Greenhouse Gas Industrial Reporting and Control Act Bulletin

Single Window Reporting System 2019 Updates Highlights

Overview

The Single Window Reporting System (SWRS), including the Single Window Information Manager (SWIM) and British Columbia Greenhouse Gas (BC GHG) modules, has been updated for the 2019 reporting period and onwards. This bulletin provides an overview of the updates. Any questions related to these changes or the SWRS can be directed to GHGregulator@gov.bc.ca.

A. SWIM Module

1. New Look of Single Window Reporting System's Gateway and page layout
2. New User Mandatory Screen
   If you are a new user for the very first time and haven't established your own profile, you will be prompted to create your profile immediately after creating your account (user name and password).
3. Direct Help Links
   In SWIM every page has a direct link pointing to the right spot of the ECCC's SWIM guidance that is related to the contents on that page.
4. Alternate phone number in My Profile and other contacts
5. Organization's mailing address is mandatory
6. Business Number Exceptions for Organizations and Parent Companies under specified categories
7. Manage user's email address for quick access request within an organization

B. BC GHG Module

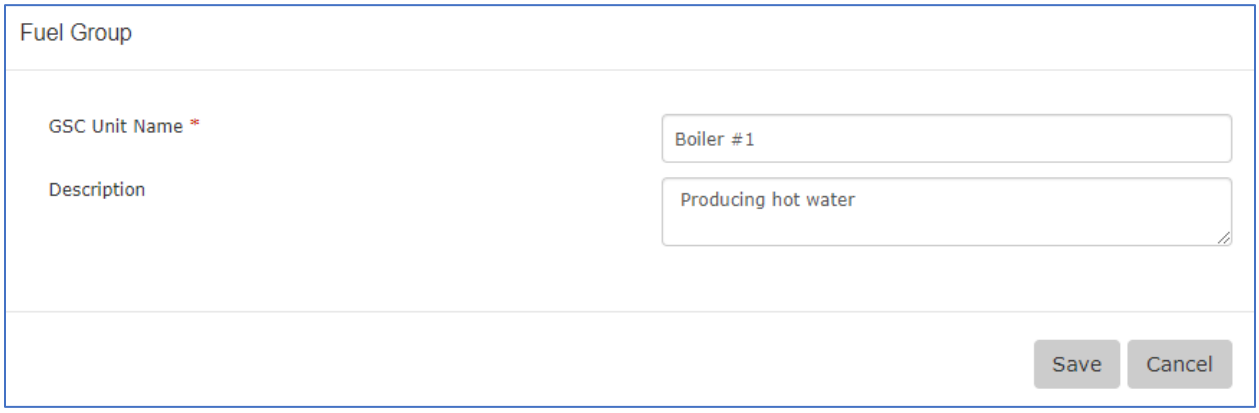
8. **Stationary Fuel Combustion Information Requirements and Validation Rules**
   Stationary fuel combustion exists in **General Stationary Combustion** and **Fuel Combustion in Electricity Generation** as described herein:

1). Define the combustion equipment as shown in Fig. 1 under "**Fuel Group**" by describing the equipment at the field called "**GSC Unit Name**" and giving a brief explanation, if applicable. For example, define the equipment (or unit) as "Boiler #1" and "Producing hot water" as its use purpose for the description (Fig. 1).

2). After defining the combustion unit, clicking the book-plus icon " " immediately below the unit description at the right side will pop up a new child window where information on fuel, parameters required for quantifying emissions and emission information are displayed as shown in Fig. 2.

Different fuels may be combusted in the same unit, or the same fuel may be combusted in different units. Repeat these procedures for each unit and fuel to complete the reporting of fuel combustion.

Fig. 1 GSC unit description



For reporting fuel combustion emissions, first, determine the fuel by clicking the dropdown arrow and selecting it from the list. Ensuring the **units** are correct, enter the appropriate quantity in the "**Annual Fuel Amount**" field. Then, determine the methodologies (selecting the methodology used for a gas from the dropdown list at the "**Emissions for fuel**" section at the bottom of Fig. 2) and the parameters used to quantify the emission for each gas, and enter their values. Lastly enter the calculated emission quantity to the "**Emissions (t)**" field corresponding to the gas in question. When completed, clicking the "**Save**" button saves the entries, bringing you back to the main window where the "**Emissions (t CO2e)**" will be automatically calculated and displayed.

How to determine the parameters and methodology to be used? According to WCI.20 there are several methodologies to quantify emissions for each gas (i.e. CO_2, CH_4 and N_2O). Based on the fuel type and the specific conditions, different methodologies may be used. Table 1 below provides an overview of the methodologies used for various fuel types and the parameters required under different conditions.

Example 1: if coal is combusted, and default HHV and default emission factor for CO_2 are used, meaning Methodology 1 (Default HHV/Default EF) is selected, then the parameters associated with this methodology are:

- Fuel – selecting a type of coal from the dropdown list (this is the first step);
- Annual Fuel Amount – manual entry (this must be done immediately after determining the fuel);
- HHV Measured/Default – becomes "**Default**" automatically;
- Annual Weighted Average High Heating Value – manual entry;
- CO_2 (EF) Measured/Default – becomes "**Default**" automatically;
- Emission Factor (CO_2) – manual entry and
- Emission Factor Unit (CO_2) -- manual entry

<u>Note: Make sure correct "Emission Factor Unit" is entered</u>

Example 2: if municipal solid waste (MSW) is combusted and emissions will be determined based on the measured amount of steam along with the default emission factor for CH_4/N_2O, the Methodology (Measured Steam/Default EF) is selected, and the parameters associated with this methodology are:

- Fuel – selecting a type of MSW from the dropdown list (this is done at the first step);
- Annual Fuel Amount – manual entry (this should be done immediately after determining the fuel);
- Annual Steam Generation (Kg) – manual entry (whole number);

- CH_4/N_2O (EF) Measured/Default –becomes "**Default**" automatically;
- Emission Factor (CH_4/N_2O) – manual entry and
- Emission Factor Unit (CH_4/N_2O) -- manual entry

Fig. 2 Fuel combustion emission reporting information requirements

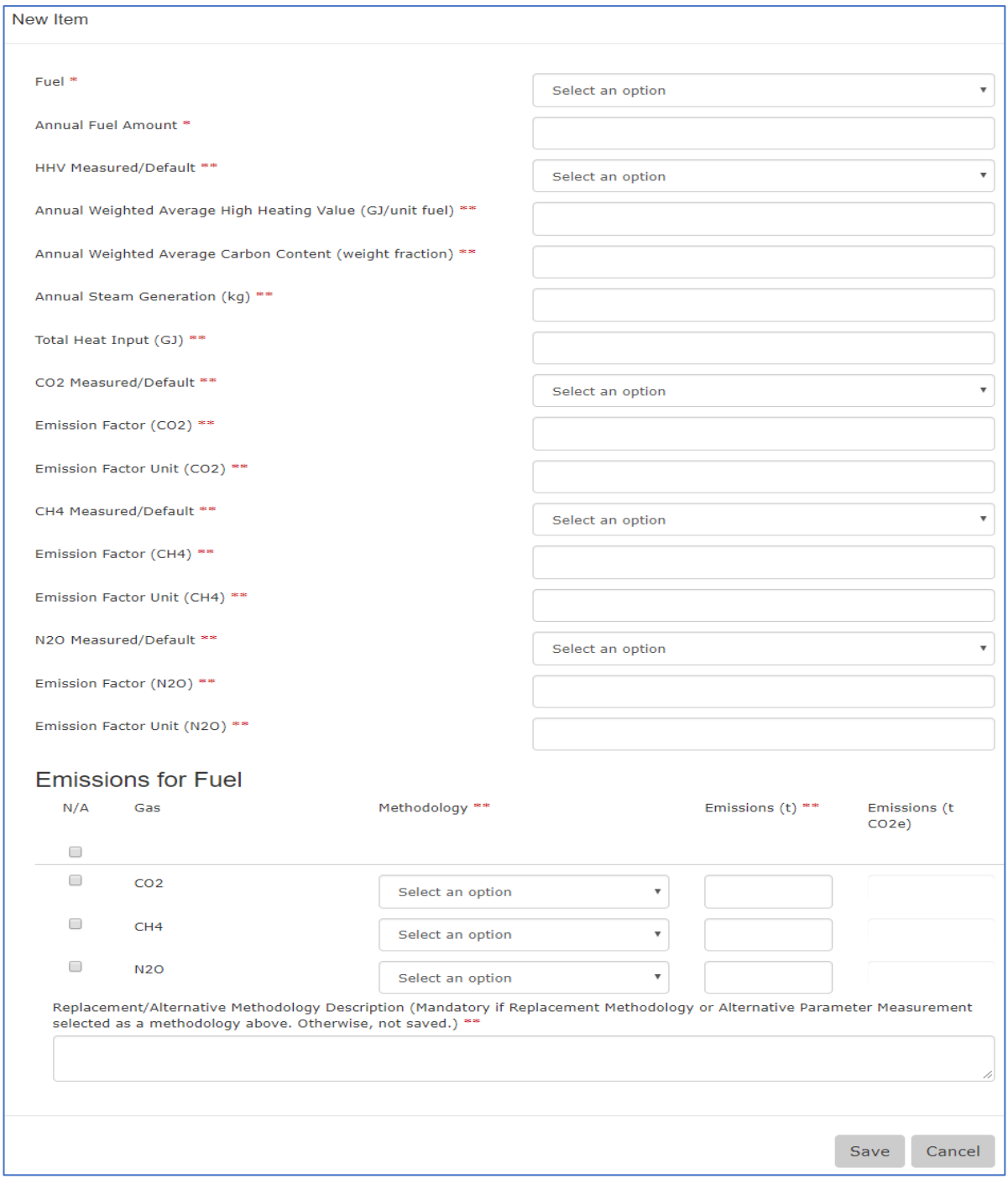


Table 1 Overview of WCI.20 Methodologies

Note: "**RQD**" below means "**Required**" for a **mandatory** or **conditionally mandatory** item

Fuel and Methodology	Parameter Requirements
CO_2	
For a fuel (e.g. natural gas, or MSW, or coal): If CO_2 = Methodology 1 (Default HHV/Default EF) CO_2 = Fuel x EF x 0.001 (Eq.20-1)	Fields mandatory: Fuel amount; HHV: "Default" shown, value entry RQD; CO_2 EF: "Default" shown, value entry RQD; CO_2 EF Unit: entry RQD
For a fuel (e.g. coal), If CO_2 = Methodology 1 (Default EF) CO_2 = Fuel x EFc x 0.001 (Eq. 20-1a)	Fields mandatory: Fuel amount; CO_2 EF: "Default" shown, value entry RQD; CO_2 EF Unit: entry RQD
For a fuel (e.g. natural gas, coal or MSW): If CO_2 = Methodology 2 (Measured HHV/Default EF) $CO_2 = \sum_{p=1}^{n} Fuel_p \times HHV_p \times EF \times 0.001$ (Eq. 20-2)	Fields mandatory: Fuel amount; HHV: "Measured" shown, value entry RQD; CO_2 EF: "Default" shown, value entry RQD; CO_2 EF Unit: entry RQD
For BF or MSW used to generate steam, IF CO_2 = Methodology 2 (Measured Steam/Default EF) CO_2 = Steam x B x EF x 0.001 (Eq. 20-3)	Fields mandatory: Fuel amount Steam Generation: Value entry RQD; CO_2 EF: "Default" shown, value entry RQD; CO_2 EF Unit: entry RQD
For any fuel (except for MSW), IF CO_2 = Methodology 3 (Measured CC) $CO_2 = \sum_{i=1}^{n} 3.664 \times Fuel_i \times CC_i$ (Eq. 20-4; 20-6) $CO_2 = = \sum_{i=1}^{n} 3.664 \times Fuel_i \times CC_i \times 0.001$ (Eq.20-7)	Fields mandatory: Fuel amount; Avg CC: Value entry RQD;
For BF or MSW used to generate steam, IF CO_2 = Methodology 3 (Measured Steam/Measured EF) CO_2 = Steam x EF x 0.001 (Eq. 20-5)	Fields mandatory: Fuel amount Steam Generation: Value entry RQD; CO_2 EF: "Measured" shown, value entry RQD; CO_2 EF Unit: entry RQD
For any fuel, IF CO_2 = CEMS	Fields mandatory: Fuel amount None
CH_4/N_2O	
For a fuel ≠ coal (i.e. other than coal), IF CH_4/N_2O = Default HHV/Default EF $CH_4(N_2O) = \sum_{i=1}^{n} Fuel_i \times HHV_D \times EF_i \times 0.000001$ (Eq.20-10)	Fields mandatory: Fuel amount; HHV: "Default" shown, value entry RQD; CH_4 EF: "Default" shown, value entry RQD; CH_4 EF Unit: entry RQD; N_2O EF: "Default" shown, value entry RQD; N_2O EF Unit: entry RQD
For coal, IF CH_4/N_2O = Default EF $CH_4(N_2O) = \sum_{i=1}^{n} Fuel_i \times EF_{c,i} \times 0.001$ (Eq. 20-11)	Fields mandatory: Fuel amount; CH_4 EF: "Default" shown, value entry RQD; CH_4 EF Unit: entry RQD; N_2O EF: "Default" shown, value entry RQD; N_2O EF Unit: entry RQD
For a fuel ≠ coal (i.e. other than coal), IF CH_4/N_2O = Measured HHV/Default EF $CH_4(N_2O) = \sum_{i=1}^{n} Fuel_i \times HHV_{p,i} \times EF_i \times 0.000001$ (Eq. 20-12)	Fields mandatory: Fuel amount; HHV: "Measured" shown, value entry RQD; CH_4 EF: "Default" shown, value entry RQD; CH_4 EF Unit: entry RQD; N_2O EF: "Default" shown, value entry RQD;

	N_2O EF Unit: entry RQD
For Coal, IF CH_4/N_2O = Measured EF $CH_4(N_2O) = \sum_{i=1}^{n} Fuel_i \times EF_{c,i} \times 0.001$ (Eq. 20-13)	Fields mandatory: Fuel amount; CH_4 EF: "Measured" shown, value entry RQD; CH_4 EF Unit: entry RQD; N_2O EF: "Measured" shown, value entry RQD; N_2O EF Unit: entry RQD
For BF or MSW used to generate steam, IF CH_4/N_2O = Measured Steam/Default EF CH4(N2O) = Steam x B x EF x 0.000001 (Eq. 20-14)	Fields mandatory: Steam Generation: Value entry RQD; CH_4 EF: "Default" shown, value entry RQD; CH_4 EF Unit: entry RQD; N_2O EF: "Default" shown, value entry RQD; N_2O EF Unit: entry RQD
For any fuel, IF CO_2 = CEMS; IF CH_4/N_2O = Default EF $CH_4(N_2O) = (HI)_A \times EF \times 0.000001$ (Eq. 20-15)	Fields mandatory: Total Heat Input: Value entry RQD; CH_4 EF: "Default" shown, value entry RQD; CH_4 EF Unit: entry RQD; N_2O EF: "Default" shown, value entry RQD; N_2O EF Unit: entry RQD

9. **Mobile Equipment Combustion Emission**

The structure for reporting information for "**Emissions from fuel combustion by mobile equipment that is part of the facility**" has been reframed as shown in Fig. 3 below.

Please read carefully the **Note** text located at the middle of the window (Fig. 3), and make sure the emission factors are entered properly whether the corresponding methodologies are Default EF, Hours of Operation or Site-specific EF. **Entries of emission factors are now mandatory** fields.

To report, first select a fuel from the dropdown list, enter each quarter's (Q1, Q2, Q3 and Q4) fuel usage (the "**Annual Fuel Amount**" field will be filled out and displayed automatically), then enter each gas' (CO_2, CH_4 and N_2O) emission quantity. Finally, enter each gas' emission factor and the associated units, which are mandatory (Fig. 3).

Fig. 3 Mobile equipment combustion emission information requirements

Fuel

Fuel *

Select an option

Q1 * Q2 * Q3 * Q4 * Annual Fuel Amount

Emissions for Fuel

N/A	Gas	Emissions (t) **	Emissions (t CO2e)
☐			
☐	CO2		
☐	CH4		
☐	N2O		

Note: please enter the default emission factor value and units from WCI methodology manual, or enter your own emission factor value and units if they are determined at the site or provided by the supplier, whichever applies. So whichever methodology (i.e. Default EF, Hours of Operation and Site-specific EF) is selected, the emission factors are mandatory.

CO2 Emission Factor **

CO2 Emission Factor Units **

CH4 Emission Factor **

CH4 Emission Factor Unit **

N2O Emission Factor **

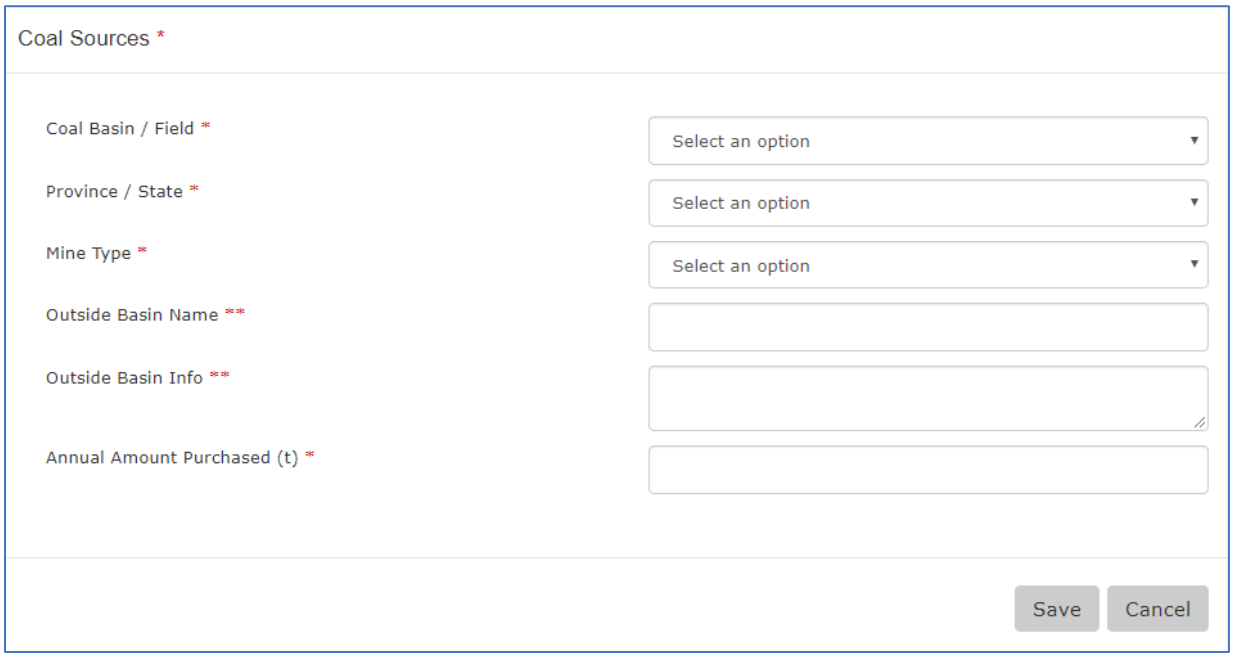
N2O Emission Factor Unit **

Save Cancel

10. **Information requirements for coal sources under the "Coal Storage at Facilities that Combust Coal"**
The source information on coal (like origin and mine type etc.) that is combusted at a facility is now mandatory (Fig. 4), without providing such information the process will not proceed.

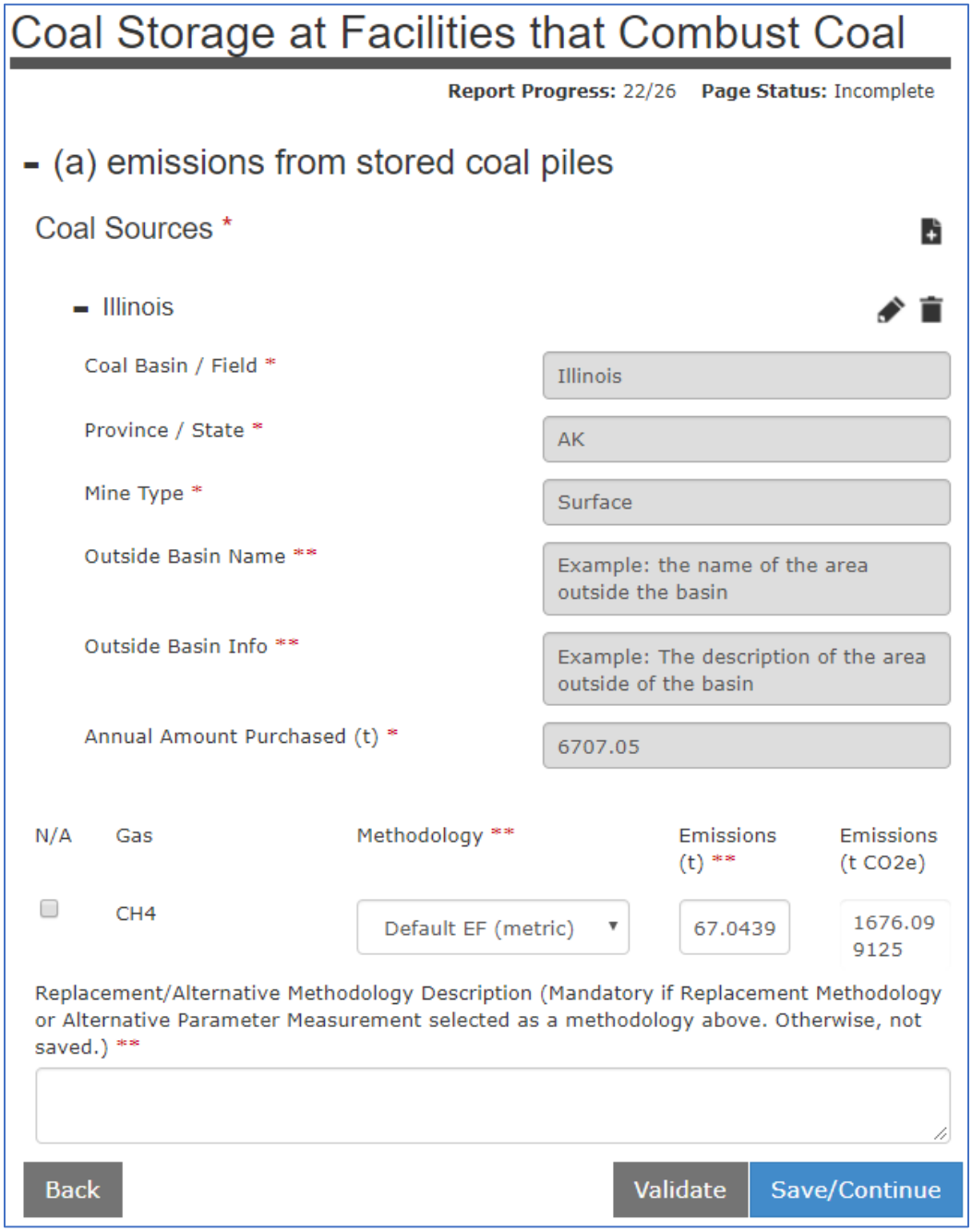
For each coal combusted, click the book-plus icon "" at the right side opposite "**Coal Sources**" at the main window of "**Coal Storage at Facilities that Combust Coal**", a new child window "**Coal Sources**" pops out (Fig. 4). Click the dropdown arrow at the right side and select the appropriate entry for each of the top three items i.e. Coal Basin/Field, Province/State and Mine Type. If required, provide the appropriate entry for "**Outside Basin Name**" and "**Outside Basin Info**". Lastly, enter the "**Annual Amount Purchased (t)**" and click the "**Save**" button to proceed. Clicking the "**Cancel**" button cancels the entry process and will return the user to the main window.

Fig. 4. Coal sources information requirement



After finishing the coal source information entries, select the applicable methodology and enter CH_4's emission quantity, click the "**Validate**" button. If there is any error or mistake, follow the indications to correct it properly and click the "**Save/Continue**" button to continue. A completed example image of the reporting is shown in Fig. 5.

Fig. 5 Example image of filled out coal sources information



Coal Storage at Facilities that Combust Coal

Report Progress: 22/26 **Page Status:** Incomplete

- (a) emissions from stored coal piles

Coal Sources *

- Illinois

Coal Basin / Field *	Illinois
Province / State *	AK
Mine Type *	Surface
Outside Basin Name **	Example: the name of the area outside the basin
Outside Basin Info **	Example: The description of the area outside of the basin
Annual Amount Purchased (t) *	6707.05

N/A	Gas	Methodology **	Emissions (t) **	Emissions (t CO2e)
☐	CH4	Default EF (metric)	67.0439	1676.09 9125

Replacement/Alternative Methodology Description (Mandatory if Replacement Methodology or Alternative Parameter Measurement selected as a methodology above. Otherwise, not saved.) **

Back Validate Save/Continue

Regulation is Determinative

The above is not legal advice and is provided as an aid in understanding the Regulation. Operators are responsible for reviewing the Regulation to ensure compliance with it.