California Electronic Greenhouse Gas Reporting Tool

Reporting for Subpart Y

Petroleum Refineries

March 13, 2012

Presentation Slides Available Here:

http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep.htm

This training is provided by ARB solely for informational purposes. It does not provide legal advice and does not have legally binding effect. This training does not supplant, replace or amend any of the legal requirements in the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions, title 17, California Code of Regulations, sections 95100-95157. Conversely, any omission or truncation of regulatory requirements found within this training does not relieve any entity or person of their legal obligations to fully comply with all requirements of the regulation.

Training Resources

- Reporting Guidance: Applicability, Metering
  http://www.arb.ca.gov/cc/reporting/ghg-rep/guidance/guidance.htm
- Tool Training: Registration, Subparts
  http://www.arb.ca.gov/cc/reporting/ghg-rep/tool/ghg-tool.htm
- Cal e-GGRT Main Help Page
  http://www.ccdsupport.com/confluence/display/calhelp/Home
- U.S. EPA Detailed Sector Training Slides
  http://www.epa.gov/climatechange/emissions/training.html
  (use as a supplement to ARB summary slides)

Cal e-GGRT Help

http://www.ccdsupport.com/confluence/display/calhelp/Home

Subpart Y - Outline

- Define your Subpart Y reporting requirements.
- Register your facility in Cal e-GGRT.
- Calculate emissions using the Cal e-GGRT functionality.
- Report emissions using Cal e-GGRT.

Subpart Y -Regulatory Basis for Reporting

Date	Action
10/30/2009	US EPA Final Rule Finalizes the mandatory reporting of 30 source categories for Reporting Year 2010. These comprise subparts: A, C, D, E, F, G, H, N, O, P, Q, R, S, U, V, X, Y, Z, AA, BB, CC, EE, GG, HH, JJ, LL, MM, NN, OO, and PP. Preamble and Rule (PDF) (261 pp, 2.6MB)
12/17/2010	US EPA Final Rule Corrects technical and editorial errors, and clarifies rule provisions for subparts C, D, E, F, G, H, K, N, O, P, Q, R, S, V, X, Y, Z, AA, BB, CC, EE, GG, HH, JJ, NN, OO and PP. Preamble and Rule (PDF) (81 pp, 667K) More information
1/1/2012	California Air Resources Board MRR Regulation for the Mandatory Reporting of Greenhouse Gas Emissions, title 17, California Code of Regulations, Sections 95100-95157 http://www.arb.ca.gov/cc/reporting/ghg-rep/regulation/2010_regulation.htm

What is Cal e-GGRT Used For?

- Cal e-GGRT is the system used to report all data required by the GHG mandatory reporting regulation.
- The tool contains modules for each sector required to report.
  - Also includes modules for Fee Regulation and SF_6
- Multiple users can be associated with a single facility or entity.
- Verifiers can be associated with facilities and entities in the tool for data review purposes.

Overview of Cal e-GGRT Operation

- Registration – old and new reporters.
- Input required facility information.
- Adding subparts for reporting.
- Entering emissions data.
- Data reporting mechanisms.
  - Direct interface, XML spreadsheet uploads, spreadsheet attachments (varies by sector)
- Validation messages.

Registration

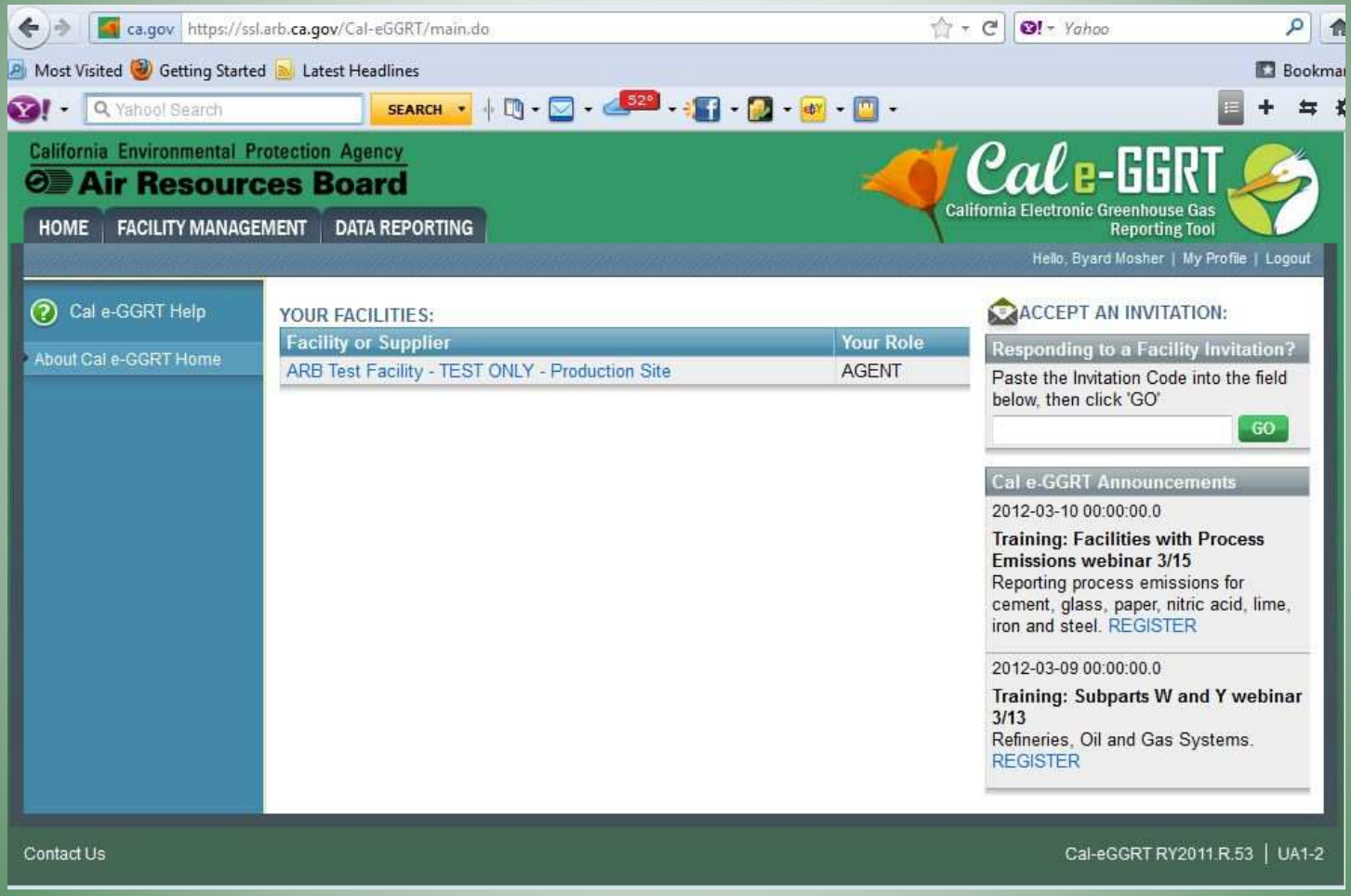
- Need an ARB Registration Code to register in Cal e-GGRT
  - New reporters must request an ARB Registration Code prior to registration. Send an e-mail request to

    ghgreport@arb.ca.gov

March 1: Registration and System Overview
A brief overview of registering in the new Cal e-GGRT system and overall system operation.
Slides: 1-per-page (color) 4-per-page (B&W)
Detailed Registration Instructions

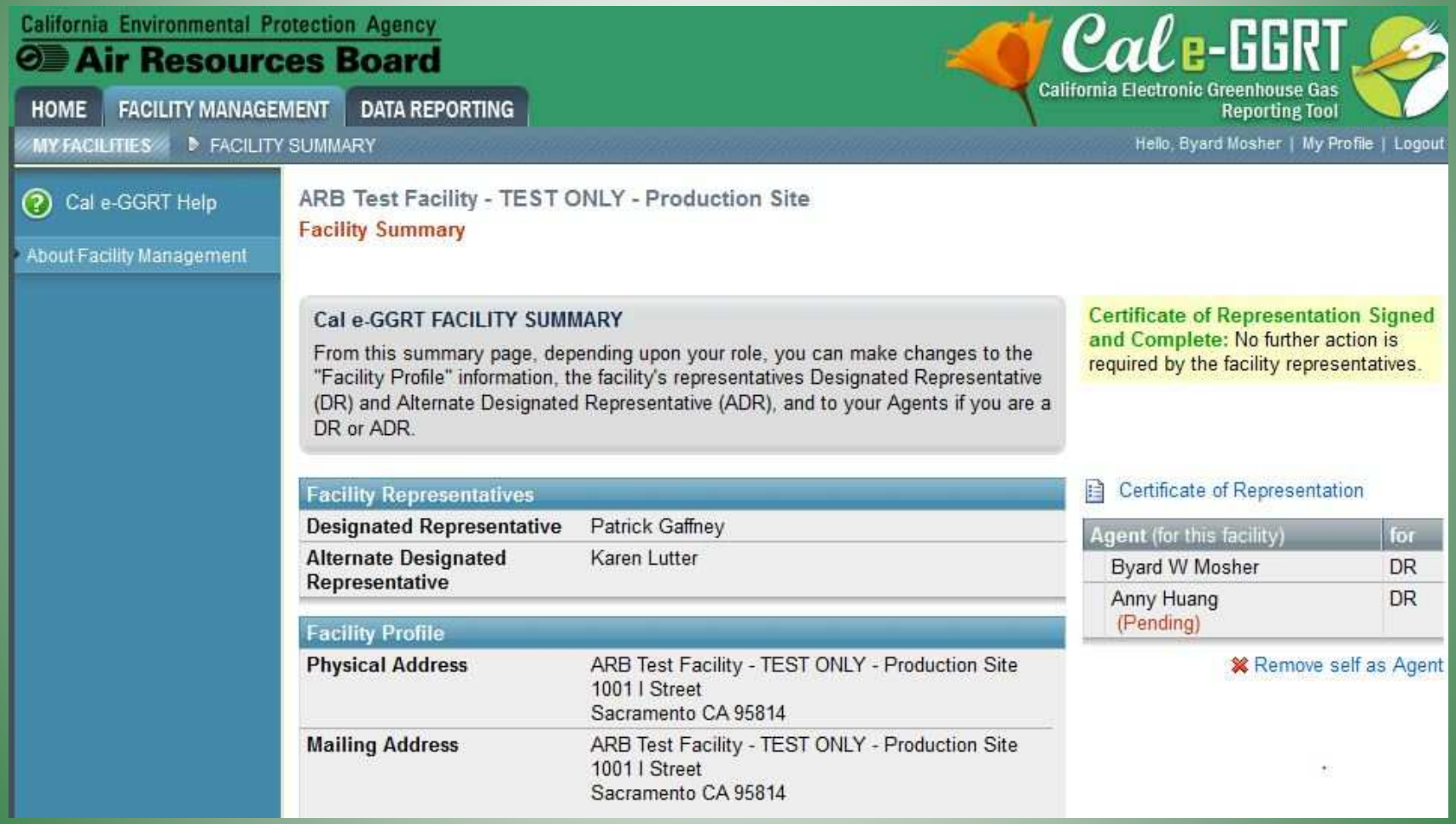
Cal e-GGRT Tabs

Home tab



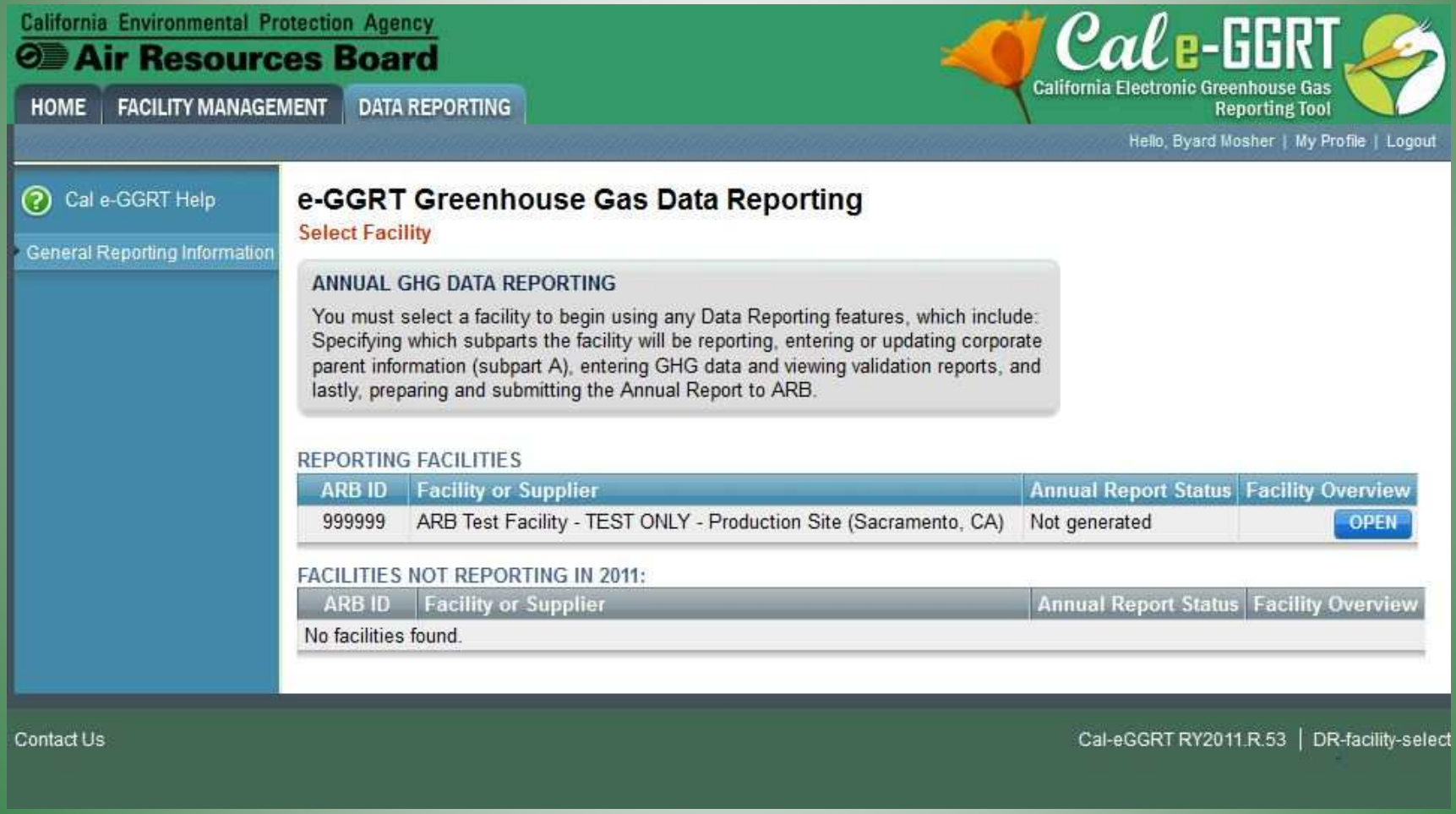
Cal e-GGRT Tabs

Facility Management Tab



Cal e-GGRT Tabs

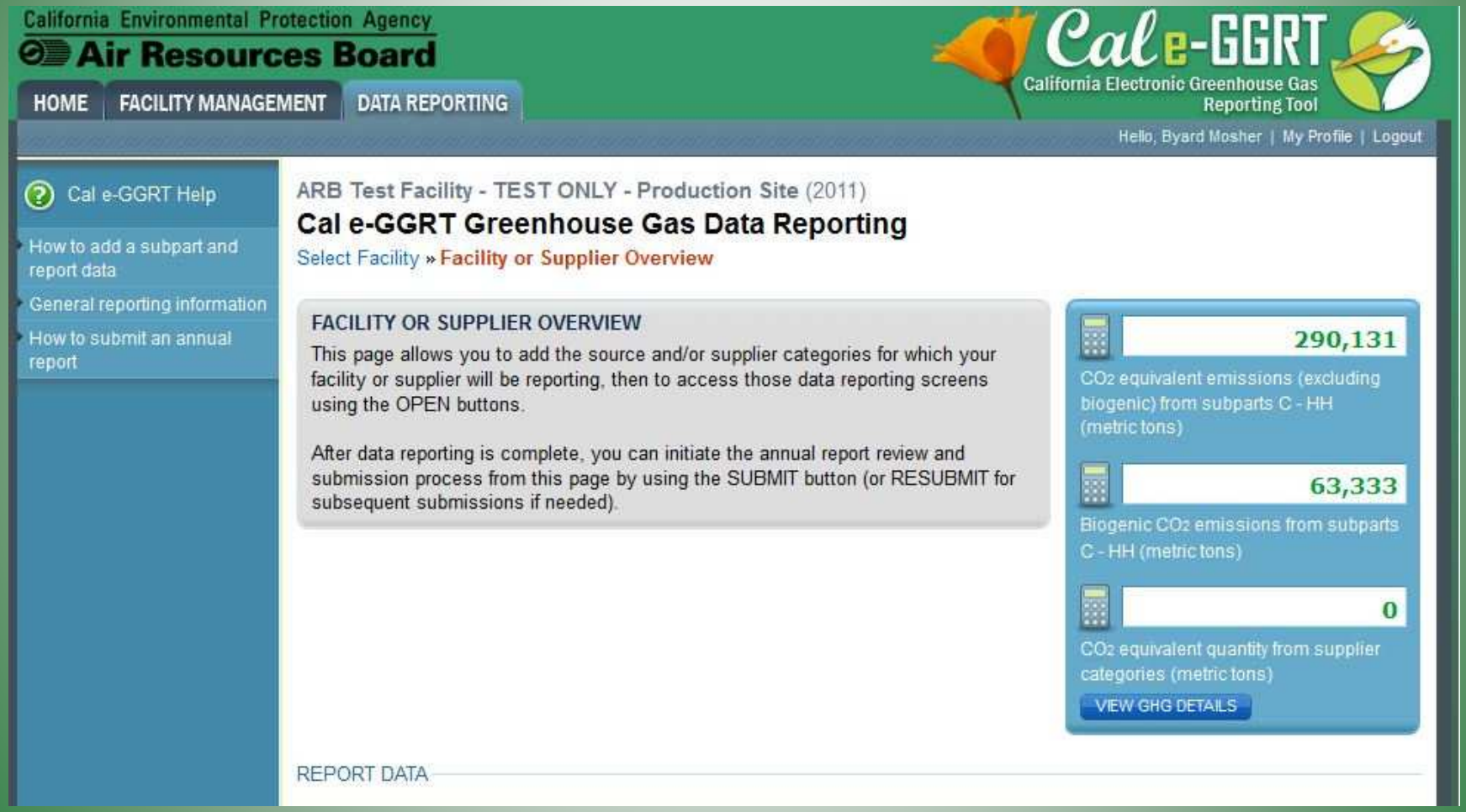
Data Reporting Tab



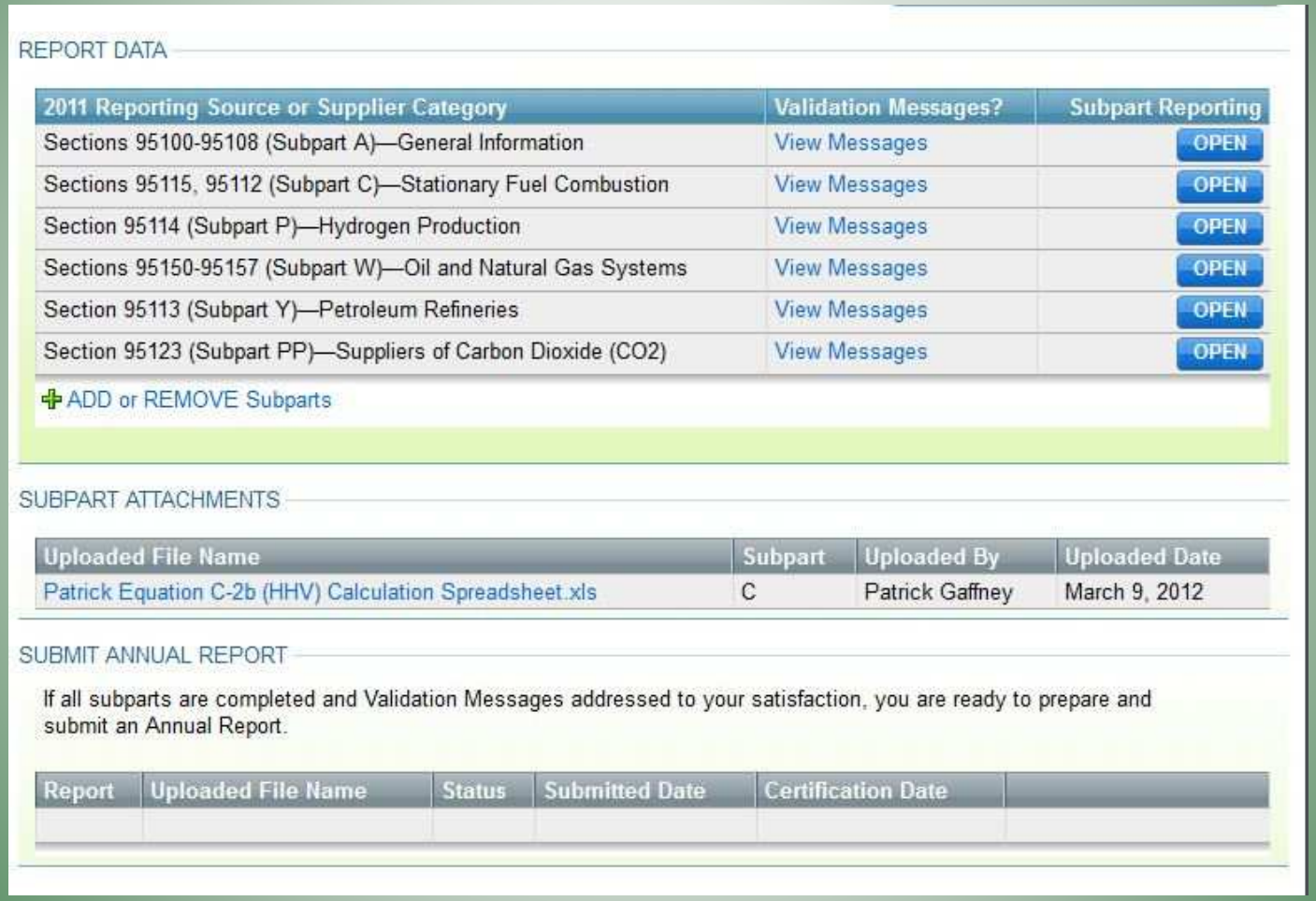
Reporting - Overview

- Configure your Facility-Level Emission Summary – add units as required.
- Report emissions for each applicable source.
  - 1) download applicable excel spreadsheet
  - 2) enter data
  - 3) save as XML
  - 4) upload xml file to Cal e-GGRT

Reporting Emissions



Reporting Emissions



REPORT DATA

2011 Reporting Source or Supplier Category	Validation Messages?	Subpart Reporting
Sections 95100-95108 (Subpart A)—General Information	View Messages	OPEN
Sections 95115, 95112 (Subpart C)—Stationary Fuel Combustion	View Messages	OPEN
Section 95114 (Subpart P)—Hydrogen Production	View Messages	OPEN
Sections 95150-95157 (Subpart W)—Oil and Natural Gas Systems	View Messages	OPEN
Section 95113 (Subpart Y)—Petroleum Refineries	View Messages	OPEN
Section 95123 (Subpart PP)—Suppliers of Carbon Dioxide (CO2)	View Messages	OPEN

ADD or REMOVE Subparts

SUBPART ATTACHMENTS

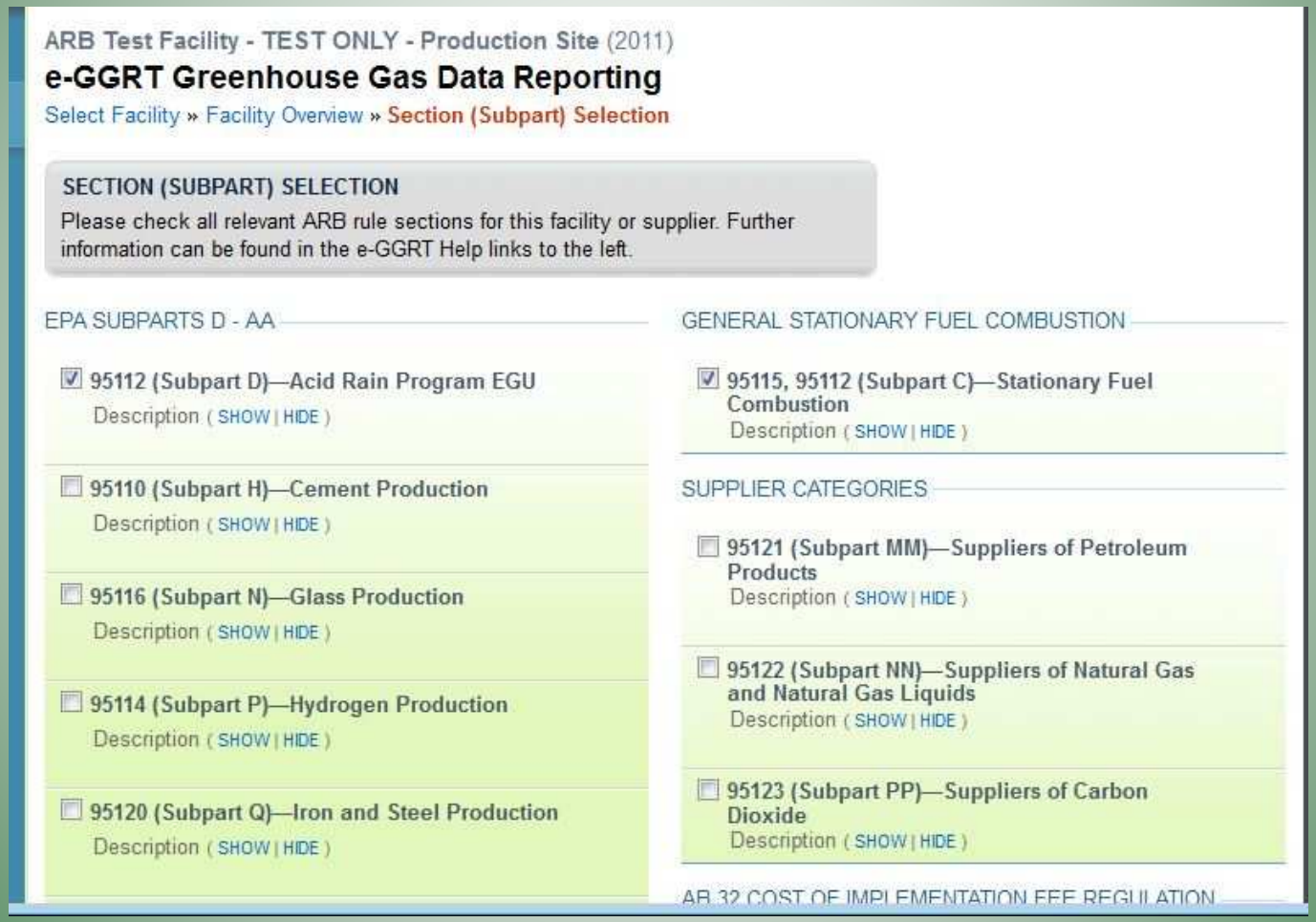
Uploaded File Name	Subpart	Uploaded By	Uploaded Date
Patrick Equation C-2b (HHV) Calculation Spreadsheet.xls	C	Patrick Gaffney	March 9, 2012

SUBMIT ANNUAL REPORT

If all subparts are completed and Validation Messages addressed to your satisfaction, you are ready to prepare and submit an Annual Report.

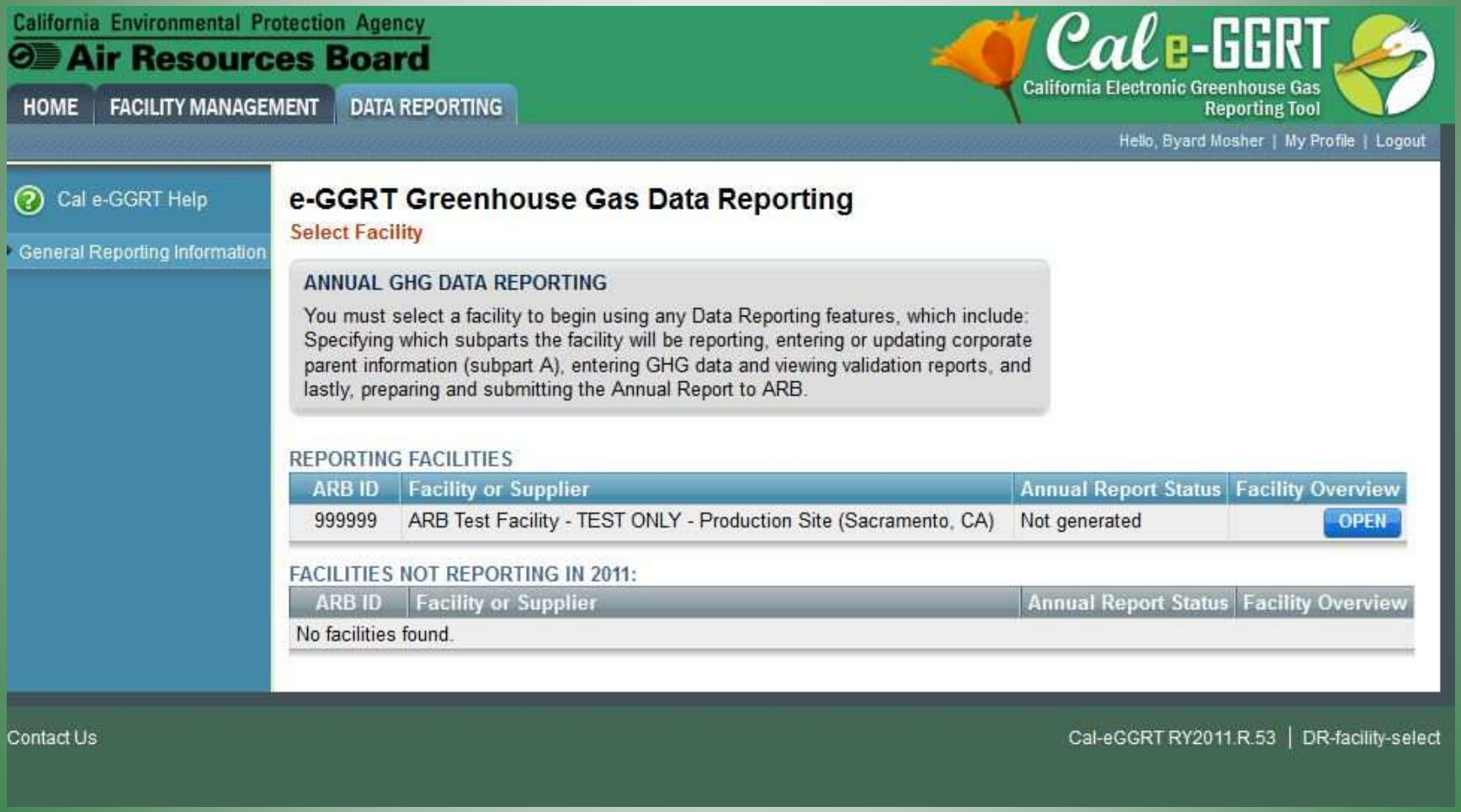
Report	Uploaded File Name	Status	Submitted Date	Certification Date	

Reporting: Adding Subparts



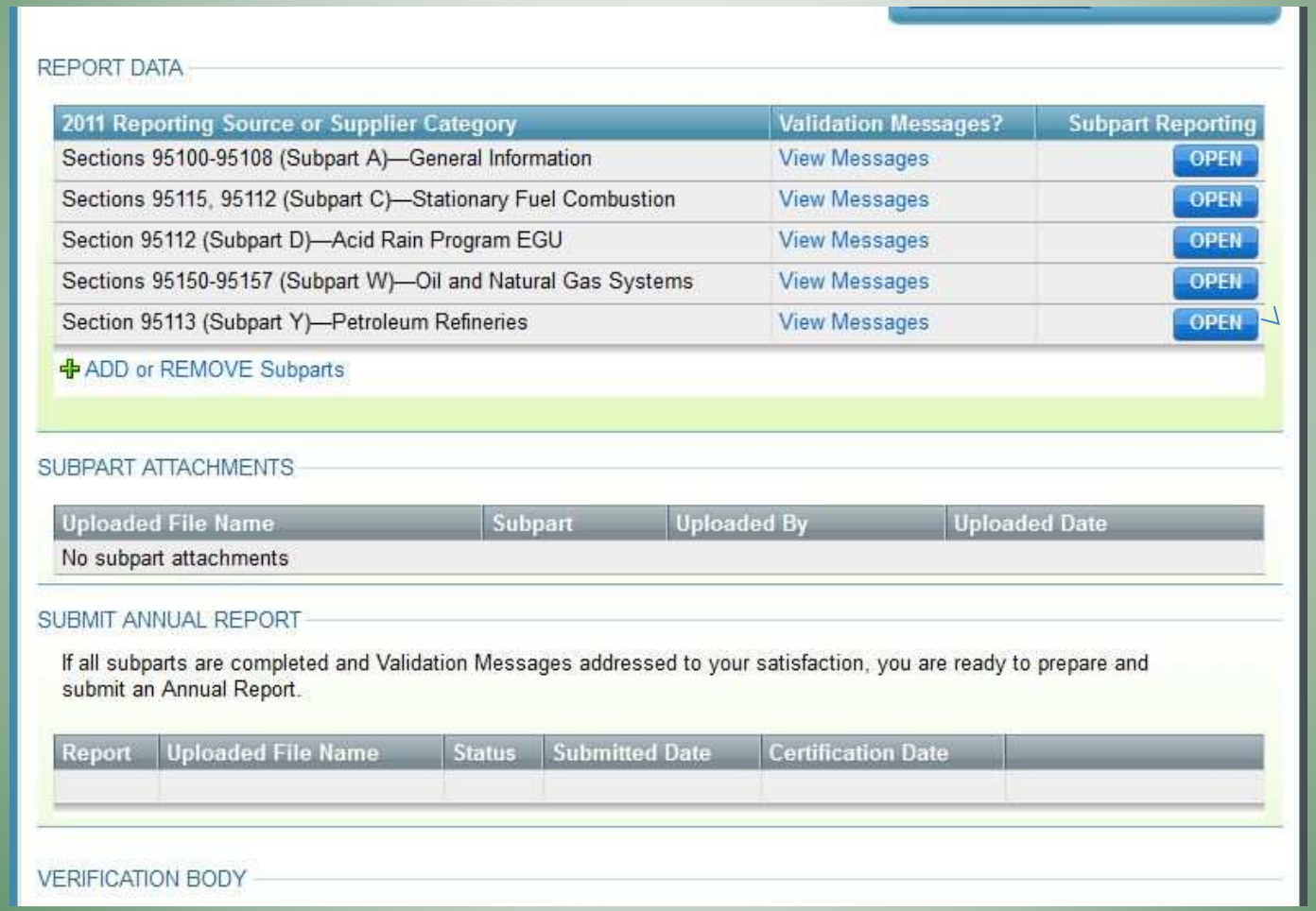
Reporting: Adding Subparts

Data Reporting



Data Reporting

Open Subpart Y



REPORT DATA

2011 Reporting Source or Supplier Category	Validation Messages?	Subpart Reporting
Sections 95100-95108 (Subpart A)—General Information	View Messages	OPEN
Sections 95115, 95112 (Subpart C)—Stationary Fuel Combustion	View Messages	OPEN
Section 95112 (Subpart D)—Acid Rain Program EGU	View Messages	OPEN
Sections 95150-95157 (Subpart W)—Oil and Natural Gas Systems	View Messages	OPEN
Section 95113 (Subpart Y)—Petroleum Refineries	View Messages	OPEN

ADD or REMOVE Subparts

SUBPART ATTACHMENTS

Uploaded File Name	Subpart	Uploaded By	Uploaded Date
No subpart attachments			

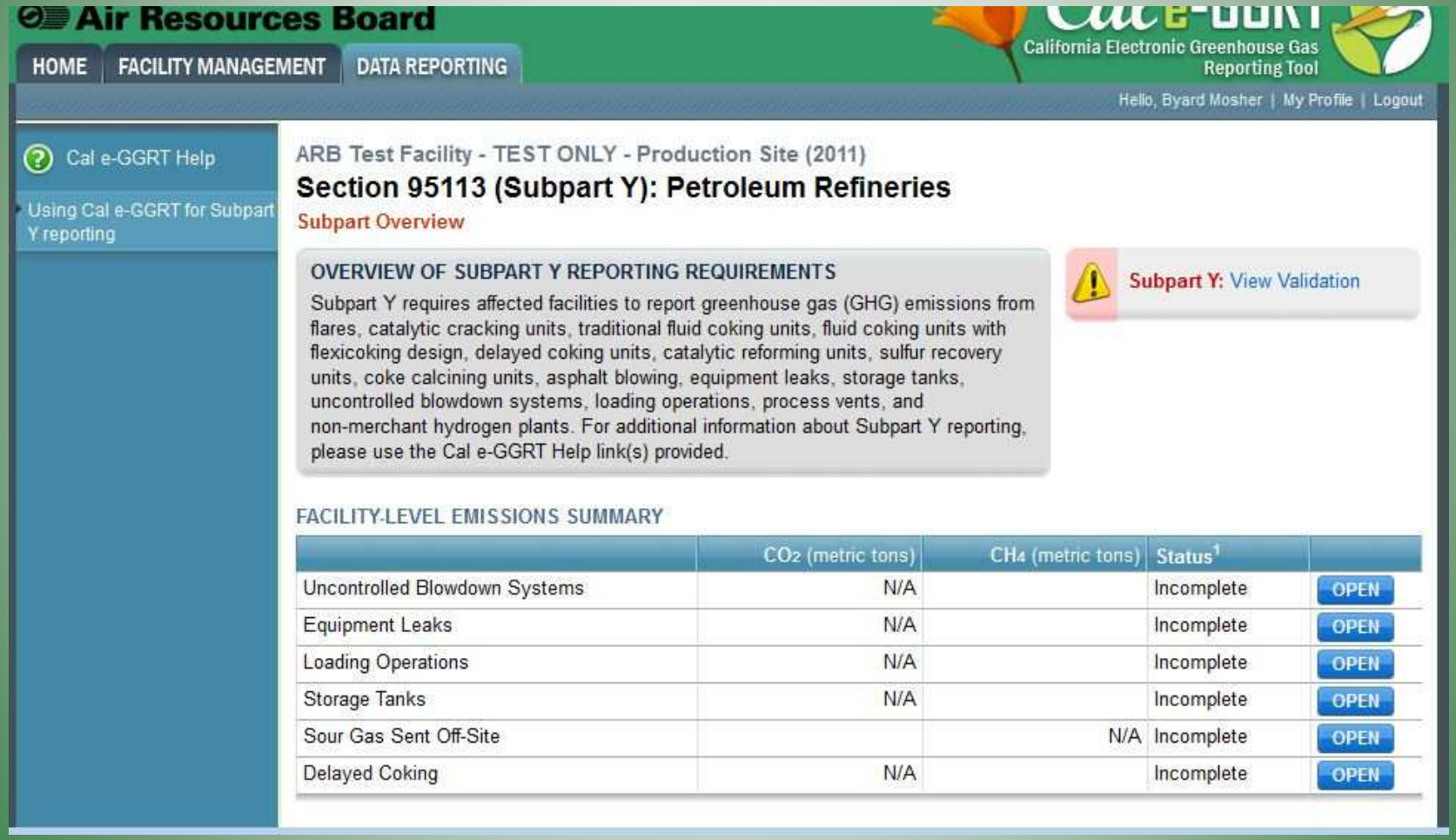
SUBMIT ANNUAL REPORT

If all subparts are completed and Validation Messages addressed to your satisfaction, you are ready to prepare and submit an Annual Report.

Report	Uploaded File Name	Status	Submitted Date	Certification Date	

VERIFICATION BODY

Reporting Emissions & Product Data



	CO_2 (metric tons)	CH_4 (metric tons)	Status[1]	
Uncontrolled Blowdown Systems	N/A		Incomplete	OPEN
Equipment Leaks	N/A		Incomplete	OPEN
Loading Operations	N/A		Incomplete	OPEN
Storage Tanks	N/A		Incomplete	OPEN
Sour Gas Sent Off-Site		N/A	Incomplete	OPEN
Delayed Coking	N/A		Incomplete	OPEN

Reporting Emissions & Product Data

(adding units)

DELAYED COKING UNITS

Unit Name/Identifier	Status[1]		Delete
Coking Unit	Complete	OPEN	✖

ADD a Delayed Coking Unit

ASPHALT BLOWING UNITS EMISSIONS SUMMARY

Unit Name/Identifier	CO_2 (metric tons)	CH_4 (metric tons)	Status[1]		Delete
None entered					

ADD an Asphalt Blowing Unit

COKE CALCINING UNITS EMISSIONS SUMMARY

Unit Name/Identifier	CO_2 (metric tons)	CH_4 (metric tons)	N_2O (metric tons)	Status[1]		Delete
None entered						

ADD a Coke Calcining Unit

CATALYTIC CRACKING UNITS, TRADITIONAL FLUID COKING UNITS, FLUID COKING UNITS WITH FLEXICOKING DESIGN, AND CATALYTIC REFORMING UNITS EMISSIONS SUMMARY

Unit Name/Identifier	CO_2 (metric tons)	CH_4 (metric tons)	N_2O (metric tons)	Status[1]		Delete
None entered						

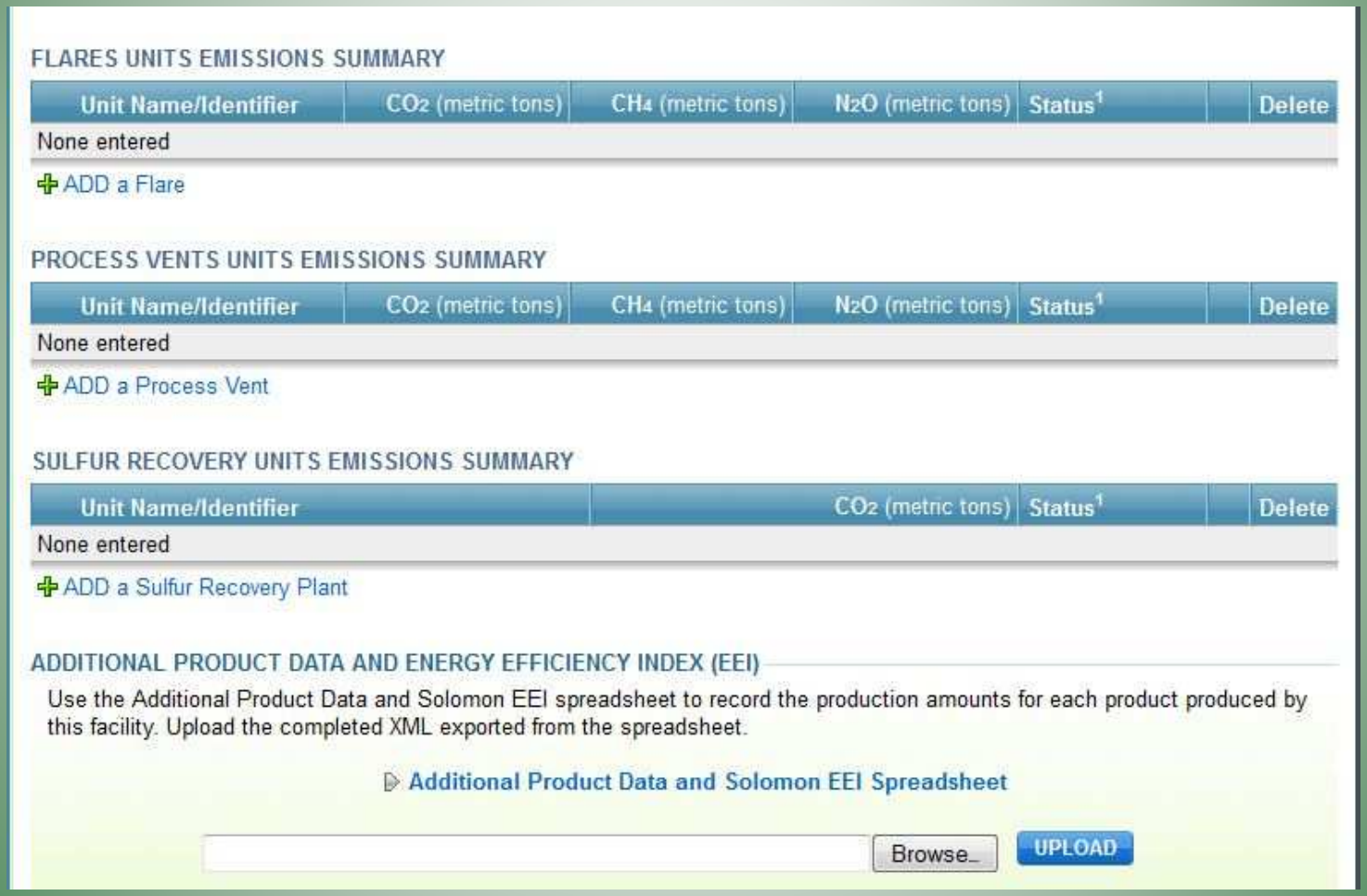
ADD a Catalytic Cracking or Coking Unit

FLARES UNITS EMISSIONS SUMMARY

Unit Name/Identifier	CO_2 (metric tons)	CH_4 (metric tons)	N_2O (metric tons)	Status[1]		Delete

Reporting Additional Data

(product and Solomon index data)



FLARES UNITS EMISSIONS SUMMARY

Unit Name/Identifier	CO_2 (metric tons)	CH_4 (metric tons)	N_2O (metric tons)	Status[1]		Delete
None entered						

ADD a Flare

PROCESS VENTS UNITS EMISSIONS SUMMARY

Unit Name/Identifier	CO_2 (metric tons)	CH_4 (metric tons)	N_2O (metric tons)	Status[1]		Delete
None entered						

ADD a Process Vent

SULFUR RECOVERY UNITS EMISSIONS SUMMARY

Unit Name/Identifier	CO_2 (metric tons)	Status[1]		Delete
None entered				

ADD a Sulfur Recovery Plant

ADDITIONAL PRODUCT DATA AND ENERGY EFFICIENCY INDEX (EEI)

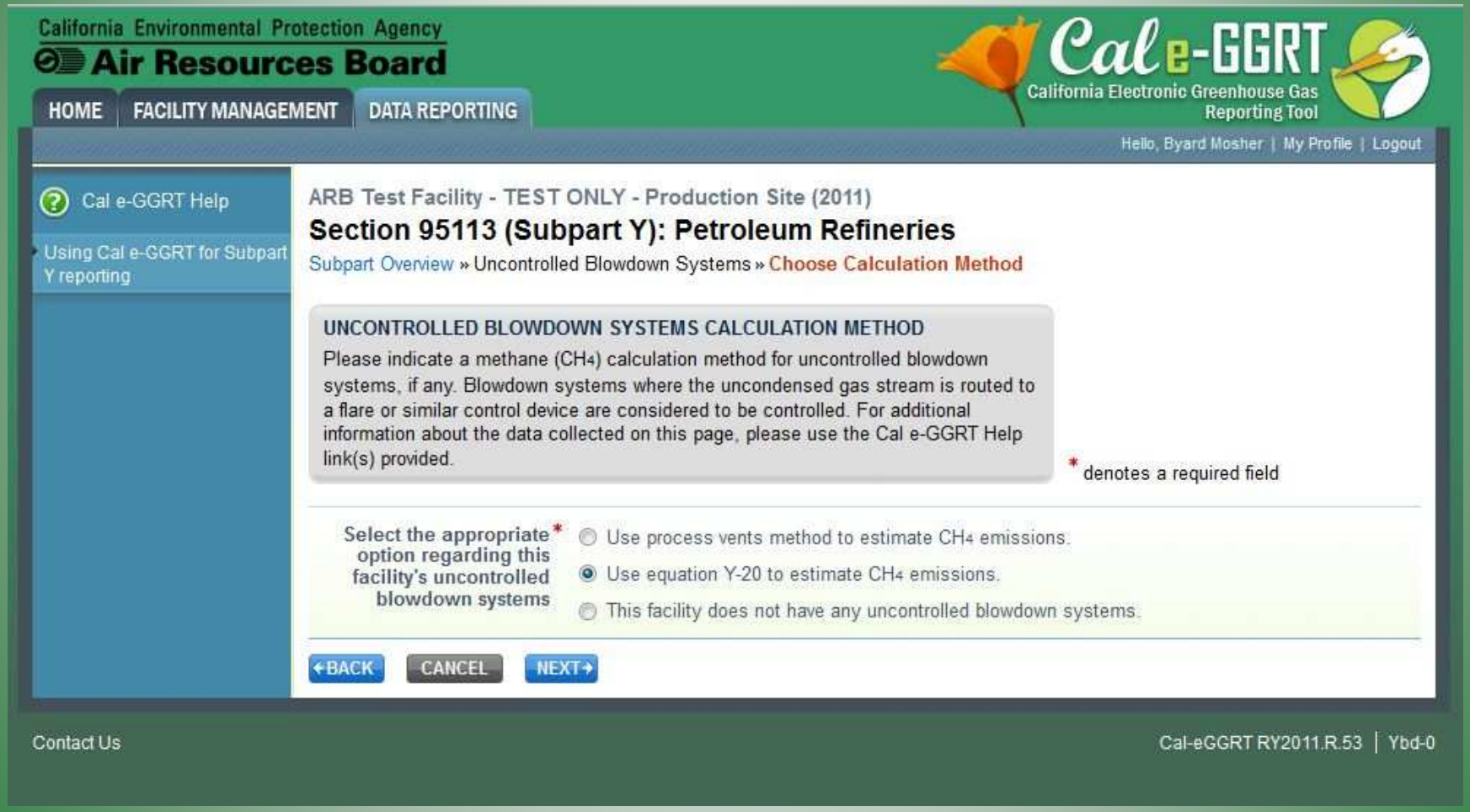
Use the Additional Product Data and Solomon EEI spreadsheet to record the production amounts for each product produced by this facility. Upload the completed XML exported from the spreadsheet.

Additional Product Data and Solomon EEI Spreadsheet

Browse... UPLOAD

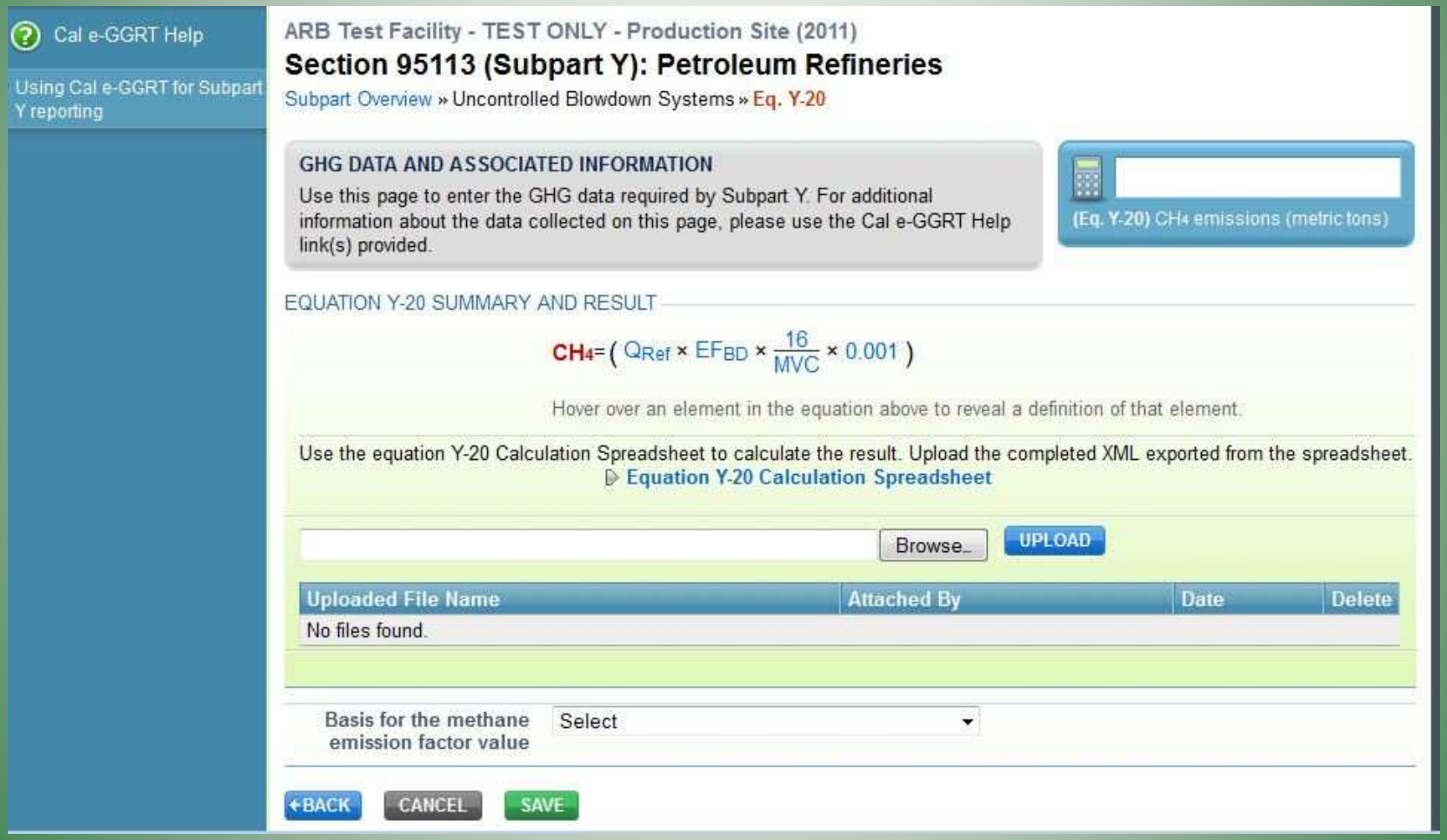
Reporting Emission Data

(facility level emissions)

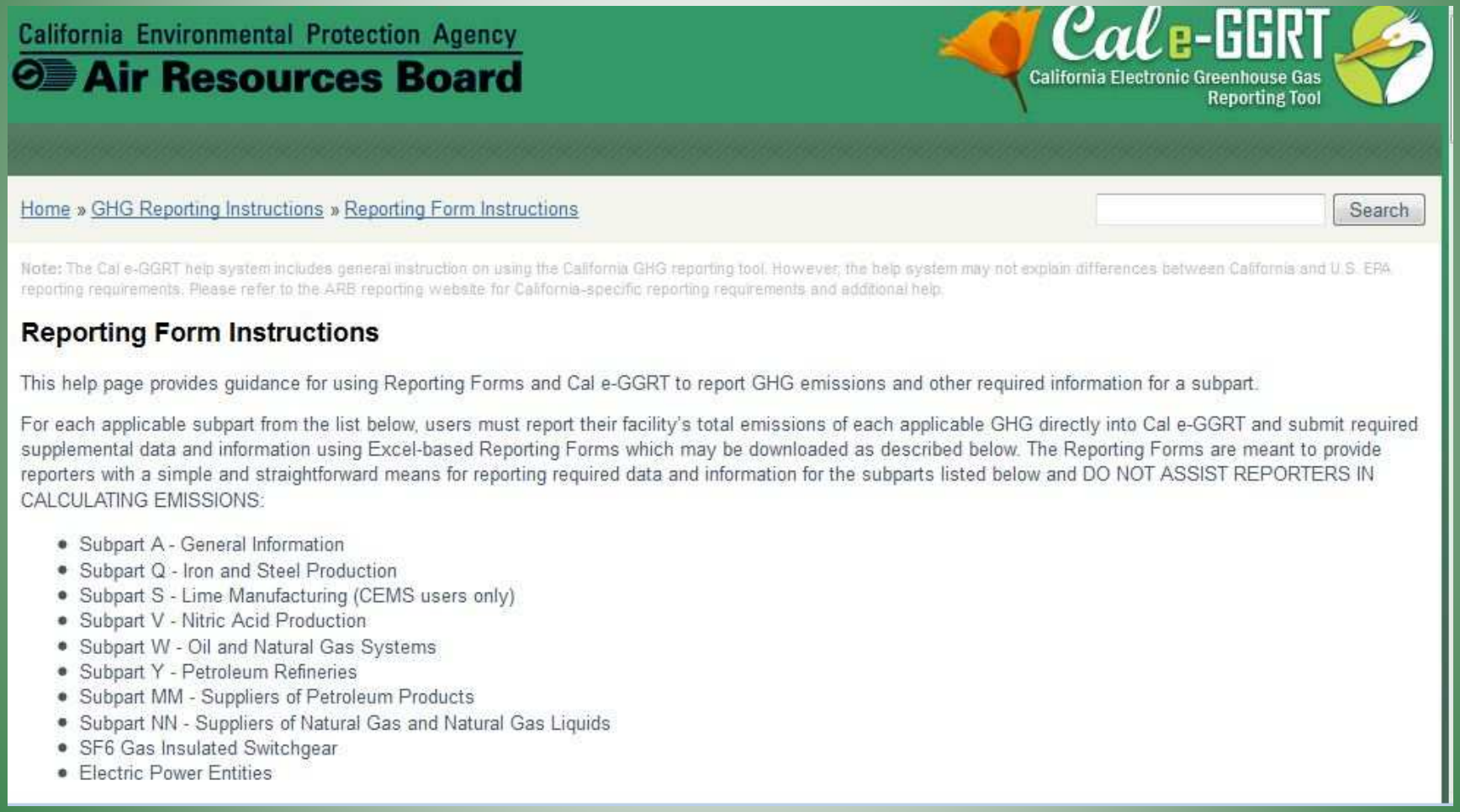


Reporting Emission Data

(blowdown systems)



Reporting Emissions Data



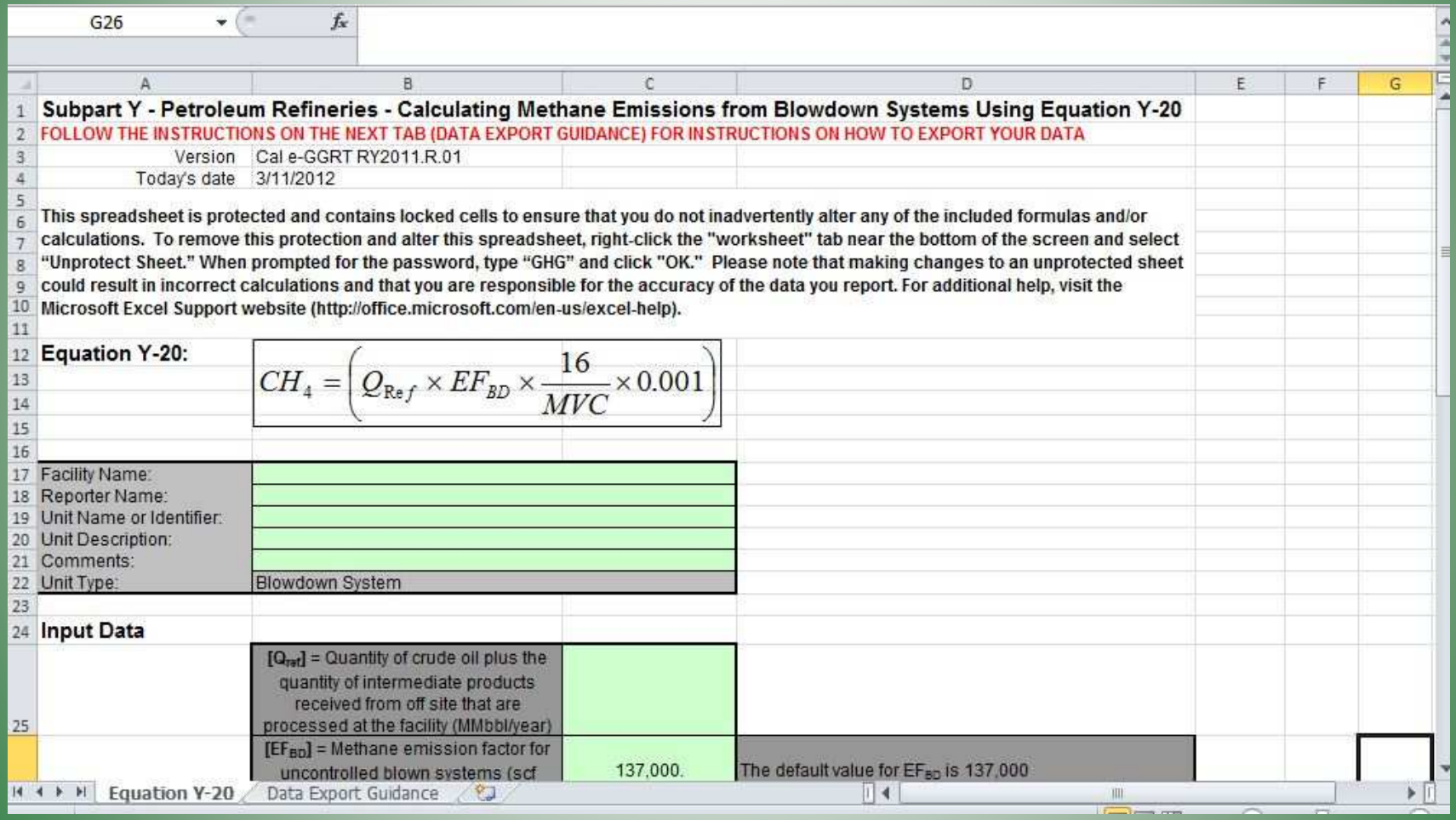
Reporting Emissions Data

Subpart (Click to view subpart help)	Reporting Forms (click to download)	XML Schema (Click to download)	Required Submission Format
A - De Minimis Emissions	De Minimis Emissions.xls	n/a	XLS
A - Forest Product	Forest Product.xls	n/a	XLS
A - Sheet Steel - Soda Ash - Gypsum Production Data	Sheet Steel - Soda Ash - Gypsum Production Data.xls	n/a	XLS
Q - Iron and Steel Production	Subpart Q Production Data.xls	n/a	XLS
S - Lime Production (CEMS only)	Subpart S Product Information for CEMS Reporting.xls	n/a	XLS
V - Nitric Acid Production	Subpart V GHG Reporting Form - Required Data.xls	n/a	XLS
W - Petroleum and Natural Gas Systems	Petroleum and Natural Gas Systems Emissions Reporting Tool.xls	carb_subpart_w.xsd	XML
W - Petroleum and Natural Gas Systems	Petroleum and Natural Gas Systems Activity Data Workbook.xls	n/a	XLS
W - Petroleum and Natural Gas Systems	Petroleum and Natural Gas Systems Calculation Tool.xls	n/a	n/a
Y - Petroleum Refineries	Subpart Y Additional Production Data and Solomon Energy Efficiency Index.xls	n/a	XLS
MM - Suppliers of Transportation Fuels Calculation and Reporting Tool	Suppliers of Transportation Fuels Calculation and Reporting Tool.xls	carb_subpart_mm.xsd	XML
NN - Suppliers of Natural Gas and NGLs	Subpart NN - Interstate NG Pipeline.xls	n/a	XLS
SF6 Gas Insulated Switchgears	SF6 Gas Insulated Switchgear (GIS) Reporting.xls	n/a	XLS

Downloading Calculation Spreadsheets

Equation Y-8 Calculation Spreadsheet.xls	Catalytic Cracking Units or Fluid Coking Units	CO_2	Y-8 Help
Equation Y-9, Y-10 Calculation Spreadsheet.xls	Catalytic Cracking Units, Fluid Coking Units, Coke Calcining Units, Catalytic Reforming Units	CH_4, N_2O	Y-9, Y-10 Help
Equation Y-11 Calculation Spreadsheet.xls	Catalytic Reforming Units	CO_2	Y-11 Help
Equation Y-12 Calculation Spreadsheet.xls	On-Site Sulfur Recovery Plants, Sour Gas Sent Off-Site for Sulfur Recovery	CO_2	Y-12 Help
Equation Y-13 Calculation Spreadsheet.xls	Coke Calcining Units	CO_2	Y-13 Help
Equation Y-14, Y-15 Calculation Spreadsheet.xls	Uncontrolled Asphalt Blowing Operations, Asphalt Blowing Operations Controlled by vapor Scrubbing	CO_2, CH_4	Y-14, Y-15 Help
Equation Y-16a, Y-16b, Y-17 Calculation Spreadsheet.xls	Asphalt Blowing Operations Controlled by Thermal Oxidizer or Flare	CO_2, CH_4	Y-16a, Y-16b, Y-17 Help
Equation Y-18 Calculation Spreadsheet.xls	Delayed Coking Units	CH_4	Y-18 Help
Equation Y-19 Calculation Spreadsheet.xls	Process Vents Not Covered in Paragraphs (a) through (i) of Section 98.253	CO_2, CH_4, or N_2O	Y-19 Help
Equation Y-20 Calculation Spreadsheet.xls	Blowdown Systems	CH_4	Y-20 Help
Equation Y-21 Calculation Spreadsheet.xls	Equipment Leaks	CH_4	Y-21 Help
Equation Y-22 Calculation Spreadsheet.xls	Storage Tanks Other Than Those Processing Unstabilized Crude Oil	CH_4	Y-22 Help
Equation Y-23 Calculation Spreadsheet.xls	Storage Tanks That Process Unstabilized Crude Oil	CH_4	Y-23 Help
Equation Y-SSM Calculation Spreadsheet.xls	Flares	CO_2	Y-SSM Help

Equation Y-20 Calculation Spreadsheet



G26

Subpart Y - Petroleum Refineries - Calculating Methane Emissions from Blowdown Systems Using Equation Y-20

FOLLOW THE INSTRUCTIONS ON THE NEXT TAB (DATA EXPORT GUIDANCE) FOR INSTRUCTIONS ON HOW TO EXPORT YOUR DATA

Version	Cal e-GGRT RY2011.R.01
Today's date	3/11/2012

This spreadsheet is protected and contains locked cells to ensure that you do not inadvertently alter any of the included formulas and/or calculations. To remove this protection and alter this spreadsheet, right-click the "worksheet" tab near the bottom of the screen and select "Unprotect Sheet." When prompted for the password, type "GHG" and click "OK." Please note that making changes to an unprotected sheet could result in incorrect calculations and that you are responsible for the accuracy of the data you report. For additional help, visit the Microsoft Excel Support website (http://office.microsoft.com/en-us/excel-help).

Equation Y-20:

$$CH_4 = \left(Q_{Ref} \times EF_{BD} \times \frac{16}{MVC} \times 0.001 \right)$$

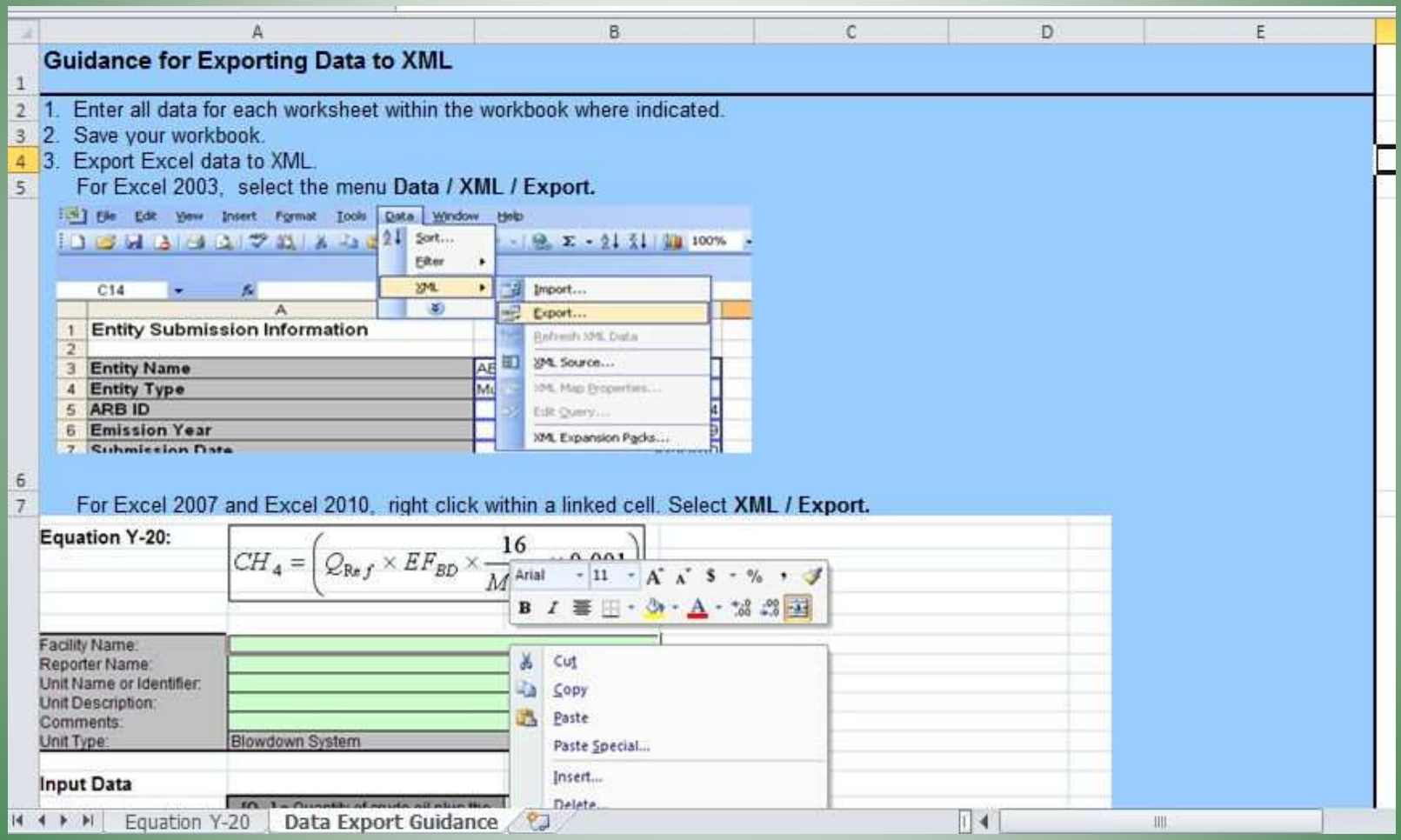
Facility Name:	
Reporter Name:	
Unit Name or Identifier:	
Unit Description:	
Comments:	
Unit Type:	Blowdown System

Input Data

[Q_{ref}] = Quantity of crude oil plus the quantity of intermediate products received from off site that are processed at the facility (MMbbl/year)		
[EF_{BD}] = Methane emission factor for uncontrolled blown systems (scf	137,000.	The default value for EF_{BD} is 137,000

Equation Y-20 | Data Export Guidance

Exporting Equation Calculation Spreadsheets

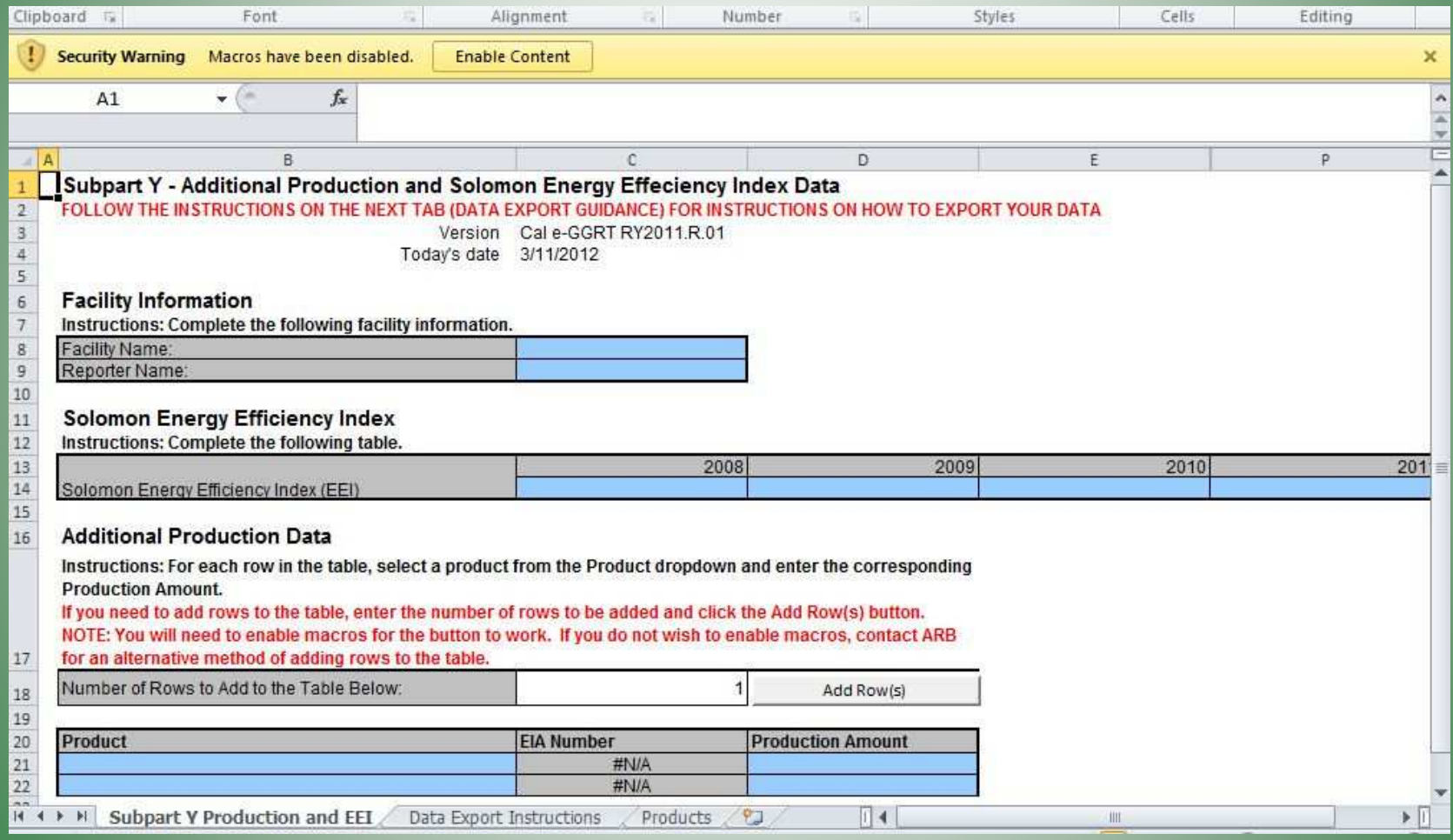


Reporting Emissions and Production Data

- Report emissions for all Facility Level emissions sources
- Report Emissions for all additional facility units
- Report Production Data

Reporting Production and EEI Data

(additional Production and Solomon EEI data)



Clipboard | Font | Alignment | Number | Styles | Cells | Editing

Security Warning Macros have been disabled. Enable Content

A1

Subpart Y - Additional Production and Solomon Energy Effeciency Index Data

FOLLOW THE INSTRUCTIONS ON THE NEXT TAB (DATA EXPORT GUIDANCE) FOR INSTRUCTIONS ON HOW TO EXPORT YOUR DATA

Version Cal e-GGRT RY2011.R.01

Today's date 3/11/2012

Facility Information

Instructions: Complete the following facility information.

Facility Name:	
Reporter Name:	

Solomon Energy Efficiency Index

Instructions: Complete the following table.

	2008	2009	2010	201
Solomon Energy Efficiency Index (EEI)				

Additional Production Data

Instructions: For each row in the table, select a product from the Product dropdown and enter the corresponding Production Amount.

If you need to add rows to the table, enter the number of rows to be added and click the Add Row(s) button.

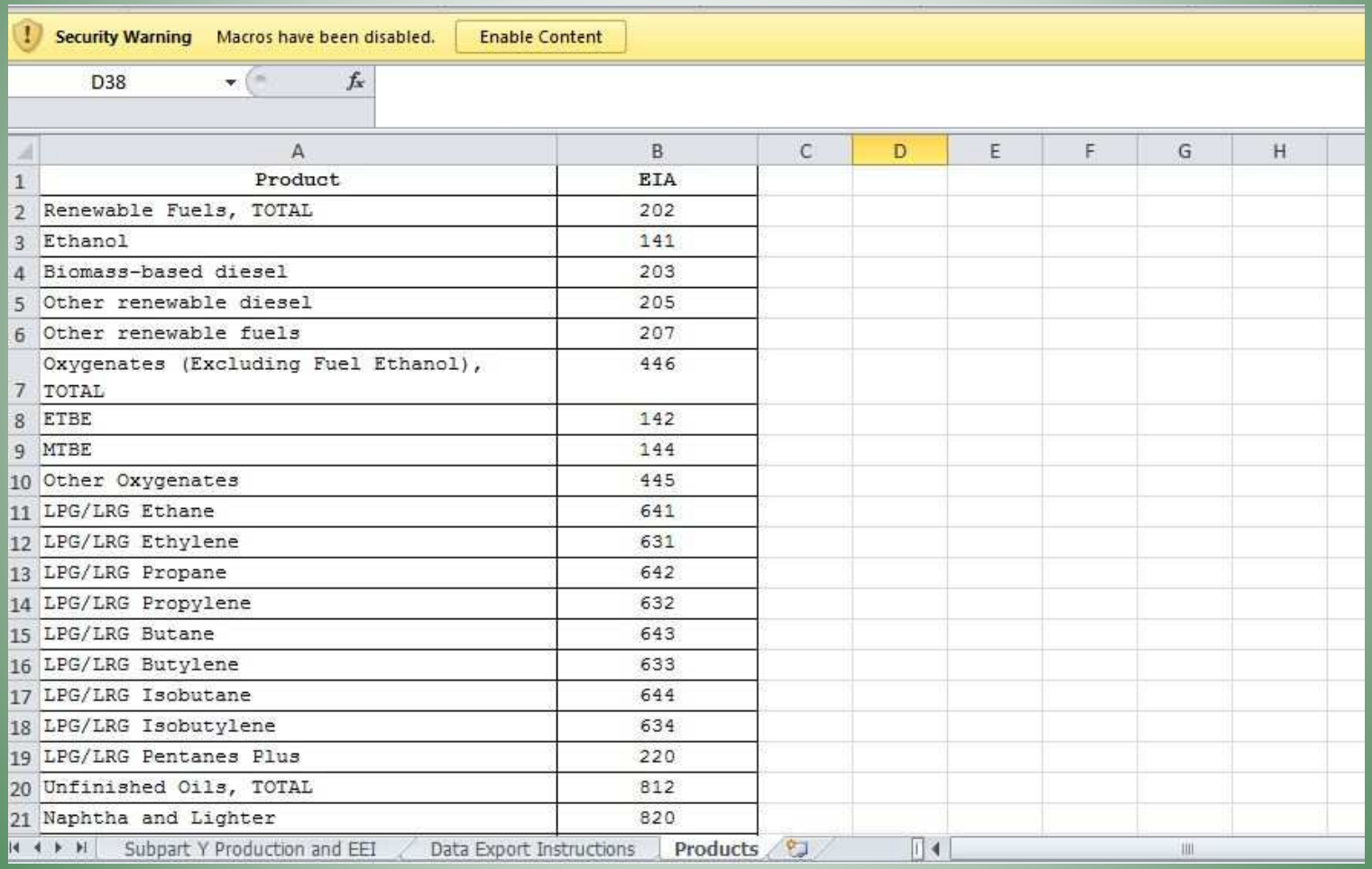
NOTE: You will need to enable macros for the button to work. If you do not wish to enable macros, contact ARB for an alternative method of adding rows to the table.

Number of Rows to Add to the Table Below:	1	Add Row(s)

Product	EIA Number	Production Amount
	#N/A	
	#N/A	

Subpart Y Production and EEI | Data Export Instructions | Products

Reporting Production Data



Security Warning Macros have been disabled. Enable Content

D38

	A	B	C	D	E	F	G	H
1	Product	EIA						
2	Renewable Fuels, TOTAL	202						
3	Ethanol	141						
4	Biomass-based diesel	203						
5	Other renewable diesel	205						
6	Other renewable fuels	207						
7	Oxygenates (Excluding Fuel Ethanol), TOTAL	446						
8	ETBE	142						
9	MTBE	144						
10	Other Oxygenates	445						
11	LPG/LRG Ethane	641						
12	LPG/LRG Ethylene	631						
13	LPG/LRG Propane	642						
14	LPG/LRG Propylene	632						
15	LPG/LRG Butane	643						
16	LPG/LRG Butylene	633						
17	LPG/LRG Isobutane	644						
18	LPG/LRG Isobutylene	634						
19	LPG/LRG Pentanes Plus	220						
20	Unfinished Oils, TOTAL	812						
21	Naphtha and Lighter	820						

Subpart Y Production and EEI | Data Export Instructions | Products

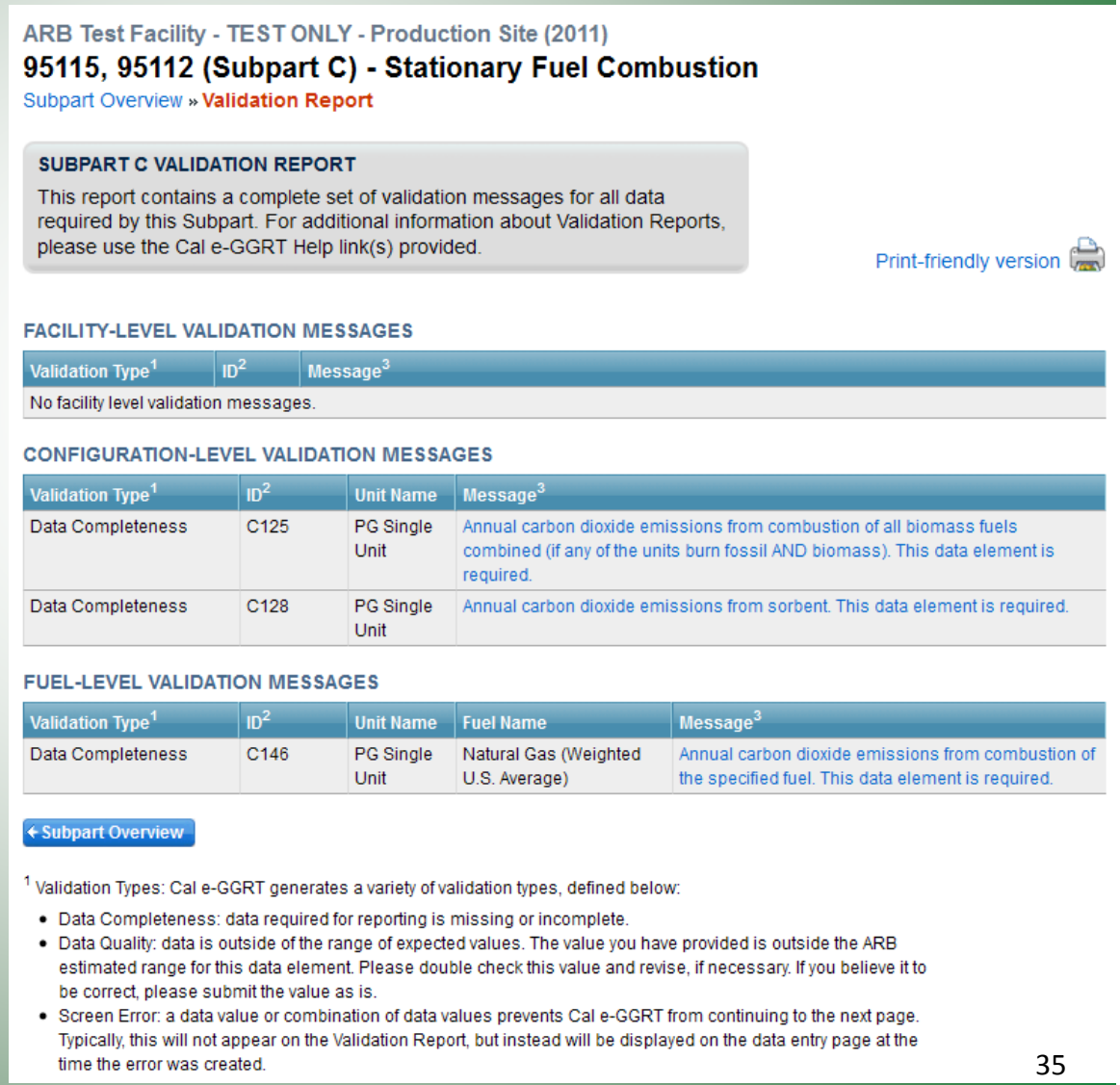
Additional Information for Refiners who also report as Suppliers of Carbon Dioxide

- Does your facility produce Hydrogen?
- Does your facility capture and sell CO_2?
- If you report under Subpart PP (Suppliers of CO_2)- there is a potential for double-counting "transferred CO_2" emissions.
- Use the provision in 95114(g) to subtract emissions that are reported using other calculation methods from your facility total.
- ARB will issue guidance on this topic.

Data Validation

Reporting: Validation Messages

- Tool provides data validation
- Most messages must be cleared before report submittal
- Clicking on message brings you to where the issue occurred



ARB Test Facility - TEST ONLY - Production Site (2011)

95115, 95112 (Subpart C) - Stationary Fuel Combustion

Subpart Overview » Validation Report

SUBPART C VALIDATION REPORT

This report contains a complete set of validation messages for all data required by this Subpart. For additional information about Validation Reports, please use the Cal e-GGRT Help link(s) provided.

Print-friendly version

FACILITY-LEVEL VALIDATION MESSAGES

Validation Type[1]	ID[2]	Message[3]
No facility level validation messages.		

CONFIGURATION-LEVEL VALIDATION MESSAGES

Validation Type[1]	ID[2]	Unit Name	Message[3]
Data Completeness	C125	PG Single Unit	Annual carbon dioxide emissions from combustion of all biomass fuels combined (if any of the units burn fossil AND biomass). This data element is required.
Data Completeness	C128	PG Single Unit	Annual carbon dioxide emissions from sorbent. This data element is required.

FUEL-LEVEL VALIDATION MESSAGES

Validation Type[1]	ID[2]	Unit Name	Fuel Name	Message[3]
Data Completeness	C146	PG Single Unit	Natural Gas (Weighted U.S. Average)	Annual carbon dioxide emissions from combustion of the specified fuel. This data element is required.

← Subpart Overview

[1] Validation Types: Cal e-GGRT generates a variety of validation types, defined below:

- Data Completeness: data required for reporting is missing or incomplete.
- Data Quality: data is outside of the range of expected values. The value you have provided is outside the ARB estimated range for this data element. Please double check this value and revise, if necessary. If you believe it to be correct, please submit the value as is.
- Screen Error: a data value or combination of data values prevents Cal e-GGRT from continuing to the next page. Typically, this will not appear on the Validation Report, but instead will be displayed on the data entry page at the time the error was created.

Key Reporting Dates

- See **Key Dates** web page for specific dates applicable to reporting year
- http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep-dates.htm
- Actual Reporting Dates may differ from dates specified in the regulation if the specified dates fall on a Saturday, Sunday, or Holiday
- **Key Dates** page is updated annually with required submission dates

For More Information

- GHG Reporting Website
  - http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep.htm
- See website for:
  - Regulation reporting guidance and fact sheets
  - Reporting tool information
  - "Clean" copy of the regulation (no underline/strikeout)
  - Sector specialist contacts
- Email reporting tool questions to: ghgreport@arb.ca.gov

GHG Reporting Contacts

Subject Matter	Contact
GHG Mandatory Reporting (General)	Dave Edwards, Manager 916.323.4887
Reporting Requirements, Stationary Combustion, Other Sectors (cement, glass, pulp and paper, etc.)	Patrick Gaffney 916.322.7303
Reporting Tool Registration and General Questions	Karen Lutter 916.322.8620
Electricity Generation and Cogeneration Facilities	Anny Huang 916.323.8475
Electricity Retail Providers and Electricity Marketers	Wade McCartney 916.327.0822
Fuel and CO2 Suppliers - Transportation Fuels, Natural Gas, LPG, CO2	Byard Mosher 916.323.1185
Petroleum Refineries, Hydrogen Plants, Oil & Gas Production	Byard Mosher 916.323.1185
Greenhouse Gas Report Verification	Renee Lawver, Manager 916.322.7062
Chief – Greenhouse Gas Emission Inventory Branch	Richard Bode, Chief 916.323-8413