



## EMTS Conversion Tool (ECT)

### Purpose and Description

The EMTS Conversion Tool (ECT) has been developed to assist users in the preparation of XML files for submission to the EMTS. The ECT takes as input Excel or text files and produces as output XML files that conform to the EMTS schema specification (see Appendix C for a logical representation of this schema). Within the ECT, users may select to use either the Basic Version or the Advanced Version.

- **Basic Version:** This version takes as input files that use EPA-defined standard column headers, or allows user to input data manually. EPA has created several basic Excel templates that use these headers and which are intended to facilitate the use of the Basic Version. The templates are installed with the conversion tool and are stored in the Input\_Files folder. These templates are also available for download on the Fuels Reporting Forms Page:  
<http://epa.gov/otaq/regs/fuels/rfsforms.htm>.
- **Advanced Version:** This version does not require the use of the basic EPA templates, or that the input files use the standard headers (though the templates or other files with the standard headers can be used). Users can create mappings between their own user-defined column headers and labels that will be used in the XML files. Users can also input data manually and change existing data for conversion.

If the user wishes to directly input user-defined formatted files that do not have the same column headings as those found in the template, then the Advanced Version must be used and the column headers must be mapped to the proper ECT column headers so that the data is read appropriately and valid output is produced.

#### Data Entry

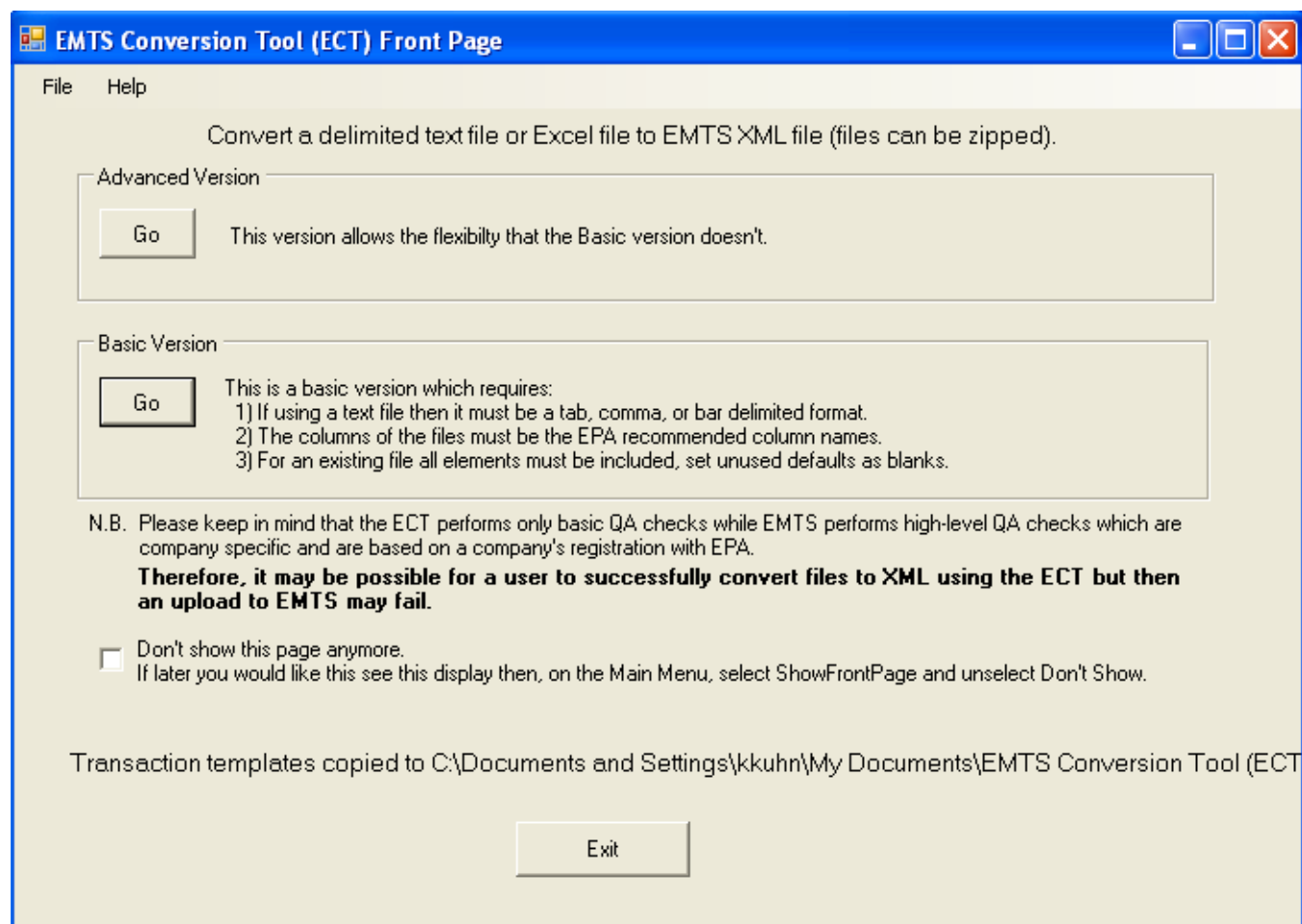
Inexperienced users are advised to use the EMTS website for manual data entry. The ECT does not run Quality Assurance checks on data.

### Overview of the ECT Screens

The User Interface for both the Basic and the Advanced Versions of the ECT consists of three screens.

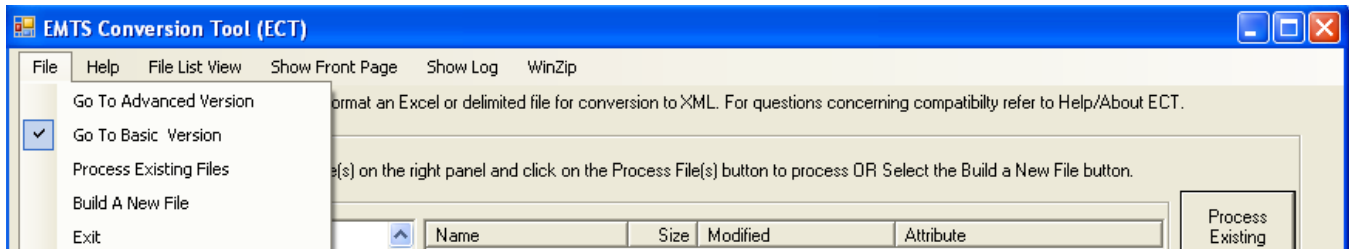
1. A "Start-up" screen where the user can select whether to use the Basic or Advanced Version (see Figure 1).

**Figure 1: Start-up Screen**



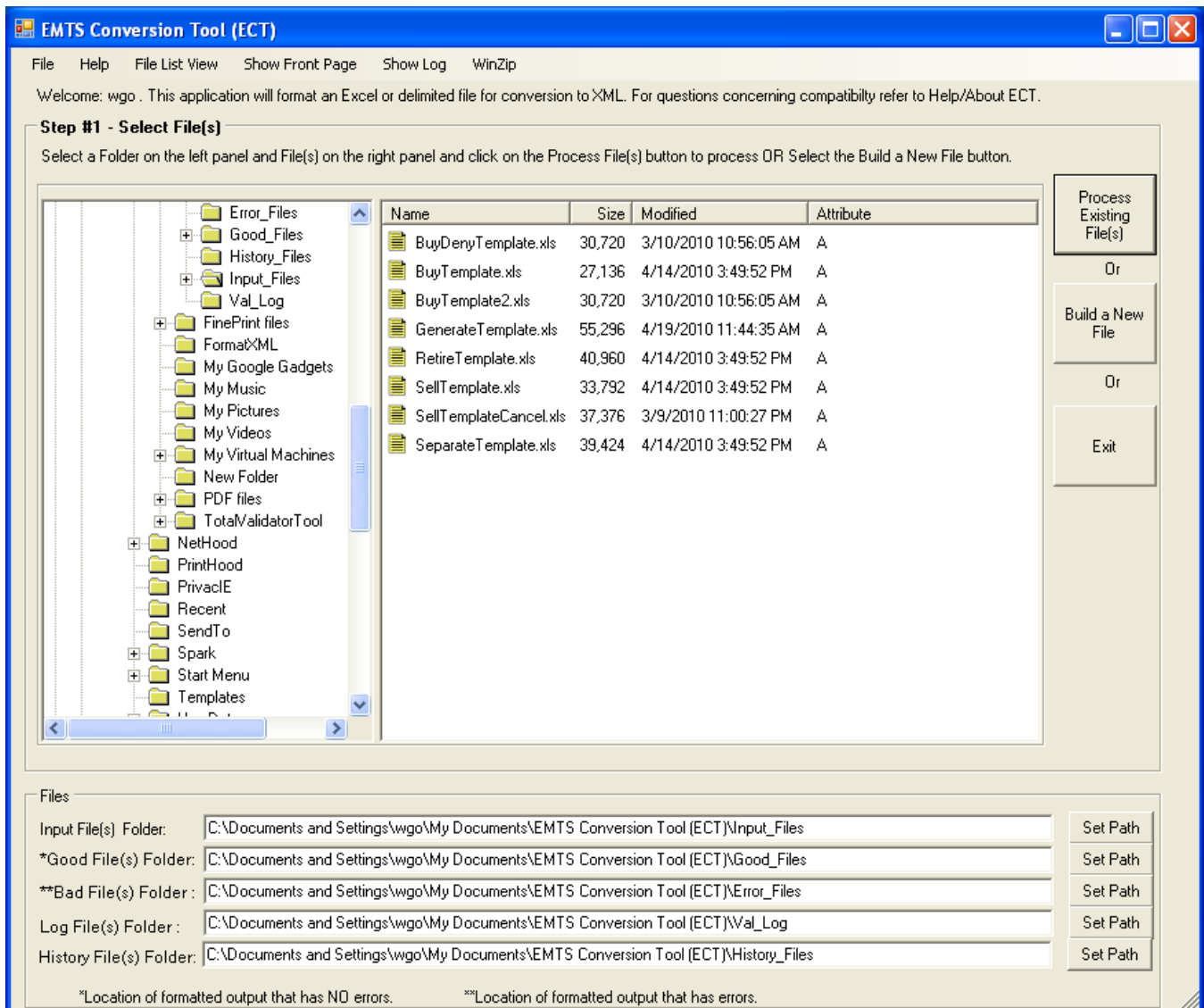
This screen allows the user to select from two versions of the ECT: the Basic Version or the Advanced Version. The user may check the "Don't show this page anymore" box if desired. This will cause the start-up screen to be skipped on subsequent uses of the ECT, resulting in the processing starting up directly at the screen where the input files are chosen. The version that will be used would be the last version chosen after selecting the "Don't show this page anymore" box. This feature can be turned back on from the file selection screen (see Figures 3 and 4) by clicking on "Show Front Page" and then selecting "Show Front Page" when the start-up page appears. Additionally, the user can toggle back and forth between the Basic Version, Advanced Version, and Build a New File options from the file selection screen, as depicted in Figure 2.

**Figure 2: Toggling Between Basic, Advanced, and Build a File Versions**



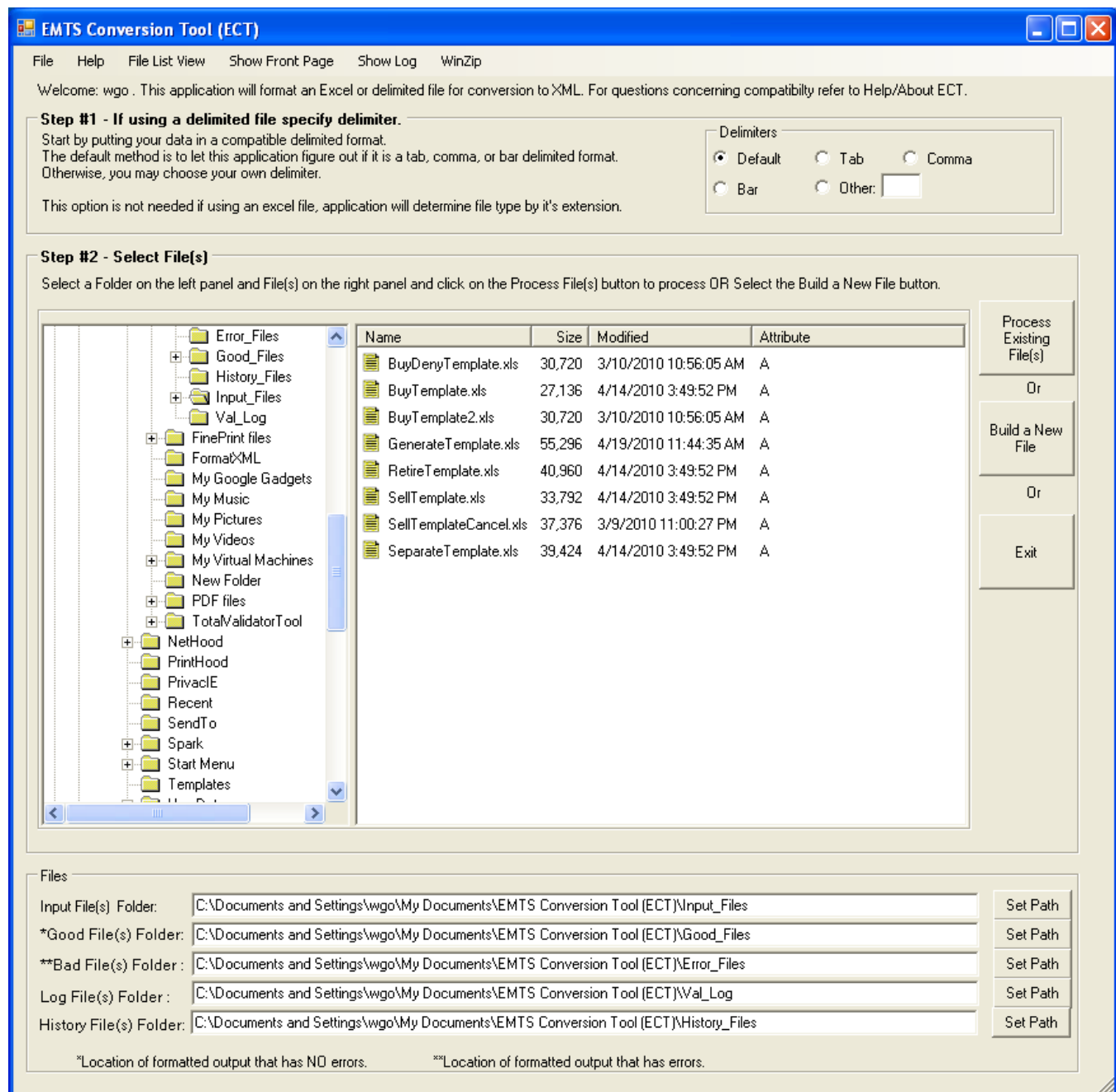
2. A File Selection screen where the user can select the file to be processed. Figure 3 displays the Basic Version and Figure 4 displays the Advanced Version.

**Figure 3: File Selection Screen (Basic Version)**



By default, the files in the "Input\_Files" folder will be displayed on the right-hand side of the File Selection Screen. The user can also use the folder navigation available on the left-hand side of the File Selection Screen to find files in other folders. Either a single file or multiple files can be selected; if multiple files are desired, the selection can be done through the use of the control (CTRL) key. Once the desired file(s) is(are) selected, the "Process Existing File(s)" button should be clicked. The File Processing Screen will automatically appear once per file selected. The user also has the option of clicking on "Build a New File," in which case it is not necessary to select an input file.

**Figure 4: File Section Screen (Advanced Version)**



This screen is similar to the File Selection Screen for the Basic Version, except for the addition of an extra section at the top where users can specify the delimiters used for text-based input files.

3. A File Processing screen where data can be edited and the actual conversion to XML is initiated. See Figures 5 and 6 (Basic Version) and Figure 7 (Advanced Version) below.

**Figure 5: File Processing Screen (Basic Version, Input File Selected)**

**Figure 6: File Processing Screen (New File Being Built)**

#	*Transaction Partner Organization Identifier	*Transaction Partner Organization Name	*RIN Quantity	Batch Volume	*Fuel Code	*Assignment Code	*RIN Year	*Buy Reason Code	RIN Price Amount	Gallon Price Amount
1										

### Figure 7: Processing Screen (Advanced Version)

[illegible]

Compared to the basic processing screen, the advanced processing screen is different in the following ways:

- The data grid is always present (in the Basic Version, the data grid only appears if the "Build a New File" button is clicked on the File Selection Screen);
- There is a set of labels and drop-down menus where column headings can be mapped to the labels that will be written to the output XML; and
- There is a button which allows user-defined column names to be imported and exported.

## Transaction Types

The ECT can create XML files for all five of the transaction types supported by the EMTS: generate, separate, buy, sell, and retire.

- A **generate** transaction is only to be used by organizations who produce renewable fuel;
- A **separate** transaction is to be used by parties who blend fuel and separate RINs;

- A **sell** transaction is to be used by parties who have sold RINs;
- A **buy** transaction is to be used by parties who have bought RINs; and
- A **retire** transaction is to be used by parties who have retired RINs for any reason.

For detailed information on the data elements for each transaction, including allowed values, please see the EMTS Transaction Instructions -- Section 6, "How Do I Report Transactions Using XML Files?"

### Required, Conditional, and Optional Fields

Fields are required, conditional, or optional.

- A **required** field is necessary for every transaction;
- A **conditional** field is dependent on the data that was entered in previous fields and may be required if certain conditions are met; and
- An **optional** field is not required by EPA, but may contain helpful descriptive information about the transaction.

### Setting Up the Input Files

The ECT (both Basic and Advanced Versions) accepts file types which are identified by the following extensions:

- .txt – tab or bar delimited text;
- .csv – comma delimited text; and
- .xls – Excel spreadsheet.

The Advanced Version also accepts text files which do not use commas, tabs, or bars as delimiters.

For these file types, the ECT accepts either a zipped or unzipped file (if zipped, the file extension will be ".zip").

Although the Basic Version accepts data in the formats listed above, the basic EPA templates are only available in Excel format.

Any row in an input file that has two hash symbols (#) at the start will be omitted from the conversion and the first row that does not have "##" and is not blank will be assumed to contain the column headings. Figure 8 shows a sample file in which one of the rows (line 4) starts with "##" and will therefore be ignored by the ECT. In this example, the ECT will take the column headings from Row 2 because this is the first row that is not blank and does not start with "##."

**Figure 8: Omitting a Data Line**

	A	B	C	D	E	F	
1							
2	Transaction Partner Organization Identifier	Transaction Partner Organization Name	RIN Quantity	Batch Volume	RIN Year	RIN Price Amount	Ge P Arr
3							
4	##1234	Bob's Ethanol	5000	5000	2009	0.19	
5	2345	Mary's Ethanol	6000	6000	2009	0.18	
6							
7							
8							
9							
10							

### Transaction Data Elements in the ECT

The following sections describe, for each transaction, the elements that can be included in the files that are input to the ECT. For each transaction, elements are grouped according to whether the ECT treats them as required, conditional, or optional. The element names presented here are equivalent to the standard column headers defined by EPA and used in the basic Excel templates.

Note that the absence of an element treated as optional by the ECT can still cause the output XML to fail validation when it is submitted to the EMTS; for instance, the ECT treats "Denaturant Volume" as optional even though the EMTS may require this element depending on the value of "Fuel Code."

#### Generate Transaction Data Elements

The following describes the generate transaction data elements. Up to three feedstocks and co-products may be specified in the ECT.

The following elements are required:

- Fuel Code;
- Process Code;
- Production Date;
- Fuel Category Code;
- Batch Volume;
- RIN Quantity;
- Generate Organization Identifier;
- Generate Facility Identifier;
- Batch Number Text;
- Feedstock Code 1;
- Renewable Biomass Indicator 1;



- Feedstock Volume 1; and
- Feedstock Measure Code 1.

The following elements are conditionally required:

- CoProduct Code 1;
- CoProduct Code 2;
- CoProduct Code 3;
- Feedstock Code 2, Renewable Biomass Indicator 2, Feedstock Volume 2, Feedstock Measure Code 2 (if any one is present, the others are required);
- Feedstock Code 3, Renewable Biomass Indicator 3, Feedstock Volume 3, Feedstock Measure Code 3 (if any one is present, the others are required); and
- Denaturant Volume (if ethanol is produced, this field is required).

The following elements are optional:

- Equivalence Value;
- Import Facility Identifier;
- Transaction Detail Comment Text;
- Feedstock Detail Comment Text 1;
- CoProduct Detail Comment Text 1;
- Feedstock Detail Comment Text 2;
- CoProduct Detail Comment Text 2;
- Feedstock Detail Comment Text 3; and
- CoProduct Detail Comment Text 3.

### **Separate Transaction Data Elements**

This section describes the separate transaction data elements.

The following data elements are required:

- RIN Quantity;
- Batch Volume;
- Fuel Code;
- Separate Reason Code; and
- RIN Year.

The following data elements are conditionally required:

- Supporting Document Text, Supporting Document Number (if one is present, the other is required);
- Generate Organization Identifier (required if Generate Facility Identifier is present);
- Generate Facility Identifier (required if Batch Number Text is present);
- Blender Organization Identifier (required if reason code is 40: Upstream Delegation for Blending); and
- Blender Organization Name (required if reason code is 40: Upstream Delegation for Blending).

The following data elements are optional:

- Batch Number Text; and
- Transaction Detail Comment Text.

### **Sell Transaction Data Elements**

This section describes the sell transaction data elements.

The following data elements are required:

- Transaction Partner Organization Identifier;
- Transaction Partner Organization Name;
- RIN Quantity;
- Fuel Code;
- Assignment Code;
- RIN Year;
- Sell Reason Code; and
- Transaction Date.

The following data elements are conditionally required:

- Supporting Document Text, Supporting Document Number (if one is present, the other is required);
- Generate Organization Identifier (required if Generate Facility Identifier is present);
- Generate Facility Identifier (required if Batch Number Text is present);
- RIN Price Amount (required if GallonPriceAmount is not present);
- Gallon Price Amount (required if RINPriceAmount is not present); and
- Batch Volume (required if the RIN is assigned).

The following data elements are optional:

- Batch Number Text;
- PTD Number; and
- Transaction Detail Comment Text.

### **Buy Transaction Data Elements**

This section describes the buy transaction data elements.

The following data elements are required:

- Transaction Partner Organization Identifier;
- Transaction Partner Organization Name;
- RIN Quantity;
- Fuel Code;
- Assignment Code;
- RIN Year;
- Buy Reason Code; and
- Transaction Date.

The following data elements are conditionally required:

- Supporting Document Text, Supporting Document Number (if one is present, the other is required);
- Generate Organization Identifier (required if Generate Facility Identifier is present);
- Generate Facility Identifier (required if Batch Number Text is present);
- RINPriceAmount (required if GallonPriceAmount is not present);
- GallonPriceAmount (required if RINPriceAmount is not present); and
- Batch Volume (required if the RIN is assigned).

The following data elements are optional:

- Batch Number Text;
- PTD Number; and
- Transaction Detail Comment Text.

### **Retire Transaction Data Elements**

This section describes the retire transaction data elements.

The following data elements are required:

- RIN Quantity;
- Fuel Code;
- Assignment Code;

- RIN Year; and
- Retire Reason Code.

The following data elements are conditionally required:

- Supporting Document Text, Supporting Document Number (if one is present, the other is required);
- Generate Organization Identifier (required if Generate Facility Identifier is present);
- Generate Facility Identifier (required if Batch Number Text is present);
- Compliance Year (if Retire Reason Code is Demonstrate Annual Compliance, this field is required);
- Compliance Facility Identifier (if Retire Reason Code is Demonstrate Annual Compliance, this field is required); and
- Compliance Level Code (if Retire Reason Code is Demonstrate Annual Compliance, this field is required).

The following data elements are optional:

- Batch Number Text;
- Batch Volume; and
- Transaction Detail Comment Text.

### Data Validation Checks in the ECT

The ECT performs many (but not all) of the data validation checks needed to ensure that the output XML file can be successfully processed by the EMTS. Errors found by the ECT are written to the "Status" message block above the progress bar at the bottom of the screen and to the log file. The following is a list of checks that will be performed during processing.

- Checks that the "Enter Company Info" fields are filled in. All of these fields are required except "Submission Comment." Only the "User Login" is saved between file processing. Submittal creation date must be in the form of YYYY-MM-DD.
- Checks the drop-down lists of column headers for the required, optional, and conditionally optional fields. The following will produce an error:
  - For a required field, if the user has not selected a column name from the drop-down list or provided data;
  - For a conditional field or optional field, if the user has indicated that it should be included by selecting a column name from the drop-down list, but has not provided the corresponding data;

- If there is no value selected on the drop-down list that corresponds to the column;
- If the value selected in the drop-down list does not match any of the column names; and
- If the same column heading is selected in multiple drop-down lists for different required fields.
- Checks the transaction data. The following will produce an error:
  - If data is missing in a required field (note that some fields are conditionally required, meaning that if a certain value is present, then all the following fields are required);
  - If "Assignment Code" has a value other than "1" or "2";
  - If transaction codes contain letters;
  - If "Transaction Partner Organization Identifier" is not four digits; and
  - If dates not of the format YYYY-MM-DD. If dates are of the format YYYY/M/D, YYYY-M-D, or MM/DD/YYYY the ECT will make the appropriate change which will be displayed in the data grid without any error messages.