



Working to Perfect the Flow of Energy

~~PJM Manual 25b~~
~~eFuel 2.0~~
~~User's Manual~~

~~Revision: 02~~

~~Effective Date: January 3, 2006~~

~~Prepared by~~
~~Market Monitoring Unit~~

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PJM Manual 25b
eFuel 2.0 - UserManual
Table of Contents

Table of Contents	ii
Table of Exhibits	iii
Approval	1
Revision History	1
About PJM Manuals	2
About This Manual	3
Intended Audience	3
References	3
Using This Manual	4
What You Will Find In This Manual	4
Section 1: PJM eFuel User Interface	5
Introduction	5
System Requirements	5
Section 2: General Usage	6
Drop-down List Boxes	6
List boxes (Single and Multi-Select)	7
Text boxes	7
Buttons	8
Grids	8
Status Bar	9
Functions Bar	9
New	10
Update	10
Delete	10
Find	11
Print	12
Export	12
Status Light	12
Data Input and Text Boxes	13
Section 3: Getting Started	14
Login Procedures	14
Access Rights	14
Security	15
Section 4: Launching the System	16



Section 5: Menu Options	17
The Operation Data Menu	18
Data Import	18
Data Export (Card98U/Card99) and Data Export (Card98P)	19
The Validation Menu	21
Card98U Level 2 Validation	21
Card98U/Card98P Level 2 Validation Error Log	22
Card98P Level 2 Validation	22
The Card Data Menu	22
Card98P – Plant Level Fuel Data	22
Card98U – Unit-Level Fuel Cost Data	28
Card99 – Fuel Data	32
Data Modification History	38
The Reports Menu	39
FERC Form 423 Report	39
Card98U/Card99 Merge Report	41
The Tools Menu	42
Change Password	42
The Help Menu	44
Section 6: XML Upload File Format	45
Appendix A – County Names and FIPS County Code Listing	48
Appendix B: Coal Producing Districts	59
Appendix C: eFuel Error Codes	64
Appendix D: eFuel Fuel Codes	68
Appendix E: About eFuel Version 2	71
Changes in the new eFuel System	71
Data Security and Access Control	71



~~**Table of Exhibits**~~

~~**Exhibit 1: List of PJM Manuals 2**~~



Approval

Approval Date: 01/03/06

Effective Date: 01/03/06

Joseph Bowring, Manager

Market Monitoring Unit Department

Revision History

Revision 02 (01/03/06)

This document has been reviewed per PJM procedures.

Updated Exhibit 1.

Revision 01 (03/09/05)

Removed temporary password from Login Procedures.

Minor revisions to Card98P – Plant-Level Fuel Data Panel section.

Updated Exhibit 1 to include new PJM Manuals.

Revised gas measurements from mmBtu to MCF on page 25.

Revised footnotes 2 and 3 on page 26.

Revision 00 (06/21/04)

This is the revised draft of the PJM Manual 25b: eFuel 2.0 – User Manual.



Introduction

~~Welcome to the PJM Manual 25b: eFuel 2.0 – User Manual. In this Introduction, you will find the following information:~~

- ~~➤ What you can expect from the PJM Manuals in general (see “About PJM Manuals”).~~
- ~~➤ What you can expect from this PJM Manual (see “About This Manual”).~~
- ~~➤ How to use this manual (see “Using This Manual”).~~

About PJM Manuals

~~The PJM Manuals are the instructions, rules, procedures, and guidelines established by PJM for the operation, planning, and accounting requirements of the PJM Control Area and the PJM Energy Market. Exhibit 1 lists the PJM Manuals.~~

Transmission	M01: Control Center Requirements M04: PJM OASIS Operation	M02: Transmission Service Requests M05: Power System Application Data	M03: Transmission Operations M06: Financial Transmission Rights
PJM Energy Market	M09: PJM eSchedules M12: Dispatching Operations M36: System Restoration	M10: Pre-Scheduling Operations M13: Emergency Operations	M11: Scheduling Operations M15: Cost Development Guidelines
Generation and Transmission Interconnection	M14A: Introduction to the Generation and Transmission Interconnection Process M14D: Generator Operational Requirements	M14B: Generation and Transmission Interconnection Planning M14E: Merchant Transmission Specific Requirements	M14C: Generation and Transmission Interconnection Facility Construction M16: eDART Operations
Reserve	M17: Capacity Obligations M21: Rules and Procedures for Determination of Generating Capability M24: PJM eCapacity	M19: Load Data Systems M22: Generator Resource Performance Indices M25b: eFuel 2.0 – User Manual	M20: PJM Reserve Requirements M23: eGADS User Manual
Accounting & Billing	M27: Open Access Transmission Tariff Accounting	M28: Operating Agreement Accounting	M29: Billing
PJM	M33: Administrative Services for PJM Interconnection Agreement	M35: Definitions and Acronyms	

Exhibit 1: List of PJM Manuals



About This Manual

~~The PJM Manual 25b: eFuel 2.0 – UserManual is one of a series of manuals within PJM’s set of manuals. This manual focuses on The PJM Manual 25b: eFuel 2.0 – UserManual consists of six sections. The sections are as follows:~~

- ~~Section 1: PJM eFuel UserInterface~~
- ~~Section 2: PJM eGADS Overview~~
- ~~Section 3: PJM eGADS Event Reporting~~
- ~~Section 4: PJM eFuel User Interface~~
- ~~Section 5: PJM eFuel Data Requirements~~
- ~~Section 6: PJM eFuel Codes and Messages~~

Intended Audience

~~The intended audiences for the PJM Manual 25b: eFuel 2.0 – UserManual are:~~

- ~~PJM Members~~
- ~~Generation Customers~~
- ~~Generation Owners~~
- ~~PJM Capacity Adequacy Planning Staff~~
- ~~PJM System Planning Staff~~
- ~~PJM Audit Staff~~
- ~~PJM Customer Relations And Training Staff~~
- ~~PJM Market Monitoring Staff~~

References

~~The References to other documents that provide background or additional detail directly related to the PJM Manual 25b: eFuel 2.0 – UserManual are:~~

- ~~Operating Agreement of PJM Interconnection, L.L.C.~~
- ~~PJM Open Access Transmission Tariff~~
- ~~Transmission Owners Agreement~~



- ~~Reliability Assurance Agreement
among Load Serving Entities in the PJM Control Area~~
 - ~~PJM Manual for Open Access
Transmission Tariff Accounting~~
 - ~~PJM Manual for Operating
Agreement Accounting~~
 - ~~PJM Manual for Definitions and
Abbreviations~~
- ~~Using This Manual~~

~~Because we believe that explaining concepts is just as important as presenting the procedures, we start each section with an overview. Then, we present details and procedures. This philosophy is reflected in the way we organize the material in this manual. The following paragraphs provide an orientation to the manual's structure.~~

~~What You Will Find In This Manual~~

- ~~A table of contents~~
- ~~An approval page that lists the
required approvals and revision history~~
- ~~This introduction~~
- ~~Sections containing the specific
guidelines and requirements~~

Section 1: PJM eFuel User Interface

Welcome to the PJM eFuel User Interface section of the PJM Manual 25b: eFuel 2.0 – User Manual. In this section, you will find the following information:

- **A brief introduction explaining the features and functionality of user interface (see “Introduction”).**
- **System Requirements (see “System Requirements”).**

Introduction

This manual is designed to provide the user with a functional reference, and to facilitate the day-to-day usage of the eFuel 2.0 system.

System Requirements

The following minimum system requirements should be met before attempting to access the eFuel system:

- **You must have a personal computer with access to PJM’s website using Microsoft Internet Explorer 5.0 or higher.**
- **Java 1.3.1 or higher plug-in. There are some issues that exist in using Java plug-in version 1.4.0. Therefore, it is recommended that you have version 1.3.1 and higher or 1.4.1 and higher.**

The very first time that you connect to the eFuel application, you will be presented with a security warning dialog box. Since the application contains digitally signed code, you must grant the code privileges to access certain resources on your personal computer.

The dialog box allows you the flexibility to accept the digitally signed code for the current session or all subsequent sessions.

~~Section 2: General Usage~~

~~For optimal viewing, screen resolution should be set at 1024 x 760.~~

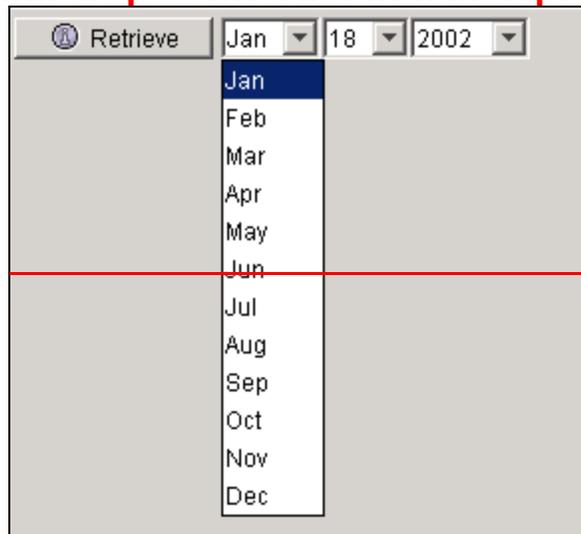
~~This setting can be adjusted in the control panel section of your system. In lower resolution, the user will need to use the scroll bar to view areas outside of the displayed screen.~~

~~Drop-down List Boxes~~

~~Drop-down list boxes are used throughout this application, mostly for choosing the appropriate date.~~

~~To make a selection:~~

~~➤ Click the arrow to the right of the box. This will drop down a list with multiple selections.~~

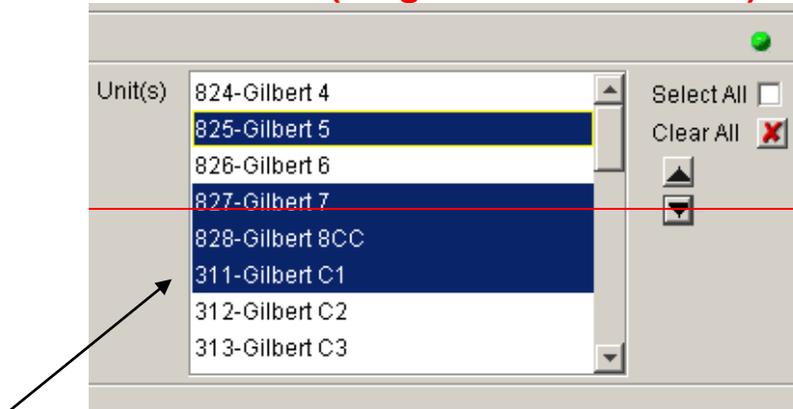


~~➤ Scroll to the selection you desire~~

~~➤ Click the selection~~

~~Tip: For faster searching, type the first letter or number of the selection you wish to select. The system jumps to the first occurrence of the entry that starts with the character entered. You can scroll down further using the scroll bar until the selection you are looking for is found.~~

List boxes (Single and Multi-Select)



- Choose from a list box by clicking on the selection you desire
 - To choose more than 1 entry, hold the Control Key while making your selections
 - To choose several entries that are next to one another, click on the top entry of the group, then hold the Shift Key while clicking on the bottom unit of the group
 - To de-select a single unit, hold the Control Key while clicking on your selections
 - To clear all selections while making a single new selection, just click on the new selection.
- Tip:** To select all the entries in the list box, look for checkbox labeled “Select All”. It is available on most screens. If this checkbox is not available, click on the first item of the list, press and hold down the shift key, then press the page down key several times to scroll to the bottom of the list.

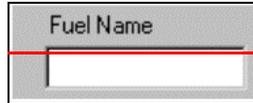
Tip: To clear all selections in the list box, click on the button labeled “Clear All”.

Tip: To facilitate the searching of selections, increase the size of the list box by clicking on the “expand” button . The “reduce” button  enables you to reduce the list box size back to normal

Text boxes

Text boxes allow for free form entering of data or information.

➔ **Click on the text box where you wish to enter information**

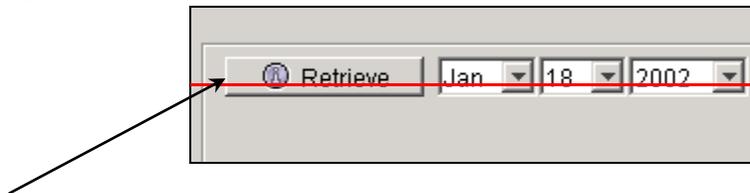


➔ **Type information**

➔ **Click a confirmation push button such as “Save”, “Enter” or any acknowledgement button available, if necessary.**

Buttons

Push buttons allow for actions to be initiated by the user.



➔ **In this example, enter the desired date values into the text boxes**

➔ **Click on the button, “Retrieve” to invoke the button’s function**

Radio Buttons

Radio buttons are used for “either/or” type selections.



➔ **Click on selection desired, a dot appears in the circle before the selection.**

Grids

Grids are used to present data in a tabular format. The scroll bar to the right and bottom enables the user to scroll to additional columns or rows.

Utility Code	Unit Code	Year	Month	Net Maximum Capacity	Net Dependable Capacity	Net Actual Generation	Load Char
237-MID ATLANTIC POWER	352-Hawk CT 1	2002	1	27	25	46	5
237-MID ATLANTIC POWER	353-Hawk CT 2	2002	1	27	25	49	5
237-MID ATLANTIC POWER	354-Hawk CT 3	2002	1	27	25	71	5
238-AMERICAN PUBLIC UTILITY	141-Titan ST 1	2002	1	850	850	537448	1
238-AMERICAN PUBLIC UTILITY	142-Titan ST 2	2002	1	850	850	578601	1
237-MID ATLANTIC POWER	355-Robin CT 1	2002	1	27	25	0	5
237-MID ATLANTIC POWER	356-Robin CT 2	2002	1	27	25	0	5
237-MID ATLANTIC POWER	111-Falcon ST 1	2002	1	158	158	10440	2
237-MID ATLANTIC POWER	112-Falcon ST 2	2002	1	243	243	43601	2
237-MID ATLANTIC POWER	313-Falcon CT 1	2002	1	19	18	0	5
237-MID ATLANTIC POWER	314-Falcon CT 2	2002	1	26	25	0	5
237-MID ATLANTIC POWER	315-Falcon CT 3	2002	1	153	153	-215	5

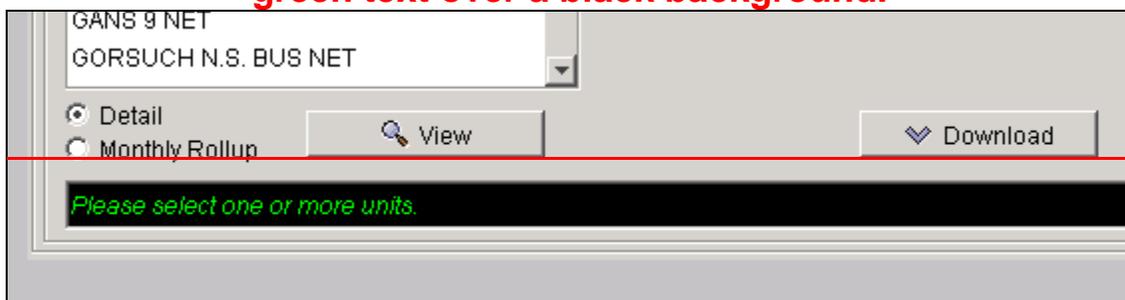
~~Tip: You can change the way the columns are sorted by clicking any of the headers. The first click causes a sort in ascending order. A second click on the same header causes it to re-sort in descending order. If you click any column but the first, it will sort by that column, then by the columns from left to right.~~

~~Tip: Grid heading and box sizes can be adjusted to allow you to have more column width. To “stretch” a column, put your mouse cursor over the header’s right or left edge of the column you wish to “pull”. While holding the right mouse button down, drag the edge to the desired length~~

~~Tip: Columns can be moved from the current location to another location by drag and drop. Click and hold down the right mouse button on the column header you want to move and then move the mouse cursor. You will see that the column you clicked on is being “picked-up” and moved. Let go of the right mouse button to “drop” the column into a new location.~~

~~Status Bar~~

~~There is a status bar at the bottom of each screen. Operation status and error messages from the system are communicated in green text over a black background.~~



~~Functions Bar~~

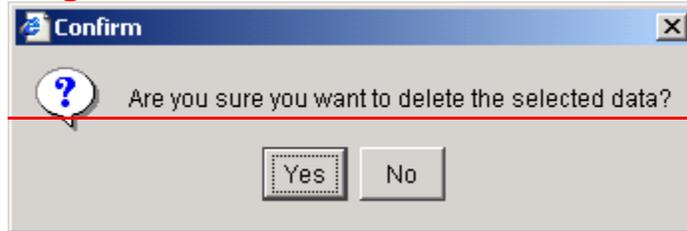
~~Located below the horizontal Menu Bar is the Function Bar. It enables you to add, modify, or delete records displayed on the screen. Additionally, you can find a record by searching the contents, print out the records, or export them to CSV files.~~



~~For example, to delete a record:~~

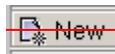
➤ ~~Select the record you would like to remove by clicking on it.~~

➤ ~~Click the Delete option~~
➤ ~~After making a selection, a confirmation box will appear:~~



➤ ~~Select "Yes" to confirm your decision.~~

~~New~~



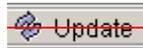
~~New – Allows you to create a new record~~

➤ ~~Click on the Icon shown above~~
➤ ~~A data entry panel or a new grid will appear on the screen~~

➤ ~~Enter the information in each box by clicking on that box, then typing the information~~

➤ ~~Click "Save" to store or "Cancel" to exit without save~~

~~Update~~



~~Update – Allows you to change or edit data~~

➤ ~~Select the line you wish to update by clicking it with your mouse~~

➤ ~~Click on the Icon shown above~~
➤ ~~A data entry panel or a new grid will appear on the screen~~

➤ ~~Update the information in each box by clicking on that box, then typing the information you wish to update~~

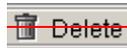
➤ ~~Click "Save" to store the data or "Cancel" to exit without save~~

~~Note: If the system does not allow you to update a particular item, that item is a database key for the data table. In order to make~~

~~changes to a key field, you need to delete the record and enter a new one.~~

~~Tip: You can double-click on an entry inside a grid to invoke the update function.~~

Delete



~~Delete – Allows you to delete a record~~

➤ ~~Select the row you wish to delete by clicking it with your mouse~~

➤ ~~Click on the Icon shown above~~

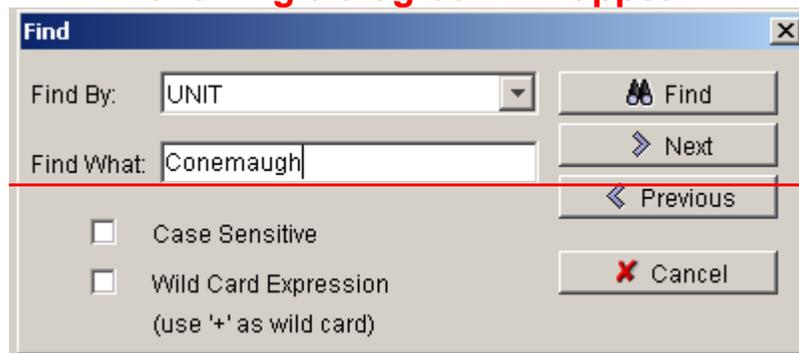
➤ ~~A confirmation box will appear, click “Yes” to confirm your deletion.~~

Find



~~Find – Will display the dialog box for locating records~~

➤ ~~Click on the Icon shown above, the following dialog box will appear~~



➤ ~~In the “Find By” drop-down list box select the column in which the search is to be performed.~~

➤ ~~In the “Find What” text box enter the expression to be searched~~

➤ ~~Click the “Case Sensitive” check box if the search expression is to be matched by the same case~~

➤ ~~Click the “Wild Card Expression” check box if wild card search is desired. In this case a wild card character “+” must be entered by the user in the “Find What” expression (Example: “George+” will find expressions like “George Washington”, “George Bush”, etc. “+Clinton” will find “Hillary Clinton”, “Bill Clinton”, etc. “+Bush+” will find “George Bush”, “Bush Garden”, etc.~~

➤ ~~Click the “Find” button to locate the first occurrence. If the search expression cannot be found, a message will be displayed to inform you.~~

➤ ~~Click the “Next” button to locate the next occurrence~~

➤ ~~Click the “Previous” button to locate the previous occurrence~~

➤ ~~Click the “Cancel” button to close the dialog box.~~

~~Note: The “Find” button is used to locate the first occurrence, clicking on it again after the first occurrence is located has no effect. The “Next” or “Previous” buttons must be used instead.~~

~~Note: If the “Wild Card Expression” check box is not checked, the system will perform an exact match search (including spaces before and after the phrase).~~

~~Print~~

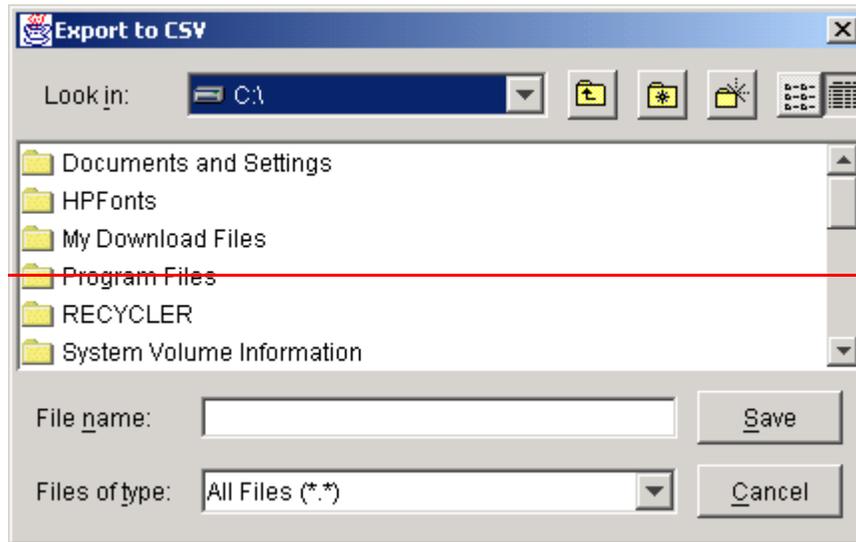


➤ ~~Print – Prints the information in the grid~~
➤ ~~Click on the icon shown above, the information in the current grid will be printed.~~

~~Export~~



➤ ~~Export – Allows you to download data in the grid to a CSV (excel) file~~
➤ ~~Click on the icon shown above, the following box will appear:~~



➤ ~~Name the file, and choose where you would like to save it on your computer.~~

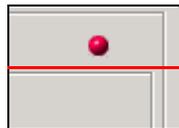
➤ ~~This File can be viewed using Excel.~~

~~Status Light~~

~~The Status Light is located at the upper right hand corner of the screen.~~



~~When the light is green, the system is at rest and is waiting for user action~~



~~When the light is blinking red, the system is executing a process. Please wait until it is green before issuing the next command.~~

~~Data Input and Text Boxes~~

~~When manually entering data into text boxes or importing card data through the import screen, the following characters should not be used:~~

➤ ~~The single quote character (')~~

➤ ~~The dash character (-)~~

~~Using these two characters may cause undesirable results in the data. If you wish to use a single quote, use a "reverse" single quote (`) as a~~



~~suggested alternative. If you wish to use a dash, use a slash (/) as a suggested alternative.~~

Section 3: Getting Started **Login Procedures**

~~The User ID and temporary password are both issued by the PJM eFuel administrator. The password is case-sensitive. The temporary password expires immediately after the user's first successful login. The user must supply a new password seven-to-twelve characters in length, containing at least one numeric and one non-numeric character. The password is encrypted by the system before storing it in the database. Since the password is encrypted in the database, no one, including the PJM eFuel administrator can discern the password simply by examining it. The Password is invalidated after three failed attempts of logging into the system. Only the PJM eFuel administrator can reset the password.~~

~~The password expires every 90 days.~~

~~While the User ID is not case sensitive, the password is case sensitive.~~

Access Rights

~~eFuel maintains a user ID and password Access Control List (ACL) to secure the access into the system. Each ID belongs to one of the following two categories:~~

- ~~➤ **PJM eFuel Administrator (Admin) – Full access to all areas of the system including security**~~
- ~~➤ **User (User) – Limited access as determined by the Admin**~~

~~User Access right are granted on a screen-by-screen basis. On each screen, a user may be assigned to one of these three access levels:~~

- ~~➤ **Limited Read-Write**~~
- ~~➤ **Unlimited Read-Write**~~
- ~~➤ **Read-only.**~~

~~Unlimited R/W users have access to all features on the screen while Limited R/W users may not be able to access certain functions.~~

~~All users are subject to data lock check, a mechanism that prevents users from modifying historical data. For example, it can prevent users from submitting or changing data after the 20th day~~



~~of the month. The eFuel Administrator is not subjected to this lock and has the ability to release the lock.~~

Security

eFuel has the following security restrictions in place:

- **The same user account may not be logged in the system more than once.**
- **Users are tracked when they are logged into the system. The user's IP address and date and time of the last log-off are recorded.**
- **A user account is invalidated after 3 failed attempts to log into the system. eFuel will maintain a count of each failed login attempt. This field is reset back to 0 each time a successful login occurs. Once the failed login attempts are greater than 3, the user status is set to "Revoked". The user must contact the eFuel Administrator to restore their user status back to "Active" before gaining access again.**

In addition to the above security features, the eFuel system is also able to audit the following security events. These events can be found in the eFuel system's log file. The log file is only accessible by the eFuel administrator.

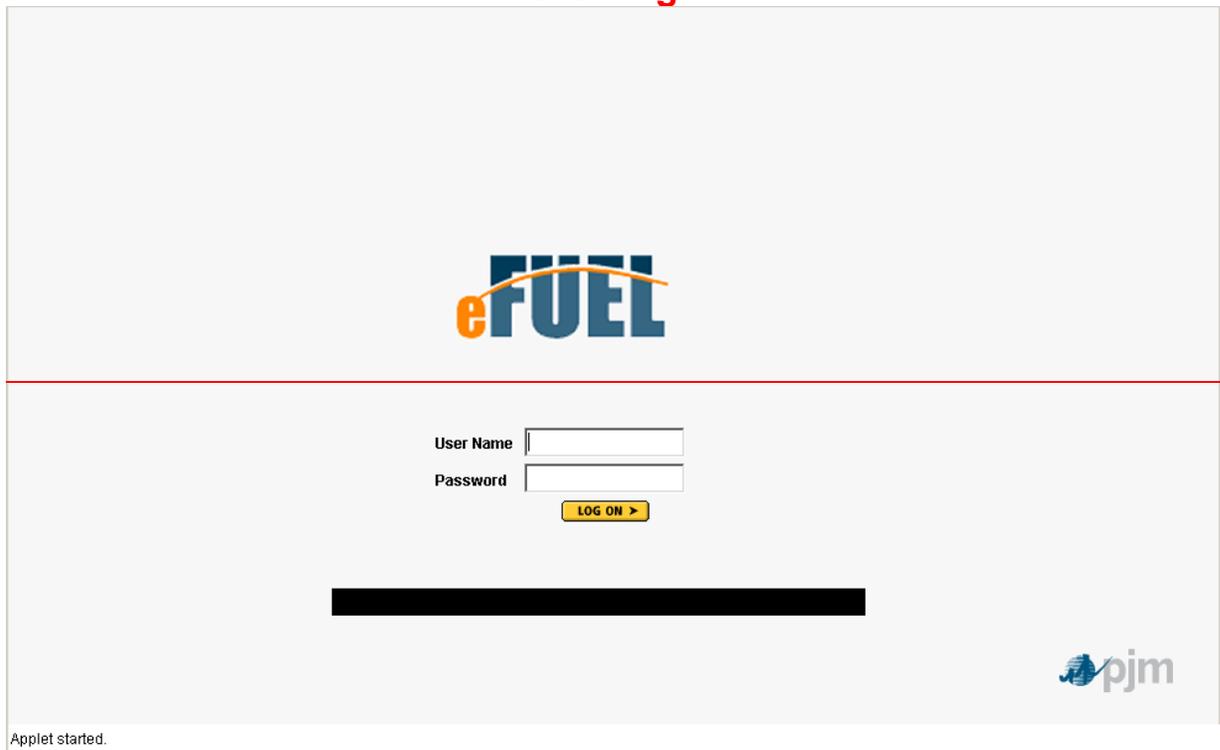
- **successful login**
- **logout**
- **invalid login**
- **account locked out (status revoked)**
- **user Already Logged in**
- **password expired**
- **failed attempt by the eFuel administrator to add an existing user**
- **successful attempt by the eFuel administrator to add a new user**
- **user changed password successfully**
- **user updated successfully**
- **successful deletion of a user by the administrator**
- **successful password provided for batch upload of XML, CSV or Legacy file**



~~→ unsuccessful password provided
for batch upload of XML, CSV or Legacy file~~

Section 4: Launching the System

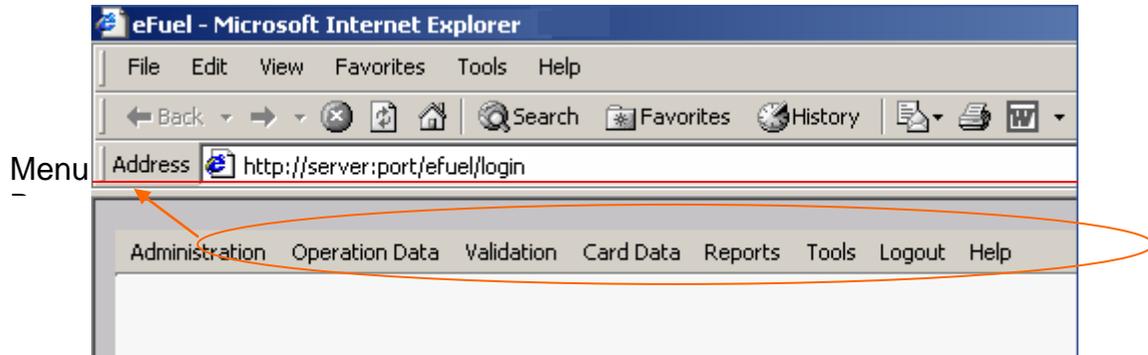
- ~~Launch Internet Explorer~~
- ~~Type the following address into the address box of your browser: <http://host:port/efuel/login> (note that host is the host name of the system that eFuel resides on and port is the port that is listening for http requests. If the default port is used (port 80), then the port portion of the URL is not required).~~
- ~~You will see a screen similar to the following:~~



- ~~Type your user name “User Name” box~~
- ~~Type your password in the “Password” box~~
- ~~Click the “LOG ON” button or press the return key~~

Section 5: Menu Options

Once the user has successfully logged into the system, the main system screen appears with a horizontal menu bar at the top. This menu bar allows the user to view, analyze, edit and report on data stored in the eFuel system. Only a PJM Admin will have access to the Administration menu.



The following items appear under the *Operation Data* menu:

➤ Data Import

The following items appear under the *Validation* menu:

- Card98U Level 2 Validation
- Card98U Level 2 Validation Error Log
- Card98P Level 2 Validation
- Card98P Level 2 Validation Error Log

The following items appear under the *Card Data* menu:

- Card98P – Plant-Level Fuel Data
- Card98U – Unit-Level Fuel Cost Data
- Card99 – Fuel Data
- Data Modification History
- Card98P Modification History
- Card98U Modification History
- Card99 Modification History

The following items appear under the *Reports* menu:

- FERC Form 423 Report
- Card98U/Card99 Merge Report

The following items appear under the *Tools* menu:

- Change Password

~~The following items appear under the Logout menu:~~

~~➤ Logout~~

~~The following items appear under the Help menu:~~

~~➤ About~~

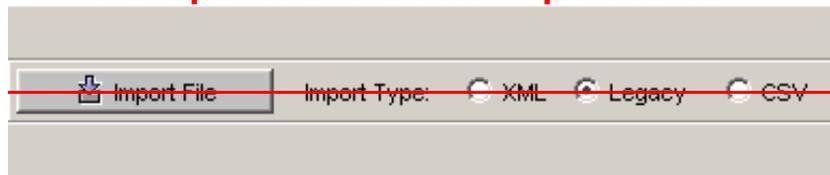
~~➤ User Manual~~

~~The Operation Data Menu~~

~~The options under this menu allow users to import and export card data.~~

~~Data Import~~

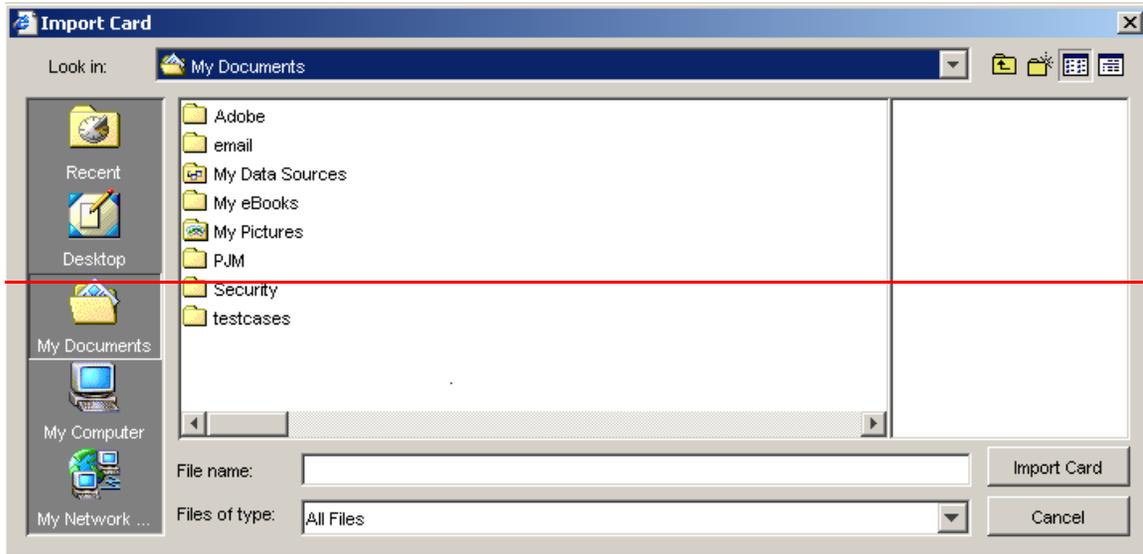
~~The data import menu allows the user to import Card99, Card98P and Card98U data in XML, CSV or Legacy format. The following is a snapshot of the data import screen:~~



~~There are three radio buttons: XML, Legacy and CSV. Simply choose the file type you wish to import and click on the Import File button. Before importing the file a password confirmation will be requested. The following pop-up will appear:~~

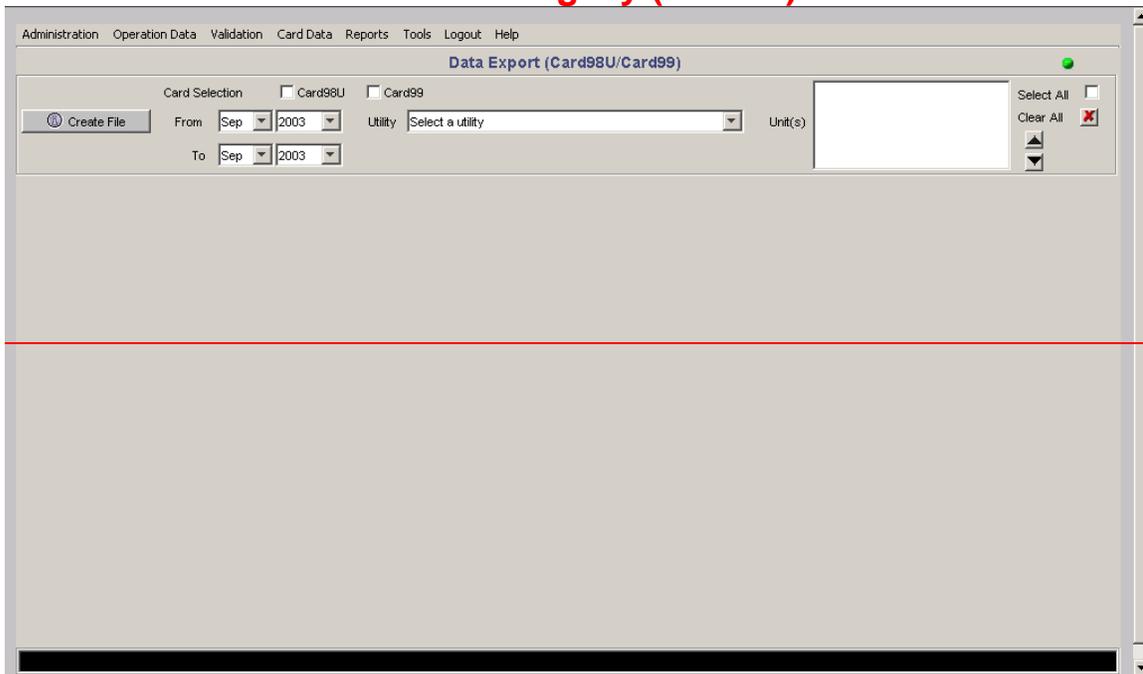


~~You must enter your username and password in order to proceed with the data import process. Upon entering the correct information, you will be presented with the following dialog:~~



~~Choose the appropriate file for the data import type chosen. If any errors are detected in the import process, then a grid will appear with all the errors that occurred. If at least one error is detected in the import process, then the import process is aborted even though there may be valid items in the file.~~

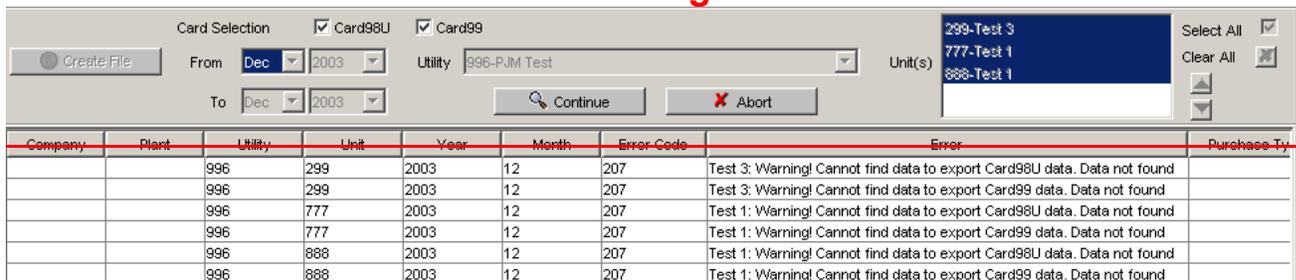
~~**Data Export (Card98U/Card99) and Data Export (Card98P)**
These screens allow the user to download Card98U, Card99 and Card98P data in Legacy (flat-file) format.~~



In order to successfully generate a file, the following steps must be followed:

- Choose the type of card you wish to download. You can choose Card98U, Card99 or both. If *Data Export (Card98P)* is chosen from the menu, then there will be no selection. If both cards (Card98U and Card99) are chosen then one file will be generated containing both sets of cards' data.
- Choose the starting month/year and ending month/year for the download.
- Choose a utility (you can also select all)
- Select one or more units.
- Click the *Create File* button.

After clicking on the *Create File* button, you may be presented with the following:



Company	Plant	Utility	Unit	Year	Month	Error Code	Error	Purchase Ty
		996	299	2003	12	207	Test 3: Warning! Cannot find data to export Card98U data. Data not found	
		996	299	2003	12	207	Test 3: Warning! Cannot find data to export Card99 data. Data not found	
		996	777	2003	12	207	Test 1: Warning! Cannot find data to export Card98U data. Data not found	
		996	777	2003	12	207	Test 1: Warning! Cannot find data to export Card99 data. Data not found	
		996	888	2003	12	207	Test 1: Warning! Cannot find data to export Card98U data. Data not found	
		996	888	2003	12	207	Test 1: Warning! Cannot find data to export Card99 data. Data not found	

If this grid shows after clicking the *Create File* button, then some or all of the data for the date range chosen for the card(s) do not have any data. You have two choices:

- Continue processing – in which case the system will present you with a file that contains only the data it found for the given date range (press the *Continue* button to continue processing).
- Abort processing – you can abort the process and no file will be generated (press the *Abort* button to abort processing).

If the system is successful in creating a file, the file is presented for viewing in a new browser instance. Click on file-save to save the data to a specified folder.

If error is encountered, an error log will appear on the screen with all the errors listed. The system will then give the user an option to either abort the process or create a file with available data.

~~Note: Before generating the Legacy file, use the Level 2 Validation Status screen to check if all the data passed the required validations.~~

~~The Validation Menu~~

~~Card98U Level 2 Validation~~

~~This screen is used for Card98U Level 2 validation. In order to run Level 2 validation, the following criteria must be supplied by the user:~~

- ~~➤ _____ Month~~
- ~~➤ _____ Year~~
- ~~➤ _____ Utility~~
- ~~➤ _____ One or more Units~~

~~After these criteria are set, the user can then click on the Run Check button to execute the Card98U Level 2.~~

~~Card98U Level 2 validation will ensure the following rules have been enforced for the month and year chosen:~~

- ~~➤ _____ The user must have defined a Card98U record for the specific year, month, utility and unit chosen. If the user did not define a Card98U record for the chosen criteria, then a Level 2 error is displayed for that year, month, utility and unit combination (error code 2901).~~
- ~~➤ _____ The user must have defined a Card99 record for the specific year, month, utility and unit chosen. If a fuel is defined is Card98U, but not Card99 (or vice versa), then a Level 2 error is displayed (error code 2980). Not only must this be the case, but both cards' fuel definitions must also be defined. If either card's fuel definitions do not match then a Level 2 error is displayed (error codes 2902, 2903, 2904, 2905, 2906, 2907, 2808, 2809).~~

~~Card98U/Card98P Level 2 Validation Error Log~~

~~After running Level 2 for Card98U/Card98P, the user can return at a later time to list those Level 2 errors. These screens allow the user to list those errors.~~

~~Card98P Level 2 Validation~~

~~This screen is used for Card98P Level 2 validation. In order to run Level 2 validation, the following criteria must be supplied by the user:~~

- ~~➤ _____ Month~~
- ~~➤ _____ Year~~
- ~~➤ _____ Company~~
- ~~➤ _____ One or more Plants~~

~~After these criteria are set, the user can then click on the *Run Check* button to execute the Card98P Level 2.~~

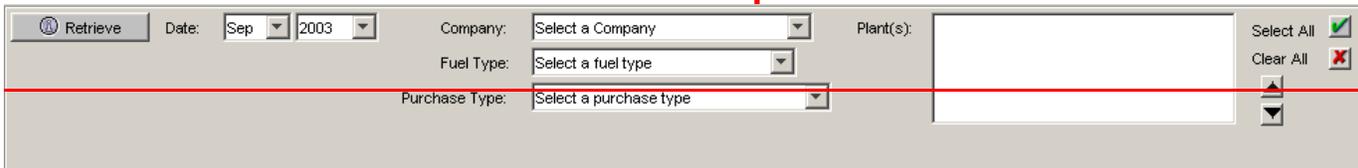
~~Card98P Level 2 validation will ensure the following rules have been enforced for the month and year chosen:~~

- ~~➤ _____ The user must have defined a Card98P record for the specific year, month, company and plant chosen. If the user did not define a Card98P record for the chosen criteria, then a Level 2 error is displayed for that year, month, company and plant combination (error code 2201).~~

~~The Card Data Menu~~

~~Card98P – Plant Level Fuel Data~~

~~This screen enables the user to define Card98P records. The figure below shows the Card98P input screen.~~



The screenshot shows a web-based form with the following elements:

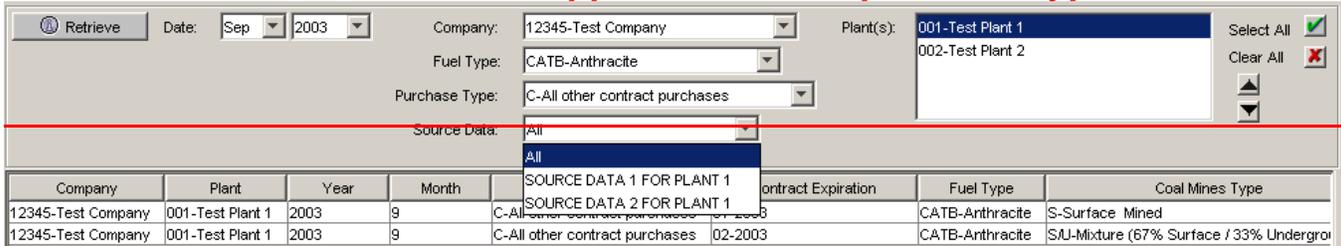
- Retrieve** button
- Date:** Sep 2003 (Month and Year dropdowns)
- Company:** Select a Company (dropdown)
- Fuel Type:** Select a fuel type (dropdown)
- Purchase Type:** Select a purchase type (dropdown)
- Plant(s):** Empty text input field
- Select All** (checkbox)
- Clear All** (checkbox)

~~The screen displays the following elements:~~

- ~~➤ _____ Date (Month and Year)~~
- ~~➤ _____ Company – Lists all the companies the user has access to~~
- ~~➤ _____ Fuel Type – The various fuel types defined in the system (see the Appendix for a complete list of fuels)~~
- ~~➤ _____ Purchase Type – The various purchase types defined in the system~~

➤ ~~Plants – A list of plants associated with the chosen company~~

~~When the user has chosen all the above criteria, a combo box of Source Data elements will appear below the purchase type:~~



Company	Plant	Year	Month	Source Data	Contract Expiration	Fuel Type	Coal Mines Type
12345-Test Company	001-Test Plant 1	2003	9	C-All other contract purchases	02-2003	CATB-Anthracite	S-Surface Mined
12345-Test Company	001-Test Plant 1	2003	9	C-All other contract purchases	02-2003	CATB-Anthracite	S/U-Mixture (67% Surface / 33% Undergro

~~The source data combo box will list all the source data records for that year, month, company, fuel type, purchase type and plant chosen. If no source data records exist for this combination, then the combo box will be empty. If the source data combo box is not empty, then the user has the option of selecting one source data element to retrieve or All.~~

~~Adding a New Card98P Record~~

~~To define a new Card98P record the following criteria must be met:~~

- ~~A date (month and year) must be chosen~~
- ~~One company must be chosen~~
- ~~One fuel type must be chosen~~
- ~~One purchase type must be chosen~~
- ~~One plant must be chosen~~

~~After the above criteria are met, the user should click on the New icon, which is located in the function bar:~~ 

~~After clicking on New, the user is presented with the Card98P–Plant-Level Fuel Data popup screen as shown in section 6.4.1.4.~~

~~Editing a Card98P Record~~

➤ ~~To edit a record, select the month, year, company and plant (optionally you may also choose a purchase type, fuel type and source data) for which the record is to be edited~~

➤ ~~Click on the Retrieve button located on the left side of the screen. The system retrieves the record(s) and displays them in the data grid. The user may select~~

~~multiple plants and/or multiple companies to review them all at once.~~

~~➤ Select the entry to be edited by clicking on it. This causes the entry to be highlighted in blue~~

~~➤ Click on the *Update* icon on the function bar at the upper portion of the screen; or simply double-click on the entry to be edited.~~

~~➤ A Card98P – Plant-Level Fuel Data panel appears~~

~~➤ Edit the data and click on the *Save* button to store the changes, or click on *Cancel* to exit without saving.~~

~~Deleting a Card98P Record~~

~~➤ To delete a record, select the month, year, company and plant (optionally you may also choose a purchase type, fuel type and source data) for which the record is to be deleted~~

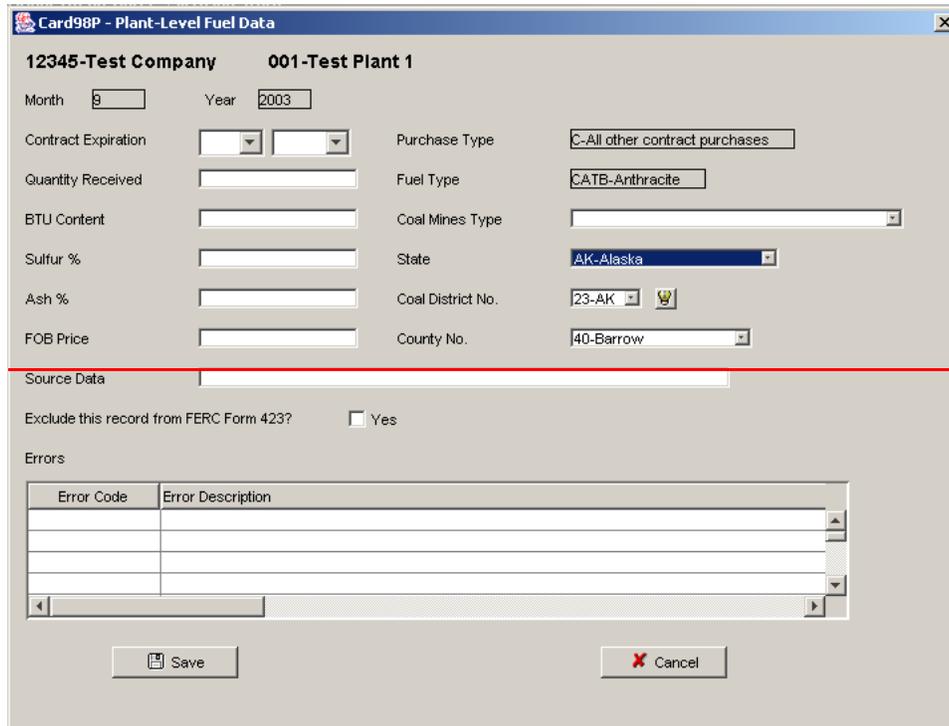
~~➤ Click on the *Retrieve* button located on the left side of the screen. The system retrieves the record and displays it in the data grid. The user may select multiple plants and/or multiple companies to review them all at once.~~

~~➤ Select the entry to be deleted by clicking on it. This causes the entry to be highlighted in blue.~~

~~➤ Click on the *Delete* icon on the function bar at the upper portion of the screen.~~

~~➤ A confirmation dialog will prompt you to ask whether to delete the record. Click *Yes* to delete the record or *No* to cancel the delete operation.~~

~~Card98P – Plant-Level Fuel Data Panel~~



~~Since the company, plant, fuel type and purchase type have already been chosen prior to clicking on the New icon, these fields cannot be modified. The only way to modify these fields is to click on **Cancel** and re-enter them in the previous screen.~~

~~This popup allows the user to define the following fields for a Card98P record:~~

~~➤ **Contract Expiration** - The expiration date (month and year) for purchases.~~

~~➤ **Quantity Received** - Enter quantities in tons for coal, barrels for oil and other liquid fuels, MCF (thousands of cubic feet) for gas and mmBtu equivalent for nuclear fuel. For example, if 213,000 tons of coal is delivered during the month, report 213,000.~~

~~➤ **BTU Content**
For reporting FERC Form 423 data - Enter the average British thermal unit (Btu) content for each fuel in terms of Btu per pound for coal and other solids fuels, Btu per gallon for oil and other liquid fuels and Btu per cubic foot for gas and other gaseous fuels..~~



~~For reporting EIA Form 423 data – Enter the average Btu content for each fuel in terms of mmBtu per ton for coal and other solids fuels, mmBtu per barrel for oil and other liquid fuels and mmBtu per thousand cubic feet for gas and other gaseous fuels.~~

~~No quality information need be entered for nuclear fuels.~~

~~Sulfur % - For all fuels except gas, enter sulfur content of fuel in terms of percent sulfur by weight. Show to the nearest 0.01%.~~

~~Ash % - For all fuels except gas, enter ash content of fuel in terms of percent ash by weight. Show to the nearest 0.1%.~~

~~FOB Price - Enter cost in cents per million Btu Free On Board (FOB) plant. Show to the nearest 0.1 cent. The purchase price should include all costs incurred by the utility in the purchase and delivery of the fuel to the plant.~~

~~Source Data - For coal, enter name of mine or broker from which coal originated or was purchased; for oil, enter name of supplier, refinery and if applicable, port of entry; for gas, enter name of supplier, pipeline or distributor and, if applicable, port of entry. For nuclear fuel, enter the supplier.~~

~~Coal Mines Type - Report for coal only. Choose S for surface mined or U for underground mined. If coal is a mixture, use S/U or U/S. This notation will result in a 0.67/0.33 allocation.~~

~~State - Report for coal only. Use the U.S. Postal abbreviation to show the State in which the coal was mined. The system also allows foreign coal suppliers.~~

~~Coal District No. - Report for coal only. Choose the coal producing district code from the list provided indicating the district in which the coal was mined.~~

~~County No. – Report for coal only. Choose the FIPS County Code from the list to indicate the county in which the coal was mined.~~

~~➤ **Exclude this record from FERC Form 423?** – If this checkbox is checked, then the record will not be included in FERC Form 423 when generated on the reports screen. After filling in the necessary values, the user should click on the Save button to save the Card98P record.~~

~~If any Level 1 errors are encountered, the Errors grid at the bottom of the Card98P popup will show the error code and a description of the error.~~

~~Note: Click on the  icon to display a description of the coal district.~~

~~Card98P – CSV Format~~

~~Users of the eFuel system have the option of uploading Card98P data in CSV format. The definition for the CSV format appears below.~~

Field-Name	Column Number	Format
Data-Card-Code	1	Character-3 (should be 98P)
Company-ID	2	Character-10
Plant-Code	3	Character-6
Year	4	Number-4
Month	5	Number-2
Revision-Code*	6	Character-1
Purchase-Type-Code	7	Character-2
Contract-Expiration-Date	8	Character-6 (YYYYMM)
Fuel-Code	9	Character-4
Coal-Mines-Type-Code	10	Character-3
Coal-District-Number	11	Number-2
Coal-County-Number	12	Number-3
State	13	Character-2
Source-Data¹	14	Character-40
Quantity-Received²	15	Number-12,2
BTU-Content³	16	Number-6
Sulfur-Content⁴	17	Number-5,2
Ash-Content⁵	18	Number-5,2
FOB-Purchase-Price⁶	19	Number-7,1

¹ For coal, enter name of mine or broker from which coal originated or was purchased. For oil, enter name of supplier, refinery and if applicable, port of entry. For gas, enter name of supplier, pipeline or distributor and, if applicable, port of entry.

² Coal: Tons, Oil: Barrels, Gas: MCF

³ Coal: Btu/lb, Oil: Btu/gal, Gas: Btu/ft³ for FERC Form 423 and mmBTU/MCF for EIA Form 423

⁴ To nearest 0.01%

⁵ To nearest 0.1%



Field Name	Column Number	Format
Exclude from FERC Form 423	20	Character 1 (Y or N)

* ~~For Card98P, valid values for revision code are: blank (for new), X (for delete) and R for (update).~~

~~Example CSV format for Card98P:~~

~~COMPANY_ID,PLANTCODE,YEAR,MONTH,PURCHASETYPE,CONTRACTEXPIRE,FUELTYPE,COALMINESTYPE,COALDISTRICTNUM,COUNTYNUM, STATE, SOURCENAME, QUANTITYRECEIVED, BTU, SULFUR_PCT, ASH_PCT, FOB_PRICE, EXCLUDEFROMFERC423
12345,9998,98P,,2003,9,C,,CATB,S,13,7,AL,SOURCE DATA SAMPLE
--1,,,,,N~~

~~12345,999898P,,2003,9,C,200008,CATB,U/S,14,47,AR,ARKANSAS/RANKLIN COUNTY/DISTRICT 14,12.9,342,233,0,100,N~~

~~Important Notes:~~

~~➤ The line above shown in bold is the header line (even though it spans two lines, it is actually one line in the CSV file). The first line in any CSV file is assumed to be a header line. Therefore, when submitting CSV data through eFuel, the first line should never contain data. It should contain a header item similar to the one shown above (no more than 200 characters in length).~~

~~➤ Data needs to be provided in the order listed from left to right as given in the table above. If a field is not used it must be empty (i.e. a comma should precede that field).~~

~~Card98P – Legacy File Format~~

~~For flat file upload, member companies submit Card98P data in the following format:~~

Field Name	Starting Column	Ending Column	Width	Format
Company ID	1	10	10	
Plant Code	11	16	6	
Data Card Code	17	19	3	Must be 98P
Revision Code	20	20	1	
Year	21	24	4	
Month	25	26	2	
Purchase Type Code	27	28	2	

~~⁶In ¢/million Btu to nearest 0.1¢~~

Field-Name	Starting Column	Ending Column	Width	Format
Contract Expiration Date	29	34	6	YYYYMM
Fuel Code	35	28	4	
Coal Mines Type Code	39	41	3	
Coal District Number	42	43	2	
Coal County Number	44	46	3	
State	47	48	2	
Source Data	49	88	40	
Quantity Received	89	100	12	Number 12,2
BTU Content	101	106	6	Number-6
Sulfur Content	107	111	5	Number 5,2
Ash Content	112	116	5	Number 5,2
FOB Purchase Price	117	123	7	Number 7,1
Exclude from FERC Form 423	124	124	1	Y or N

Important Note:

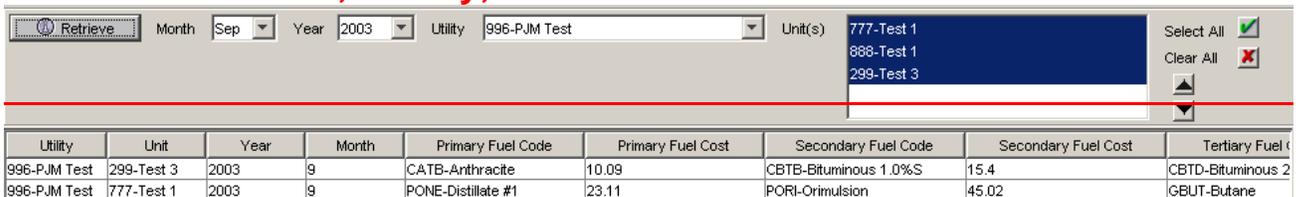
➤ ~~In the format column, Number 12,2 denotes the following:~~

~~7 8 1 2 1 2 3 0 1 . 5 1~~

➤ ~~The total width of the number is 12 digits including 1 character for the decimal point and a maximum of 2 digits after the decimal point.~~

~~Card98U – Unit-Level Fuel Cost Data~~

~~The Card98U – Unit-Level Fuel Cost Data screen enables the user to add, modify, or delete Card98U records.~~



Utility	Unit	Year	Month	Primary Fuel Code	Primary Fuel Cost	Secondary Fuel Code	Secondary Fuel Cost	Tertiary Fuel Code
996-PJM Test	299-Test 3	2003	9	CATB-Anthracite	10.09	CBTB-Bituminous 1.0%S	15.4	CBTD-Bituminous 2
996-PJM Test	777-Test 1	2003	9	PONE-Distillate #1	23.11	PORI-Orimulsion	45.02	GBUT-Butane

~~Adding a New Card98U Record~~

➤ ~~To a new record, select the Month, the Year, the Utility and the Unit for which the record is to be added~~

➤ ~~Click on the New icon on the function bar at the upper portion of the screen~~

➤ ~~A Card98U – Unit-Level Fuel Cost Data panel appears (see section 6.4.2.4)~~

➤ ~~Enter data and click on the Save button to store the new record, or click on Cancel to exit without saving~~

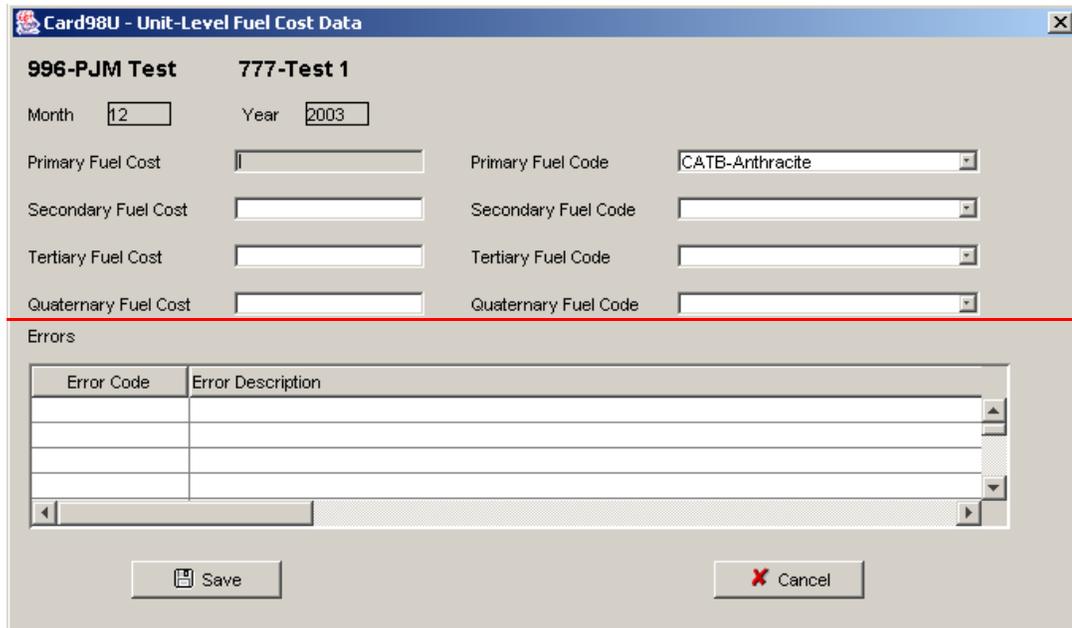
Editing a Card98U Record

- ~~To edit a record, select the Month, the Year, the Utility and the Unit for which the record is to be edited~~
- ~~Click on the *Retrieve* button at the left side of the screen. The system retrieves the record from the database and displays it in the data grid. The user may select multiple units and/or multiple months to review them all at once~~
- ~~Select the entry to be edited by clicking on it. This causes the entry to be highlighted in blue~~
- ~~Click on the update option on the function bar at the upper portion of the screen; or simply double-click on the entry to be edited~~
- ~~A Card98U – Unit-Level Fuel Cost Data panel appears (See section 6.4.2.4)~~
 - ~~Edit the data and click on the “Save” button to store the changes, or click on “Cancel” to exit without save.~~

Deleting a Card98U Record

- ~~To delete a record, select the month, year, utility and unit for which the record is to be deleted.~~
- ~~Click on the *Retrieve* button located on the left side of the screen. The system retrieves the record and displays it in the data grid. The user may select multiple units and/or multiple utilities to review them all at once.~~
- ~~Select the entry to be deleted by clicking on it. This causes the entry to be highlighted in blue.~~
- ~~Click on the *Delete* icon on the function bar at the upper portion of the screen.~~
- ~~A confirmation dialog will prompt you whether to delete the record or not. Click *Yes* to delete the record or *No* to cancel the delete operation.~~

Card98U – Unit-Level Fuel Cost Data



~~This data panel allows the user to edit and add new fuel definition for Card98U. At a minimum, when adding a new Card98U record, you must provide at least one fuel (in this case the primary fuel) and its associated cost.~~

~~The Errors grid at the bottom of the panel displays any Level 1 errors that have occurred when attempting to save the data. The user will not be allowed to save the data until all Level 1 errors are addressed.~~

Card98U – CSV File Format

~~Users of the eFuel system have the option of uploading Card98U data in CSV format. The definition for the CSV format appears below.~~



Field-Name	Column Number	Format
Data-Card-Code	1	Character-3 (Must be 98U)
Utility-Code	2	Number (3)
Unit-Code	3	Number (3)
Year	4	Number (4)
Month	5	Numeric 2
Report-Revision-Code	6	Character (1) (X, R, blank)
Primary-Fuel-Code	7	Character (4)
Primary-Fuel-Cost	8	Number (12,2)
Secondary-Fuel-Code	9	Character (4)
Secondary-Fuel-Cost	10	Number (12,2)
Tertiary-Fuel-Code	11	Character (4)
Tertiary-Fuel-Cost	12	Number (12,2)
Quaternary-Fuel-Code	13	Character (4)
Quaternary-Fuel-Cost	14	Number (12,2)

Example CSV format for Card98U:

UTILITY,UNIT,YEAR,MONTH,REVCODE,PRIMFUELCODE,PRIMFUEL
COST,SECOFUELCODE,
SECOFUELCOST,TERTFUELCODE, TERTFUELCOST,
QUARFUELCODE, QUARFUELCOST
**98U,201,806,2003,12,,CATB,2000000,CBTB,4000000,GNAG,1000.12,
CBTC,92.12**

Important Notes:

➤ **The line above shown in bold is the header line (even though it spans two lines, it should be one line in the CSV file). The first line in any CSV file is assumed to be the header line. Therefore, when submitting CSV data through eFuel, the first line should never contain data. It should contain a header item similar to the one shown above (no more than 200 characters in length).**

➤ **Data needs to be provided in the order listed from left to right as given in the table above. If a field is not used it must be empty (i.e. a comma should precede that field).**

➤ **In the format column, Number 12,2 denotes the following:**

7	8	1	2	1	2	3	0	1	.	5	1
---	---	---	---	---	---	---	---	---	---	---	---



➤ ~~The total width of the number is 12 digits including 1 character for the decimal point and a maximum of 2 digits after the decimal point.~~

~~Card98U – Legacy File Format~~

~~For flat file upload, member companies submit Card98U data in the following format:~~

Field Name	Starting Column	Ending Column	Width	Format
Utility Code	1	3	3	Numeric(3)
Unit Code	4	6	3	Numeric(3)
Data Card Code	7	9	3	Must be 98U
Revision Code	10	10	1	X, R, blank
Year	11	14	4	Number(4)
Month	15	16	2	Number(2)
Primary Fuel Code	17	20	4	Character(4)
Primary Fuel Cost	21	32	12	Number 12,2
Secondary Fuel Code	33	36	4	Character(4)
Secondary Fuel Cost	37	48	12	Number 12,2
Tertiary Fuel Code	49	52	4	Character(4)
Tertiary Fuel Cost	53	64	12	Number 12,2
Quaternary Fuel Code	65	68	4	Character(4)
Quaternary Fuel Cost	69	80	12	Number 12,2

~~Important Note:~~

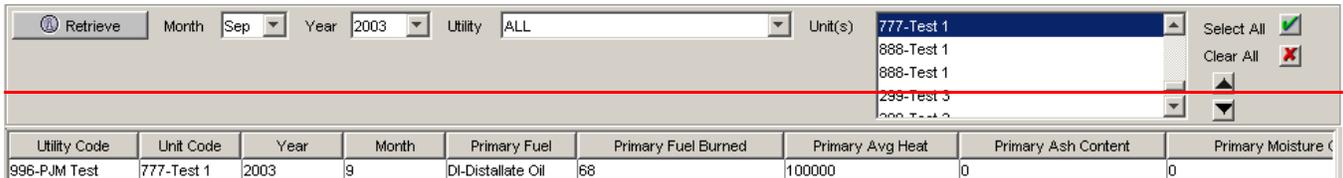
➤ ~~In the format column, Number 12,2 denotes the following:~~

7	8	1	2	1	2	3	0	1	.	5	1
--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------

➤ ~~The total width of the number is 12 digits including 1 character for the decimal point and a maximum of 2 digits after the decimal point.~~

~~Card99 – Fuel Data~~

~~The Card99 – Fuel Data screen enables the user to add, modify, or delete Card99 records.~~



Utility Code	Unit Code	Year	Month	Primary Fuel	Primary Fuel Burned	Primary Avg Heat	Primary Ash Content	Primary Moisture
996-PJM Test	777-Test 1	2003	9	DI-Distillate Oil	68	100000	0	0

Adding a New Card99 Record

➤ ~~To a new record, select the Month, the Year, the Utility and the Unit for which the record is to be added~~

➤ ~~Click on the New icon on the function bar at the upper portion of the screen~~

➤ ~~A Card 99 – Fuel data panel appears (see section 6.4.3.4)~~

➤ ~~Enter data and click on the Save button to store the new record, or click on Cancel to exit without saving~~

Editing a Card99 Record

➤ ~~To edit a record, select the Month, the Year, the Utility and the Unit for which the record is to be edited~~

➤ ~~Click on the “Retrieve” button at the left side of the screen. The system retrieves the record from the database and displays it inside the data grid. The user may select multiple units and/or multiple months to review them all at once~~

➤ ~~Select the entry to be edited by clicking on it. This causes the entry to be highlighted in blue~~

➤ ~~Click on the update option on the function bar at the upper portion of the screen; or simply double-click on the entry to be edited~~

➤ ~~A Card99 – Fuel data panel appears (See section 6.4.3.4)~~

➤ ~~Edit the data and click on the “Save” button to store the changes, or click on “Cancel” to exit without save.~~

Deleting a Card99 Record

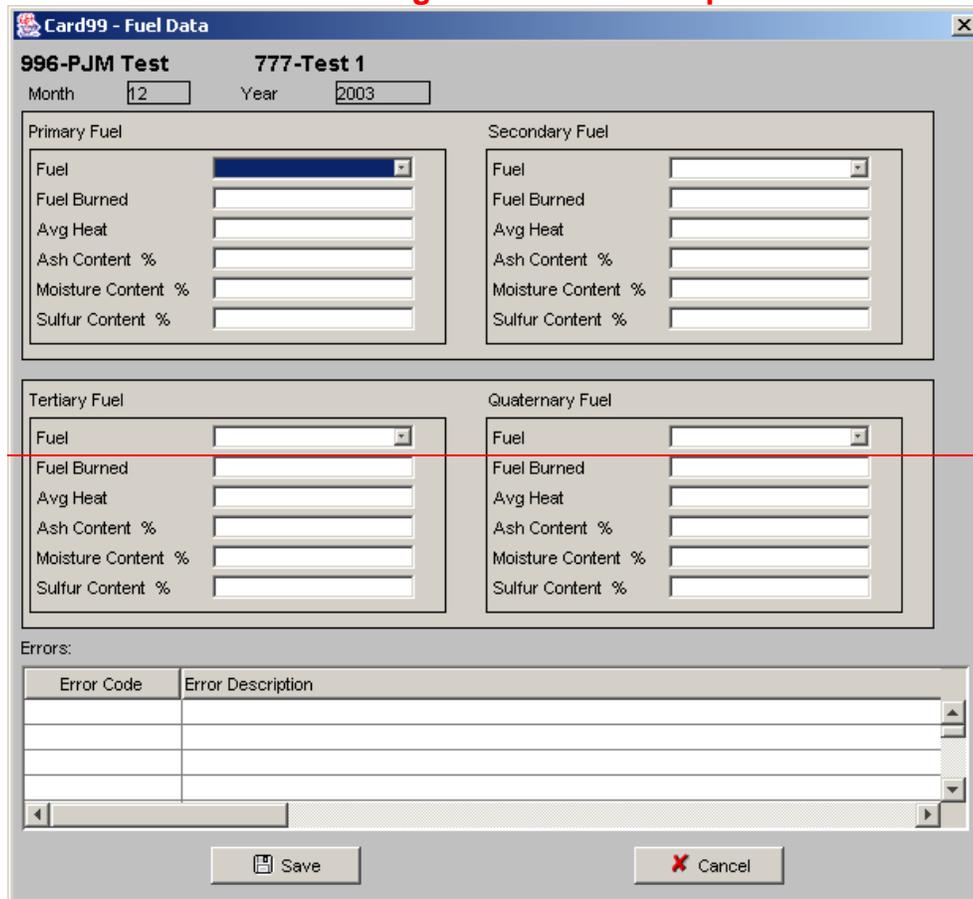
➤ ~~To delete a record, select the month, year, utility and unit for which the record is to be deleted.~~

➤ ~~Click on the Retrieve button located on the left side of the screen. The system retrieves the~~

- ~~record and displays it in the data grid. The user may select multiple units and/or multiple utilities to review them all at once.~~
- ~~➤ Select the entry to be deleted by clicking on it. This causes the entry to be highlighted in blue.~~
- ~~➤ Click on the *Delete* icon on the function bar at the upper portion of the screen.~~
- ~~➤ A confirmation dialog will prompt you whether to delete the record or not. Click *Yes* to delete the record or *No* to cancel the delete operation.~~

Card 99 – Fuel Data Panel

~~The Card 99 – Fuel Data panel is invoked whenever the user wants to add or modify Card99 data. These functions are available in the Card 99 – Fuel Data screen. Depending on the Data Lock status of the event, the user may or may not be able to gain access to this panel.~~



- ~~➤ Enter or modify fuel data as needed~~

~~Click the Save button to save the data or Cancel to exit without saving. The system will perform a Level 1 check after the Save button is clicked. If any errors are encountered, the error messages will be displayed in the Errors grid. The system will not save the data as long as a Level 1 error is found.~~

~~Card99 – CSV File Format~~

~~Users of the eFuel system have the option of uploading Card99 data in CSV format. The definition for the CSV format appears below.~~

Field Name	Column Number	Format
Data Card Code	1	Number (2)
Utility Code	2	Number (3)
Unit Code	3	Number (3)
Year	4	Number (4)
Month	5	Number (2)
Report Revision Code	6	Character (1)
Primary Fuel Code*	7	Character (2)
Primary Quantity Burned	8	Number (7,2) (99999.99)
Primary Avg. Heat Content	9	Number (6)
Primary % Ash	10	Number (3,1) (99.9)
Primary % Moisture	11	Number (3,1) (99.9)
Primary % Sulfur	12	Number (2,1) (9.9)
Secondary Fuel Code*	13	Character (2)
Secondary Quantity Burned	14	Number (6,2) (9999.99)
Secondary Avg. Heat Content	15	Number (6)
Secondary % Ash	16	Number (3,1) (99.9)
Secondary % Moisture	17	Number (3,1) (99.9)
Secondary % Sulfur	18	Number (2,1) (9.9)
Tertiary Fuel Code*	19	Character (2)
Tertiary Quantity Burned	20	Number (6,2) (9999.99)
Tertiary Avg. Heat Content	21	Number (6)
Tertiary % Ash	22	Number (3,1) (99.9)
Tertiary % Moisture	23	Number (3,1) (99.9)
Tertiary % Sulfur	24	Number (2,1) (9.9)
Quaternary Fuel Code*	25	Character (2)
Quaternary Quantity Burned	26	Number (6,2) (9999.99)
Quaternary Avg. Heat Content	27	Number (6)
Quaternary % Ash	28	Number (3,1) (99.9)
Quaternary % Moisture	29	Number (3,1) (99.9)

Field Name	Column Number	Format
Quaternary % Sulfur	30	Number (2,1) (9.9)

~~*See the appendix for allowable fuel codes.~~

~~Example CSV format for Card99:~~

~~Card,Util,Unit,Yr,Mnth,Rvcd,PFuel,PQuant,PHt,PAsh,PMoist,PSulf,SFuel,
I,SQuant,SHt,SAsh,SMoist,SSulf,TFuel,
TQuant,THt,TAsh,TMoist,TSulf,QFuel,QQuant,QHt,QAsh,QMoist,QSulf
99,996,888,2002,1,0,00,55.49,150124,0,0.7,0.9,DI,0.04,135680,0,0,0.2
,GG,203.2,1044,0,0,0,,0,0,0,0,0
99,996,777,2002,1,0,00,55.49,150124,0,0.7,0.9,DI,0.04,135680,0,0,0.2
,GG,203.2,1044,0,0,0,,0,0,0,0,0
99,996,777,2003,9,0,DI,68,100000,0,0,0,GG,,,,,,OL,,,,,,OG,,,,,
99,996,777,2003,7,0,GG,0,800,0,0,0,,,,,,,,,,,,,,,,,,,,,~~

~~Important Notes:~~

~~➤ The line above shown in bold is the header line (even though it spans two lines, it is actually one line in the CSV file). The first line in any CSV file is assumed to be a header line. Therefore, when submitting CSV data through eFuel, the first line should never contain data. It should contain a header item similar to the one shown above (no more than 200 characters in length).~~

~~➤ Data needs to be provided in the order listed from left to right as given in the table above. If a field is not used it must be empty (i.e. a comma should precede that field).~~

~~➤ 9.9 means maximum two digits with up to one decimal. For any fields denoted with this format, it is assumed that there is 1 digit preceding the decimal and 1 digit after the decimal. For example to submit the value 1.2, you must submit this number in this fashion: 12. The eFuel system will divide this number by 10 and produce the desired result.~~

~~➤ 99.9 means maximum three digits with up to one decimal. For any fields denoted with this format, it is assumed that there are 2 digits preceding the decimal and 1 digit after the decimal. For example to submit the value 12.3, you must submit this number in this fashion: 123. The eFuel system will divide this number by 10 and produce the desired result.~~



➤ ~~9999.99 means maximum six digits with up to two decimals. For any fields denoted with this format, it is assumed that there are 4 digits preceding the decimal and 2 digits after the decimal. For example to submit the value 1234.56, you must submit this number in this fashion: 123456. The eFuel system will divide this number by 100 and produce the desired result.~~

➤ ~~99999.99 means maximum seven digits with up to two decimals. For any fields denoted with this format, it is assumed that there are 5 digits preceding the decimal and 2 digits after the decimal. For example to submit the value 12345.67, you must submit this number in this fashion: 1234567. The eFuel system will divide this number by 100 and produce the desired result.~~

Card99 – Legacy File Format

~~For flat file upload, member companies submit Card 99 data in the following format:~~

Field-Name	Starting Column	Ending Column	Width	Format
Data-Card-Code	1	3	3	
Utility-Code	4	6	3	
Unit-Code	7	8	2	
Year	9	12	4	
Month	13	14	2	
Report-Revision-Code	15	15	1	
Primary/Tertiary-Fuel-Code	16	17	2	
Primary/Tertiary-Quantity Burned	18	24	7	99999.99
Primary/Tertiary-Avg-Heat Content	25	30	6	
Primary/Tertiary-% Ash	31	33	3	99.9
Primary/Tertiary-% Moisture	34	36	3	99.9
Primary/Tertiary-% Sulfur	37	38	2	9.9
Blank-Columns	39	48	10	
Secondary/Quaternary-Fuel Code	49	50	2	
Secondary/Quaternary Quantity Burned	51	56	6	9999.99
Secondary/Quaternary-Avg-Heat Content	57	62	6	
Secondary/Quaternary-% Ash	63	65	3	99.9
Secondary/Quaternary-% Moisture	66	68	3	99.9
Secondary/Quaternary-%	69	70	2	9.9



Field Name	Starting Column	Ending Column	Width	Format
Sulfur				
Blank Columns	71	81	11	
Card Number	82	82	1	1 or 2

Important Notes:

➤ ~~9.9 means maximum two digits with up to one decimal. For any fields denoted with this format, it is assumed that there is 1 digit preceding the decimal and 1 digit after the decimal. For example to submit the value 1.2, you must submit this number in this fashion: 12. The eFuel system will divide this number by 10 and produce the desired result.~~

➤ ~~99.9 means maximum three digits with up to one decimal. For any fields denoted with this format, it is assumed that there are 2 digits preceding the decimal and 1 digits after the decimal. For example to submit the value 12.3, you must submit this number in this fashion: 123. The eFuel system will divide this number by 10 and produce the desired result.~~

➤ ~~9999.99 means maximum six digits with up to two decimals. For any fields denoted with this format, it is assumed that there are 4 digits preceding the decimal and 2 digits after the decimal. For example to submit the value 1234.56, you must submit this number in this fashion: 123456. The eFuel system will divide this number by 100 and produce the desired result.~~

➤ ~~99999.99 means maximum seven digits with up to two decimals. For any fields denoted with this format, it is assumed that there are 5 digits preceding the decimal and 2 digits after the decimal. For example to submit the value 12345.67, you must submit this number in this fashion: 1234567. The eFuel system will divide this number by 100 and produce the desired result.~~

Data Modification History

Card98P/Card98U/Card99 Modification History

~~There are three Modification History screens:~~

- ~~Card98P~~
- ~~Card98U~~
- ~~Card99~~

~~All three screens function the same way. These screens enable the user to find changes that were made during a specific time period. The changes include adding, modifying or deleting data.~~



The screenshot shows a web interface titled "Card98P Modification History". Below the title is a search filter section with the text "Modifications made during the period:". It includes a "Retrieve" button, "From:" and "To:" date pickers (both set to Sep 2003), a "Company:" dropdown menu (set to "Select a company"), and two radio buttons: "All Modifications" (selected) and "Lock Release Modifications".

~~➤ Select the Starting and Ending Period and the Utility (in the case of Card98U and Card99) or Company (in the case of Card98P) for which history is to be displayed. The system will look for changes that were made between the Starting Year-Month and the Ending Year-Month. For example, to find out what was added, modified, or deleted during the first six months of 2003, select Jan 2003 to Jun 2003.~~

~~➤ Choose between All Modifications or Lock Release Modifications by clicking on the appropriate radio button. The latter option will only select changes that were made after the data have been locked.~~

~~➤ The results are displayed in a data grid. The entries are color coded. Entries with white background are the current or latest record. Entries with gray background are records that have been replaced or deleted.~~

	Created Date	Created By	Deleted	Modifier	Modified Date	Status
	2003-10-06 17:17:55.0	admin	N	admin	2003/10/06 17:17:55	Current
	2003-10-06 17:17:47.0	admin	N	admin	2003/10/06 17:17:47	Current
	2003-10-06 18:02:12.0	admin	N	admin	2003/10/06 18:02:12	Old
	2003-10-06 18:03:33.0	admin1	Y	admin1	2003/10/06 18:03:33	Old

~~If the user scrolls the grid all the way to the right, the user who made the change, the date and time of the modification and the status of each record is displayed.~~

**The Reports Menu
FERC Form 423 Report**

~~Below is a diagram that shows an example of the FERC Form 423 Report screen.~~



~~This screen allows the user to generate the following reports:~~

~~➤ A report that is based on the FERC Form 423. Clicking on the *Download* button will prompt the user to download a ZIP file containing one or more PDF documents that have all the necessary FERC Form 423 information populated. This PDF document can then printed and sent to the Federal Energy Regulatory Commission. There are essentially two type of files which are located in the ZIP file:~~

~~☞ *ferc423_pageX.pdf* – There may be one or more of these files. X denotes the page number of the PDF document. Since the FERC Form 423 document only allows up to 10 line items, any plant that has more than 10 fuels entered for a particular month and year will have multiple pages generated.~~

~~☞ *ferc423.pdf.template* – This file is used the Adobe Acrobat software to generate the *ferc423_pageX.pdf* document. You should not attempt to modify or delete this file. Doing so cause an error in opening the *ferc423_pageX.pdf* files.~~

~~➤ A report that resembles the FERC Form 423, but is intended for quickly viewing the data entered in Card98P. To generate this report the user should click on the *View* button. This version of the report should not be used to send to the Federal Energy Regulatory Commission.~~

~~Examples of the FERC Form 423 Report~~

~~The form displayed below is the PDF document generated after clicking on the *Download* button. This is the form that may be used to send to the Federal Energy Regulatory Commission.~~

Adobe Acrobat - [ferc423.pdf.template]

File Edit Document Tools View Window Help

122%

MONTHLY REPORT OF COST AND QUALITY OF FUELS FOR ELECTRIC PLANTS

The report is mandatory under the Federal Power Act. Failure to comply may result in criminal fines, civil penalties and other sanctions as provided by law. The Federal Energy Regulatory Commission does not consider this report to be of a confidential nature.

Form Approved
OMB No. 1902-0024
Expires: 01/31/03

Check if Resubmission

1. Company-Plant Code: 12345 - 002
2. Name of Reporting Company: Test Company
3. Month and Year of Report: 9 / 2003
4. Page Number: 1 OF 1

5. Plant Name: Test Plant 2
6. Name and Title of Contact Person: Joseph Smith(Engineer)

7. Address of Contact Person: 300 Main South Main Street, Anytown, NJ, USA, 09822-12345
8. Contact Phone # () 973-555-1212
E-mail Address: jsmith@anycompany.com

9. Name and Title of Certifying Official: Larry Johnson(Senior Engineer)
10. Signature of Certifying Official
11. Date: 10/06/2003

Line No.	PURCHASES			COAL MINES ONLY			SOURCE DATA	Quantity Received (Units) Coal: 1,000 tons; Oil: 1,000 barrels; Gas: 1,000 MMBtu	QUALITY (AS RECEIVED)				
	Type (Use code) (a)	Expiration date (if Contract Expires Within 2 yrs.) (MMYY) (b)	Fuel Type (Use code) (c)	Type (Use code) (d)	LOCATION				Btu Content (Average of Coal, Btu per lb; Oil, Btu per gal; Gas, Btu per cu. ft.) (i)	Sulfur Content (To nearest 0.01%) (k)	Ash Content (To nearest 0.1%) (l)	FOB Purchase Price (In¢ per million Btu to nearest 0.1 cent) (m)	
					Coal District No. (e)	State Abbrev. (f)							County No. (g)
1	C	0501	BIT	S/U	13	AL	7	SOURCE DATA ALABAMA, BIBB	90	900	0.4	0.3	1002
2	F	0503	NG					SOURCE DATA 2 (NATURAL GAS)	90				
3													
4													
5													
6													
7													
8													

1 of 1 11 x 8.5 in

The form displayed below contains most of the data elements as the FERC Form 423, but its purpose is meant for quickly reporting data that exists in Gard98P. This version of the form is generated by clicking on the View button.

Adobe Acrobat - [FERC2_admin2003100619744.pdf]

File Edit Document Tools View Window Help

122%

Cost and Quality of Fuels for Electric Plants Report 10/06/03 07:07

Test Company
Test Plant 2
September / 2003

Line No	PURCHASES		Fuel Type	COAL MINES ONLY			SOURCE DATA	Quantity Received	QUALITY (AS RECEIVED)			FOB Purchase Price	
	Type	Expiration Date (If Contract Expires Within 2 Yrs.) (MMYY)		Type	Coal District No.	State			County No.	Btu Content	Sulfur Content		Ash Content
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	
1	C	0501	BIT	SU	13	AL	7	SOURCE DATA ALABAMA, BIBB	90	900	0.4	0.3	1002
2	F	0503	NG					SOURCE DATA 2 (NATURAL GAS)	90				

1 of 1 11 x 8.5 in

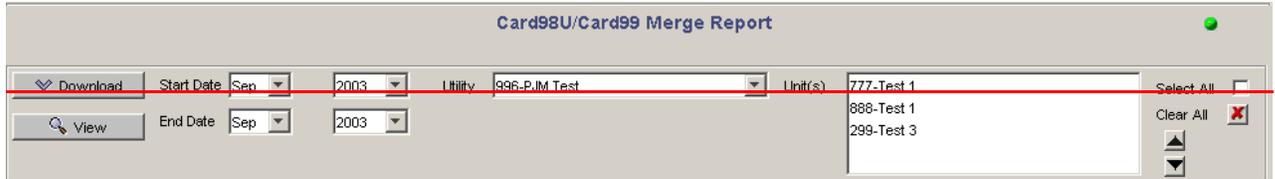
~~Keep in mind that if we had defined any of the plant fuel records to be excluded from being generated on either of these forms, then those records will not be listed.~~

~~Card98U/Card99 Merge Report~~

~~This report will generate a PDF document displaying a cross-reference of Card98U and Card99 fuel data. Both cards allow the capability of entering up to 4 fuel data items (primary, secondary, tertiary and quaternary) for a particular utility, unit, month and year combination.~~

~~This report will list fuel cost data (Card98U) and fuel data (Card99) for each fuel entered. This report is handy when used in conjunction with the Card98U Level 2 validation to find if any fuel data is entered in Card99, but not Card98U and vice-versa. It is also useful for generating a report for comparing fuel data entered in both cards.~~

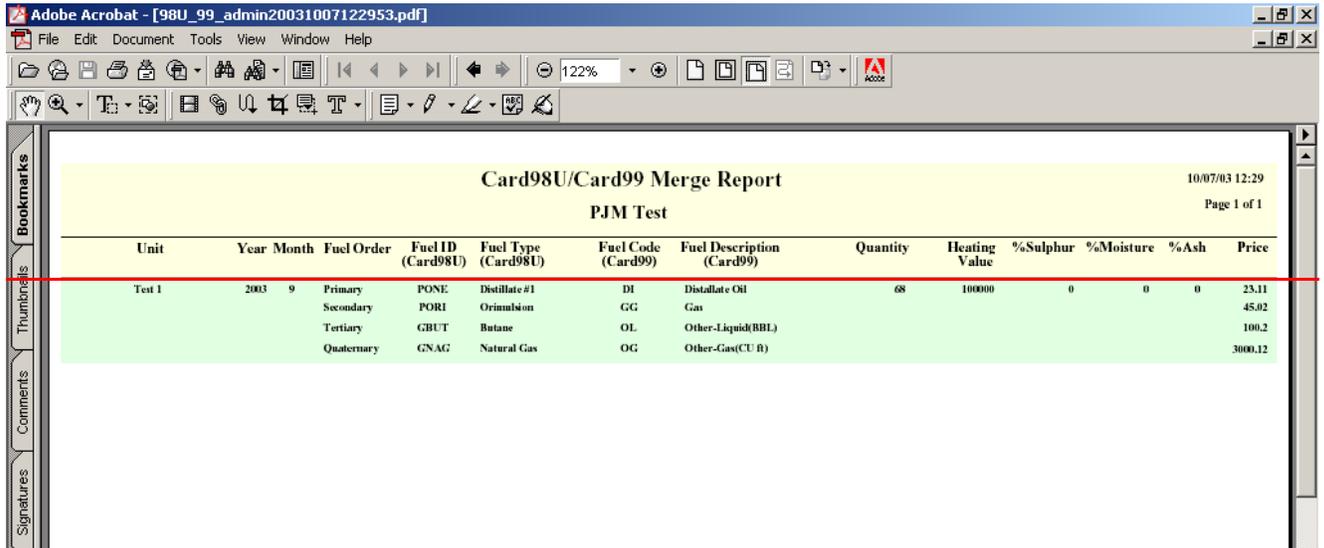
The following is a diagram of the Card98U/Card99 Merge Report screen:



To generate a Card98U/Card99 Merge Report the following criteria are necessary:

- **State Date – The start month and year for which the report should be generated**
- **End Date – The end month and year for which the report should be generated**
- **A Utility**
- **One or more units**

Clicking on the View button will generate a report similar to the one shown below:

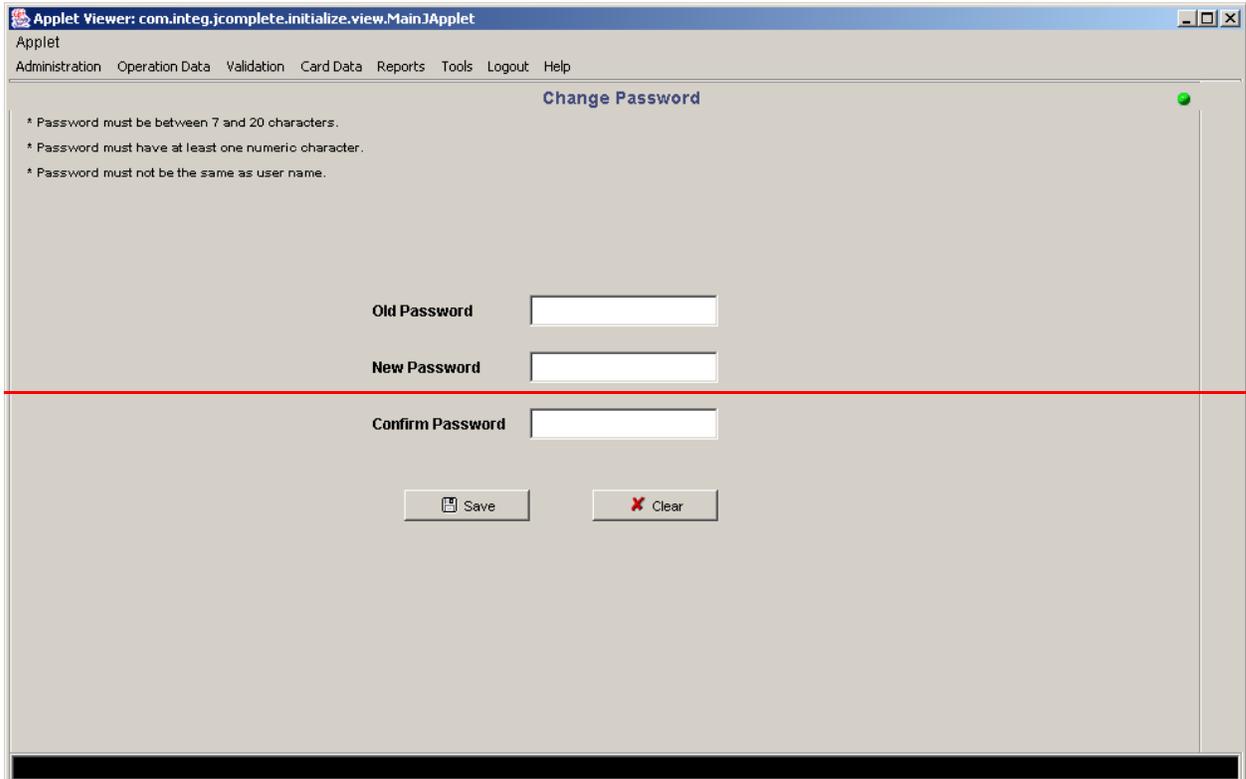


Unit	Year	Month	Fuel Order	Fuel ID (Card98U)	Fuel Type (Card98U)	Fuel Code (Card99)	Fuel Description (Card99)	Quantity	Heating Value	%Sulphur	%Moisture	%Ash	Price
Test 1	2003	9	Primary	PONE	Distillate #1	DI	Distillate Oil	68	100000	0	0	0	23.11
			Secondary	PORI	Orimulsion	GG	Gas						45.02
			Tertiary	GBUT	Butane	OL	Other-Liquid(BBL)						100.2
			Quaternary	GNAG	Natural Gas	OG	Other-Gas(CU R)						3000.12

Clicking on the Download button will generate a flat-file based on the above report. This flat file is useful for preparing your own adhoc reports based on the one generated by eFuel.

**The Tools Menu
Change Password**

This screen allows the user change their password.



In order to change your password, the following information is necessary:

- **Old Password – The password that is currently being used.**
 - **New Password – The new password you want to use going forward.**
 - **Confirm Password – The new password and the confirmation password must both be the same.**
- In addition to the above information, the following rules apply:**
- **The new password must be between 7 and 20 characters.**
 - **The new password must be composed of numeric and non-numeric characters. At least one character must be numeric.**
 - **The new password must not be the same as the user name.**

The Logout Menu

The “Logout” selection will bring the user back to the initial login screen.

~~Note: Before going to a different web site or closing the browser, the user should logout from the system. eFuel will attempt to detect unusual termination of the application and log the user out automatically. However, abrupt termination (closing the browser while the application is running) may cause the user account to remain “in-use” for up to two minutes. If the user tries to login during this time the following message is displayed: “User is already logged in.” The user must wait a few minutes before attempting to login again.~~

~~The Help Menu~~

~~The help menu contains information about the eFuel system. There are two items under this menu option~~

- ~~➤ About – Displays a splash screen that shows the current version of the eFuel system.~~
- ~~➤ User Manual – A PDF that documents the use and features of the eFuel system.~~

Section 6: XML Upload File Format

Below is the DTD for uploading XML files into the eFuel system. All XML documents must adhere to this DTD.

```

<?xml version="1.0" encoding="UTF-8"?>
  <!ELEMENT data (card+)>
<!ELEMENT card (card99? | card95? | card97? | card98u? | card98p?)>
  <!ATTLIST card
    cardtype (99 | 95 | 97 | 98u | 98p) #REQUIRED
    seqno CDATA #REQUIRED
  >
  <!ELEMENT card99 EMPTY>
  <!ATTLIST card99
    utility CDATA #REQUIRED
    unit CDATA #REQUIRED
    year CDATA #REQUIRED
    month CDATA #REQUIRED
    revecode (0|D|R) #REQUIRED
    pfuel CDATA #IMPLIED
    pburned CDATA #IMPLIED
    pagheat CDATA #IMPLIED
    pash CDATA #IMPLIED
    pmoist CDATA #IMPLIED
    psulfur CDATA #IMPLIED
    sfuel CDATA #IMPLIED
    sburned CDATA #IMPLIED
    savgheat CDATA #IMPLIED
    sash CDATA #IMPLIED
    smoist CDATA #IMPLIED
    ssulfur CDATA #IMPLIED
    tfuel CDATA #IMPLIED
    tburned CDATA #IMPLIED
    tagheat CDATA #IMPLIED
    tash CDATA #IMPLIED
    tmoist CDATA #IMPLIED
    tsulfur CDATA #IMPLIED
    qfuel CDATA #IMPLIED
    qburned CDATA #IMPLIED
    qavgheat CDATA #IMPLIED
    qash CDATA #IMPLIED
    qmoist CDATA #IMPLIED
    qsulfur CDATA #IMPLIED
  >
  <!ELEMENT card95 EMPTY>
  <!ATTLIST card95
    utility CDATA #REQUIRED
    unit CDATA #REQUIRED
    year CDATA #REQUIRED
    month CDATA #REQUIRED
    revecode (0|D|R) #REQUIRED
    netmaxcap CDATA #IMPLIED
    netdepcap CDATA #IMPLIED
    netactgen CDATA #IMPLIED
    loadchar CDATA #IMPLIED
    attstart CDATA #IMPLIED
    actualstart CDATA #IMPLIED
    loaddesc CDATA #IMPLIED
    servhour CDATA #IMPLIED
    reshour CDATA #IMPLIED
  >
  
```



```

_____ pumphour CDATA #IMPLIED
_____ synchour CDATA #IMPLIED
_____
>
<!ELEMENT card97 EMPTY>
  <!ATTLIST card97
_____ utility CDATA #REQUIRED
_____ unit CDATA #REQUIRED
_____ year CDATA #REQUIRED
_____ eventnum CDATA #REQUIRED
_____ eventidx CDATA #REQUIRED
_____ revecode (0|D|R) #REQUIRED
_____ eventtype CDATA #IMPLIED
_____ iocode CDATA #IMPLIED
_____ eventstart CDATA #IMPLIED
_____ eventend CDATA #IMPLIED
_____ avai leap CDATA #IMPLIED
_____ causecode CDATA #IMPLIED
_____ concode CDATA #IMPLIED
_____ workstart CDATA #IMPLIED
_____ workend CDATA #IMPLIED
_____ manhour CDATA #IMPLIED
_____ description CDATA #IMPLIED
_____ fail_code CDATA #IMPLIED
_____
>
<!ELEMENT card98p EMPTY>
  <!ATTLIST card98p
_____ company_id CDATA #REQUIRED
_____ plantcode CDATA #REQUIRED
_____ year CDATA #REQUIRED
_____ month CDATA #REQUIRED
_____ revecode (X|R) #IMPLIED
_____ purchasetype CDATA #REQUIRED
_____ contractexpire CDATA #IMPLIED
_____ fueltype CDATA #REQUIRED
_____ coalminestype CDATA #IMPLIED
_____ coaldistrictnum CDATA #IMPLIED
_____ countynum CDATA #IMPLIED
_____ state CDATA #IMPLIED
_____ sourcename CDATA #REQUIRED
_____ quantityreceived CDATA #IMPLIED
_____ btu CDATA #IMPLIED
_____ sulfur_pet CDATA #IMPLIED
_____ ash_pet CDATA #IMPLIED
_____ fob_price CDATA #IMPLIED
_____ excludefromfere423 (Y|N) #IMPLIED
_____
>
<!ELEMENT card98u EMPTY>
  <!ATTLIST card98u
_____ utility CDATA #REQUIRED
_____ unit CDATA #REQUIRED
_____ year CDATA #REQUIRED
_____ month CDATA #REQUIRED
_____ revecode (X|R) #IMPLIED
_____ primfuelcode CDATA #IMPLIED
_____ primfuelcost CDATA #IMPLIED
_____ secofuelcode CDATA #IMPLIED
_____ secofuelcost CDATA #IMPLIED
_____ tertfuelcode CDATA #IMPLIED
_____ tertfuelcost CDATA #IMPLIED

```

```
_____quarfuelecode CDATA #IMPLIED  
_____quarfuelcost CDATA #IMPLIED  
>
```

Please note the following important points:

- ~~The above DTD must be submitted along with the XML file. This is called an internal DTD.~~
- ~~If submitting Card99 data then the revcode is required and valid values include the following: 0 (insert new record), D (delete existing record) or R (update existing record). For Card98P and Card98U revcode is optional. If revcode is left out of an XML submittal for Card98P or Card98U, then it is assumed to be a new record. If revcode is submitted then valid values include the following: X (delete exiting record) or R (update an existing record). Do not submit an “empty” revcode. It will be rejected by the system.~~
- ~~Every element that is marked #REQUIRED is expected to have a value. #IMPLIED values can be blank or empty (except revcode).~~
- ~~This system does not handle external DTDs, XML comments, entities, or XML namespaces. Only elements and attributes should be submitted and must follow the DTD above.~~
- ~~One XML file can contain data for three cards types: Card99, Card98U and Card98P. Attempting to insert other card types into the eFuel system will result in the entire XML file being rejected.~~
- ~~seqno should be unique and preferably sequential for each card record submitted.~~
- ~~All dates must follow the CSV date format for each respective card.~~



Appendix A – County Names and FIPS County Code Listing
These codes are used in the Card98P insert and update screens of eFuel.

Alaska	
Barrow	40
Bristol Bay	70
Gordon-McCarthy	80
Kenai-Cook Inlet	120
Kobuk	140
Matanuska-Susitna	170
Nome	180
Seward	210
Upper Yukon	250
Yukon-Koyukuk	290

Alabama	
Bibb	7
Blount	9
Cherokee	19
Cullman	43
De-Kalb	49
Etowah	55
Fayette	57
Franklin	59
Jackson	71
Jefferson	73
Lamar	75
Marion	93
Marshall	95
St-Clair	115
Shelby	117
Tuscaloosa	125
Walker	127
Winston	133

Arkansas	
Franklin	47
Johnson	71
Logan	83
Pope	115
Saline	125
Sebastian	131
Yell	149

Arizona	
Navajo	17



Appendix A: County Names and FIPS County Code Listing

Colorado	
Adams	1
Arapahoe	5
Archuleta	7
Boulder	13
Delta	29
Douglas	35
El-Paso	41
Elbert	39
Fremont	43
Garfield	45
Gunnison	51
Huerfano	55
Jackson	57
Jefferson	59
La-Plata	67
Larimer	69
Las Animas	71
Mesa	77
Moffat	81
Montrose	85
Pitkin	97
Rio-Blanco	103
Routt	107
Weld	123

Georgia	
Chattooga	55
Dade	83
Walker	295

Iowa	
Jasper	99
Mahaska	123
Marion	125
Monroe	135

Illinois	
Christian	21
Clinton	27
Douglas	41
Franklin	55
Fulton	57
Gallatin	59
Hamilton	65
Hardin	69



Appendix A: County Names and FIPS County Code Listing

Illinois	
Henderson	71
Jackson	77
Jefferson	81
Knox	95
Logan	107
Macoupin	117
McDonough	109
Montgomery	135
Peoria	143
Perry	145
Randolph	157
Saline	165
Schuyler	169
St-Clair	163
Vermilion	183
Wabash	185
Washington	189
White	193
Williamson	199

Indiana	
Clay	21
Daviess	27
Dubois	37
Fountain	45
Gibson	51
Greene	55
Knox	83
Martin	101
Owen	119
Parke	121
Perry	123
Pike	125
Spencer	147
Sullivan	153
Vanderburgh	163
Vermillion	165
Vigo	167
Warren	171
Warrick	173
White	181

Kansas	
Bourbon	11
Cherokee	21
Crawford	37



Appendix A: County Names and FIPS County Code Listing

Kansas	
Labette	99
Linn	107

Kentucky	
Bell	13
Boyd	19
Breathitt	25
Butler	31
Caldwell	33
Carter	43
Christian	47
Clay	51
Clinton	53
Crittenden	55
Daviess	59
Edmonson	61
Elliott	63
Estill	65
Floyd	71
Grayson	85
Greenup	89
Hancock	91
Harlan	95
Henderson	101
Hopkins	107
Jackson	109
Johnson	115
Knott	119
Knox	121
Laurel	125
Lawrence	127
Lee	129
Leslie	131
Letcher	133
Logan	141
Magoffin	153
Martin	159
McCreary	147
McLean	149
Menifee	165
Morgan	175
Muhlenberg	177
Ohio	183
Owsley	189
Perry	193
Pike	195



Kentucky	
Pulaski	199
Rockcastle	203
Simpson	213
Todd	219
Union	225
Warren	227
Wayne	231
Webster	233
Whitley	235
Wolfe	237

Louisiana	
De-Soto	31
Red-River	81

Maryland	
Allegheny	1
Garrett	23

Missouri	
Audrain	7
Barton	11
Bates	13
Chariton	41
Henry	83
Howard	89
Macon	121
Putnam	171
Ralls	173
Randolph	175
Vernon	217

Montana	
Big-Horn	3
Musselshell	65
Powder River	75
Richland	83
Rosebud	87

North-Dakota	
Adams	1
Bowman	11
Burke	13
Grant	37
McLean	55



Appendix A: County Names and FIPS County Code Listing

North Dakota	
Mercer	57
Oliver	65
Stark	89
Ward	101
Williams	105

New Mexico	
Colfax	7
Grant	17
Lincoln	27
McKinley	31
Rio Arriba	39
Sandoval	43
Sandoval	45
San Miguel	47
Santa Fe	49
Socorro	53

Ohio	
Athens	9
Belmont	13
Carroll	19
Columbiana	29
Coshocton	31
Gallia	53
Guernsey	59
Harrison	67
Hocking	73
Holmes	75
Jackson	79
Jefferson	81
Lawrence	87
Mahoning	99
Meigs	105
Monroe	111
Morgan	115
Muskingum	119
Noble	121
Perry	127
Pike	131
Scioto	145
Stark	151
Tuscarawas	157
Vinton	163
Washington	167
Wayne	169



Oklahoma	
Coal	29
Craig	35
Haskell	61
Latimer	77
Le-Flore	79
McIntosh	91
Muskogee	101
Nowata	105
Okmulgee	111
Pittsburg	121
Rogers	131
Sequoyah	135
Tulsa	143
Wagoner	145

Pennsylvania	
Allegheny	3
Armstrong	5
Beaver	7
Bedford	9
Berks	11
Blair	13
Bradford	15
Butler	19
Cambria	21
Cameron	23
Carbon	25
Centre	27
Chester	29
Clarion	31
Clearfield	33
Clinton	35
Columbia	37
Dauphin	43
Elk	47
Fayette	51
Forest	53
Fulton	57
Greene	59
Huntingdon	61
Indiana	63
Jefferson	65
Lackawanna	69
Lawrence	73
Lebanon	75



Pennsylvania	
Luzerne	79
Lycoming	81
McKean	83
Mercer	85
Mifflin	87
Northumberland	97
Potter	105
Schuylkill	107
Somerset	111
Sullivan	113
Susquehanna	115
Tioga	117
Venango	121
Washington	125
Westmoreland	129

Tennessee	
Anderson	1
Bledsoe	7
Campbell	13
Claiborne	25
Cumberland	35
Fentress	49
Grundy	61
Hamilton	65
Marion	115
McMinn	107
Morgan	129
Overton	133
Putnam	141
Rhea	143
Roane	145
Scott	151
Sequatchie	153
Van Buren	175
Warren	177
White	185

Texas	
Atascosa	13
Bastrop	21
Freestone	161
Grimes	185
Harrison	203
Hopkins	223
Leon	289



Appendix A: County Names and FIPS County Code Listing

Texas	
McMullen	311
Milam	331
Panola	365
Robertson	395
Rusk	401
Titus	449
Webb	479

Utah	
Carbon	7
Emery	15
Sevier	41

Virginia	
Buchanan	27
Craig	45
Dickenson	51
Giles	71
Lee	105
Montgomery	121
Pulaski	155
Russell	167
Scott	169
Tazewell	185
Wise	195
Wythe	197

Washington	
King	33
Lewis	41
Thurston	67

West Virginia	
Barbour	1
Boone	5
Braxton	7
Brooke	9
Cabell	11
Calhoun	13
Clay	15
Doddridge	17
Fayette	19
Gilmer	21
Grant	23
Greenbrier	25
Hancock	29



Appendix A: County Names and FIPS County Code Listing

West Virginia	
Harrison	33
Jackson	35
Kanawha	39
Lewis	41
Lincoln	43
Logan	45
Marion	49
Marshall	51
Mason	53
McDowell	47
Mercer	55
Mineral	57
Mingo	59
Monongalia	61
Monroe	63
Nicholas	67
Ohio	69
Pleasants	73
Pocahontas	75
Preston	77
Putnam	79
Raleigh	81
Randolph	83
Ritchie	85
Roane	87
Summers	89
Taylor	91
Tucker	93
Tyler	95
Upshur	97
Wayne	99
Webster	101
Wetzel	103
Wirt	105
Wood	107
Wyoming	109

Wyoming	
Horn	3
Campbell	5
Carbon	7
Converse	9
Hot Springs	17
Lincoln	23
Sheridan	33
Sweetwater	37



Imported	
Poland	999
South Africa	999
Australia	999
Canada	999
Colombia	999
Venezuela	999
Indonesia	999



District	States	Counties/Mines
8	<p>Kentucky</p> <p>North Carolina</p> <p>Tennessee</p> <p>Virginia</p>	<p>All mines in the following counties in eastern Kentucky: Bell, Boyd, Breathitt, Carter, Clay, Clinton, Elliott, Estill, Floyd, Greenup, Harlan, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, McCreary, Magoffin, Martin, Menifee, Morgan, Owsley, Perry, Pike, Pulaski, Rockcastle, Wayne, Whitley, and Wolfe.</p> <p>All mines in the State.</p> <p>All mines in the following counties: Anderson, Campbell, Claiborne, Cumberland, Fentress, Morgan, Overton, Putnam, Roane, and Scott.</p> <p>All mines in the following counties: Dickenson, Lee, Russell, Scott, and Wise. Selected mines in the following counties: Buchanan County (part), all mines in the county, except in that portion on the headwaters of Dismal Creek, east of Lynn Camp Creek (a tributary of Dismal Creek) and in that portion served by the Richlands-Jewell Ridge branch of the Norfolk & Western Railroad (a subsidiary of the Norfolk Southern Corp.); and Tazewell County (part), all mines in the county except in those portions served by the Dry Fork branch of the Norfolk & Western Railroad (a subsidiary of the Norfolk Southern Corp.) and branch from Bluestone Junction to Boissevain of Norfolk & Western Railroad (a subsidiary of the Norfolk Southern Corp.) and Richlands-Jewell Ridge branch of the Norfolk & Western Railroad (a subsidiary of the Norfolk Southern Corp.).</p>
8	<p>West Virginia</p>	<p>All mines in the following counties: Boone, Cabell, Clay, Kanawha, Lincoln, Logan, Mason, Mingo, Putnam, and Wayne. Selected mines in the following counties: Fayette County (part), all mines west of the Gauley River except mines served by the Gauley River branch of CSX Transportation, Inc. (formally the Chesapeake & Ohio Railroad); McDowell County (part), all mines west of and not served by the Dry Fork branch of the Norfolk & Western Railroad (a subsidiary of the Norfolk Southern Corp.); Nicholas County (part), all mines in that part of the county south of and not served by CSX Transportation, Inc. (formally the Baltimore & Ohio Railroad); Raleigh County (part), all mines on the Coal River branch of CSX Transportation, Inc. (formally the Chesapeake & Ohio Railroad) and north thereof; and Wyoming County (part), all mines in that portion served by the Guyandot branch of the Norfolk & Western Railroad (a subsidiary of the Norfolk Southern Corp.) lying west of the mouth of Skin Fork of Guyandot River.</p>



District	States	Counties/Mines
9	Kentucky	All mines in the following counties in western Kentucky: Butler, Caldwell, Christian, Crittenden, Daviess, Edmonson, Grayson, Hancock, Henderson, Hopkins, Logan, McLean, Muhlenberg, Ohio, Simpson, Todd, Union, Warren, and Webster.
10	Illinois	All mines in the State.
11	Indiana	All mines in the State.
12	Iowa	All mines in the State.
13	Alabama	All mines in the State.
	Georgia	All mines in the State.
	Tennessee	All mines in the State.
14	Arkansas	All mines in the State.
	Oklahoma	All mines in the following counties: Haskell, Le Flore, and Sequoyah.
15	Kansas	All mines in the State.
	Louisiana	All mines in the State.
	Missouri	All mines in the State.
	Oklahoma	All mines in the following counties: Coal, Craig, Latimer, McIntosh, Muskogee, Nowata, Okmulgee, Pittsburg, Rogers, Tulsa, and Wagoner.
	Texas	All mines in the State.
16	Colorado	All mines in the following counties: Adams, Arapahoe, Boulder, Douglas, Elbert, El Paso, Jackson, Jefferson, Larimer, and Weld.
17	Colorado	All mines except those included in District 16.
	New Mexico	All mines except those included in District 18.
18	Arizona	All mines in the State.
	California	All mines in the State.
	New Mexico	All mines in the following counties: Grant, Lincoln, McKinley, Rio Arriba, Sandoval, San Juan, San Miguel, Santa Fe, and Socorro.
19	Idaho	All mines in the State.
	Wyoming	All mines in the State.
20	Utah	All mines in the State.



District	States	Counties/Mines
21	North Dakota	All mines in the State.
	South Dakota	All mines in the State.
22	Montana	All mines in the State.
23	Alaska	All mines in the State.
	Oregon	All mines in the State.
	Washington	All mines in the State.
24	Pennsylvania	All mines in the following counties: Berks, Carbon, Columbia, Dauphin, Lackawanna, Lebanon, Luzerne, Northumberland, Schuylkill, Sullivan, and Susquehanna. All anthracite mines in Bradford County.
25	Imported Coal	Poland
30	Imported Coal	South Africa
35	Imported Coal	Australia
40	Imported Coal	Canada
45	Imported Coal	Columbia
50	Imported Coal	Venezuela
55	Imported Coal	Indonesia



Appendix C: eFuel Error Codes

The table below lists the various error codes for Level 1 and Level 2 validation for eFuel. These codes are common in all aspects of the eFuel system. That is, whether the card data is being uploaded (via XML, CSV or Legacy) or the data is being keyed in manually using the various eFuel screens, the error codes will be the same.

Card	Error-Code	Description
98P	70	Invalid Date.
98P	410	Invalid company code.
98P	420	Invalid company/plant code combination.
98P	430	Month must be between 1 and 12.
98P	440	Year is required.
98P	450	Invalid fuel type.
98P	470	Invalid state
98P	490	Data already exists.
98P	2201	Plant Monthly Fuel Record is missing
98P	4100	Invalid contract expiration date.
98P	4110	A numeric field was found to have a non-numeric value.
98P	4120	Invalid coal mines code.
98P	4130	Invalid purchase type code.
98P	4140	Attempt was made to enter or alter data for the current or future date.
98P	4150	Invalid number format. Check quantity received, sulfur content, ash content or FOB purchase price.
98P	4180	Invalid card code.
98P	4190	Invalid revision code (valid values are X, R and blank).
98P	4200	Purchase type code is required.
98P	4210	Fuel type code is required.
98P	4220	Company code is required.
98P	4230	Plant code is required.
98P	4240	Source data is required.
98P	4300	For non-coal fuels, state should not be given.
98P	4310	State is required if fuel type is coal.
98P	4320	Coal mines type code is required if fuel type is coal.
98P	4330	For non-coal fuels, county number should not be given.
98P	4340	For non-coal fuels, coal district number should not be given.
98P	4350	For non-coal fuels, coal mines type should not be given.
98P	4360	Invalid coal district number.
98P	4370	Coal district number is required if fuel type is coal.
98P	4380	Invalid county number.



Card	Error-Code	Description
98P	4390	County number is required if fuel type is coal.
98P	4400	Invalid state/county combination.
98P	4410	Invalid state/coal-district combination.
98P	4700	No valid plant found for the given company and plant code.
98P	4750	A revision code of 'X' cannot have values in any non-key fields.
98P	4800	Invalid purchase type given for the associated fuel type.
98P	4850	No access rights to this plant.
98P	4860	Records for this period are Locked. Modification is not allowed.
98P	4870	The Exclude from FERC Form 423 Flag is Required and should be 'N' or 'Y'.
98U	1	Invalid utility code.
98U	2	Invalid unit/utility code combination.
98U	3	Month must be between 1 and 12.
98U	4	Year is required.
98U	11	No primary fuel code/cost was specified.
98U	12	A particular fuel code appears more than once for this report period.
98U	13	Primary fuel cost must be accompanied by primary fuel code or vice versa.
98U	14	Secondary fuel cost must be accompanied by secondary fuel code or vice versa.
98U	15	Tertiary fuel cost must be accompanied by tertiary fuel code or vice versa.
98U	16	Quaternary fuel cost must be accompanied by quaternary fuel code or vice versa.
98U	17	Fuel cost must be between 0 and 100,000,000.
98U	18	Data already exists.
98U	19	A numeric field was found to have a non-numeric field.
98U	20	No secondary fuel cost/code specified.
98U	21	No tertiary fuel cost/code specified.
98U	22	Invalid unit code.
98U	23	Field 'utility' is missing.
98U	24	Field 'unit' is missing.
98U	25	Field 'year' is missing.
98U	26	Field 'month' is missing.
98U	30	Attempt was made to enter or alter data for the current or future date.
98U	31	Invalid card code.
98U	32	Invalid revision code (valid values are X, R and blank).
98U	33	No access rights to this unit.
98U	34	Records for this period are Locked. Modification is not allowed.



Card	Error-Code	Description
98U	418	Invalid primary fuel code.
98U	428	Invalid secondary fuel code.
98U	438	Invalid tertiary fuel code.
98U	448	Invalid quaternary fuel code.
98U	458	Pumped Storage/Hydro units cannot have fuel data entries.
98U	468	A revision code of 'X' cannot have values in any non-key fields.
98U	2901	Unit monthly fuel cost record is missing.
98U	2980	Unable to find Card99 record for given unit.
99	8	No access rights to this unit.
99	9	Records for this period are Locked. Modification is not allowed.
99	10	Revision Code must be Blank or 0 = Add, D = Delete, R = Replace.
99	35	The Month entry must be within the range of 1 to 12.
99	36	Quantity Burned cannot be less than 0.
99	37	Nuclear units cannot have a Quantity Burned entry.
99	38	Average Heat Content cannot be less than 0.
99	39	Nuclear Units cannot have Ash, Moisture, or Sulfur entries.
99	40	Invalid Fuel Code.
99	41	Nuclear fuel is only allowed as the primary fuel for nuclear units.
99	42	Pumped Storage/Hydro Units cannot have fuel data entries.
99	43	Fossil Units must use fuel types: CC,DI,GG,JP,KE,OG,OL,OO,OS,PE,PR,SL,SO,WD,WH,WM.
99	44	Nuclear Units can only use fuel type NU.
99	45	CT or Diesels must use fuel types: DI,GG,JP,KE,OG,OL and PR.
99	46	Misc. Units must use CC,DI,GG,JP,KE,OG,OL,OO,OS,PE,PR,SL,SO,WD,WH, or WM.
99	48	Fuel Type OS must have a heat content between 4,000 and 15,000.
99	49	Fuel Type CC, LI must have a heat content between 6,000 and 15,000.
99	50	Fuel Type DI,JP,KE,OL,OO must have a heat content between -100,000 and 154,000.
99	51	Fuel Type GG,OG,PR,SL must have a heat content between -800 and 5,000.
99	52	Fuel Type NU must have a heat content between 8,000 and 12,000.



Card	Error Code	Description
99	53	Fuel Type CC,LI must have a ash content between 2.0 and 27.0.
99	54	Fuel Type OS must have a ash content between 0 and 27.0.
99	55	Fuel Type DI,JP,KE,OL,OO must have a ash content between 0 and 1.0.
99	56	Fuel Type GG,OG,PR,SL must have an ash content of 0.
99	57	Fuel Type CC,LI,OS must have a moisture content between 0 and 40.0.
99	58	Fuel Type DI,JP,KE,OL,OO must have a moisture content between 0 and 3.0.
99	59	Fuel Type GG,OG,PR,SL must have a moisture content of 0.
99	60	Fuel Type OS must have a sulfur content between 0 and 9.9.
99	61	Fuel Type CC,DI,JP,KE,LI,OL,OO must have a sulfur content between 0 and 6.0.
99	62	Fuel Type GG,OG,PR,SL must have a sulfur content of 0.
99	63	Fuel Type must be specified if fuel burned, heat, ash, moisture or sulfur content is not 0.
99	67	Delete cards cannot have values in any non-key fields.
99	97	Fuel Data Card Number must be 1 or 2.
99	98	Fuel Data Card number 1 and 2's Revision Code must be the same.
99	99	The only Card Types are 98P (Plant Level Fuel Cost & Quality), 98U (Unit Level Fuel Type & Cost), and 99 (Fuel).
99	107	Tertiary Quantity burned cannot exceed 6 digits (2 decimal places assumed).
99	108	A numeric field was found to have non-numeric entries.
99	109	Fuel type GE is valid, but it is not supported by PJM.
99	130	No Primary Fuel Code was specified.
99	131	A particular fuel code appears more than once for this report period.
99	137	A character was found in a location that should be blank.
99	140	Data not found in a location that should contain data.
99	141	No valid unit found for the given utility and unit code.
99	142	Value larger than specification allows.
99	143	Value must be an integer.
99	200	Card code missing.
99	201	Unable to find the record specified to be deleted



Card	Error-Code	Description
99	202	Unable to insert new record. A duplicate record already exists in the system.
99	203	Invalid Format
99	207	Warning! Cannot find data to export
99	2002	Warning. Monthly Fuel Record is missing (Card 99).
99	2010	Fuel Quantity Burned is out of range for Actual Generation.
99	2016	A full outage exists for the entire month but fuel consumption is not zero.

Appendix D: eFuel Fuel Codes

The following table lists the allowable fuel codes for Card99:

Fuel Code	Description
CC	Coal
LI	Lignite
PE	Peat
WD	Wood
OO	Oil
DI	Distillate Oil (No. 2)
KE	Kerosene
JP	JP4 or JP5
WA	Water
GG	Gas
PR	Propane
SL	Sludge Gas
GE	Geothermal
NU	Nuclear
WM	Wind
SO	Solar
WH	Waste Heat
OS	Other—Solid (Tons)
OL	Other—Liquid (BBL)
OG	Other—Gas (ft ³)

The following table lists the allowable fuel codes for Card98U and Card98P.

Fuel Code	Description	Fuel Type
CATB	Anthracite	COAL
CATC	Semi-Anthracite	COAL
CBTA	Bituminous 0.5%S	COAL
CBTB	Bituminous 1.0%S	COAL
CBTC	Bituminous 1.5%S	COAL
CBTD	Bituminous 2.0%S	COAL
CBTE	Bituminous 2.5%S	COAL
CBTF	Bituminous 3.0%S	COAL
CBTG	Bituminous 4.0%S	COAL
CBTH	Bituminous 5.0%S	COAL
CBTI	Bituminous 6.0%S	COAL
CSBA	Sub-Bituminous 0.5%S	COAL
CSBB	Sub-Bituminous 1.0%S	COAL
CSBC	Sub-Bituminous 1.5%S	COAL
GLIQ	Liquefied Coal	OTHER
COIH	Other Coal	OTHER
CLIG	Lignite	COAL
GNAG	Natural Gas	GAS
GPRO	Propane	OIL



Fuel-Code	Description	Fuel-Type
GLFG	Landfill-Gas	OTHER
GBUT	Butane	OTHER
GHYD	Hydrogen	OTHER
GCOL	Gasified-Coal	GAS
GREF	Refinery-Gas	GAS
GOTH	Other-Gas	OTHER
PONE	Distillate-#1	OIL
PTWO	#2-Oil	OIL
PDGA	Diesel-Grade-1-D	OIL
PDGB	Diesel-Grade-2-D	OIL
PDGC	Diesel-Grade-4-D	OIL
PDGD	Diesel-Grade-S-M	OIL
PFRL	#4-Oil-Light	OIL
PFRH	#4-Oil-Heavy	OIL
PFVL	#5-Oil-Light	OIL
PFVH	#5-Oil-Heavy	OIL
PSXA	#6-Oil-0.5%S	OIL
PSXB	#6-Oil-1.0%S	OIL
PSXC	#6-Oil-2.0%S	OIL
PCR0	Crude	OIL
PKRA	Kerosene-Low-Sulfur-Jet-55	OIL
PKRB	Kerosene-Jet-54	OIL
PJTA	Jet-A-JP-5	OIL
PJTB	Jet-B-JP-4	OIL
PPCK	Petroleum-Coke	OIL
PORI	Orimulsion	OTHER
PGLN	Gasoline	OTHER
POTH	Other-Oil	OTHER
NENU	Enriched-U	OTHER
NOTH	Other-Nuclear	OTHER
HROR	Run-of-River	OTHER
HPST	Pumped-Storage	OTHER
HOTH	Other-Water	OTHER
OBAG	Bagasse	OTHER
OCPA	Compressed-Air	OTHER
OFNG	Fuel-Cell-Nat-Gas	GAS
OGEO	Geothermal	OTHER
OPEA	Peat	OTHER
OSOL	Solar	OTHER
OWND	Wind	OTHER
OWOD	Wood	OTHER
OMNW	Municipal-Waste	OTHER
OSLD	Sludge	OTHER
OTIR	Tires	OTHER

Draft-This manual was retired because eFuel has been replaced by CODA.
http://www.monitoringanalytics.com/tools/docs/CODA_User_Guide_2011_0128.pdf%20

Appendix E: About eFuel Version 2

Changes in the new eFuel System

There are a number of changes that have been implemented with eFuel since its first release in January 2001. They are as follows:

➤ **One of the most important changes have been the separation of the eFuel system from the eGADS system. Users and administrators of the system are no longer to tied to eGADS's business logic for uploading fuel-related data.**

➤ **In addition to the legacy file transfer format, two additional formats have been introduced: CSV and XML. Both CSV and XML formats simplified the record layout by eliminating the need to report description on separate format control records.**

➤ **The file uploading procedures has been improved. Level 1 error checks are performed faster and feedbacks are presented in greater clarity. Results are displayed instantly on the screen, eliminating the need to check a log file.**

➤ **The Level 2 error checks are performed more efficiently, resulting in faster execution. Errors messages are improved to provide finer details. Results are displayed relatively quickly on the screen, eliminating the need to submit batch process and check a log file at a later time.**

➤ **New data export capabilities enable users to save data into CSV files on almost every screen**

➤ **New PDF-based reports have been added.**

➤ **New audit trail features track username and date-time when modification is done to each record. In addition, full modification history is captured for Cards 98U, 98P and 99 records, which means all deleted or modified data are stored in archive tables.**

➤ **New graphical displays enable the user to visualize events with greater clarity.**

Data Security and Access Control

eFuel is designed to ensure data confidentiality. Security measures are implemented to encrypt the data with 128-bit-key encryption during communication. The communication channels



~~are secured by server-side authentication certificates. Data provided by each member company are clearly identified when stored in the database. Carefully designed access right restrictions are enforced by the system to ensure confidentiality. What information each member company can manipulate or access is strictly controlled by the PJM Administrator. System access is controlled at two levels:~~

- ~~1. At the member companies' level, access to each generating unit's data can be assigned to one or multiple member companies with all, none, or read-only access~~
- ~~2. At the user level, each individual user automatically inherits their member company's general access rights. In addition, a user's access can be further restricted to always read-only on a screen-by-screen basis, thus preventing them from any upload, insert, update or delete operation.~~

~~An ID and a password is issued to each user by original password is expired immediately after it must supply a new password with seven to twelve numeric character and one non-numeric character days.~~





User's Manual

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Prepared by

Market Monitoring Unit

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