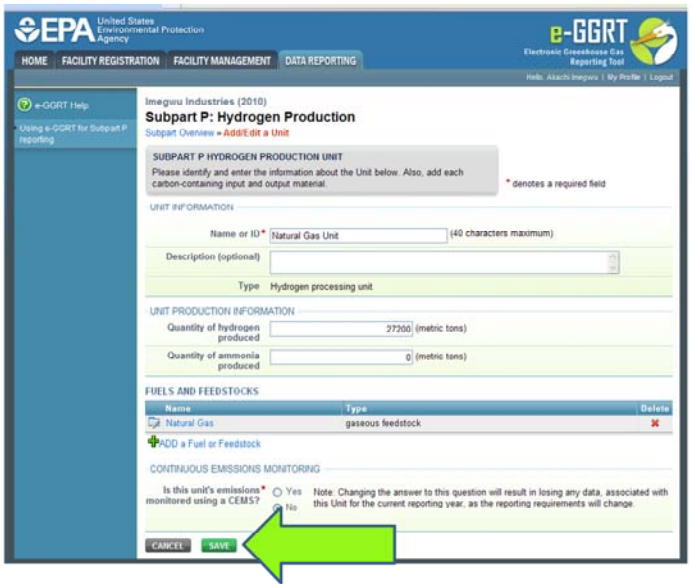


On this page, you need to enter the fuel or feedstock details for the “Natural Gas Unit”.

Enter the name of your choice for the feedstock, and select the appropriate type of feedstock (choices are gaseous, liquid, or solid).

Click the “Save” button at the bottom of the page.

Subpart P: If Done with Page, hit SAVE



You are now taken back to the Subpart P non-CEMs unit page where you were previously. As you can see in the Fuels and Feedstocks section, the “Type” field is now populated and indicates that your first type is “gaseous feedstock”.

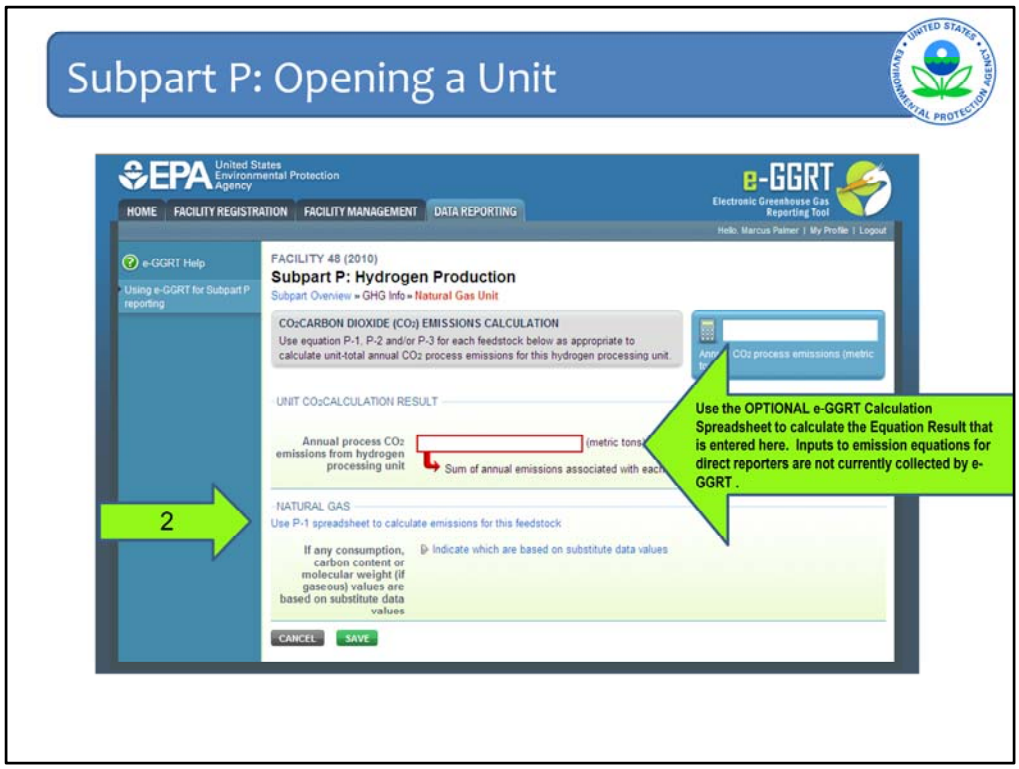
If you have additional fuels and feedstocks used during the reporting year that you wish to add for this unit, you should do so by clicking on “Add a Fuel or Feedstock” once again and repeating the steps in the prior slide.

Click on the “Save” button at the bottom of the page to be taken back to the subpart overview page.

Subpart P: OPEN H2 Production Unit

As you can see, the “Status” field under “Hydrogen **Production** Units” is still “Incomplete”, because we still need to enter the annual quantity of CO2 emissions for this particular unit.

Click the “Open” button for the “Natural Gas Unit”.



First check to see if all of your gaseous, liquid, and solid fuels/feedstocks used by this unit during the reporting year are listed in the lower portion of this page. If not, go back and enter them as discussed in the prior slides.

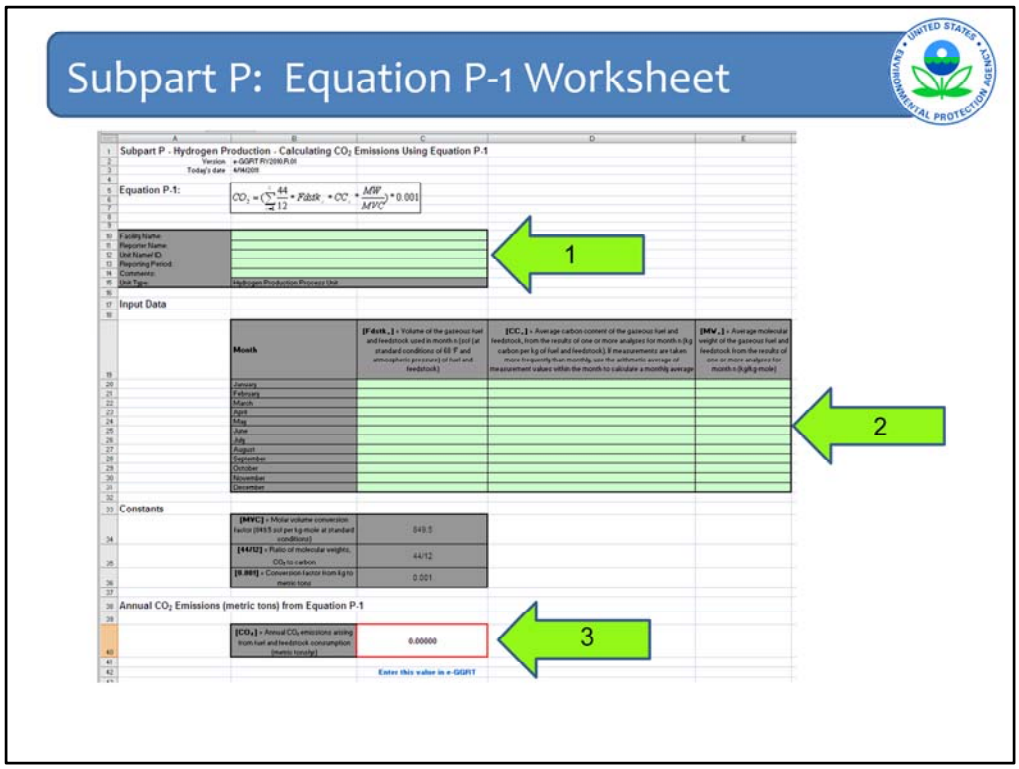
On this page, you are to enter the **annual CO2 emissions** for the hydrogen production unit you named "Natural Gas Unit". The first step is to determine the annual CO2 emissions for this unit from each fuel/feedstock. These emissions can be calculated using Equations P-1, P-2, and P-3 in the rule. EPA has prepared three worksheets for this purpose:

1. P-1 worksheet for gaseous fuels and feedstocks
2. P-2 worksheet for liquid fuels and feedstocks
3. P-3 worksheet for solid fuels and feedstocks

A hyperlink to the appropriate worksheet is provided for each of the fuels/feedstocks that you have associated with this unit. For gaseous fuel and feedstock, as in this example, selected the "use P-1 worksheet" link [**jump to next slide, then come back here**]. The results calculated on the worksheet are to be kept at your facility and are not to be submitted to EPA at this time. ***If you have multiple feedstock types, they will be listed in alphabetical order by the name you gave to the feedstocks.***

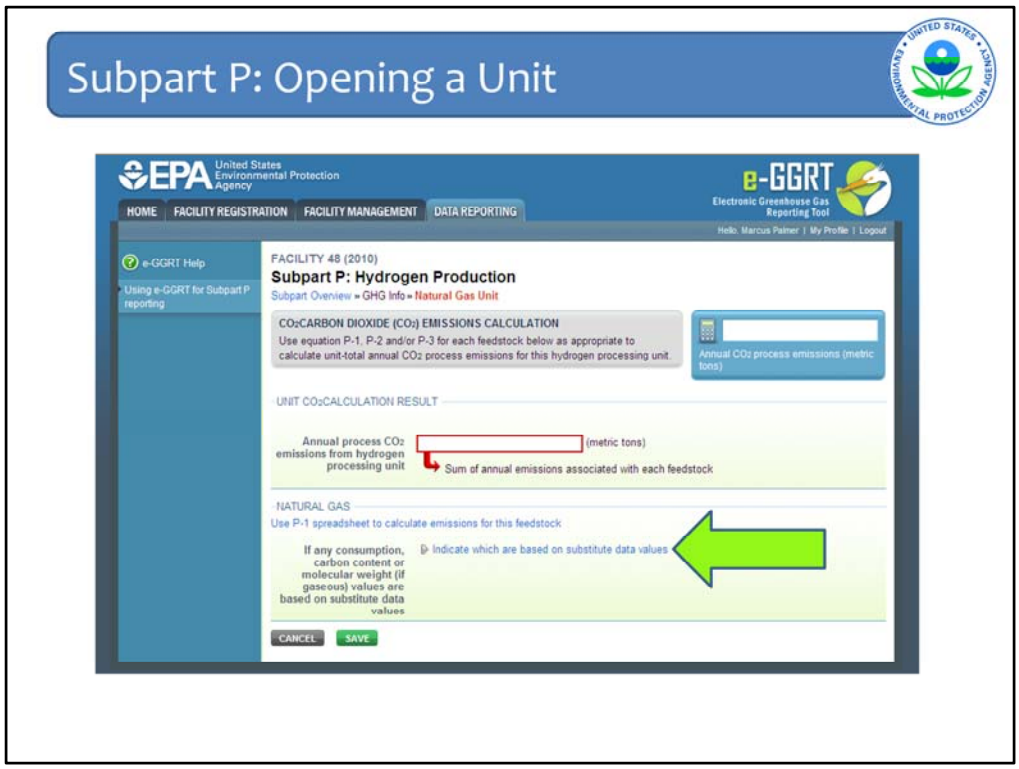
Using a worksheet for each fuel/feedstock used for this unit during the reporting year, calculate the CO2 emissions from each fuel/feedstock. Then total the CO2 emissions from the unit during the reporting year. Now enter this quantity of **annual CO2 emissions in the red box.**

Lastly, you will need to indicate which data values on the worksheet and at which month, for which you are missing data. Click on the hyperlink named "Indicate which are based on substitute data values".



Here is a screenshot of the subpart P CO2 emissions calculation worksheet for gaseous fuel and feedstocks. This worksheet will assist you in determining your annual quantity of CO2 by calculating emissions based on equation P-1 in the rule text.

"These optional worksheets are provided to assist reporters in calculating emissions and in keeping records of these calculations. Reporters are required to keep records of these calculations under 40 CFR 98.3(g) and additional subpart-specific provisions, but are not required to use these worksheets or to submit any worksheets to EPA. Worksheets may include inputs to emission equations, reporting of which EPA has deferred per a final rule that was signed by the Administrator on August 19, 2011.



First check to see if all of your gaseous, liquid, and solid fuels/feedstocks used by this unit during the reporting year are listed in the lower portion of this page. If not, go back and enter them as discussed in the prior slides.

On this page, you are to enter the **annual CO2 emissions** for the hydrogen production unit you named "Natural Gas Unit". The first step is to determine the annual CO2 emissions for this unit from each fuel/feedstock. These emissions can be calculated using Equations P-1, P-2, and P-3 in the rule. EPA has prepared three worksheets for this purpose:

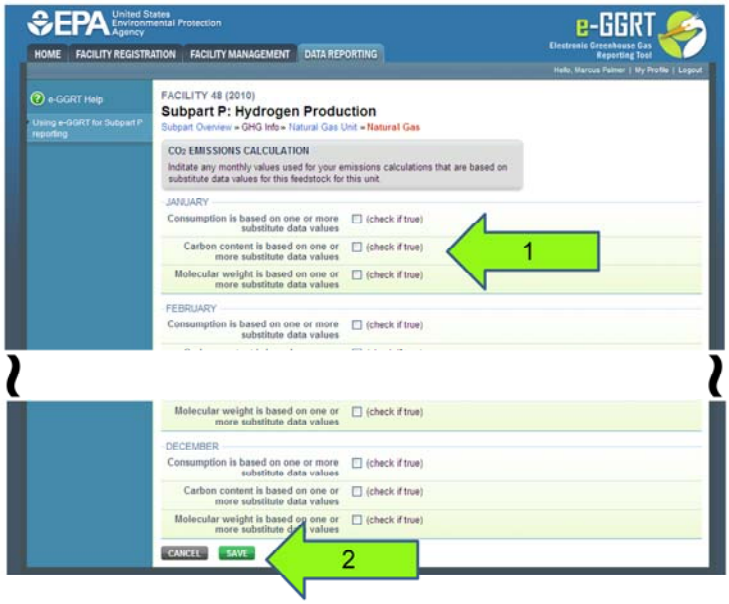
1. P-1 worksheet for gaseous fuels and feedstocks
2. P-2 worksheet for liquid fuels and feedstocks
3. P-3 worksheet for solid fuels and feedstocks

A hyperlink to the appropriate worksheet is provided for each of the fuels/feedstocks that you have associated with this unit. For gaseous fuel and feedstock, as in this example, selected the "use P-1 worksheet" link [**jump to next slide, then come back here**]. The results calculated on the worksheet are to be kept at your facility and are not to be submitted to EPA at this time. ***If you have multiple feedstock types, they will be listed in alphabetical order by the name you gave to the feedstocks.***

Using a worksheet for each fuel/feedstock used for this unit during the reporting year, calculate the CO2 emissions from each fuel/feedstock. Then total the CO2 emissions from the unit during the reporting year. Now enter this quantity of **annual CO2 emissions in the red box.**

Lastly, you will need to indicate which data values on the worksheet and at which month, for which you are missing data. Click on the hyperlink named "Indicate which are based on substitute data values".

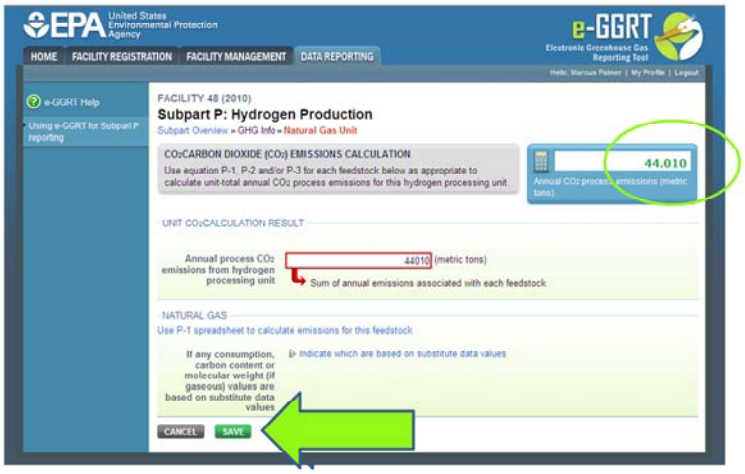
Subpart P: Mark Substitute Values & SAVE



You will get to this page by selecting the “Indicate which are based on substitute data values” hyperlink on the previous page. Here you will select the checkbox for the monthly data values of consumption and carbon content that are based on one or more substitute data values. For gaseous fuels, there will also be checkboxes for molecular weight.

Click the “Save” button at the very bottom of the page to continue.

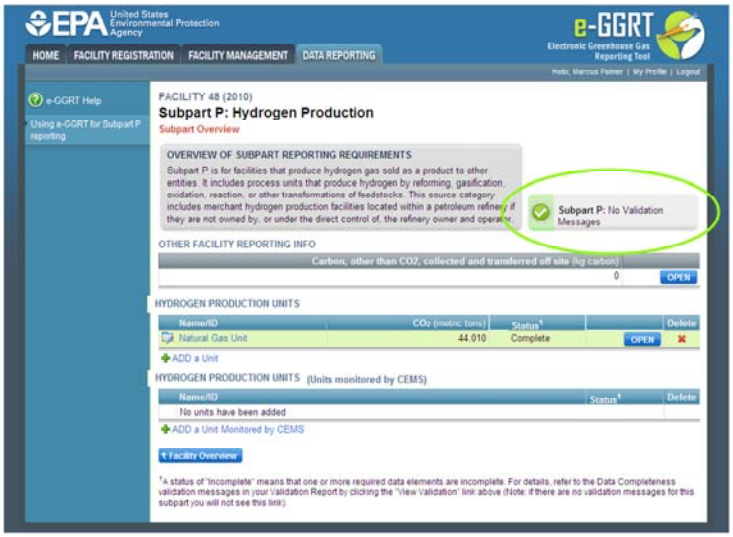
Subpart P: Opening a Unit



In the red box, enter the total annual CO2 emissions associated with this unit, if you have not already done so. Once you have entered your annual CO2 emissions, the emissions for this unit will be reflected in the summary box in the upper right hand corner.

Click on the “Save” button at the bottom of the page.

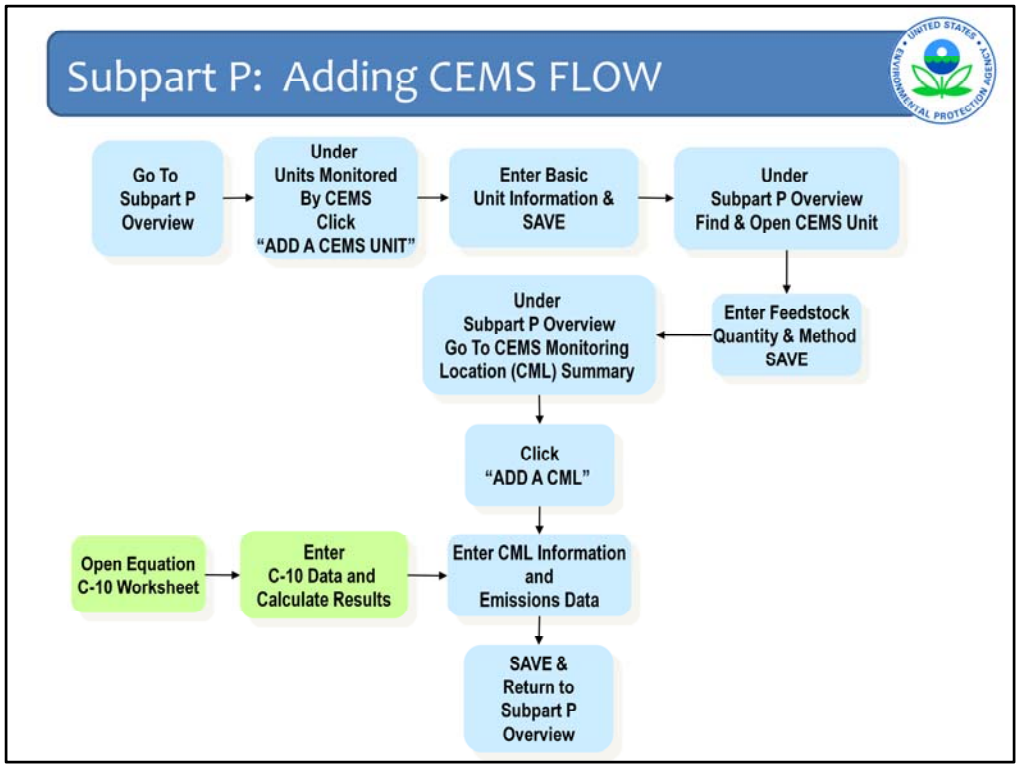
Subpart P: Done with H2 Production Unit



You are on the subpart overview page. At this point you should check to see if there are any validation messages for you to review.

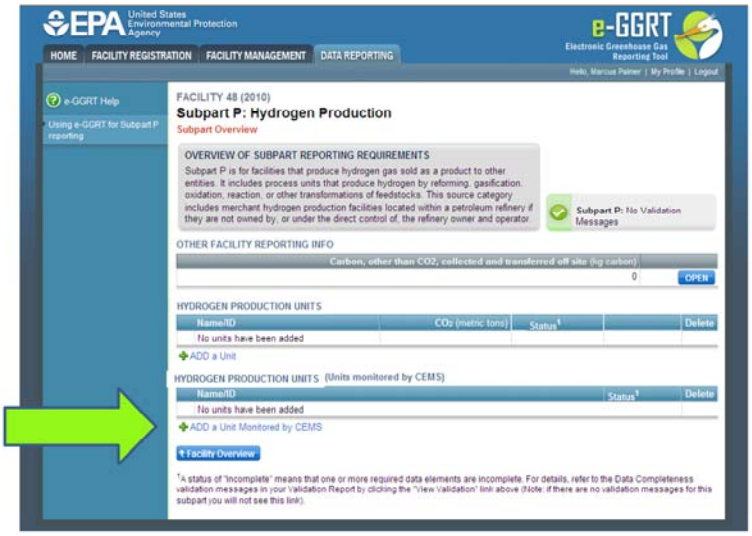
If your facility has other hydrogen production units using the mass balance method that are not listed, click on the “Add a Unit” hyperlink under the Hydrogen Production Units header and repeat the data entry process just outlined.

Otherwise, we are ready to discuss the data entry procedure for hydrogen production units which collect CO2 emissions data using continuous emissions monitoring systems or CEMS.



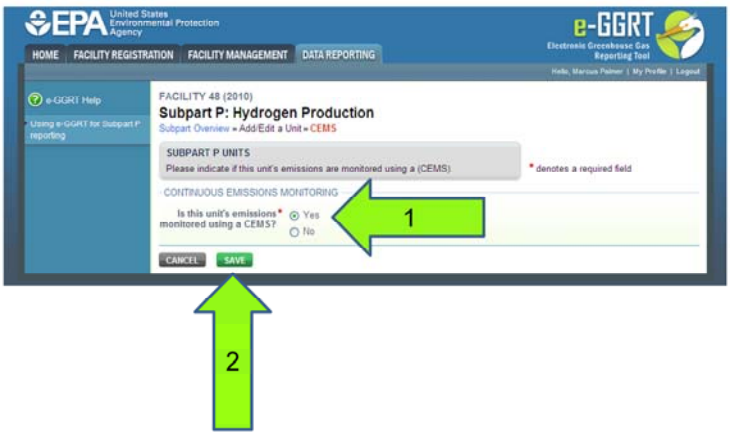
This chart shows the flow of the e-GGRT screens for entering data for Subpart P hydrogen production units using Continuous Emissions Monitoring Systems (CEMS) to collect CO2 emissions data. The blue boxes represent screens that are built into e-GGRT, while the green boxes represent external calculations to be performed by the user. As mentioned earlier use of the Equation C-10 worksheet is option, however, the calculations must be performed.

Subpart P: Adding CEMS Unit



To add a unit monitored by a CEMS, click on the “Add a Unit Monitored by CEMS” hyperlink.

Subpart P: Check “Yes” and SAVE

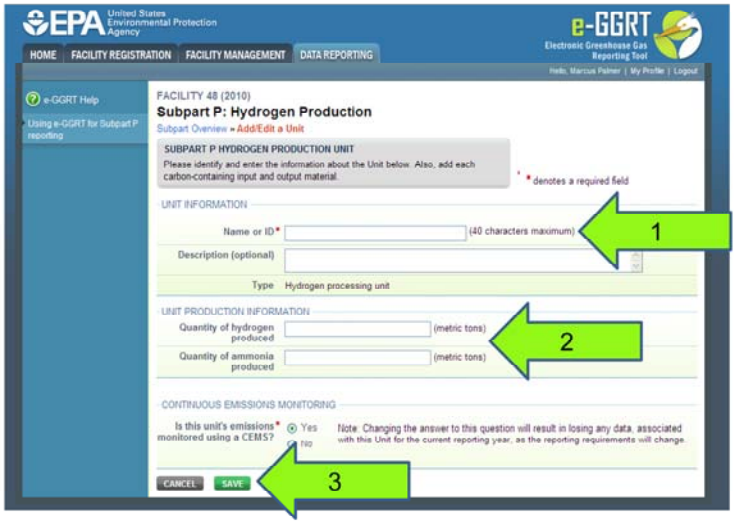


Confirm that the “Yes” box is checked.

If you choose to make the switch to non-CEMS at this point, you still have the option of selecting “No” in answer to the question.

Click the “Save” button at the bottom of the page.

Subpart P: Enter CEMS Unit Info

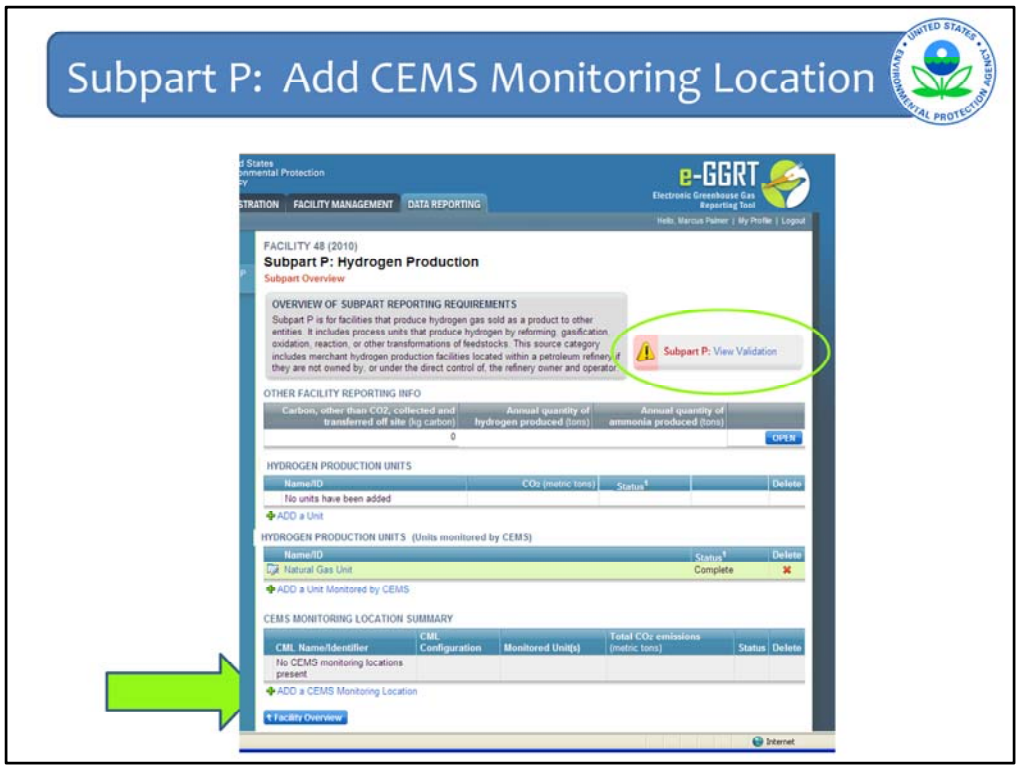


Begin by entering the hydrogen production unit name or ID. The description of the unit is optional field.

Next, enter the annual quantity of hydrogen produced and the annual quantity of ammonia produced for this particular unit.

You can change this unit to a non-CEMS unit under the heading “Continuous Emissions Monitoring”. If you choose to make the switch to non-CEMS, you still have the option of selecting “No” in answer to the question. Keep in mind that if you do decide to switch at this point, then you will lose all the previously entered CEMS data for this unit (if any) once you hit the Save button (except the four data input fields shown on this page).

Lastly, hit the “Save” button to be taken back to the Subpart P overview page.

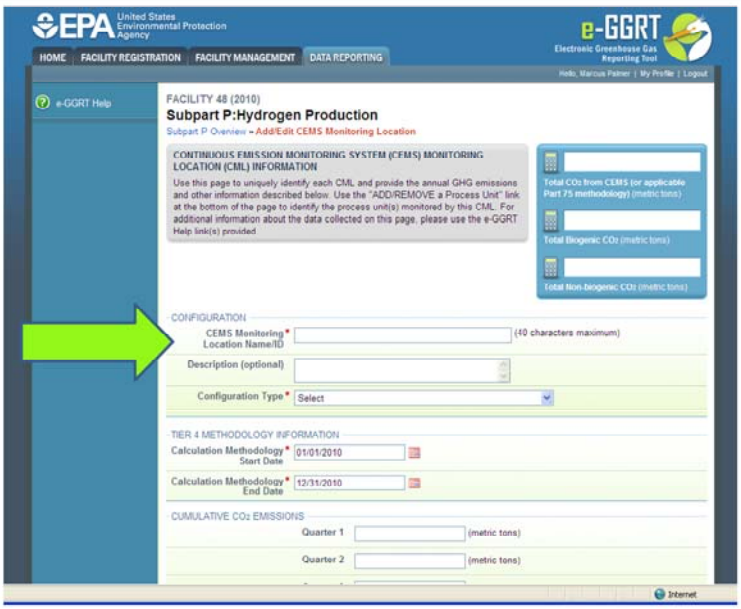


You can now see that a CEMS unit named “Natural Gas Unit” has been added to the list of Hydrogen Production Units monitored by CEMS.

Notice that the validation message in the upper right corner of this page (in green circle) has an pink patch and red font for “Subpart P”. This means there are validation errors, and you have more work to do. We could click on the hyperlink called “View Validation”, but we don’t need to do this now, because a new section named “CEMS Monitoring Location Summary” is now present at the bottom of the Subpart P overview page.

Click the “Add a CEMS Monitoring Location” hyperlink.

Subpart P: Enter CML Data

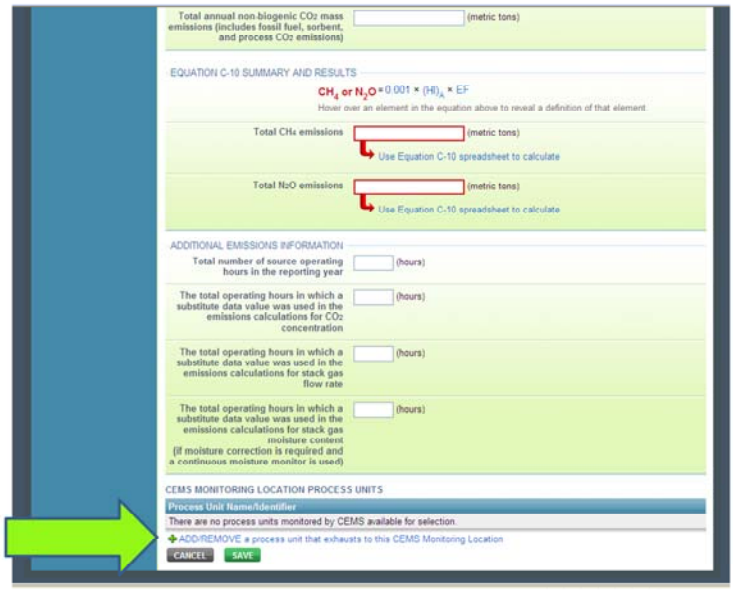


Complete this long page by entering all of the information as appropriate for your CEMS unit.

Dropdown menus and automated calendars are provided for convenience.

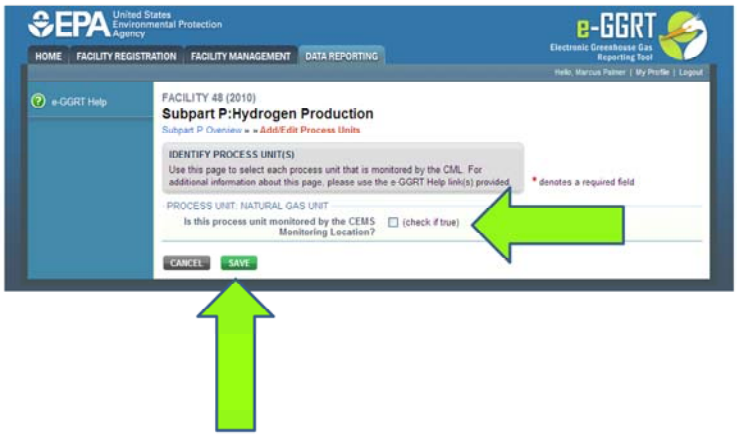
All data must be entered to have a complete data profile. You may need to retrieve an Equation C-10 worksheet (link provided) to determine some of the data inputs.

Subpart P: Link CML to H2 Process Unit



At the bottom of this same page, click the “Add/Remove a process unit that exhausts to this CEMS monitoring location” hyperlink.

Subpart P: Link CML to H2 Process Unit & SAVE

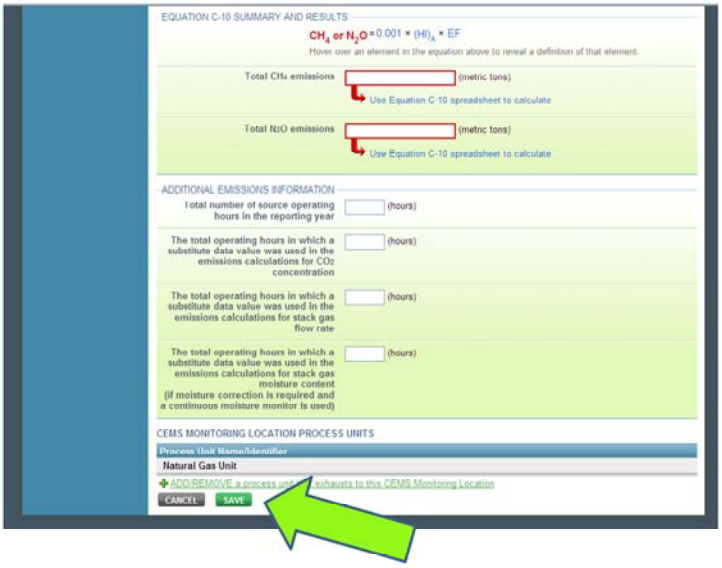


If you have multiple CEMS units, they will be listed in alphabetical order on this page. The purpose of this page is indicate which CEMS units are handled by this CEMS Monitoring Location or CML. [We need to get the name of the CML currently under consideration shown on this page.]

You need to select the check box next to the one or more process units for which the CEMS Monitoring Location under consideration is monitoring CO2 emissions. And yes, E-GGRT will check to make sure these selections are consistent with the CML Configuration Type that you selected on the previous page.

Click the “Save” button at the bottom of the page.

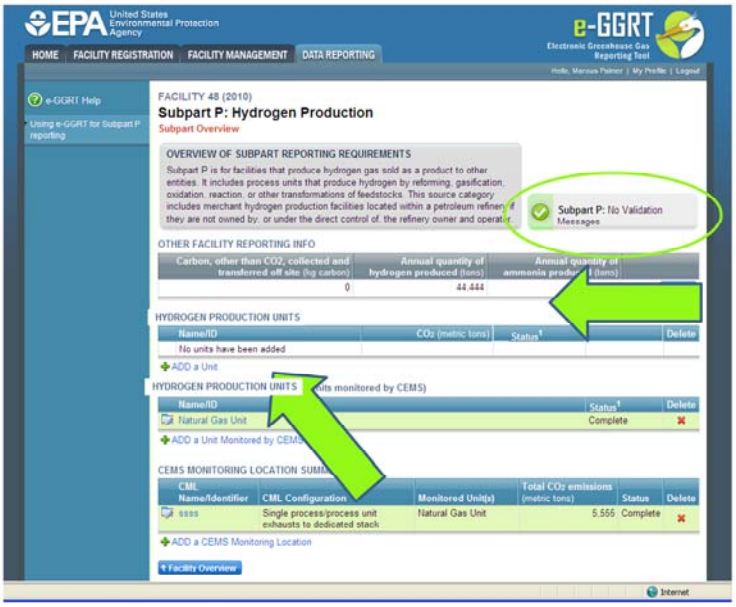
Subpart P: Shows H2 Process Unit, Now SAVE



You are now back on the "CEMS Monitoring Location Page". Scroll to the bottom of the page. You can now see that you have a hydrogen production unit named "Natural Gas Unit" associated with this CEMS monitoring location. If this CML served more than one unit, they would all be listed here.

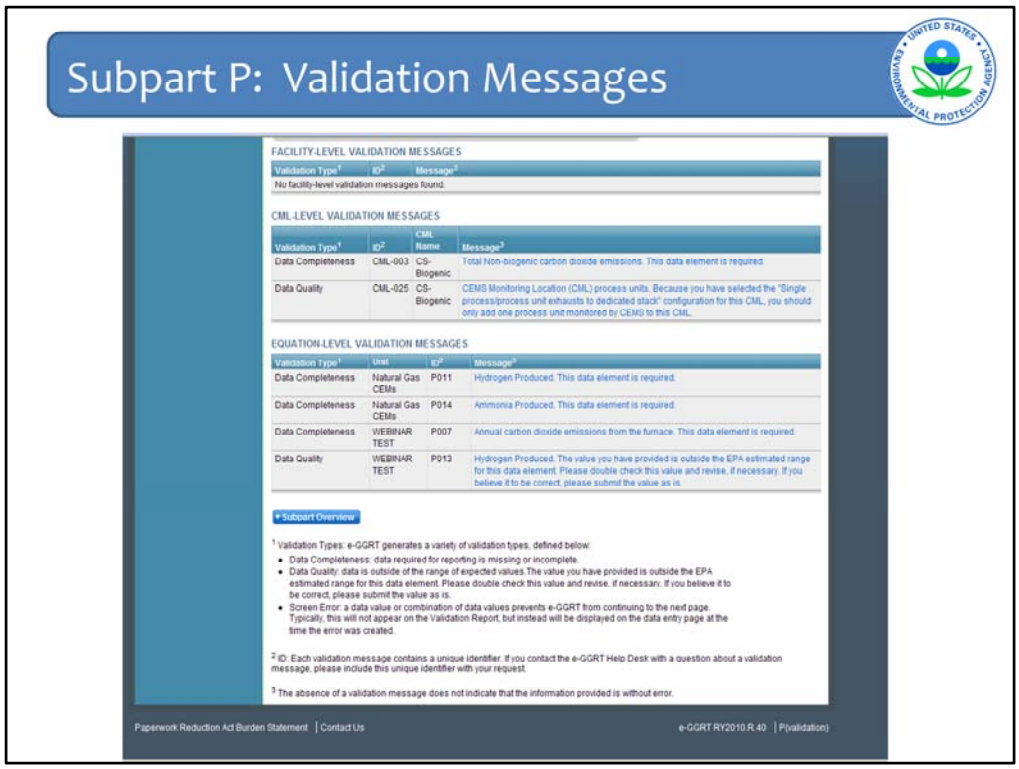
Click the "Save" button.

Subpart P: Check for Validation Messages



At this stage, you should check to see if you have any validation messages in the upper right corner of the Subpart Overview page (in green circle). We see a green patch with "Subpart P" in black font. This is good.

If the text in the green circle were to be red at this point, then click on the hyperlink named "View Validation" to be taken to the validation messages page to get help. The next slide shows some sample validation messages.



There are many validation messages that could be generated based on the data you have entered for subpart P. This is not a complete list, but it shows six messages that you may come across. The messages are grouped into three categories:

1. Facility level messages
2. CML-level messages (CML is short for CEMS Monitoring Location)
3. Equation-level validation messages.

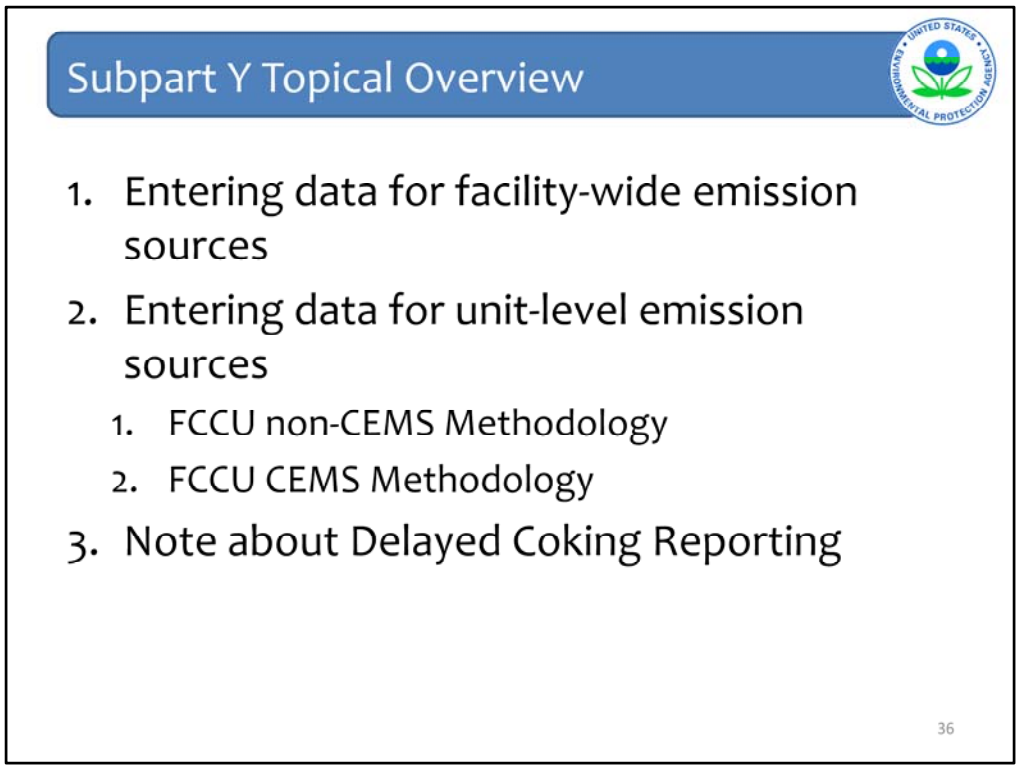
Notice that, for your convenience, each message text is a hyperlink to the e-GGRT page where the warning was generated.

You may also receive a message that the values you entered for the annual quantity of carbon other than CO2 transferred off site is not within the range. For example, if you have entered a value greater than 682,000,000 metric tons annually, you will receive this warning message. However, if you believe the data to be correct, then you should still submit that data.

You may also receive a warning message that the quantity of hydrogen produced is outside of the EPA estimated range. For example, if the data you entered is less than 5 metric tons or greater than 290,000 metric tons of annual emissions, you will receive a warning message that your data is outside of the EPA estimated range. If you do believe that the data you entered is correct, then you should still submit the data.

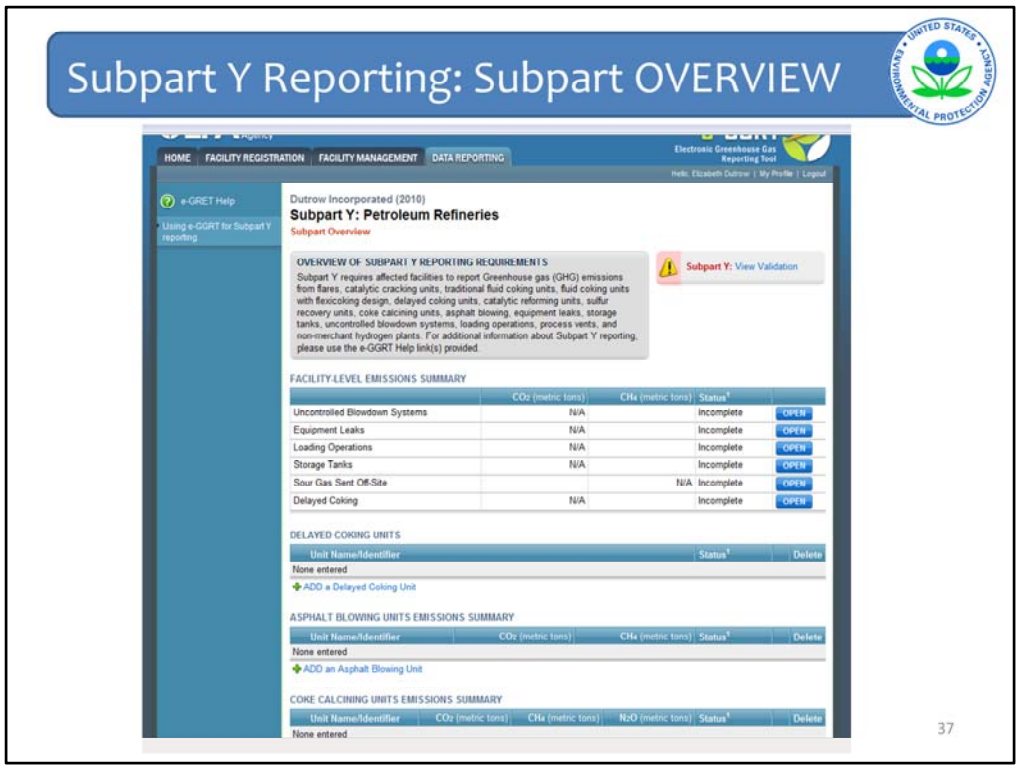
Also, you may receive a warning that the annual carbon dioxide emissions is not within the correct range. For example, if the data you entered is less than 40 metric tons or above 2,500,000 metric tons of annual emissions, you will receive a warning message that your data is outside of the EPA estimated range. If you do believe that the data you entered I correct, then you should still submit the data.

Subpart Y



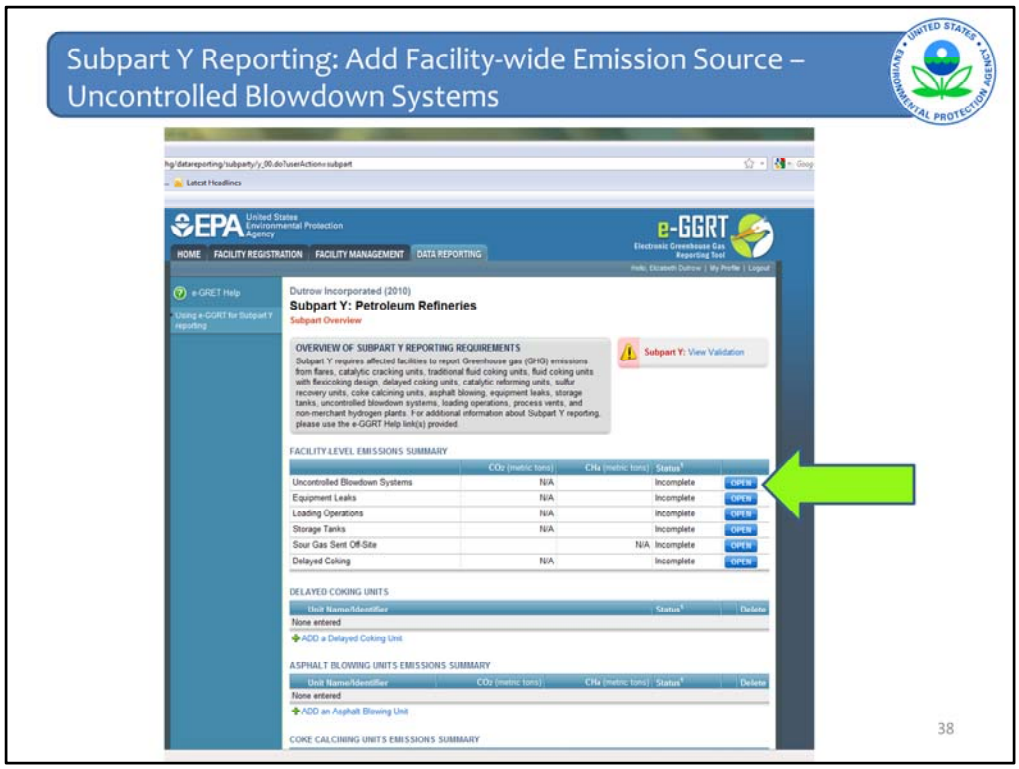
For the purposes of this webinar, we will divide the next several slides into four segments. In the first segment, we will demonstrate input screens for sources where emissions are reported at the facility-level. We will then demonstrate input screens for sources where emissions are reported at the unit level, looking at both subpart Y specific data entry using the non-CEMS approach and subpart Y specific data using a CEMS approach.

In the final segment, we will have a special note for delayed coking units, as these units can have reporting elements at both the facility and the unit-level (and even at the vent level).



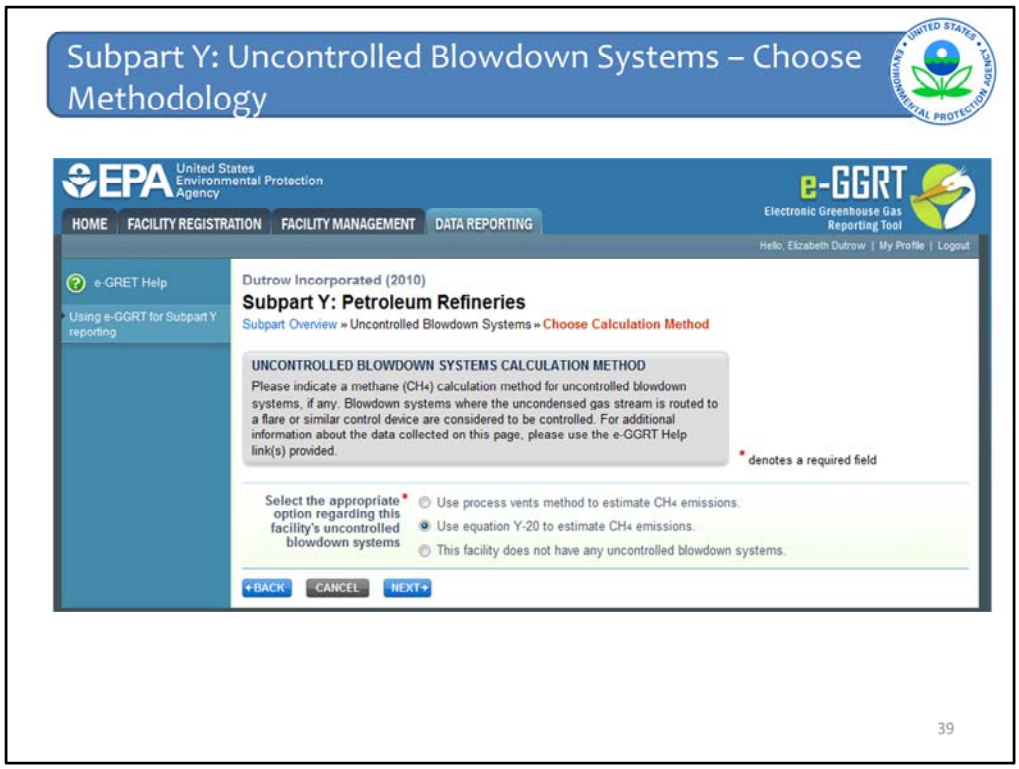
Once you have clicked the “open” on the facility overview page, you will proceed to the “subpart overview page”. This is the subpart Y overview page. You see that toward the top of the page there is a heading “Facility-level emissions summary”. Underneath this are all of the emission sources reportable under subpart Y that you report the GHGs at the facility-level. For example, you are reporting the methane emissions for equipment leaks at the facility level; you are not reporting the emissions on a leak by leak basis.

You will see that below the “Facility-level emissions summary” section are additional sections for emission sources reportable under subpart Y that are reported at the unit-level. For example, you will find additional sections to report information about each delayed coking unit, each asphalt blowing unit, each coke calcining unit, etc.



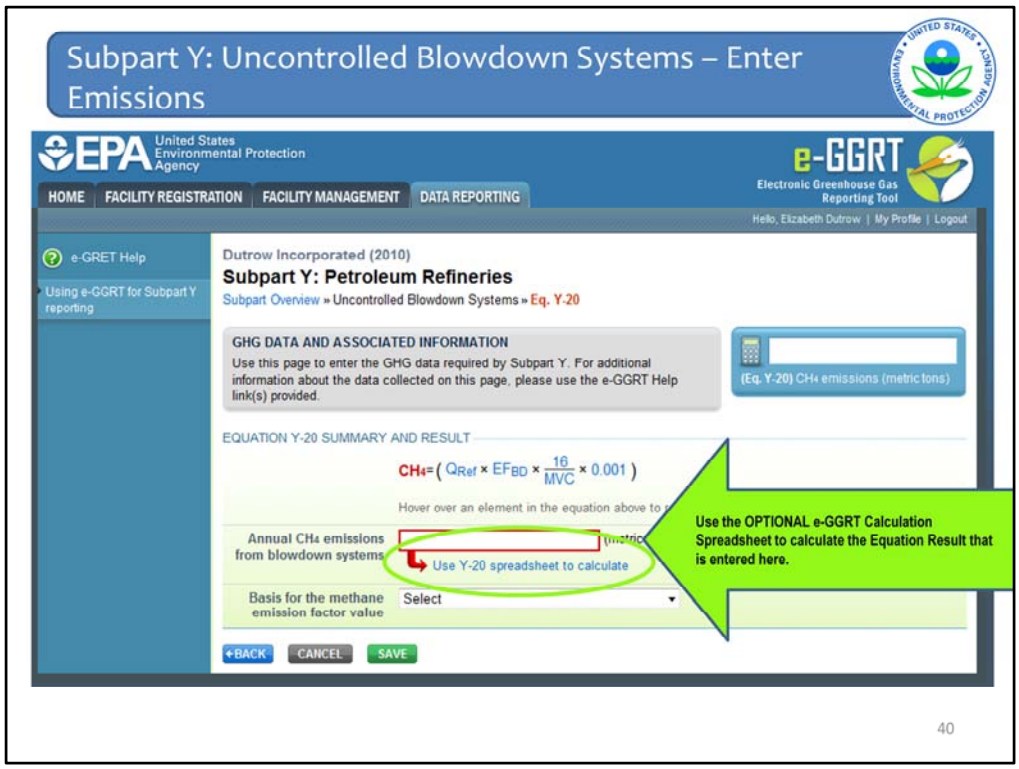
This slide still shows the Subpart Y Overview screen. Now we will walk you through how to enter emissions information into e-GGRT for the Facility-Level emission sources. We will use “Uncontrolled Blowdown Systems” as an example.

To enter emissions information for “uncontrolled blowdown system”, you will click on the “Open” on the right hand side of the screen. There is a green arrow pointing toward it in this slide.



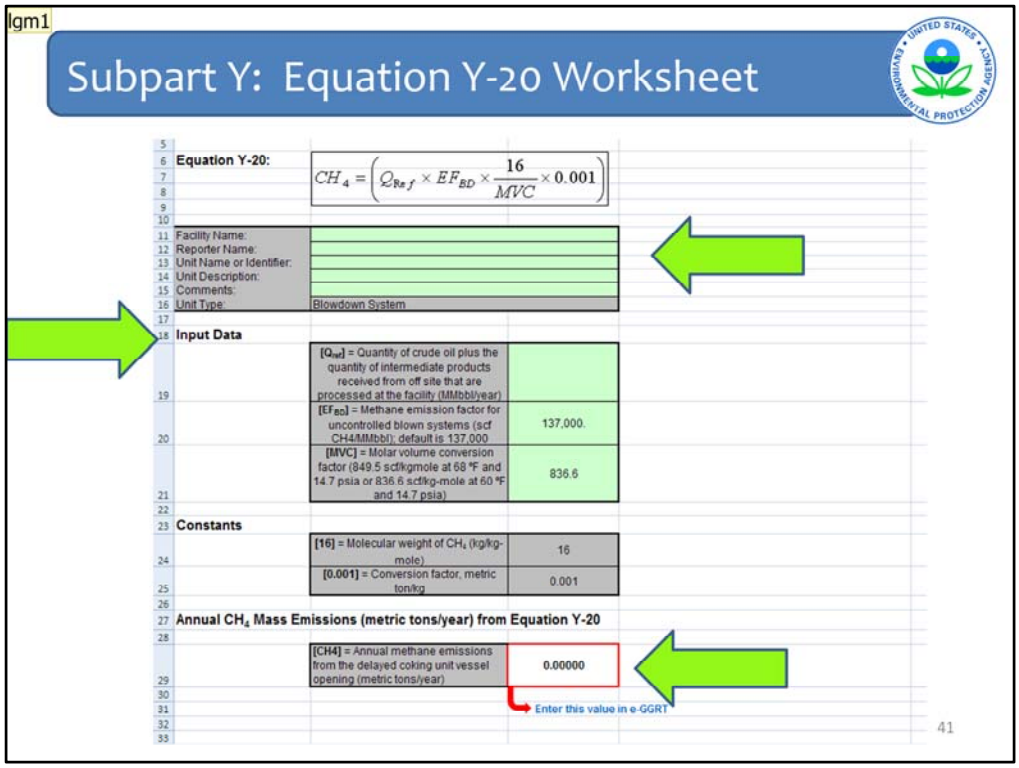
Once you click “open” for the uncontrolled blowdown systems, you will proceed to this screen. Here you are asked to indicate which methodology you are using to calculate your emissions. Part 98 allows the use of either the process vent method (Equation Y-19), or Equation Y-20. If your facility does not have any uncontrolled blowdown systems, you may indicate that as well. If you were to select the third option, that you don’t have any uncontrolled blowdown systems, you would be finished with this section and be returned to the supbart Y overview page, where you would enter your emissions for other emissions sources in subpart Y.

I should also mention that the gray box at the top of each screen provides helpful information about the data that you are entering on the screen. For example, the gray box here provides an explanation of certain types of blowdown systems that are considered to be controlled.

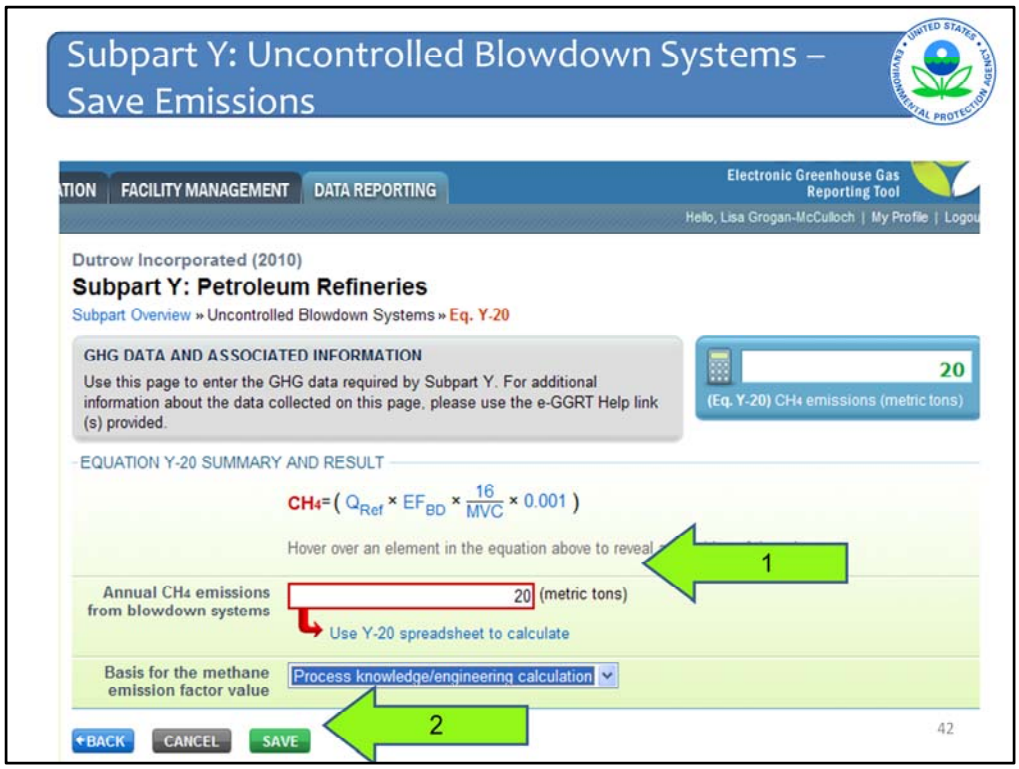


Once you have chosen your methodology, in this case Equation Y-20, you will proceed to a slide that shows the Y-20 equation, and allows you to enter the emissions for uncontrolled blowdown systems.

In e-GGRT, for each equation, you can hover over an element as needed. The e-GGRT system also provides links to optional worksheets that may be used to perform the calculations, as mentioned earlier.

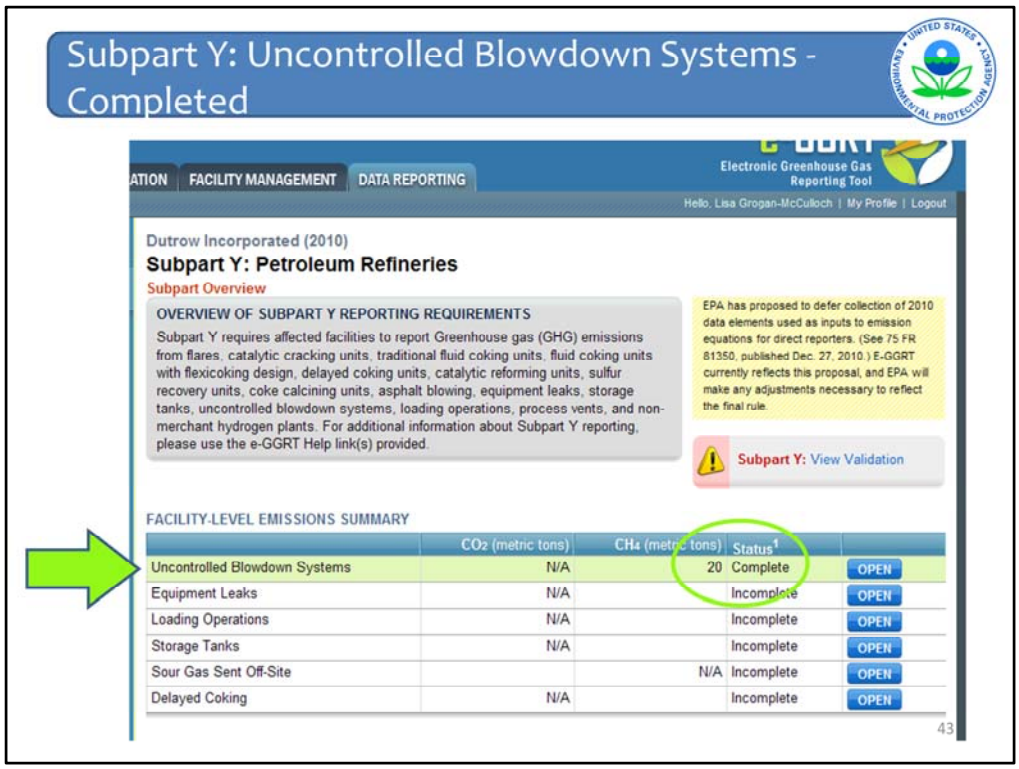


This is a screenshot of the Equation Y-20 spreadsheet. Again, the use of these spreadsheets is optional. At the top is facility information – this is for the purpose of helping with your own internal recordkeeping. You see there is a section "input data" where you would enter all your equation inputs – in this case it's not a very complicated equation, so it's just a few inputs. Then once you enter your equation inputs, the red box at the bottom will calculate the emissions. You would then enter that value into e-GGRT.



Once you have calculated your emissions, you would then enter in the emissions, in this case 20 metric tons, into the red box on this page. The green arrow marked “1” is pointing to the spot where you would enter in the emissions. You would then answer the next question on the “Basis for the methane emission factor value”, and then click “save”. The green arrow marked “2” is pointing to the save button.

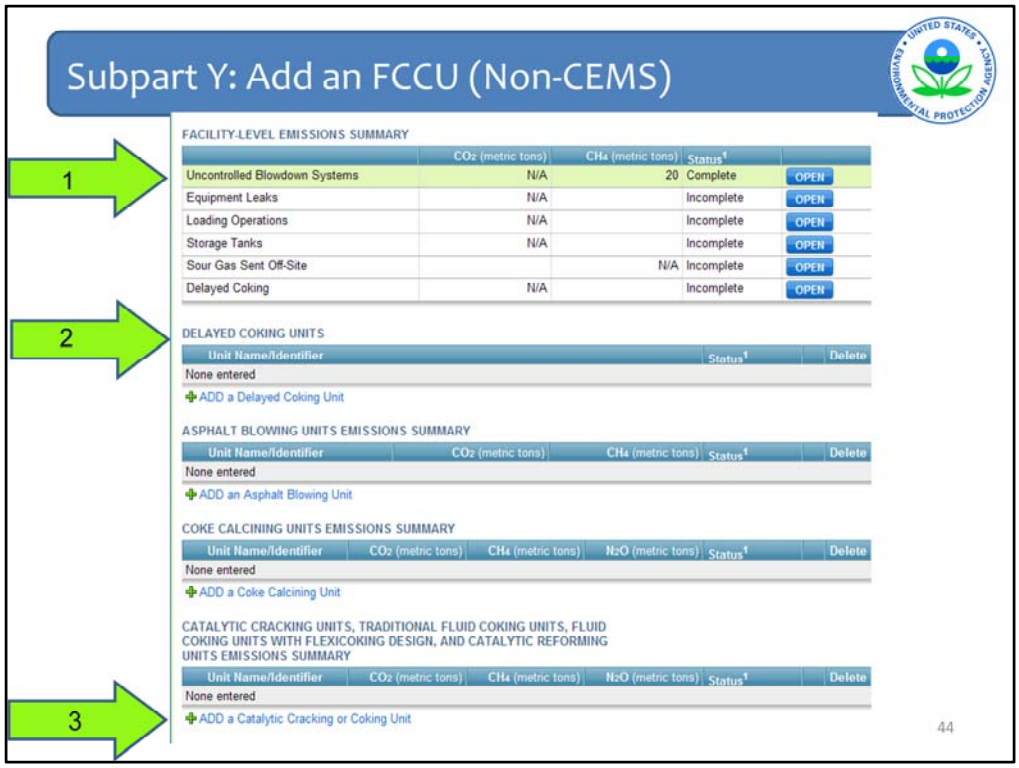
Note that the 20 metric tons of CH4 emissions also now appears in the blue box on the right side of the screen.



When you click “Save”, you will return to the “Subpart Y Overview” page, shown here. The emissions value that you entered for uncontrolled blowdown systems, in this case “20”, will now show on this overview page. You will also see that in the table in the column marked “status”, uncontrolled blowdown systems” is now marked “complete” and is shaded green. This indicates that you’ve completed entering data for “uncontrolled blowdown systems”.

If your status shows up as “incomplete”, click on the “Subpart Y: View Validation” link on the right side of the screen for details on possible errors or omissions in your data.

Once you have completed the uncontrolled blowdown systems section, as we just demonstrated, you can proceed in a similar fashion through Equipment Leaks, Loading Operations, Storage Tanks, Sour Gas Off-site, and Delayed Coking. I won’t be demonstrating those today as they follow the same format as what I’ve just demonstrated.

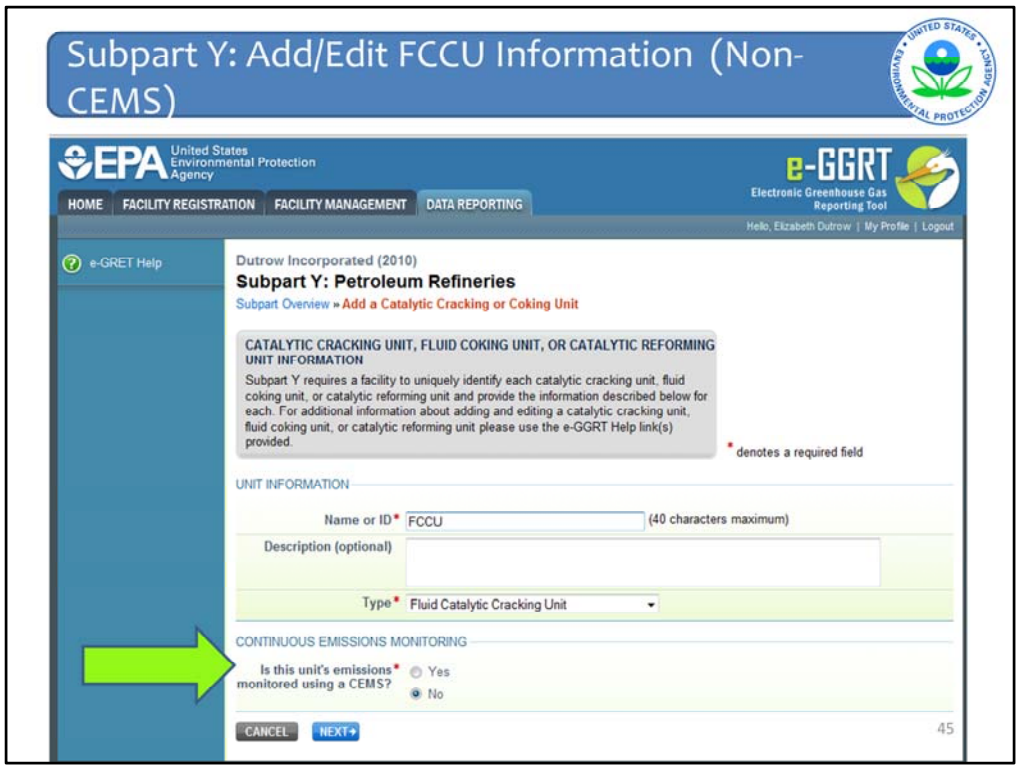


We will now demonstrate how to add information for sources reported at the unit-specific level. This screen shot again shows the Subpart Y overview page, as did the previous screenshot, but we have scrolled down on this page. Again, you will see next to the green arrow marked "1" the uncontrolled blowdown systems emissions show as 20 metric tons of methane, as was entered previously.

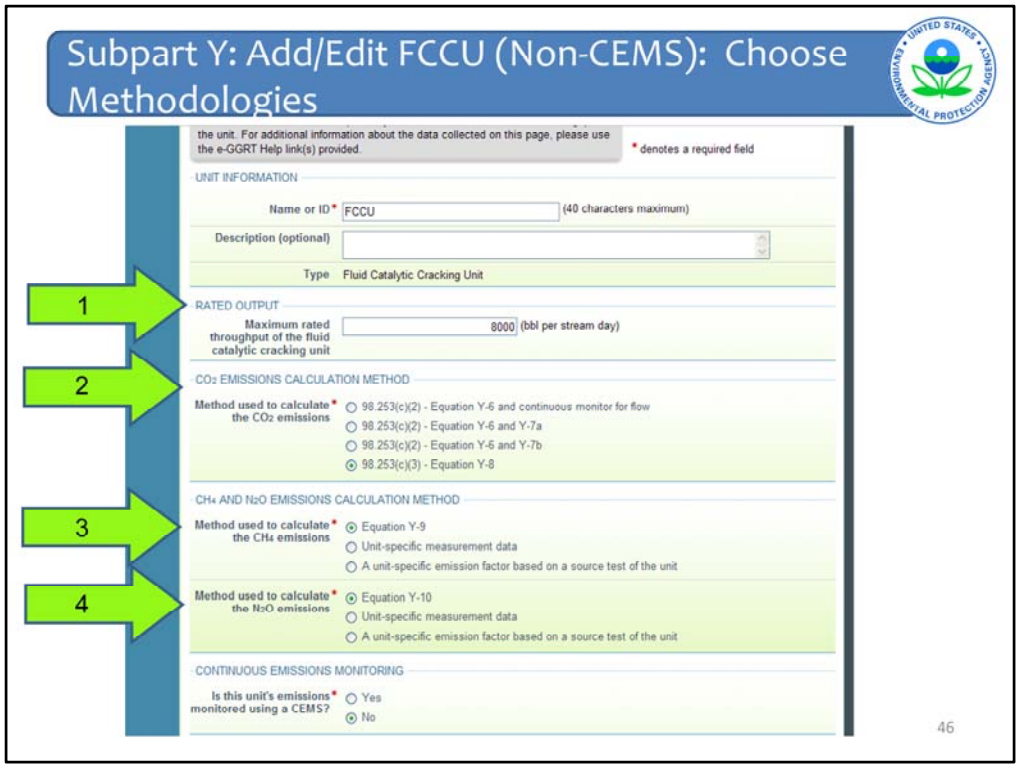
If you look at the arrow marked "2", you will see that this is the beginning of the unit-level emissions – where you would enter information on delayed coking units, asphalt blowing units, coke calcining units, etc.

The green arrow marked "3" is pointing to the location where you enter emissions on catalytic cracking units and traditional fluid coking units. I will now demonstrate how to enter emissions information for a unit level emission source, using a catalytic cracking unit as an example. To begin entering information, the first step is to click on the "Add a catalytic cracking or coking unit."

Once you click on this, you will proceed to the next screen.

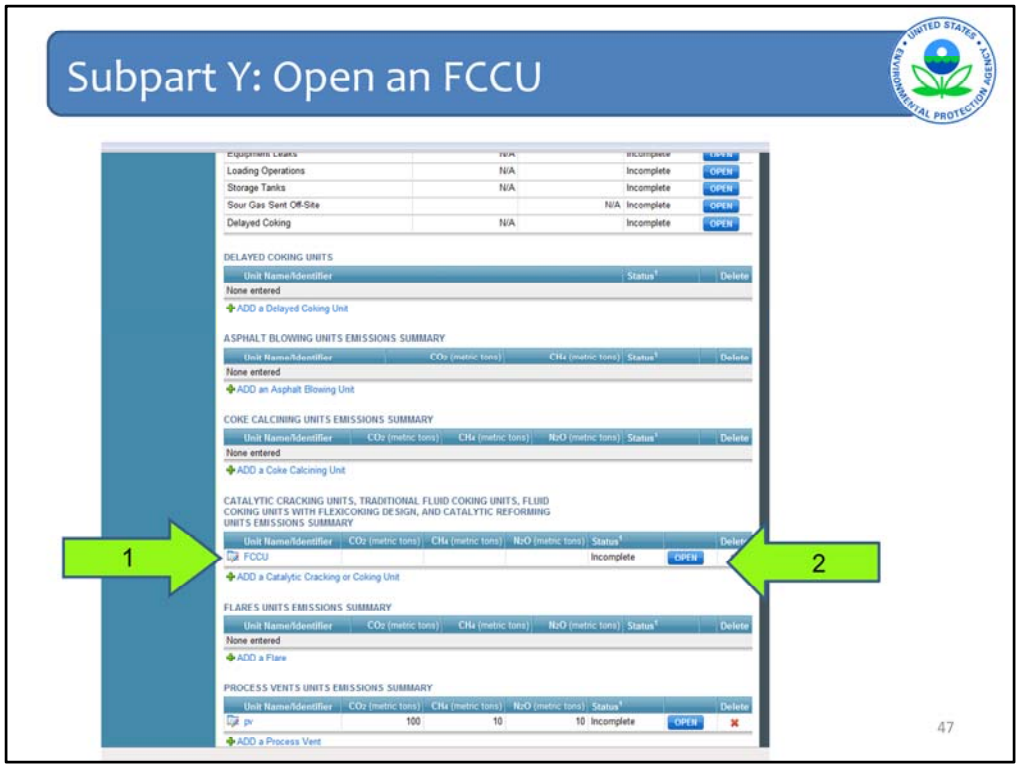


On this slide, you enter in the Name or ID of the unit and the type of unit. You will see that the green arrow is pointing to the question "Is this unit's emissions monitored using a CEMS?" First I will demonstrate how to report emissions in the case that the CEMS methodology is not used. In this case, you would click "no" here, and then press next.

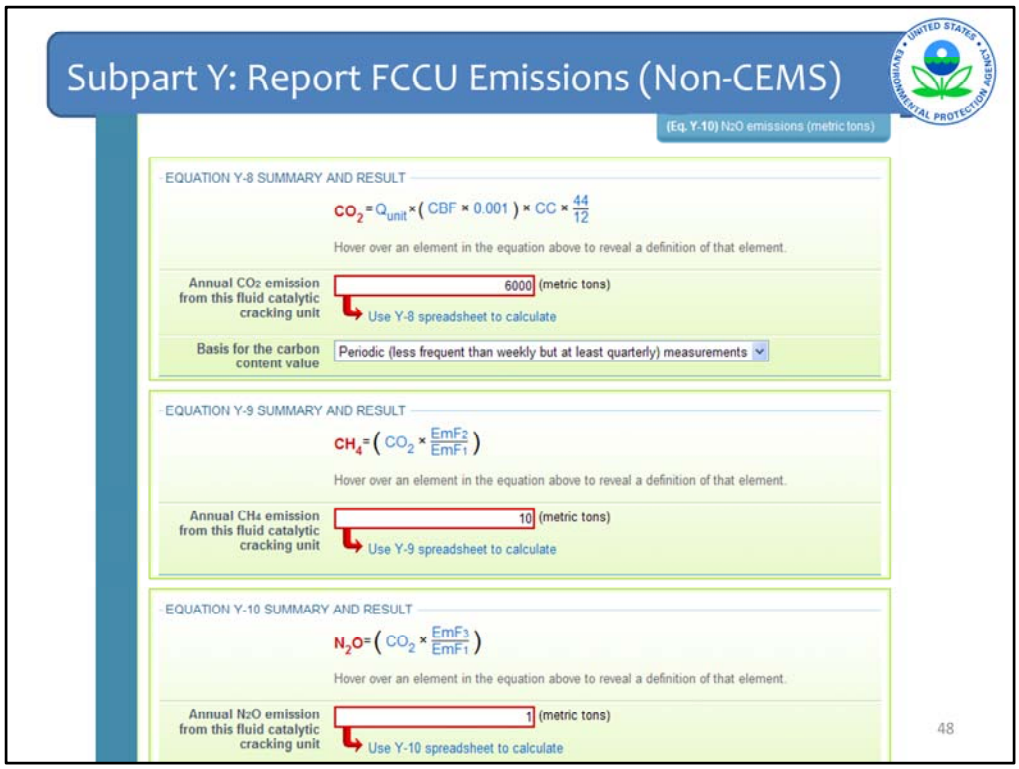


On this page you enter in the maximum rated throughput of the unit (marked by the green arrow 1), and then you select the methodology that you are using to calculate your emissions. The green arrow marked 2 points to where you choose the method for carbon dioxide, the green arrow marked 3 points to where you select the method for methane, and the green arrow marked 4 points to where you select the method for nitrous oxide.

Once you make these selections, you click on save at the bottom of the page (cut off from this screenshot), and you are then returned to the subpart Y overview page.

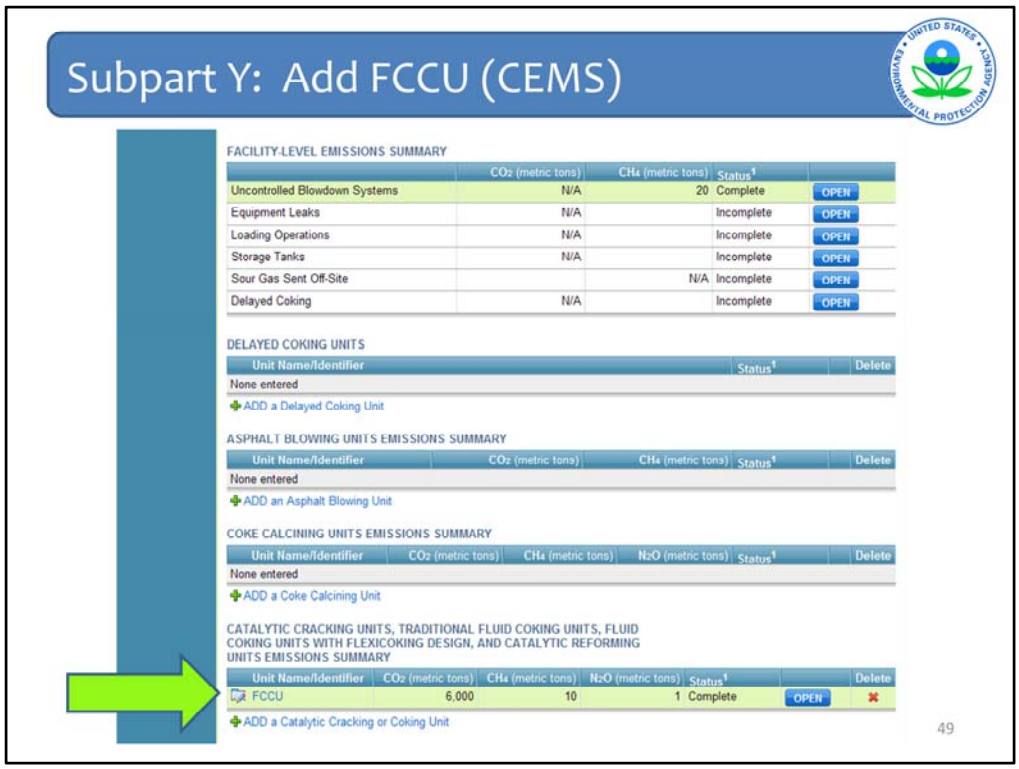


This screen shows the Subpart Y overview page again, and you will see that the name of the unit we entered shows next to the green arrow marked “1”. If you need to edit the rated output, or any of the methodology choices entered for this unit, you can select the unit name by arrow “1” to go back to the previous screens and edit this information. To report the emissions for this unit, the next step is to click on the “open” button that the green arrow marked “2” is pointing to.



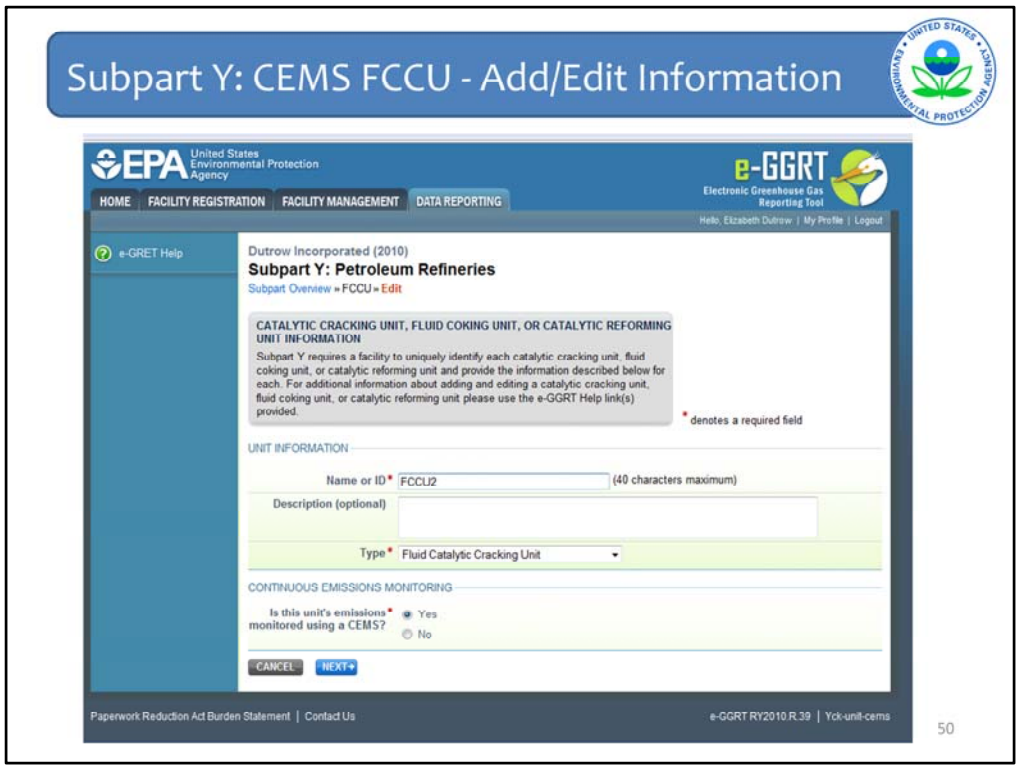
On this screen you enter in the emissions for the three pollutants. Again, as in the case with uncontrolled blowdown systems, you can hover over an element in the equation to read a definition of that element as needed. Below each red emissions reporting box, you also have the option of clicking on the blue links to download the optional spreadsheets we mentioned earlier.

Once you enter in this information, you click “Save” at the bottom of the page (which is cut-off from this screenshot).

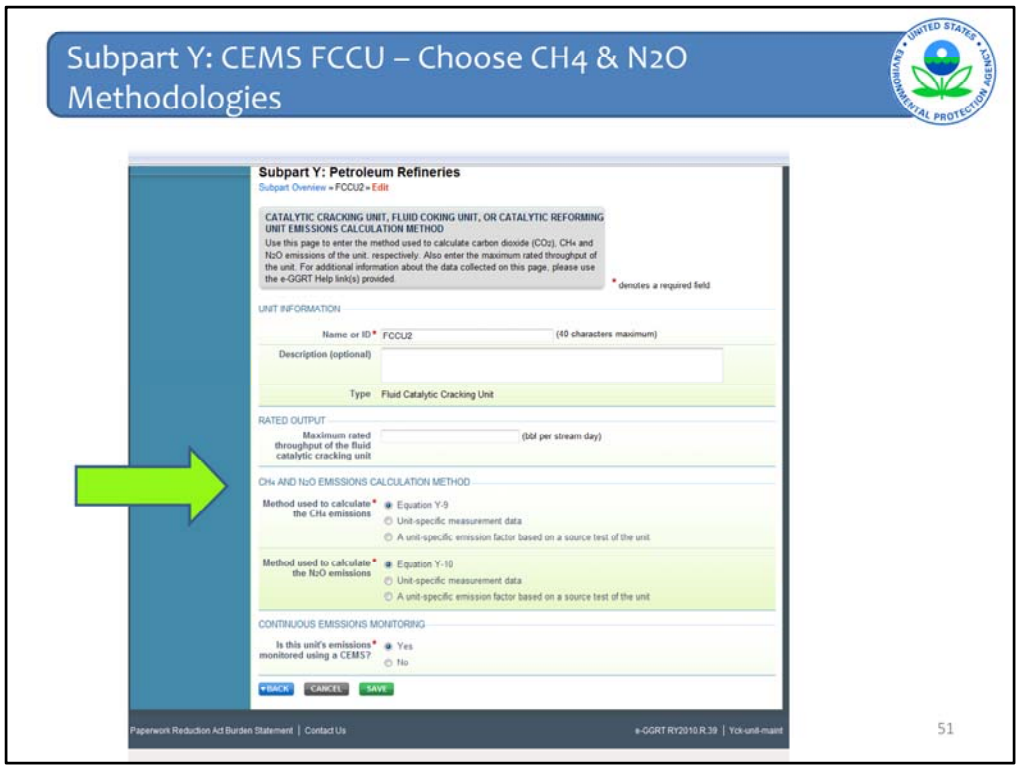


You will then proceed back to the Subpart Y overview page. You will see that the emissions you entered for the FCCU show here on this summary screen, and the status now shows as complete.

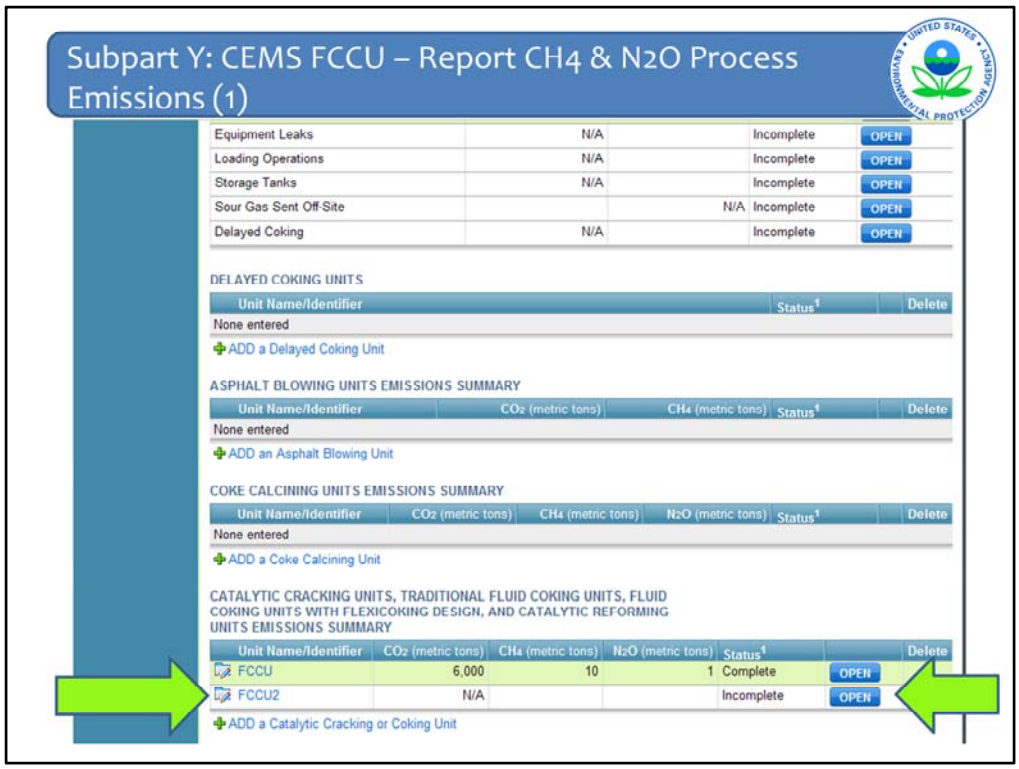
Next I will demonstrate how to report emissions for an FCCU unit that is using the CEMS methodology. The first step is the same as for the non-CEMS methodology – you click on the "ADD a catalytic cracking or coking unit" link at the bottom of the screenshot.



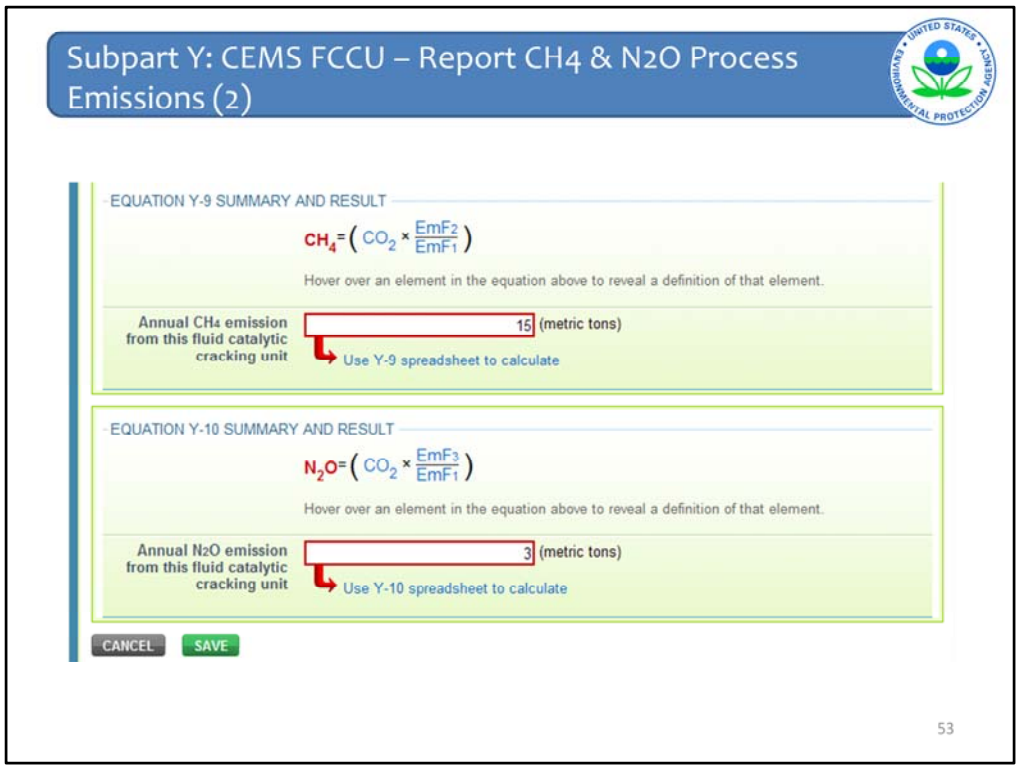
Here, again, you enter in the name of the unit, select the type, and then, in this case, select "yes" to indicate that you are using the CEMS methodology.



Here, again, as in the previous example, you select the methodology you are using to calculate methane and nitrous oxide emissions. The green arrow points to this. Once you've selected that, you click on the "save" button at the bottom of the screen.

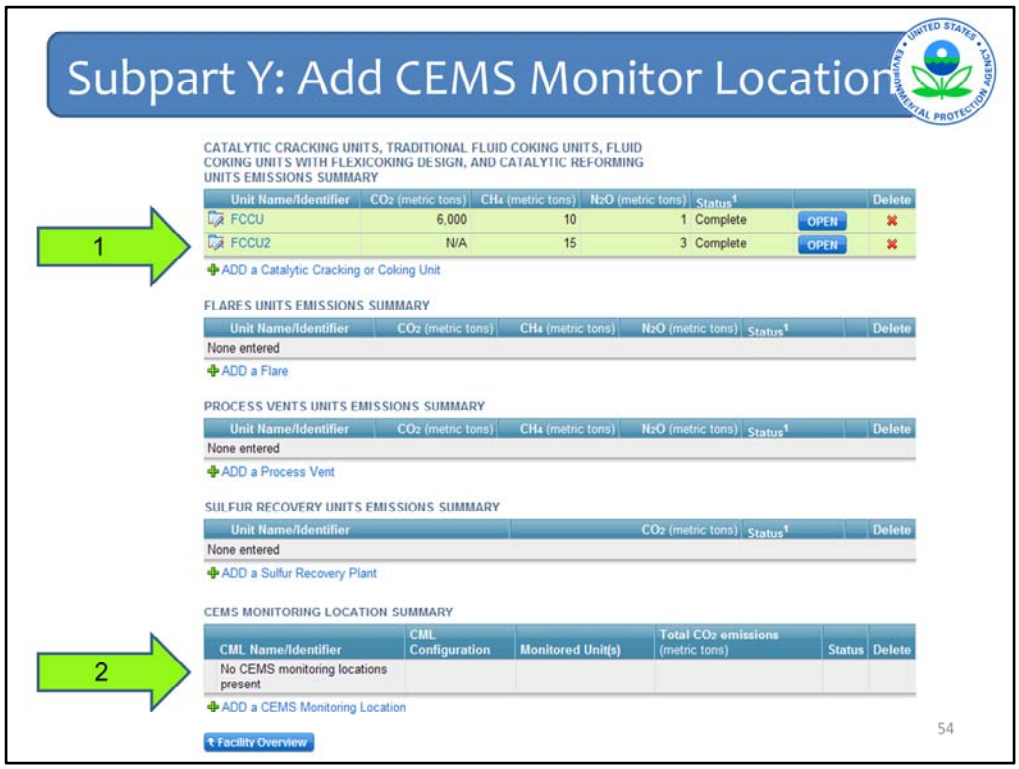


You will see when you return to the Subpart Y overview screen that now the second FCCU is showing as well as the first. To proceed with reporting the methane and nitrous oxide emissions for this unit, you would click on the “open” button for this unit. The green arrow on the right points to this.



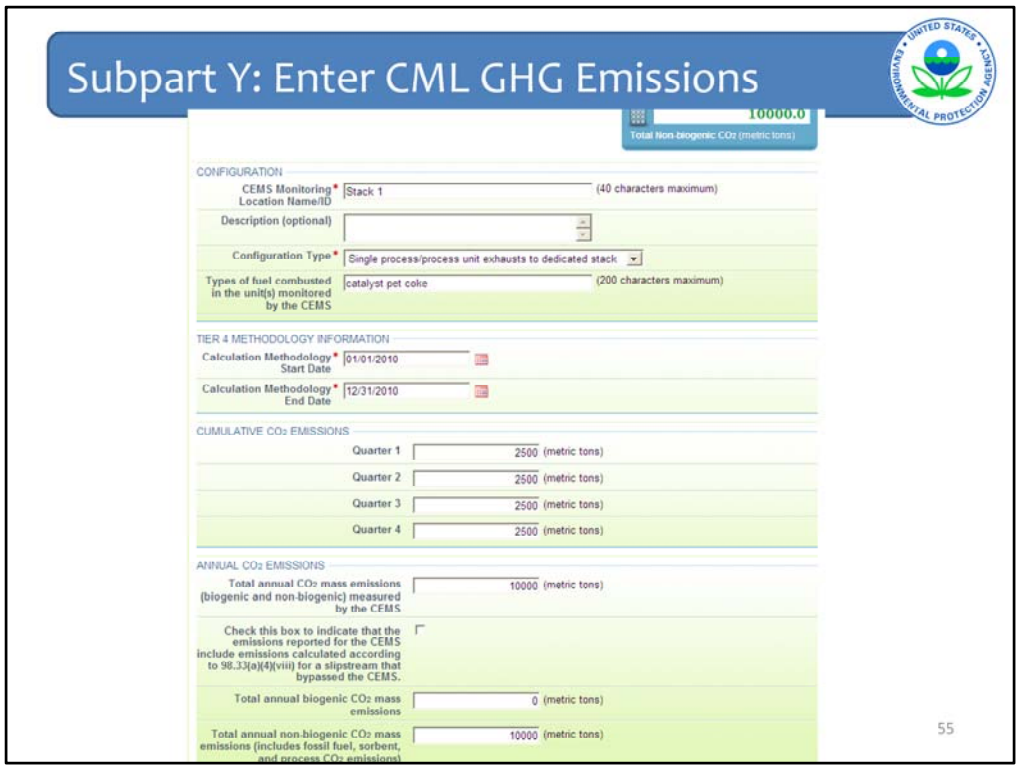
On this screen, you would enter in your methane and nitrous oxide emissions, and then press “save”. Again, you have the option of clicking on the link to the spreadsheets to calculate the emissions. Once you enter in the emissions, you would then press “save”

You will then be returned to the subpart Y overview screen.



Here you will see the green arrow marked “1” shows the second unit we entered that is using the CEMS methodology. You will see the methane and nitrous oxide emissions values are shown here in the summary table. You will also see that there is an “N/A” in the CO2 emissions column. This is because when you select the CEMS methodology, you report your carbon dioxide emissions by using the table at the bottom of the screen marked “CEMS monitoring location summary”. The green arrow marked “2” is pointing to it. Here you are reporting the CO2 emissions at the monitoring location, or stack, level.

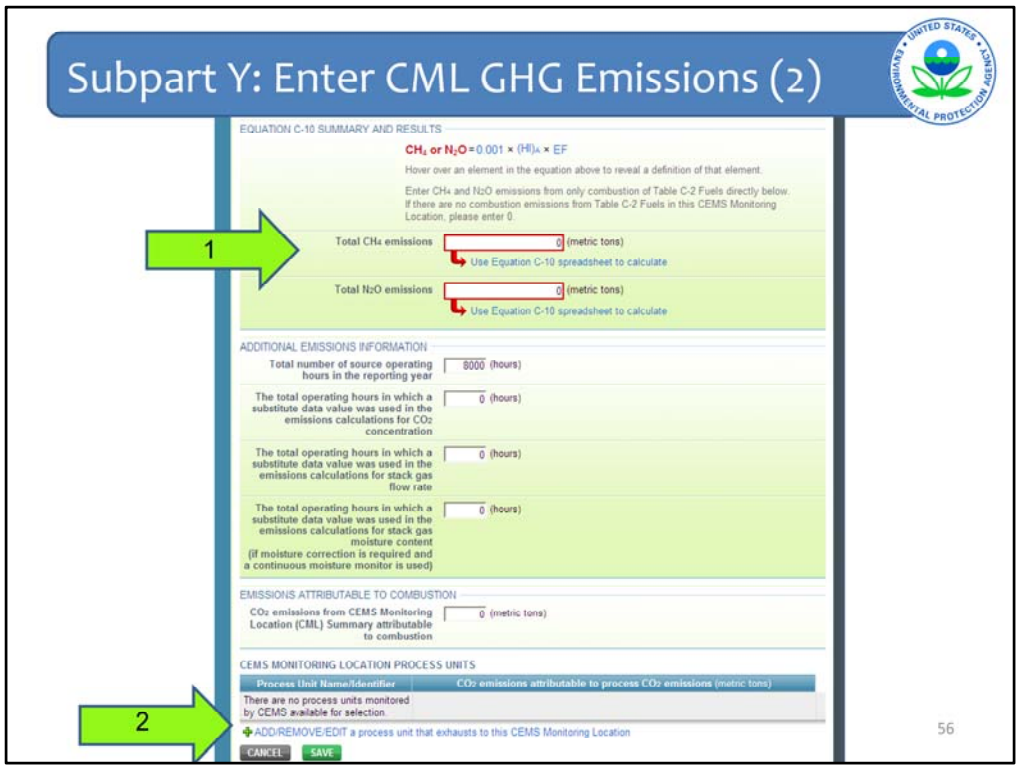
The next step is to add a “CEMS Monitoring Location” by click on the blue link. After doing so, you will proceed to the next screen.



On this screen, you enter the name of the CEMS monitoring location, the configuration type – in this case, we have selected that it is a single process unit that exhausts to a dedicated stack. If you have an FCCU followed by a post-combustion device, such as a CO boiler, you would select “Process / stationary combustion units share a common stack”.

You then enter the type of fuel combusted, the dates for which the Tier 4 methodology was used, and the quarterly and annual CO2 emissions.

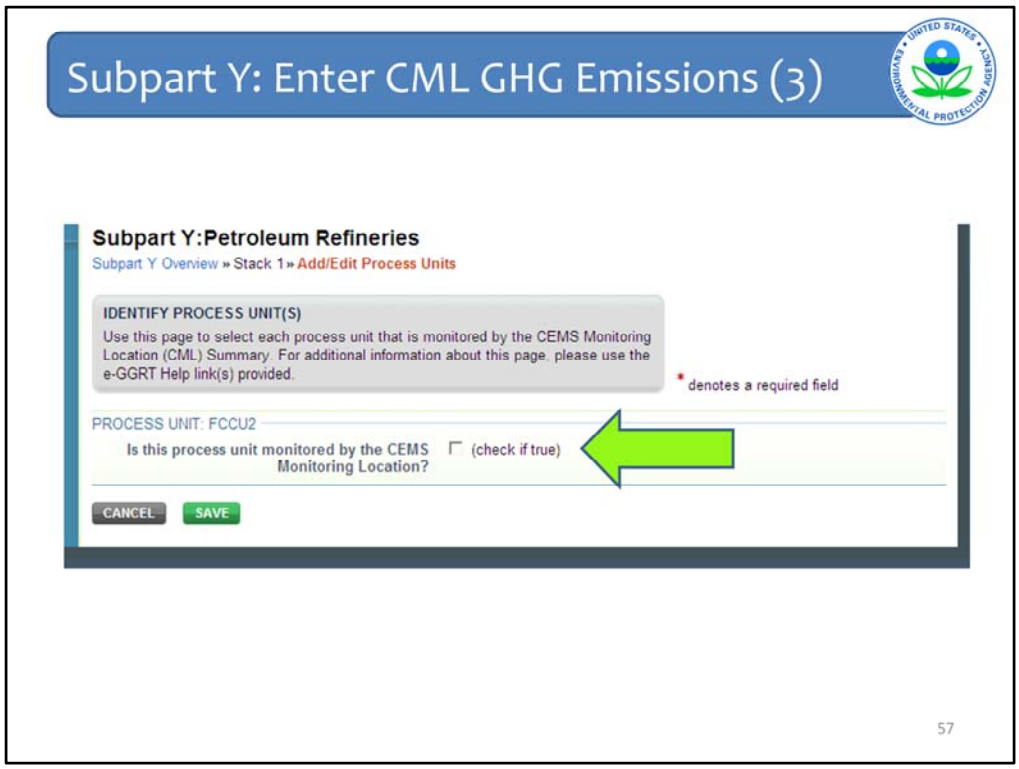
If the emissions reported for the CEMS include emissions calculated according to 98.33(a)(4)(viii) for a slipstream that bypassed the CEMS, check the box under Annual CO2 emissions; otherwise, leave it unchecked.



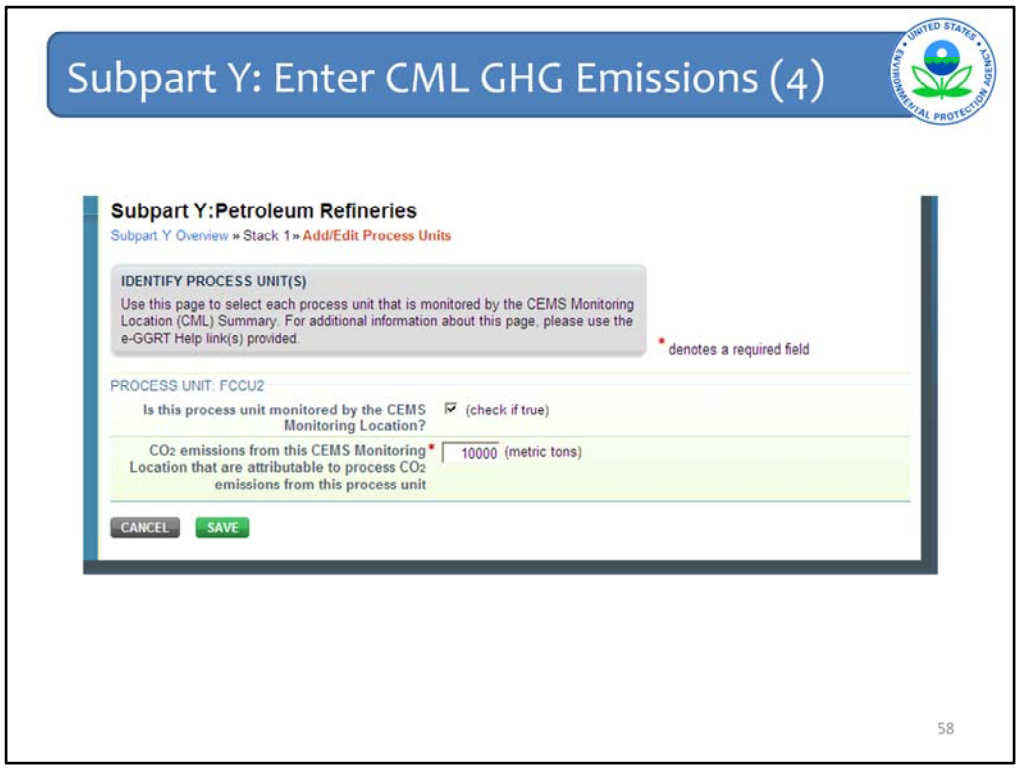
This screenshot is a continuation of the e-GGRT page on the previous screenshot. The green arrow marked “1” points to where you would enter methane and nitrous oxide emissions for any emissions resulting from stationary combustion exhausting from this monitoring location. In this case, since I selected that it was a process unit exhausting to dedicated stack, you would enter “0” for the methane and nitrous oxide emissions. If you have an FCCU followed by a CO boiler (or other post-combustion device), this is where you would enter the CH4 and N2O emissions associated with the additional fuel burned in the CO boiler.

Complete the “Additional Emissions Information” section regarding operating hours and substitute data, then complete the “Emissions Attributable to Combustion” section. In this case, since I selected that it was a process unit exhausting to dedicated stack, you would enter “0” for the CO2 emissions attributable to combustion. If you have an FCCU followed by a CO boiler (or other post-combustion device), this is where you would enter the CO2 emissions associated with the additional fuel burned in the CO boiler.

The last step for reporting emissions for this FCCU is to click on the “Add/remove a process unit that exhausts to the CEMS Monitoring Location”. The green arrow marked “2” points to this.

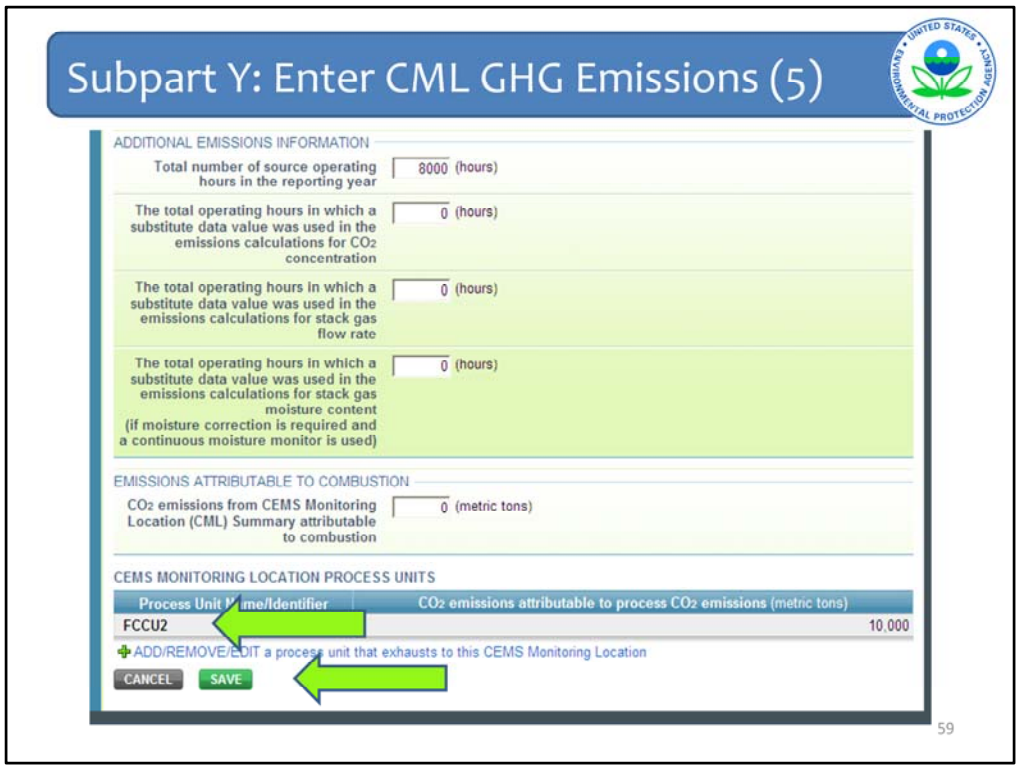


On this screen, you will see that all units in which you've indicated that you are using the CEMS methodology are prefilled in here. As we have only added one source so far that uses the CEMS methodology, only the FCCU2 process unit is displayed. We then check the check if true box for the FCCU2 process unit.

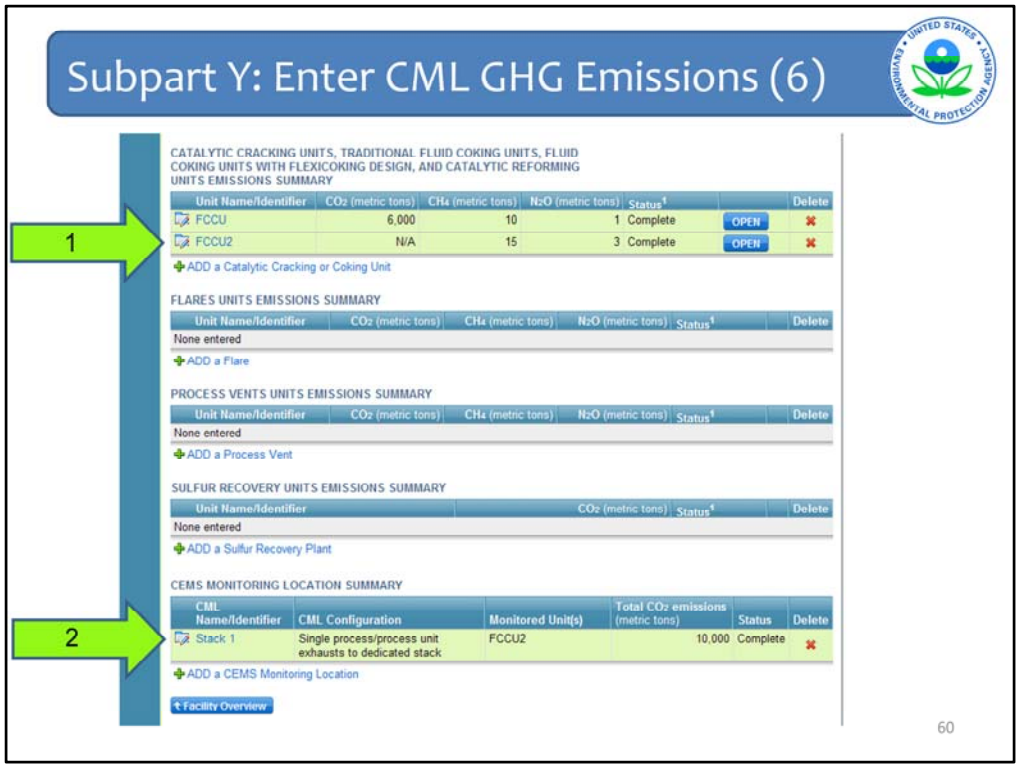


Once you check the box and either click “Save” or click elsewhere on the page, an additional question for the selected process unit will appear. You are required to enter the emissions attributable to that specific process unit that is monitored by the CEMS monitoring location. If you had two process units emitting through a single stack, this is were you would report the process-specific CO2 emissions attributable to each process unit individually. In this case, since we selected that the unit exhausts to a dedicated stack, all of the CO2 emissions measured by the CEMS is reported here as emissions attributable to this process unit.

Once you complete this field, you click on “Save” at the bottom of the page.

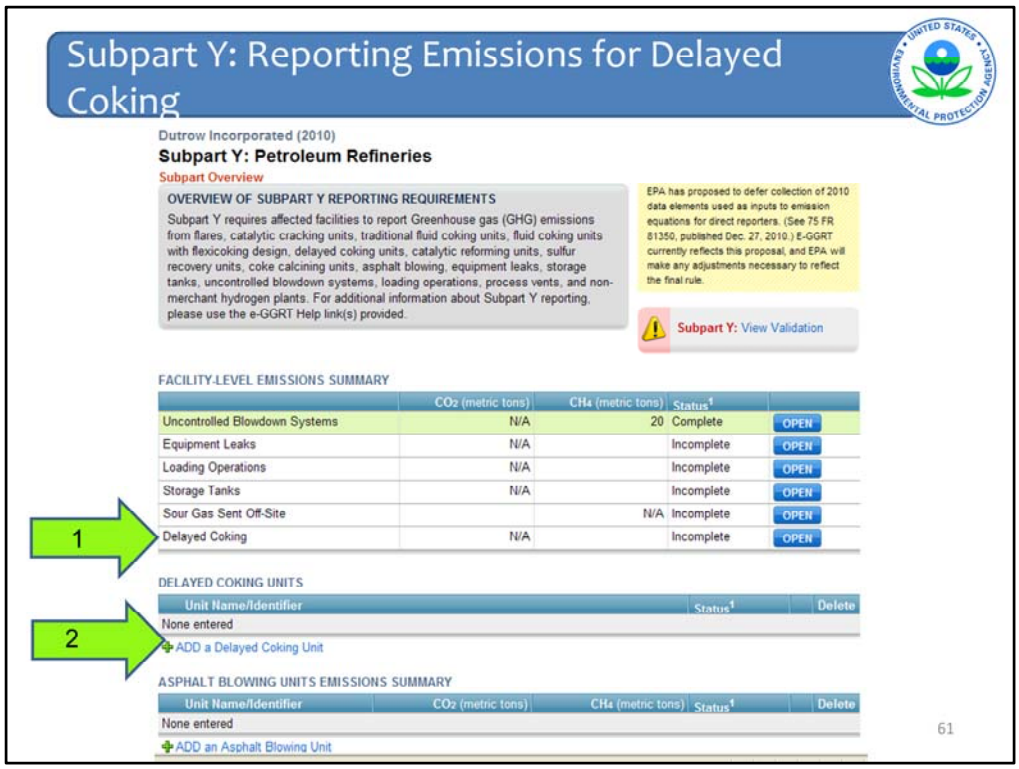


You will then return to the main CEMS Monitoring Location, where you can verify that you have successfully added the process unit to the CEMS monitoring location. We have now completed all of the information needed for this CEMS monitoring location, so we click "Save."



We then return back to the subpart Y overview screen. You'll now see that the emissions for the FCCU2 are shown in two places. The methane and nitrous oxide emissions are shown next to the green arrow labeled 1, and the CO2 emissions from the CEMS monitoring location are shown next to the green arrow labeled 2.

I've now demonstrated how to enter information for emission sources in subpart Y that are reported at the unit level, using two fluid catalytic cracking units as examples.

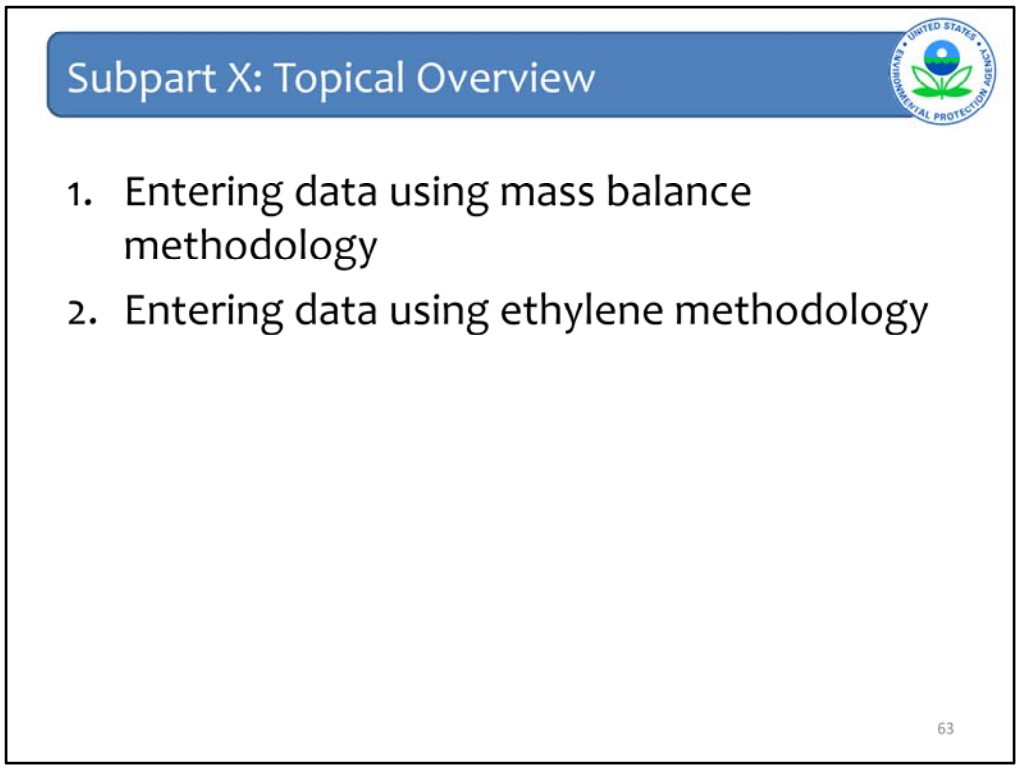


One last thing I'd like to note about subpart Y is how to report emissions for delayed coking units. You will see that delayed coking is listed twice, once under the "Facility level emissions" (marked by the green arrow 1) and a second time in the unit-level reporting section (marked by the green arrow "2").

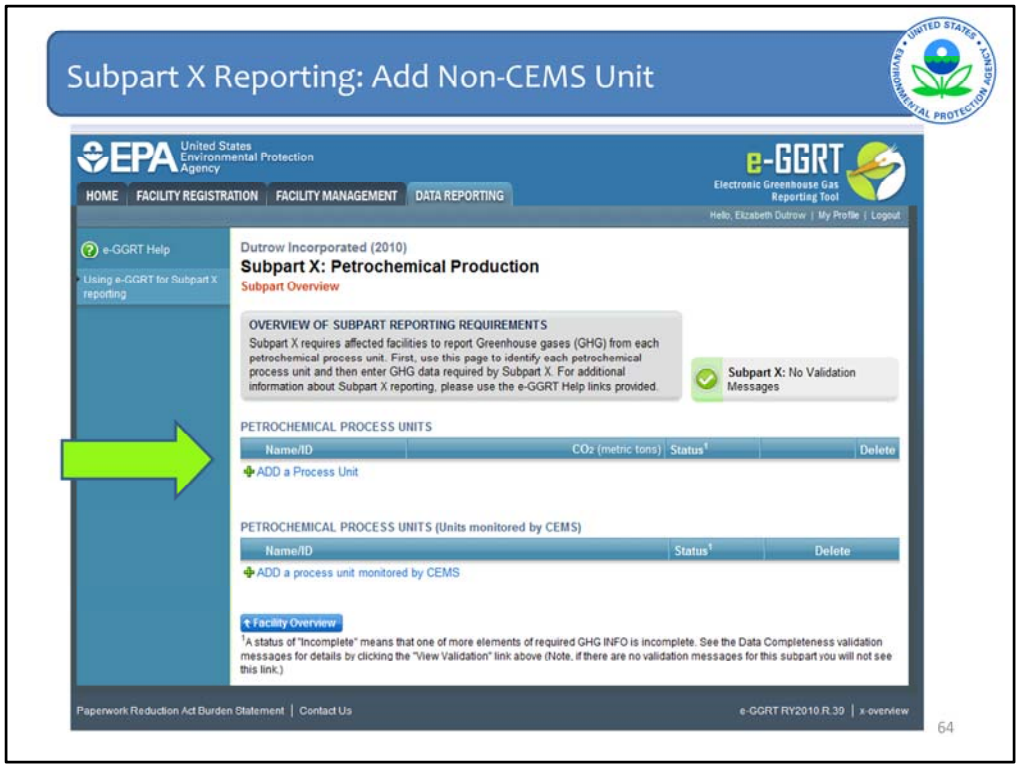
This is because Part 98 asks for information about each delayed coking unit, which is reported in the section marked by the green arrow "2", as well as for information about all of the delayed coking units across the facility, which is reported in the section marked by the number "1". You will see once you enter each of these sections that emissions are reported only once, and the rest of the information is supporting information.

This concludes the demonstration of using e-GGRT to report emissions in subpart Y.

Subpart X



For the purposes of this webinar we will section off the next several slides into two parts, one for adding subpart X specific data using the mass balance methodology and the other section will focus on adding subpart X specific data using the ethylene combustion methodology.



After clicking “OPEN” for subpart X on the preceding “facility overview” page, you will see this subpart X overview page.

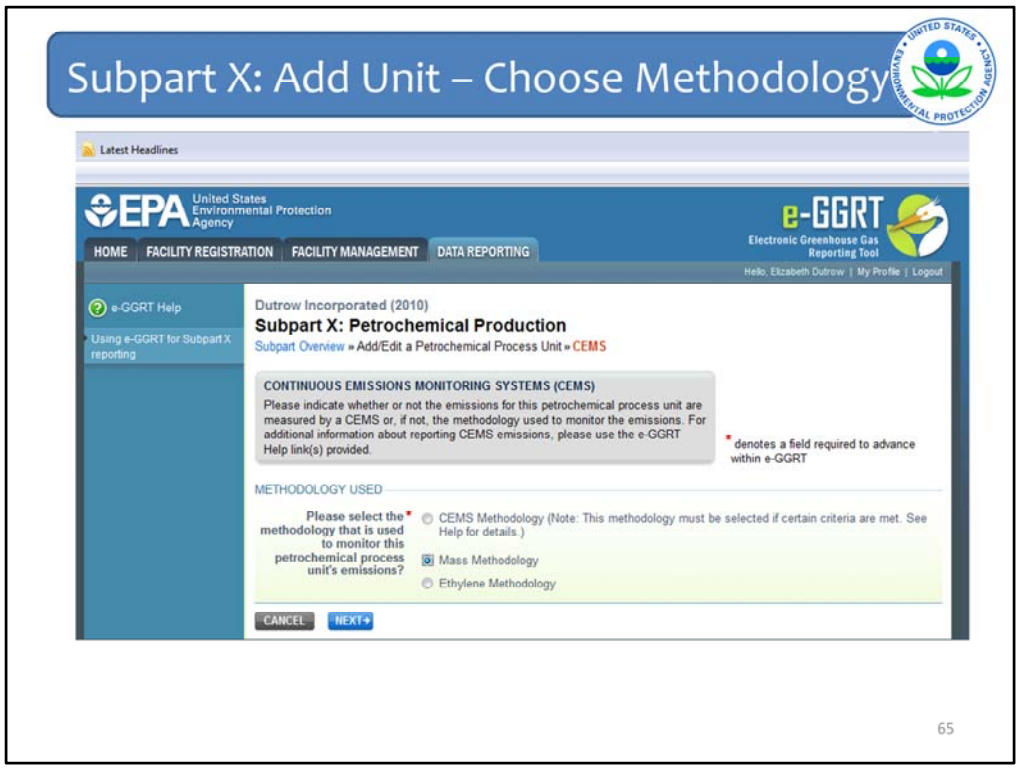
On this page you initiate the procedure for entering process unit data in your report by clicking on one of the two hyperlinks on the left side of the page.

Subpart X specifies 3 emissions estimation methodologies for petrochemical process units—a mass balance approach, the use of CEMS, and a methodology based on using the procedures in subpart C that is an option only for ethylene processes.

Regardless of the methodology you use, you can initiate the reporting procedure by clicking on either of the hyperlinks. They both take you to the same page.

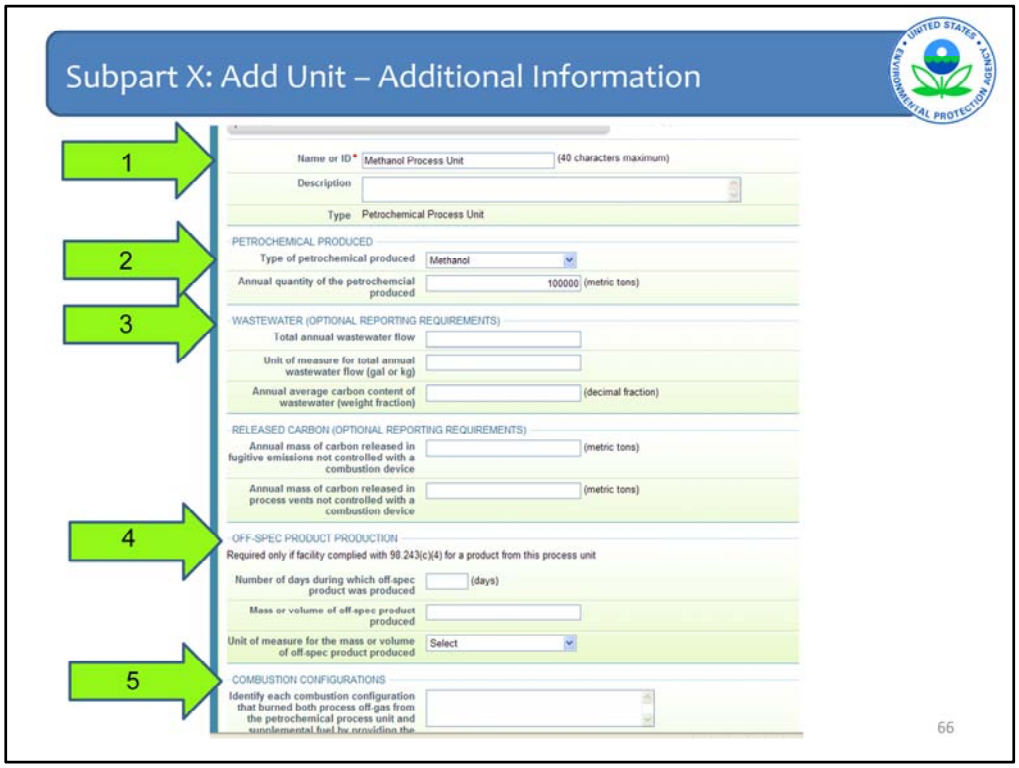
Regardless of which link you click on to enter information for a process unit that is monitored with CEMS, the information about that process will be documented in the bottom table on the page (under the heading “Petrochemical Process Units (Units monitored by CEMS)”. Similarly, information about a process unit for which you use the mass balance option or the ethylene option will be entered in the top table.

First, we will demonstrate how to add a process unit using the mass balance methodology. To do this, you would click on the “Add a process unit” link that the green arrow is pointing to.



You will then proceed to the screen showing here. This is the screen where you select the methodology you are using to calculate your emissions. Here we have selected the mass balance methodology.

Once you select a methodology, you select the blue button “next”. You will then proceed to the next screen.



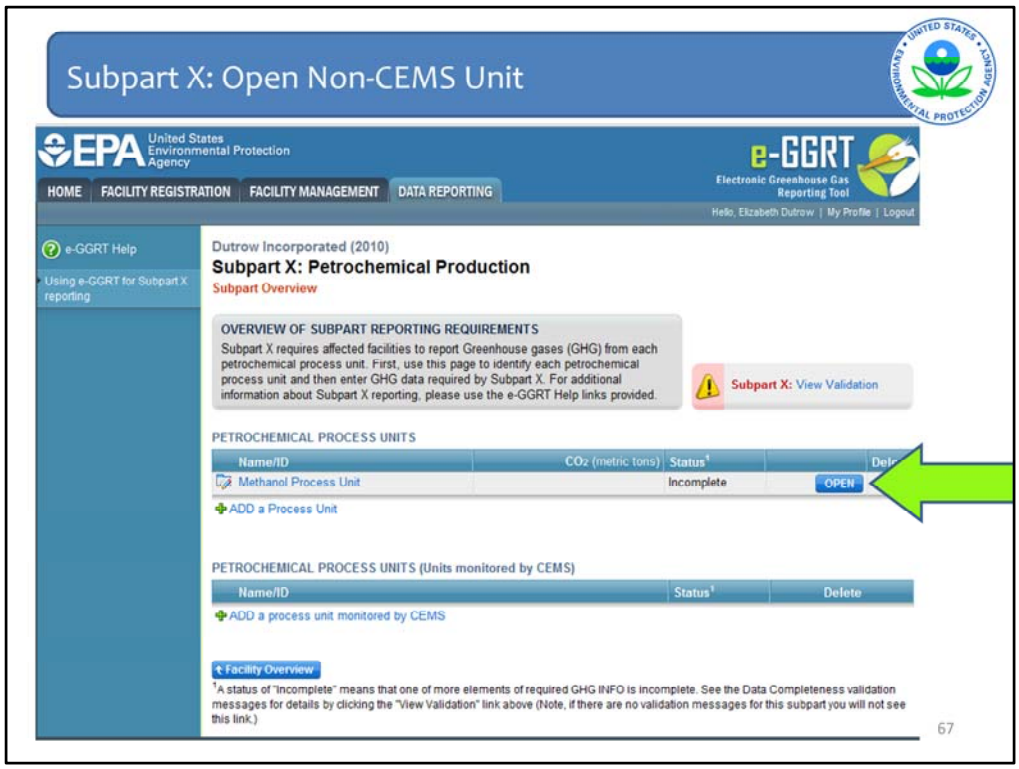
On this page, you enter information on the process unit you've just added. Next to the arrow marked "1", you enter the name of your unit. Note the red asterisk. Any entry with a red asterisk must be completed before you can save the page and move on to the next page.

Next to the arrow marked "2", you enter in the type of petrochemical produced as well as the annual quantity produced. Next to the arrow marked "3", there are some optional reporting elements related to wastewater and fugitive carbon emissions. Again, these are optional reporting requirements under Part 98, so you may leave them blank if so desired.

Next to the green arrow marked "4" you enter information that is required only if you are complying with the option in subpart X that allows a facility to calculate emissions assuming that the particular feedstock or product consists of a single compound (i.e., a pure compound at a concentration of 100 percent in the stream) during periods of normal operation. If a facility is not using this alternative to monthly carbon content analyses, this section may be left blank. If a facility is using this alternative, but no off-spec product was produced during the year, then this section may also be left blank.

Lastly, on this page, next to the green arrow marked "5", you are to identify each combustion configuration that is reported under subpart C of Part 98 that burned both process off-gas from this petrochemical process unit as well as supplemental fuel.

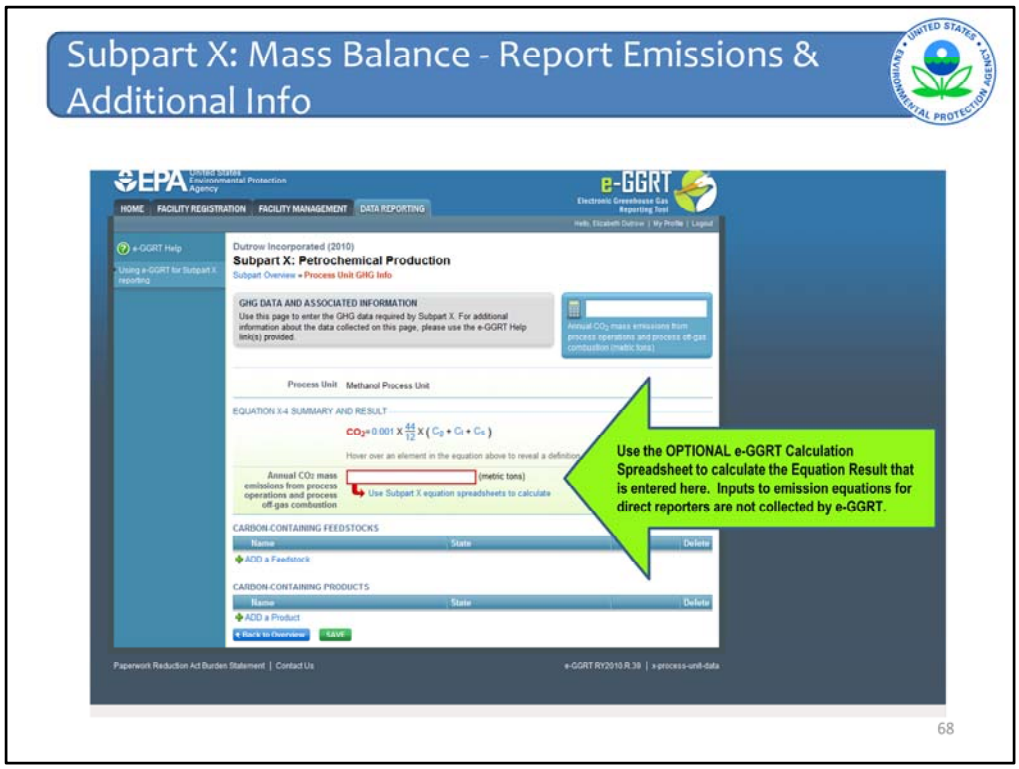
Once you complete these fields, you would press "save" at the bottom of the page. (The save button is cut off from this screenshot.)



You will then proceed back to the subpart X overview screen. Note that the process unit name is now entered in the table of petrochemical process units. If you want to edit any of the information you entered on the previous page, click on the process unit name, which will take you back to that page.

Note that if you leave required information blank or submit values that are out of typical range at any point in your reporting process, you will get a validation warning, which can be viewed by clicking on the “Subpart X: View Validation” link on the right side of the screen. If this area contains a red exclamation point, it means you have one or more validation warnings. If it displays a green checkmark, then you have no validation warnings. Clicking on this link and viewing the validation errors will provide specific and direct feedback on what information is causing the validation error along with a link to the section of the report in question.

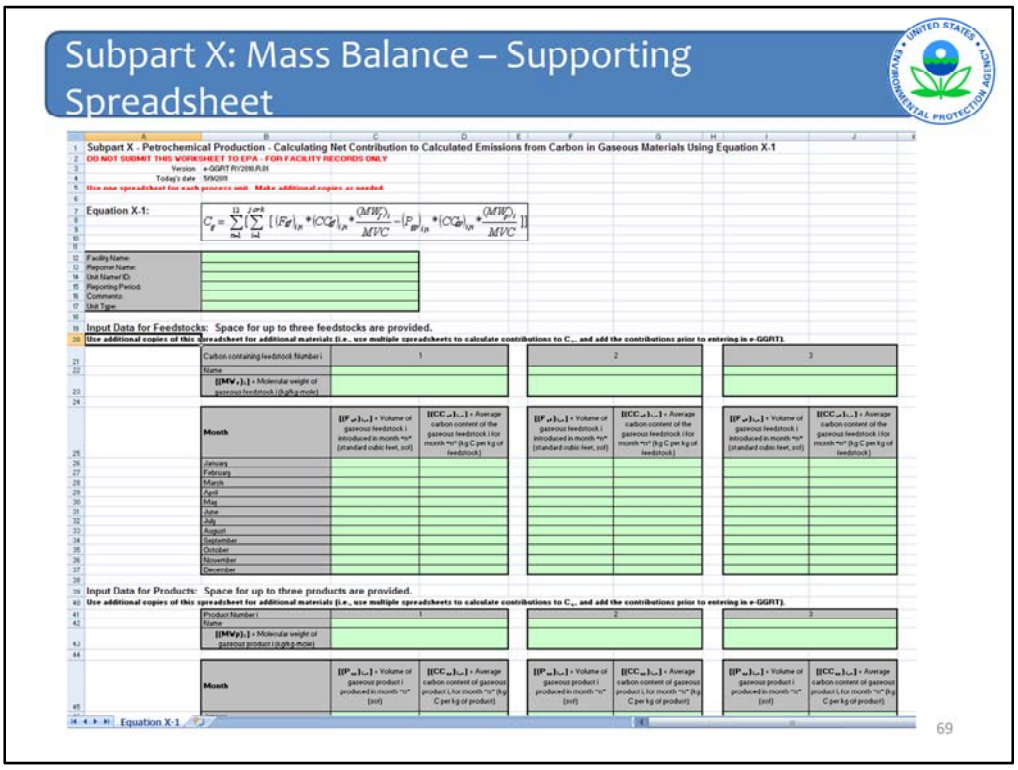
To enter the remainder of the data for this process unit, you would click on the “open” button for this process unit.



On this page, you enter the CO2 emissions from this process unit in the red box. As was demonstrated with other subparts, you have the option of clicking on the blue link that says “Use Subpart X equation spreadsheets to calculate”.

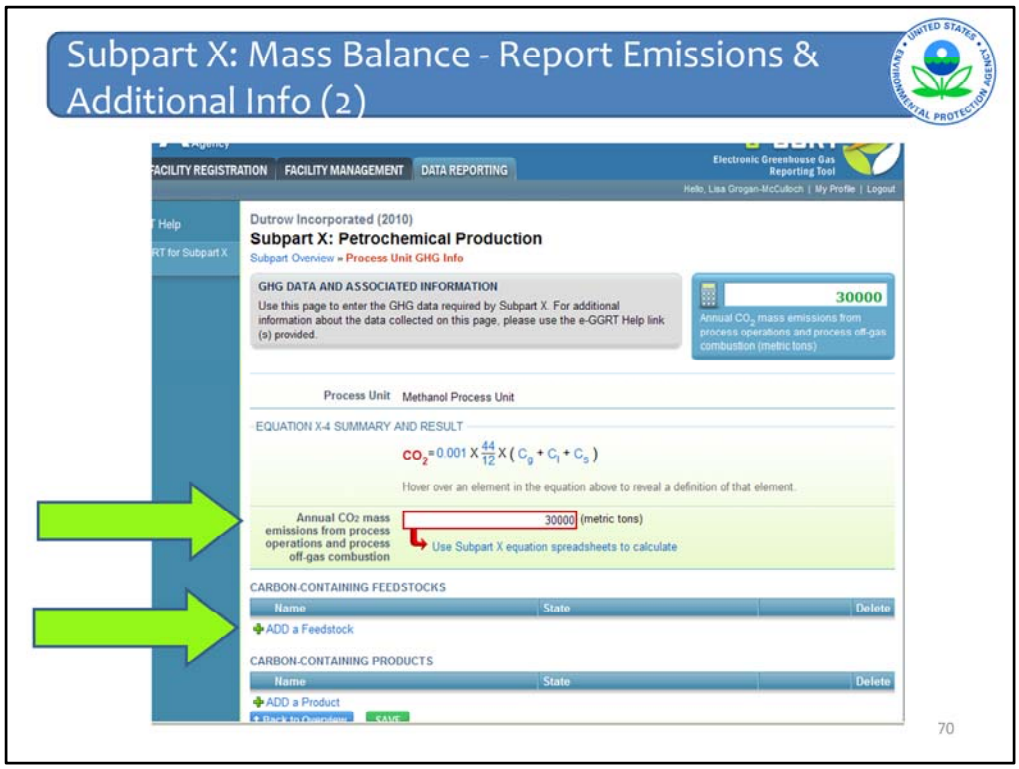
If you click on this link, you can open the spreadsheet. The spreadsheet is shown on the next screen.

EPA is providing OPTIONAL calculational 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 onto the e-GGRT web form.



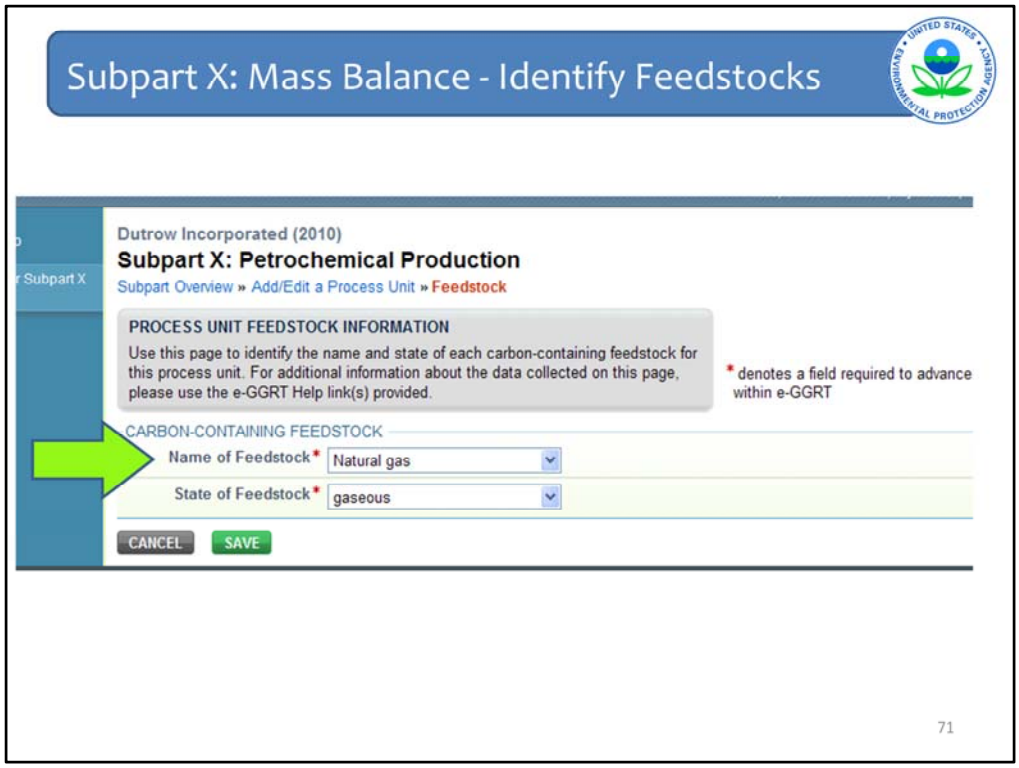
In this spreadsheet, X-1, you enter the measured flow and carbon content each month for each gaseous feedstock and product. After entering the data, the box at the bottom of the worksheet calculates the carbon contribution from gaseous materials to the CO2 emissions. The X-2 and X-3 spreadsheets are set up similarly to X-1, and they calculate the total carbon contribution from liquid and solid materials. You then have to enter these carbon contribution values from each of the applicable spreadsheets into the spreadsheet for equation X-4, which calculates the annual CO2 emissions. Copy that value into the red-bordered box on the process unit page.

E-GGRT will NOT collect the calculation spreadsheet. The use of these calculation spreadsheets is voluntary. You do not need to use EPA's spreadsheets to perform the calculations for the emissions equations. The spreadsheets are meant to support reporters as they complete the e-GGRT online reporting process. If you choose to use the EPA spreadsheets, you may want to maintain a copy for recordkeeping purposes. EPA may request this information in subsequent reporting years.

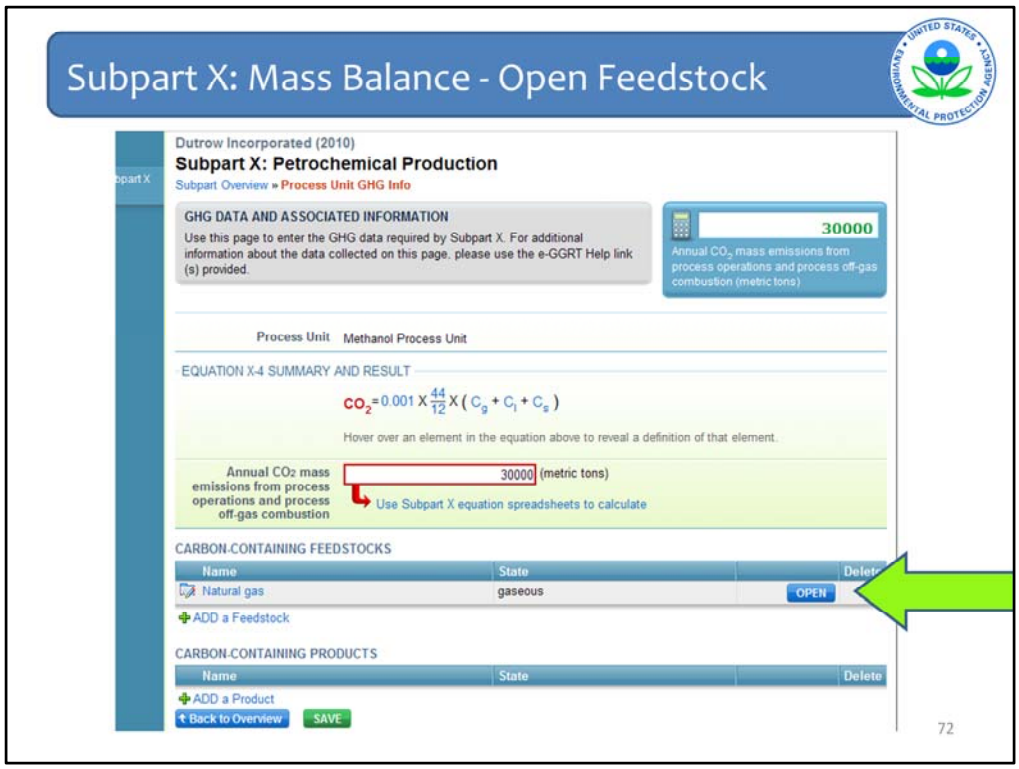


Again, you enter the CO2 emissions into the red box. The first green arrow is pointing to the red box. On this page, you are also required to enter data on all of your carbon containing feedstocks as well as your carbon containing products, including the petrochemical product.

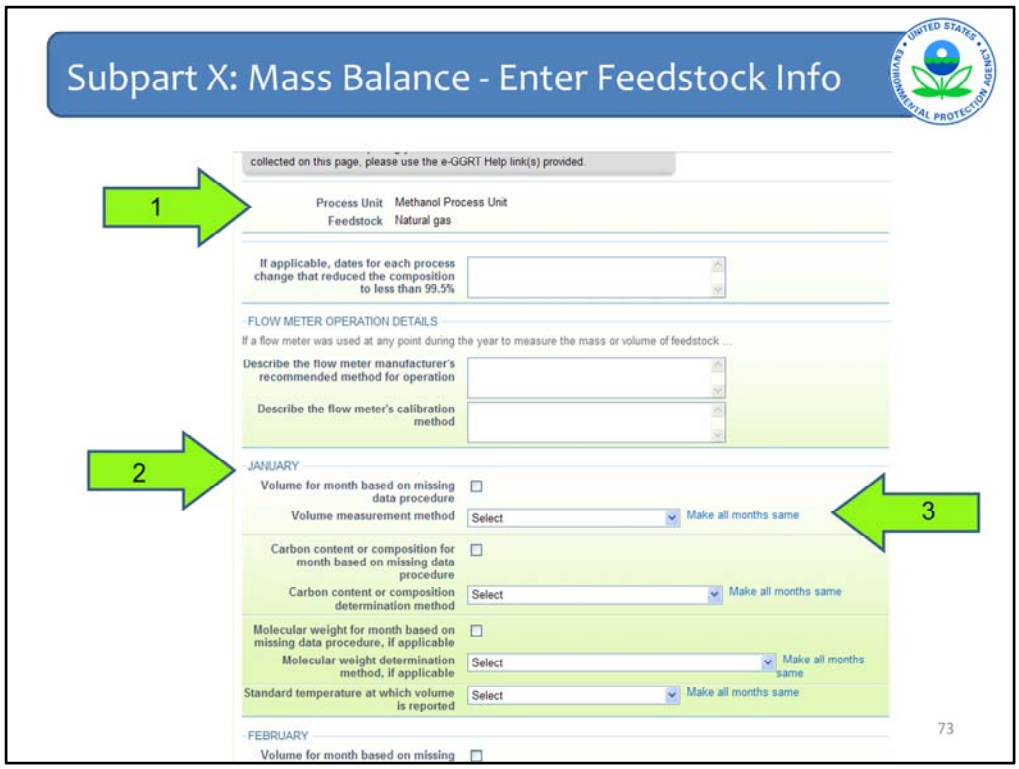
To add data on a carbon-containing feedstock, click on the “ADD a feedstock”. The second green arrow is pointing to this link. Once you click on this, you will proceed to the next screen.



On this screen, you enter the name of the feedstock and indicate whether it is gaseous, liquid, or solid. Note that the tool provides a drop down list with the names of several common feedstocks from which you can select. If your particular feedstock is not listed, select “other”. If you select “other”, a new box will open on this page in which you can type the name of the feedstock. Once you have completed these fields, you click on “Save”.



Once you hit save on the previous screen, you will return to the screen where you add feedstocks and products. Now you can see that the natural gas feedstock that we just added is listed in the carbon-containing feedstocks table. As noted earlier for process units, clicking on the name in this table will take you back to the previous screen where you can edit any of the previously entered information, if necessary. To enter the detailed information on this feedstock, click on the "open" button that the green arrow is pointing to.



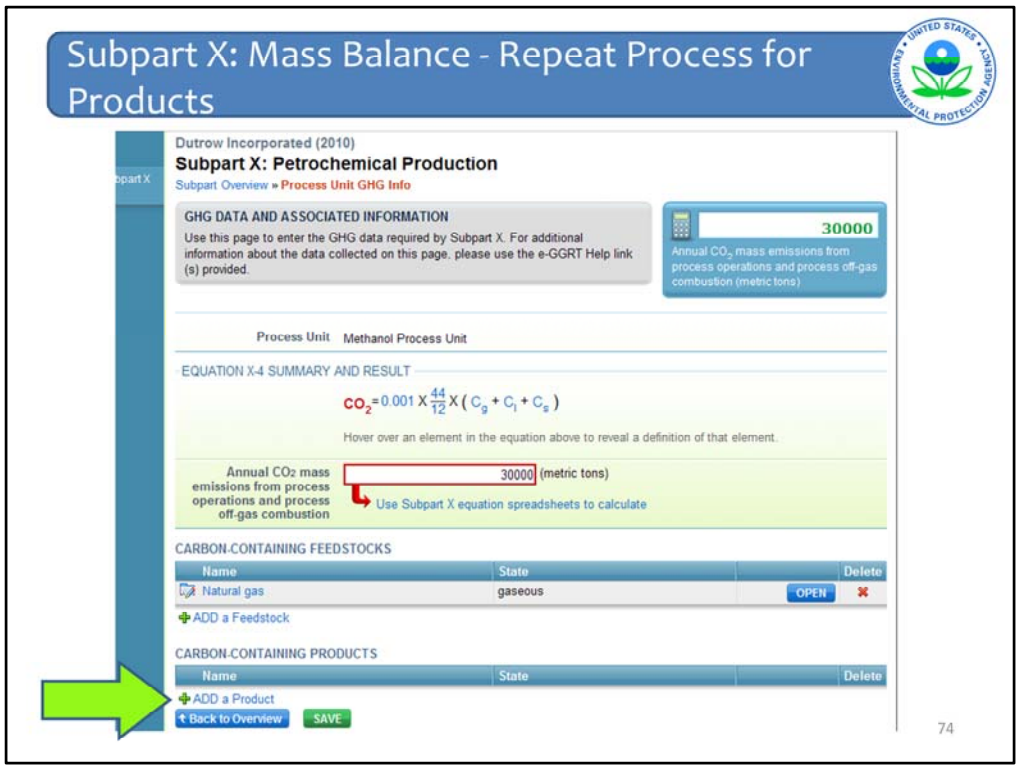
The primary purpose of this page is to enter information about the flow and carbon content measurement methods. If your feedstock is a gas, you will see an expanded data entry form, as shown in this screen shot, in which you also enter information about the method used to determine the molecular weight and the standard temperature at which a measured volume is reported, if needed. At the top of the screen, you'll see next to the green arrow marked "1", is a label that identifies which process unit and which feedstock you are entering data for.

Below the process and feedstock information is a section that applies only if you are complying with the alternative that allows you to assume the feedstock is a pure compound. If you comply with this alternative, you are not required to measure the carbon content of the stream. The next section on this page is for reporting information about flow meters. If you use a flow meter to measure the amount of feedstock used, then you must describe the flow meter manufacturer's recommended method of operation and the calibration procedures in these fields.

The section next to the green arrow labeled "2" is for entering measurement information for the month of January. If you used missing data procedures to estimate one of the parameters in an equation, then click the appropriate check box for that parameter. Otherwise select the applicable method from the pick list. If you used the same method in every month, then click on the blue link next to the green arrow labeled "3" which says "Make all months the same". This is a time saving device that will automatically fill in the same method in the tables for the months of February through December. But you can manually change any of these automatically entered values.

For carbon content, one of the items on the list is "98.244(b)(4)(xv)(B) alternative method" . If you select this method, additional fields will open on this page in which you must enter the name of the method and an explanation for why none of the other listed methods are applica ble. For the report in the year when you first use this method, you must also attach a copy of the method to your report. The bottom of this page specifies how to attach a file to your report if this applies to you.

The rest of this page has separate tables for the months of February through December that identical to the table for January, except that they do not have the blue "Make all months the same" links. These tables are not shown in the screen shot. When you have entered all relevant information, click SAVE at the bottom of the page, which takes you back to the process unit page.

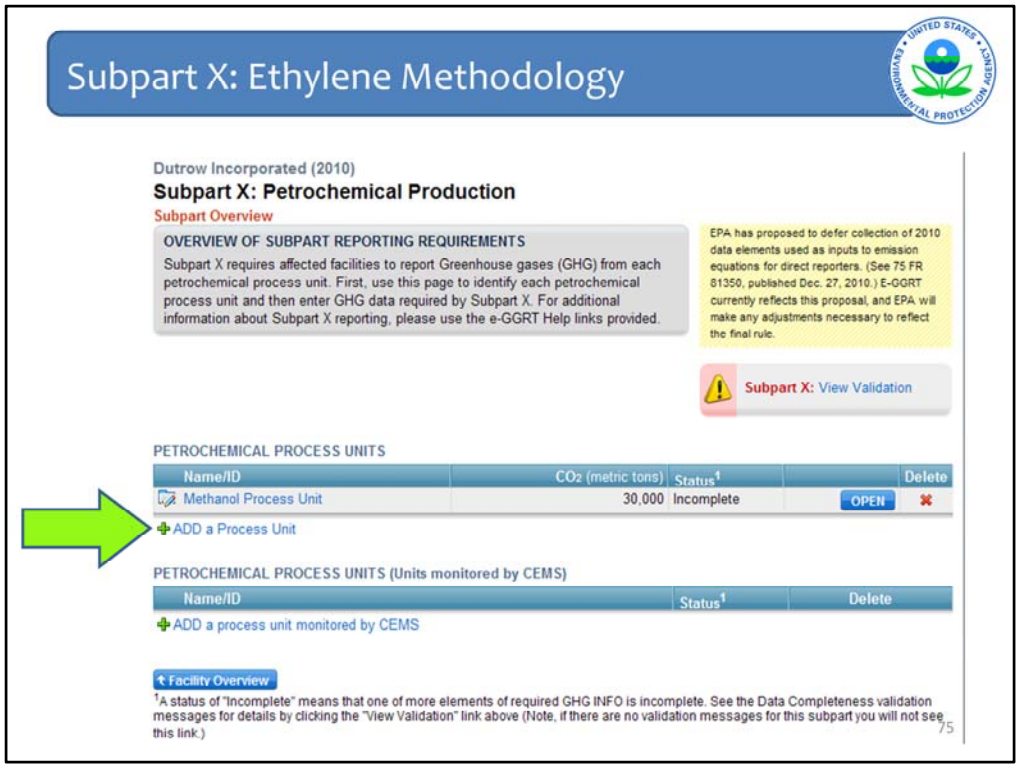


If you want to change any of the information you entered on the previous page, click "OPEN" again to be taken back to that page.

If you have more than one carbon-containing feedstock, you would click on the "Add a feedstock" link again and repeat the steps we just described until all carbon-containing feedstocks have been entered.

Next you would add your carbon containing products. To do this, you would click on "ADD a product". The green arrow is pointing to this link. We are not going to go through this process in this webinar because it is identical to adding a feedstock.

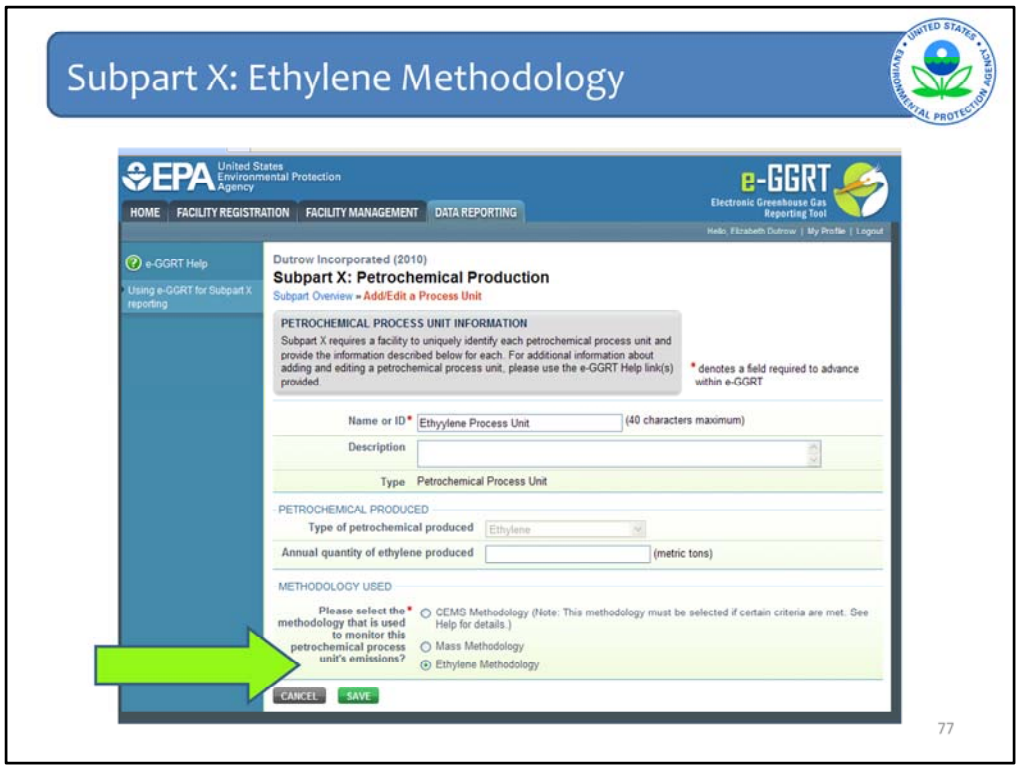
When you finish adding all feedstocks and products, click either the "SAVE" button or the "Back to Overview" button to return to the subpart X overview page. Both will save your data.



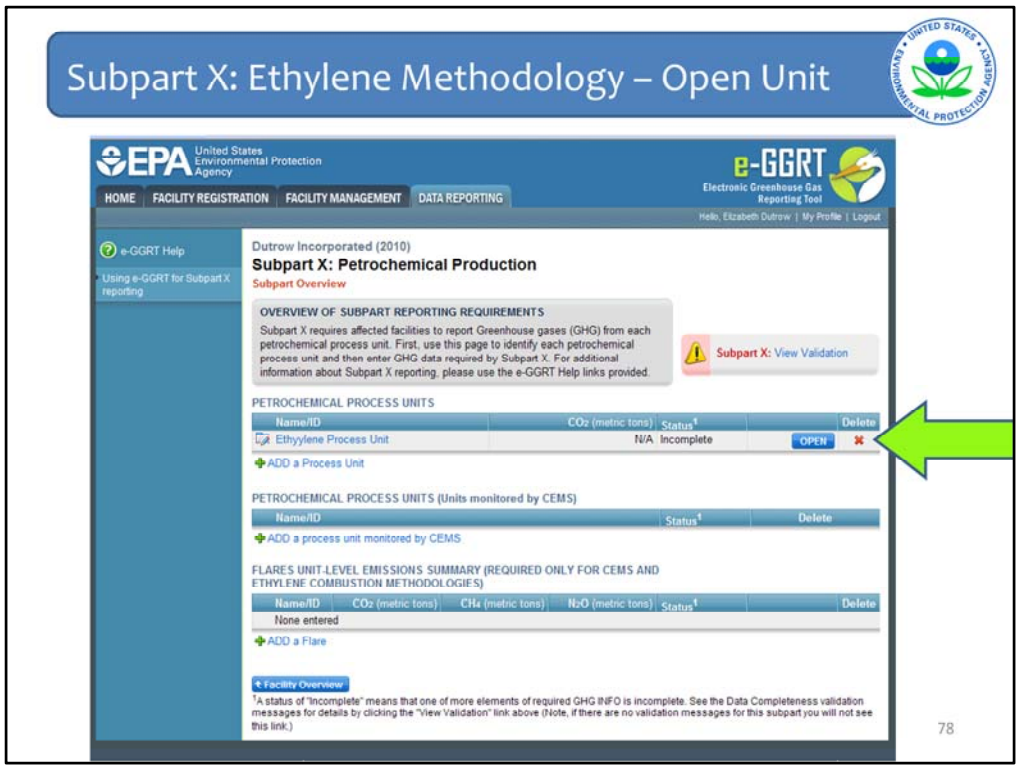
Now we are moving on to demonstrating how to report emissions using the ethylene combustion methodology. Note that this methodology is available only to process units producing ethylene.

This screenshot shows the subpart X overview page again. Similar to the procedure for the mass balance approach, the first step is to add a process unit. You do this by clicking on the "ADD a process unit" link next to the green arrow.

You will then be prompted to choose a methodology for this unit. For this example we are using the “Ethylene Methodology”, so we choose that option and click “next”.



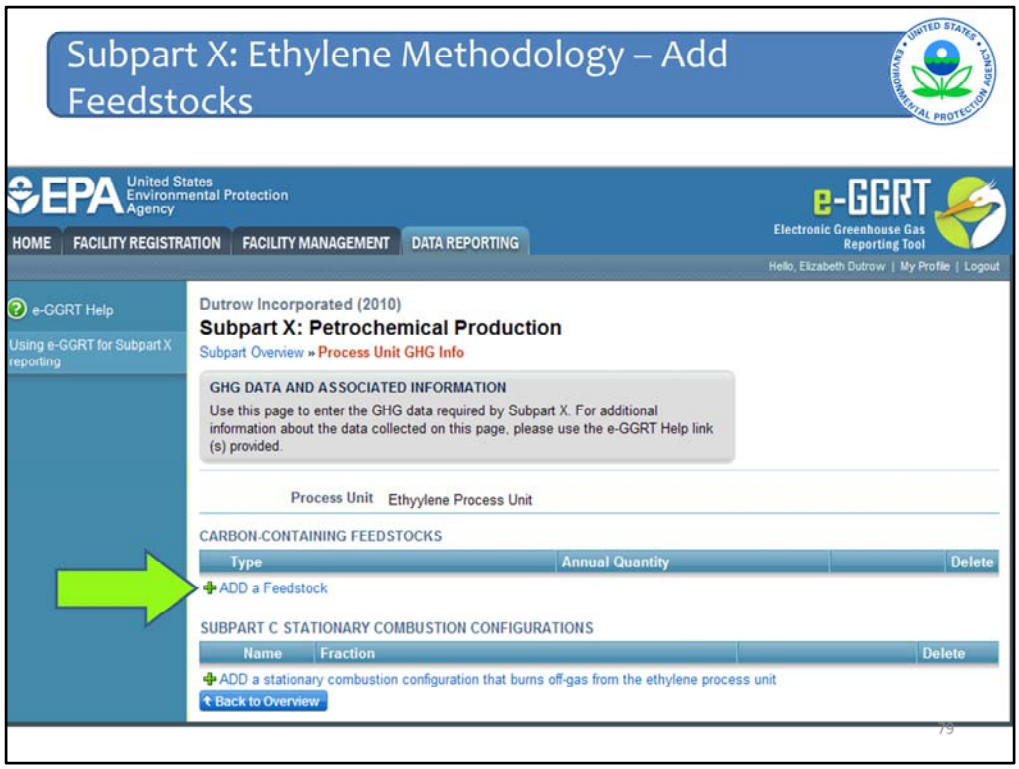
On this screen, again you enter in the process unit name. You will see the type of petrochemical produced is locked in to ethylene, since this methodology is available only to ethylene producers. You enter in the annual quantity produced and click on the "SAVE" button.



Once you click on save on the previous screen, you will return to the subpart overview screen again.

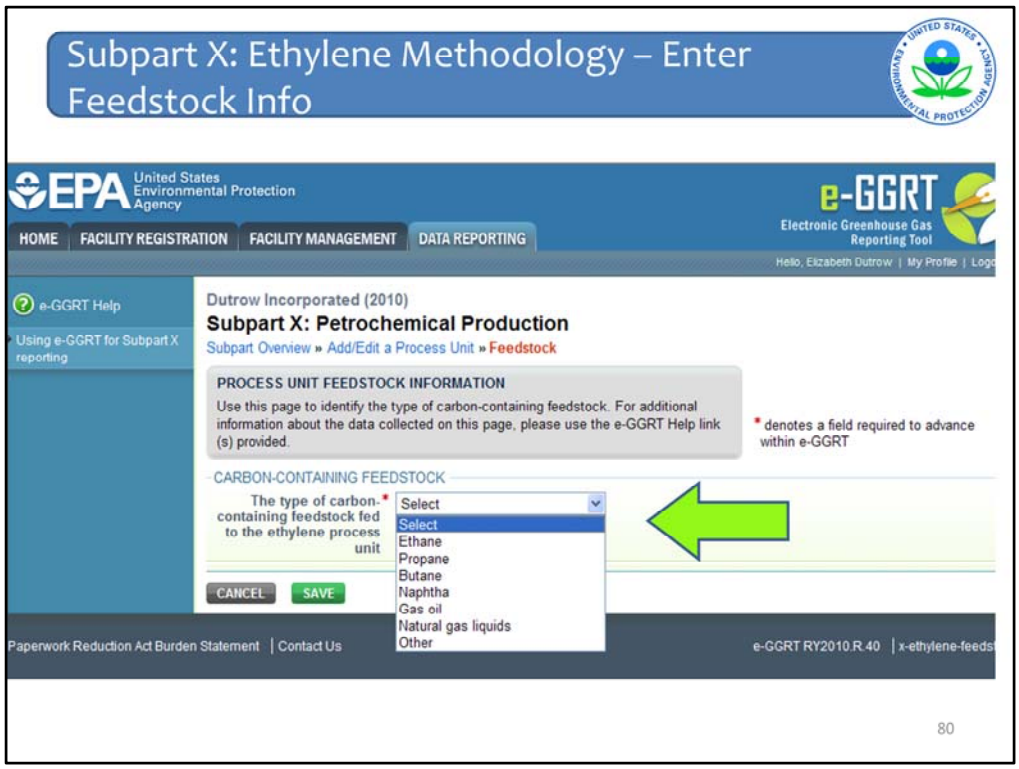
Notice two changes on this page. First, the ethylene process unit name has been added to the petrochemical process units table and second, a new box for emissions from flares has been added.

We will address the flares reporting area in a few minutes, but first we will enter in the remaining information required for this process unit by clicking on the blue open button.

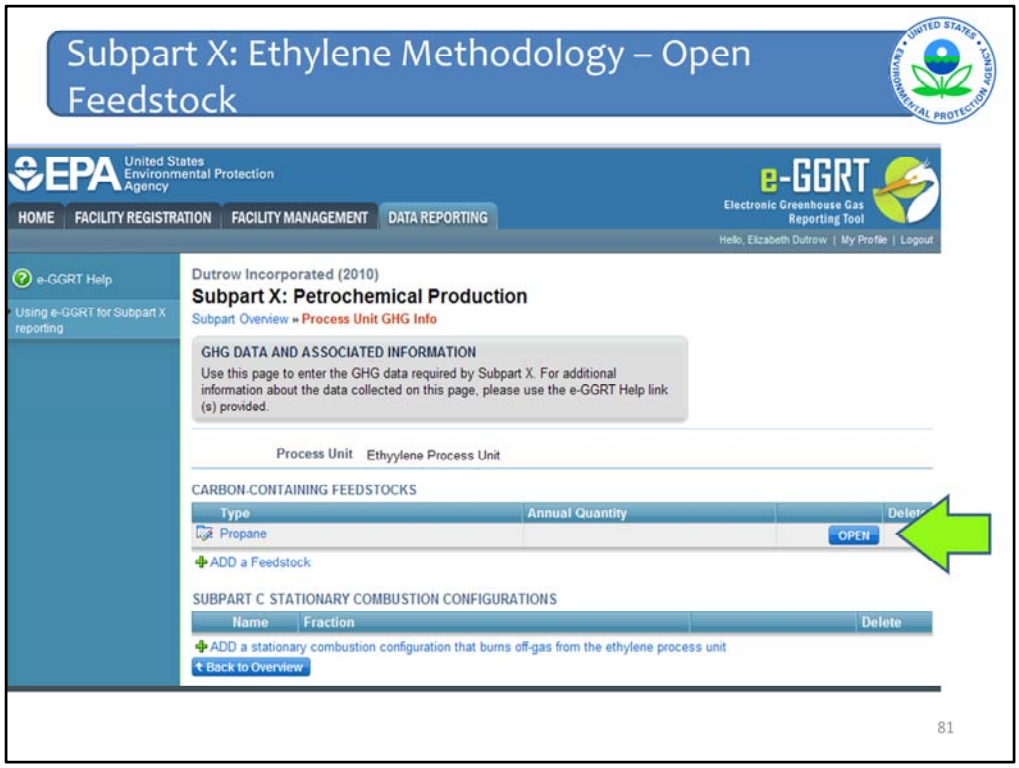


On this screen, you are required to add information on all of your carbon containing feedstocks, as well as information on all stationary combustion configurations that burn off-gas from the ethylene process unit.

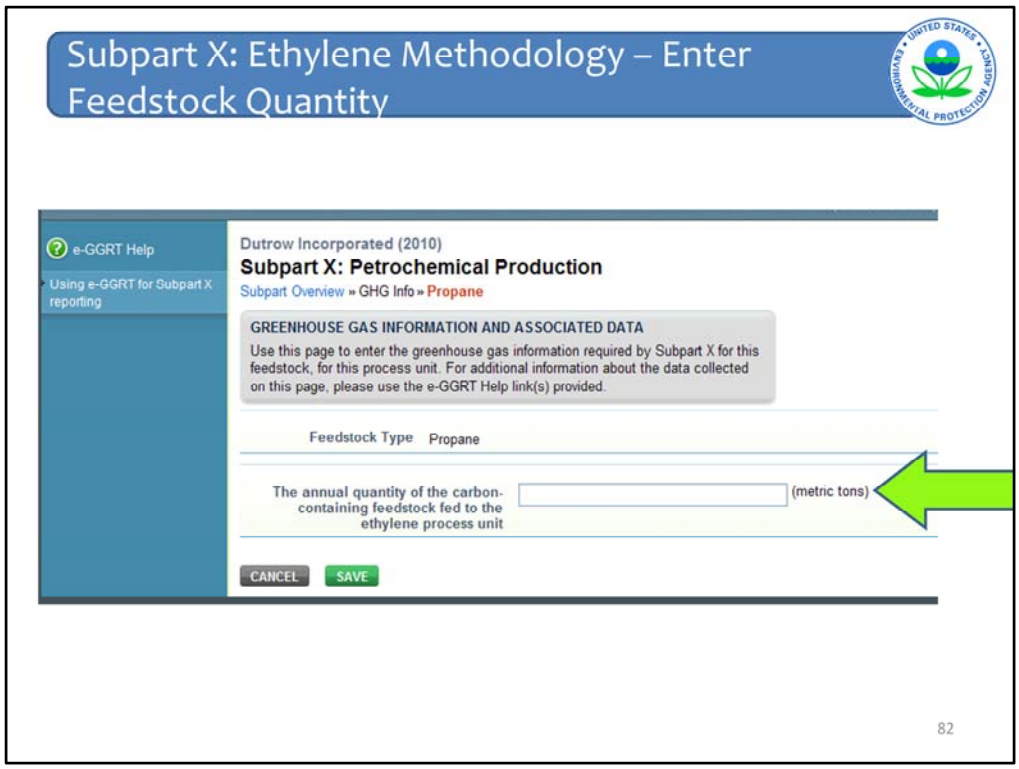
First we will walk through adding a feedstock. The first step is to click on “Add a feedstock”.



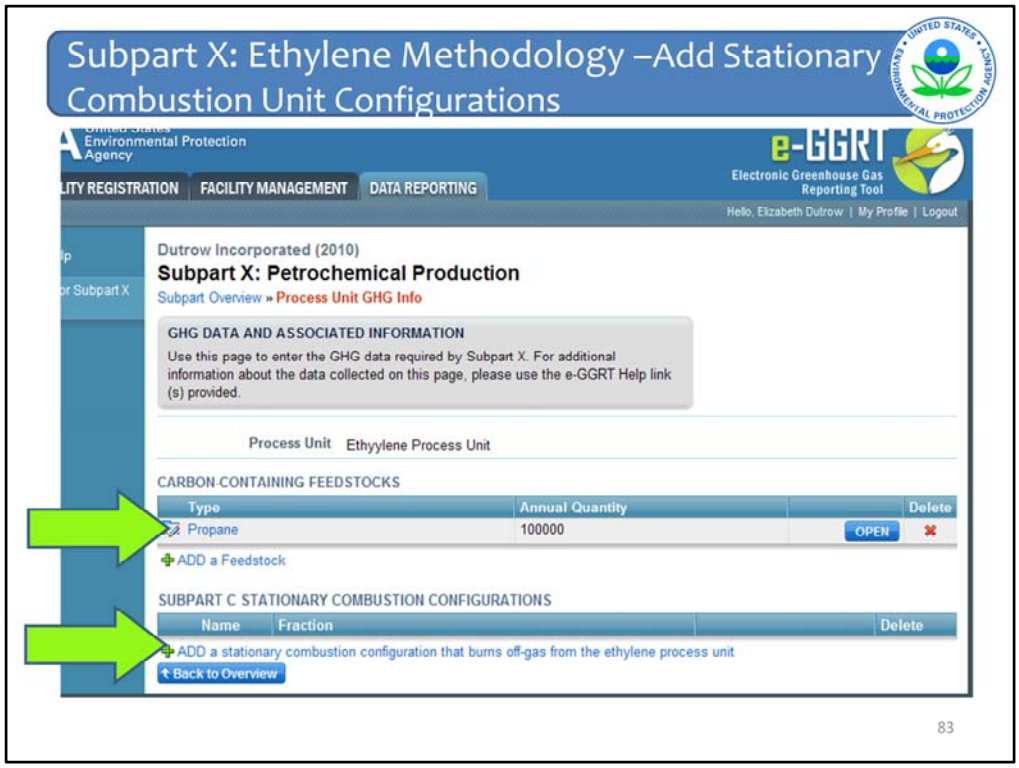
As we showed for the mass balance option, you first identify the carbon containing feedstock fed to the ethylene process unit. If the feedstock is not on the pick list, select "other" at the bottom of the list and then type in the name of the feedstock in a new box that will open when you select "other". You would then hit save.



You would then return to the screen where you add carbon containing feedstocks. You will see that the name of the feedstock you entered is now listed in the carbon-containing feedstocks table. To enter in the supporting information required for this feedstock, click on the “open” button.

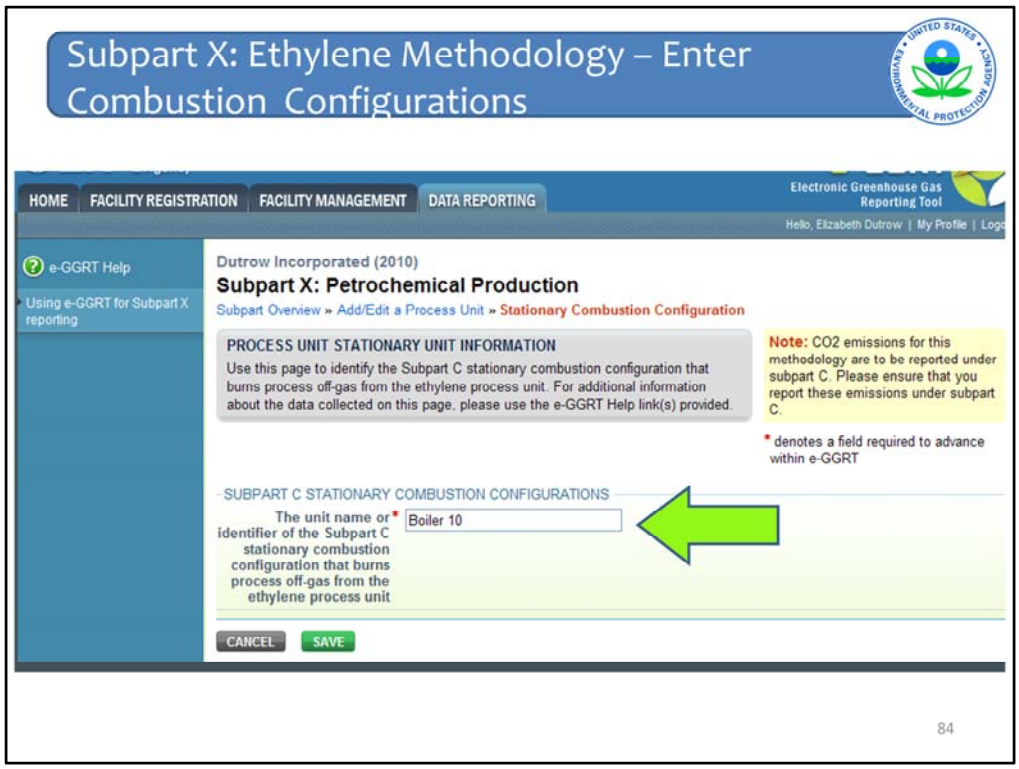


On this screen, you would enter the annual quantity of the carbon containing feedstock fed to the ethylene process unit.

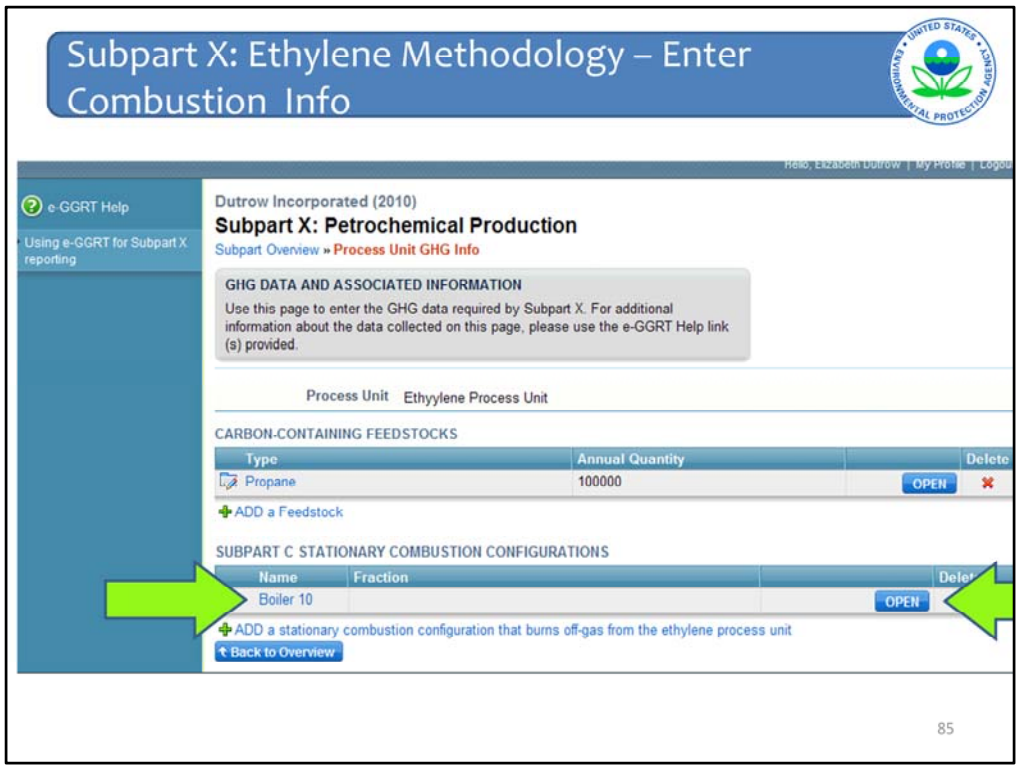


Again, after doing this, you will be returned to the screen where you enter in the feedstocks and stationary combustion configurations. You will see that the information you entered for the feedstocks is summarized here. The first green arrow points to this.

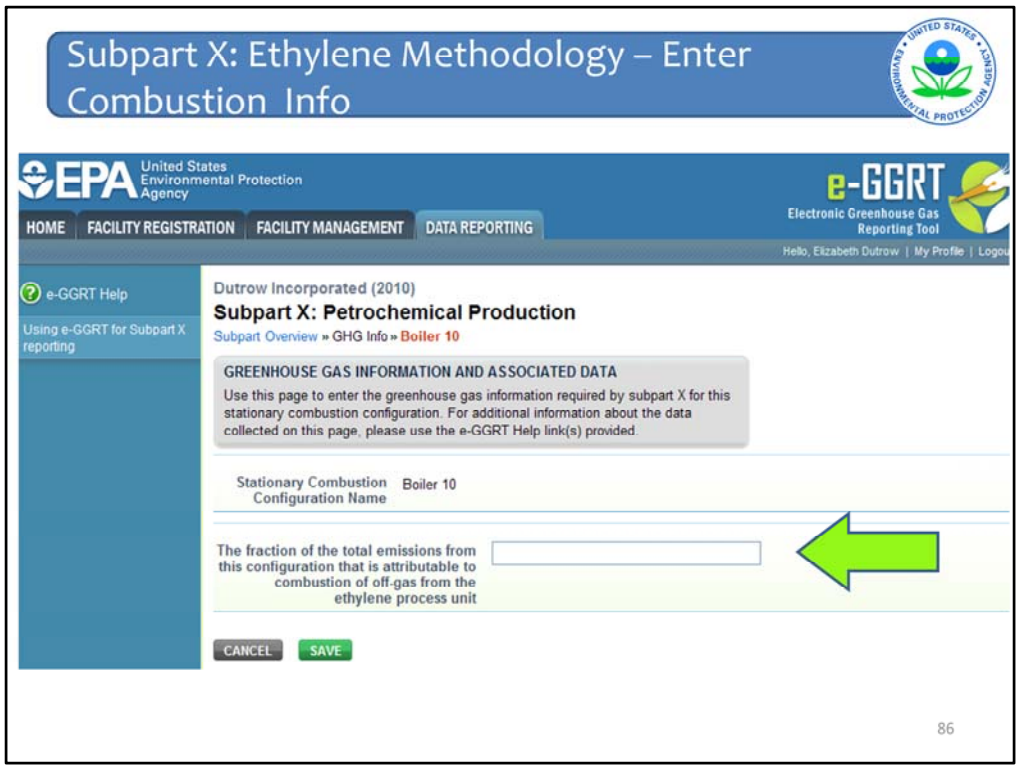
Next you need to add stationary combustion configurations that burn off-gas from the ethylene process unit. Click on the link next to the lower green arrow to initiate this process.



On this screen, you would enter the name of the combustion configuration, as you identified it in the subpart C reporting module. You would then click on save.

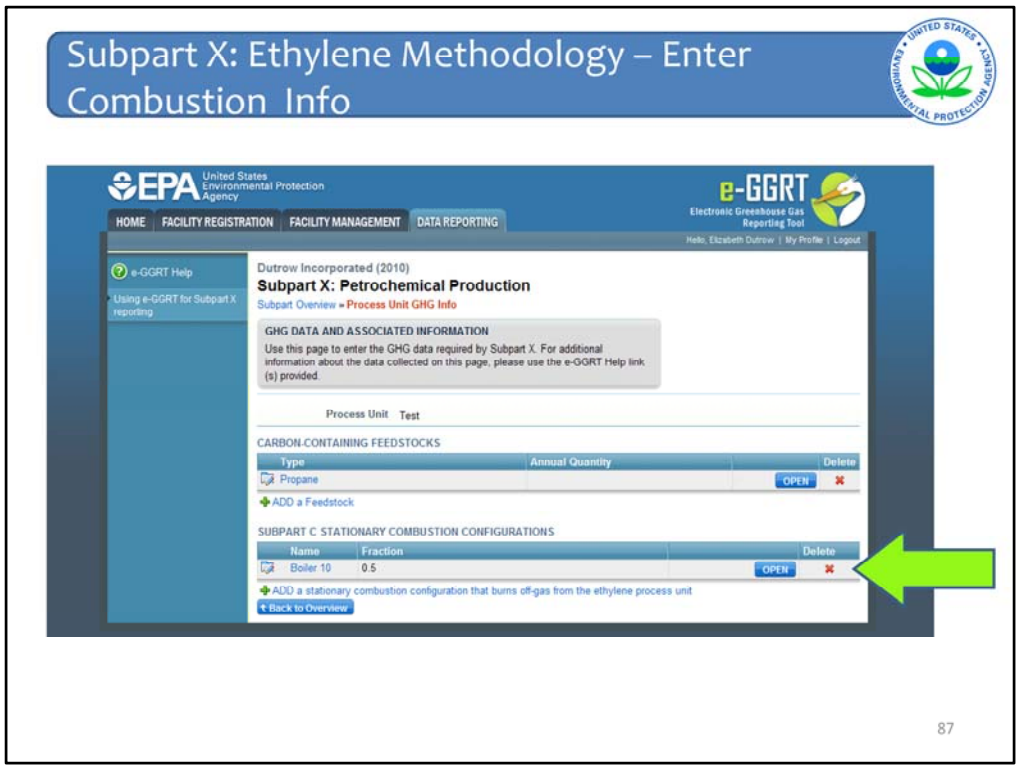


Once you hit save on the previous screen, you will proceed to this screen. You will see that the identification you provided for the combustion configuration is filled in under the "Name" heading, which the left arrow is pointing to. To edit the name, click on the name, which will take you back to the previous page. To enter the rest of the required information about this stationary combustion configuration, click on the "open" button, next to the right green arrow.

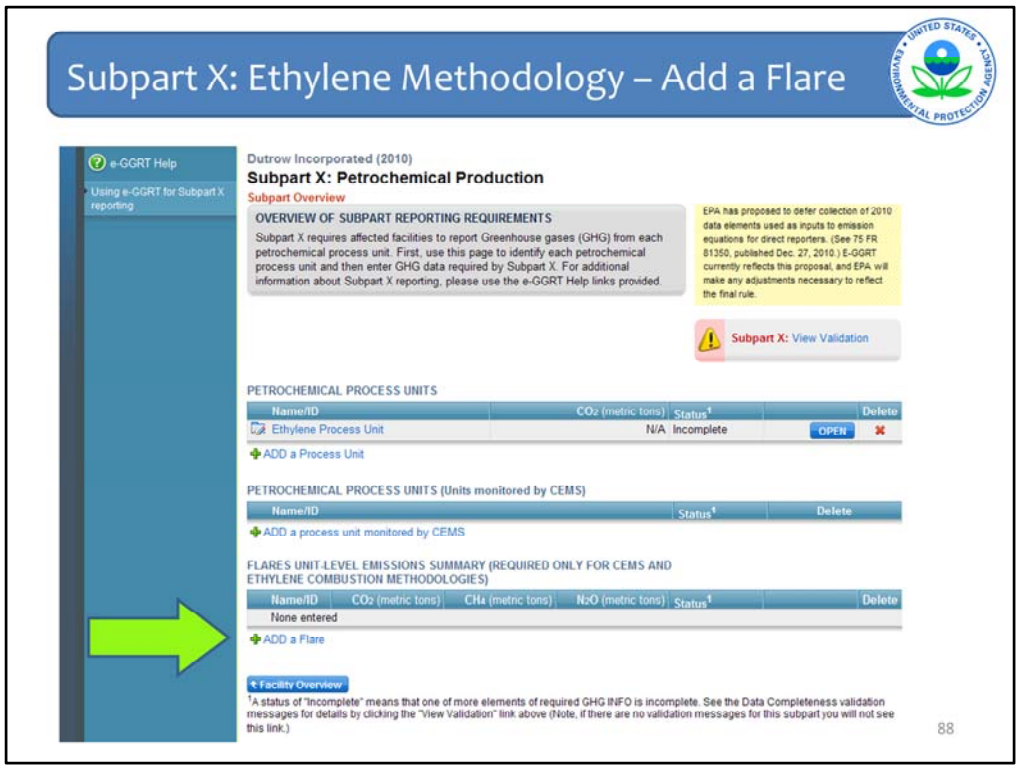


On this screen you would enter the fraction of the total emissions from this configuration that is attributable to combustion of off-gas from this ethylene process unit. Note that you will enter the actual emissions from the combustion configuration under the subpart C reporting module. Also note that all of the emissions from the combustion configuration will be attributed to subpart C in e-GGRT. In other words, the fraction of the emissions that are attributable to combustion of the off-gas will not show up in the subpart X total within e-GGRT. EPA will internally apply the fraction to determine the amount of emissions attributable to the ethylene process.

After entering the applicable fraction, click “SAVE “ to return to the process unit data page.

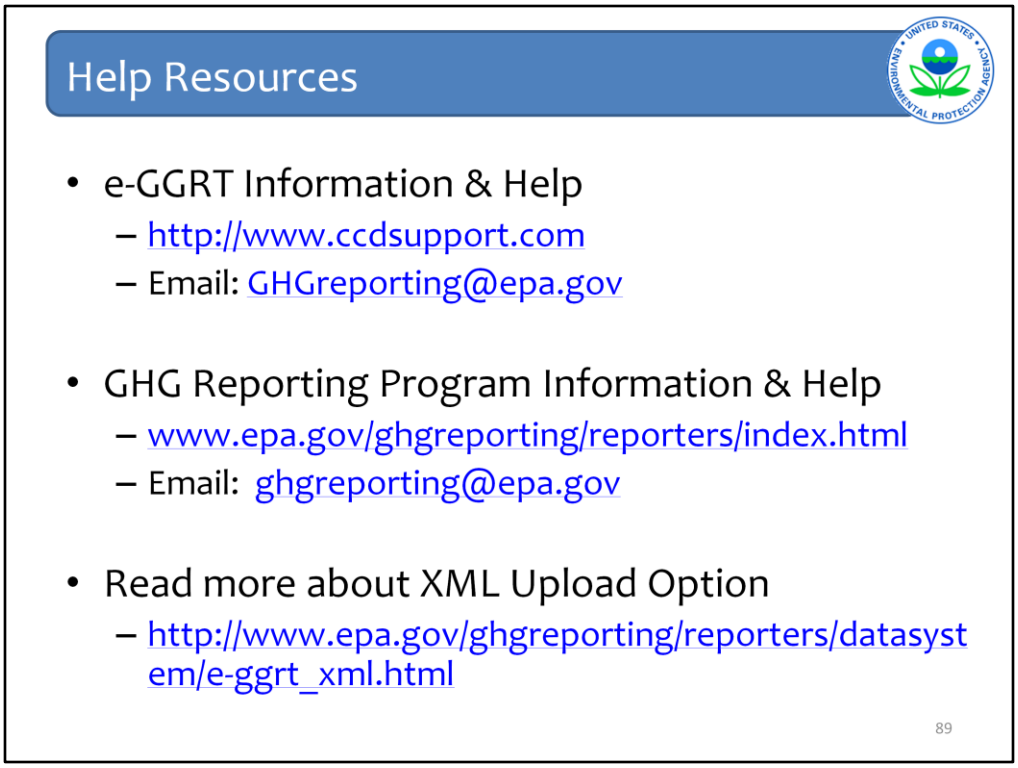


Note that the fraction you entered is now shown in the stationary combustion configurations table. Repeat the steps we just described for each additional stationary combustion configuration that burns off-gas from the ethylene process. Then click “Back to Overview” to return to the subpart X overview page.



Note that there will be no numerical entry for CO2 emissions in this summary table because the CO2 emissions are entered under subpart C, as we discussed earlier. Finally, when using the ethylene combustion methodology, subpart X specifies that emissions from flares that are used to burn off-gas from ethylene process units must be estimated using the procedures specified in subpart Y. Thus, if any off-gas from the ethylene process unit is routed to a flare you must report information for the flare. Initiate the reporting process by clicking on the "ADD a flare" link on the overview page and record the flare specifics.

This concludes the subpart X portion of the webinar. We will now move on to submitting a report.



We hope this overview has provided you greater familiarity with navigating and entering information using the e-GGRT reporting tool.

Here are some additional links.