



EMFACT Workshop

Introduction to EMFACT

Northeast Waste Management Officials' Association (NEWMOA)

January 2009



Workshop Agenda



- Introduction to EMFACT
- EMFACT Navigation
- EMFACT Functions
- Case Study
- Hands-on Exercise
- Workshop Feedback





- EMFACTTM is an acronym for Energy & Materials Flow & Cost Tracker
- EMFACT is a product of collaboration between government assistance providers in pollution prevention and other topics relating to sustainability and industrial ecology:
 - Northeast Waste Management Officials' Association (NEWMOA)
 - Massachusetts Office of Technical Assistance and Technology (MA OTA)
- EMFACT is available from NEWMOA as a free software tool
 - http://www.newmoa.org/prevention/emfact/register.cfm





- The objectives of EMFACT are to provide:
 - A fully developed easy-to-use well-documented energy, materials, chemicals use, and associated costs tracking tool
 - Well-developed training support materials and a user's guide to support the implementation of the tool
 - Online downloadable free access to the software application as well as the training materials and user's guide
- The expectations for EMFACT are:
 - EHS and other staff and managers that are using and implementing the tool in their businesses, institutions, and agencies are experiencing more informed and effective decision-making concerning energy, materials, and chemical use
 - Well-trained assistance providers in the public and private sector are able to
 effectively evaluate energy, materials, and chemicals use and releases and
 their associated costs, and potential financial return on investment from
 prevention and other sustainability activities
 - Environmental efficiency results are produced by users of the tool



The EMFACT Team



- Sponsors:
 - EPA ORD
 - NEWMOA
 - Nate Bisbee
 - Andy Bray
 - Terri Goldberg *
 - MA OTA
 - David Haas
 - Morgan Mihok
 - Phil Milmoe
 - Rick Reibstein *

Consultants:

- Sullivan
 - Kathy Bates
 - Joan Cianciolo
 - Betsy Cottle
 - Liz Ostwald
- EMARIC
 - Deb Savage

^{*} Primary managers

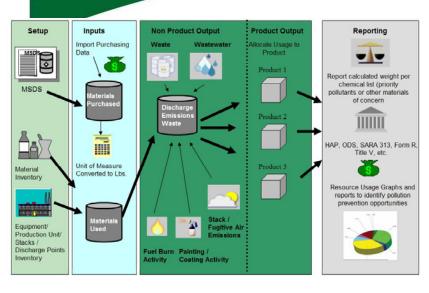




- System Requirements
 - System Permissions: User must have ADMIN rights on PC
 - System Architecture: Intel (x86) e.g., "PC" (does not operate on Mac or Linux)
 - Operating System: 2000 Service Pack 4 or later; Windows 2003
 Server; Windows XP Service Pack 1 or later; Windows Vista Business,
 Enterprise, and Ultimate
 - Disk Space: 1.6 GB
 - RAM: Minimum 512MB system memory recommended

EMFACT Development



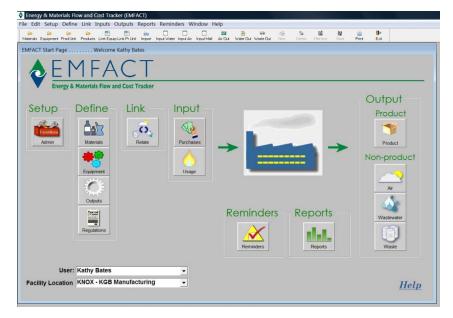


Conceptual Design

For Phase 1, EMFACT was designed to help users understand and analyze their materials (including water and fuels) and chemical use in one or more facilities. If users choose to use the tool to track fuels, (i.e., oil, natural gas, coal, or bio-based fuels) that they purchase for use in their boilers, the Phase 1 tool has been designed to treat these material inputs the same as others.



For Phase 1, EMFACT was not designed to enable users to fully track and evaluate all of their energy use, particularly their use and purchasing of electricity.



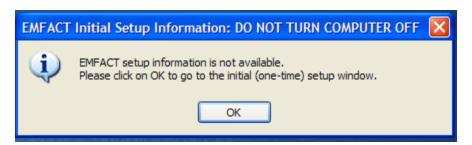


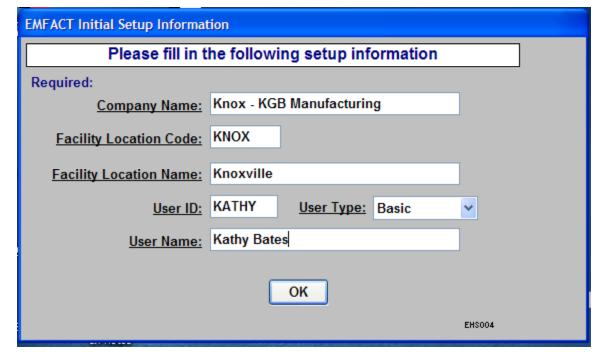




- During the EMFACT
 Installation, the EMFACT icon
 will be placed on your
 Windows desktop.
- Click the icon to launch EMFACT!







When you first launch EMFACT, an initial setup window will launch letting you know that this is the 1st time use for EMFACT.

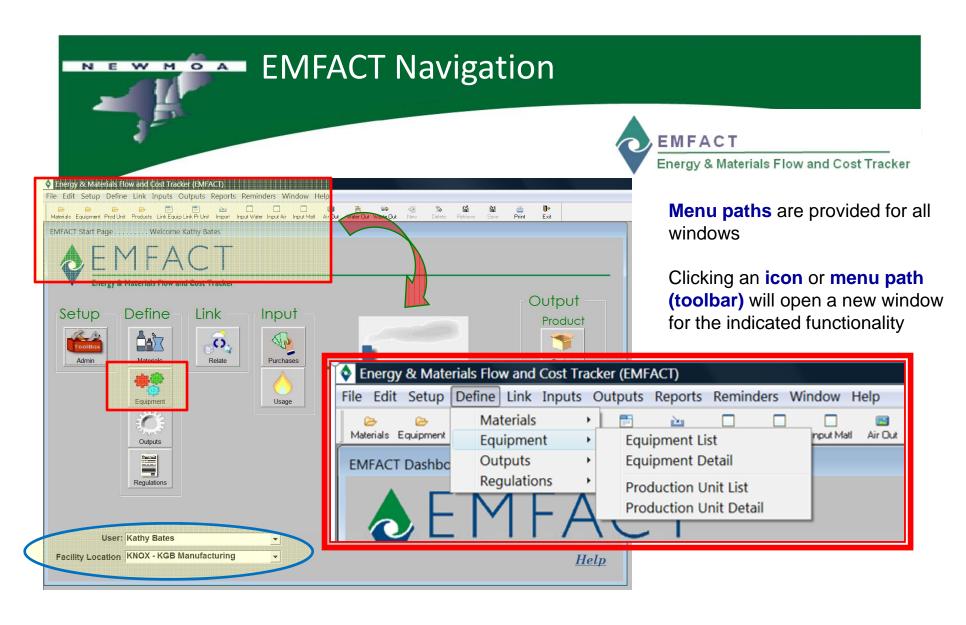
After clicking OK, you have an opportunity to define the name of the company, facility, and user for EMFACT.

There is an opportunity later to alter the facility and user information



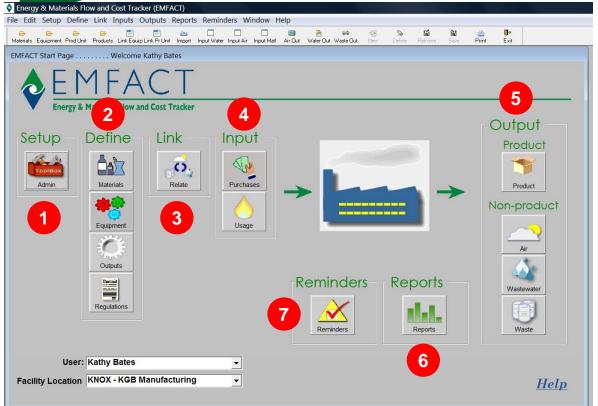


After the initial launch of EMFACT, each additional time EMFACT is launched, a startup screen will appear for a few seconds with the logos of the sponsoring organizations (NEWMOA and MA OTA) and the consultants that developed the EMFACT product (Sullivan and EMARIC)



Select **User** and **Facility Location** from drop down lists on the EMFACT **Home** page





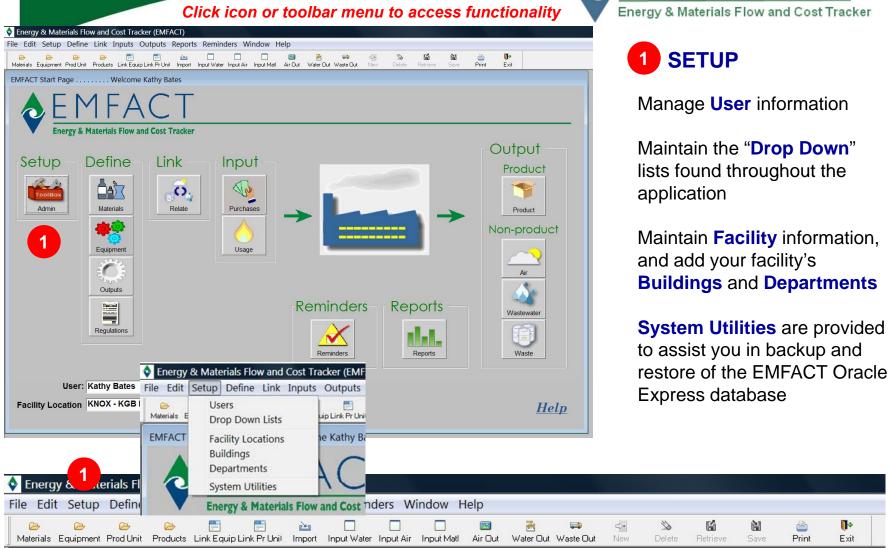
The EMFACT **Dashboard** displays seven distinct areas of functionality accessed via **icons** or **Toolbar** menus:

- 1. Setup
- 2. Define
- 3. Link
- 4. Input
- 5. Output
 - Product
 - Non-product
- 6. Reports
- 7. Reminders

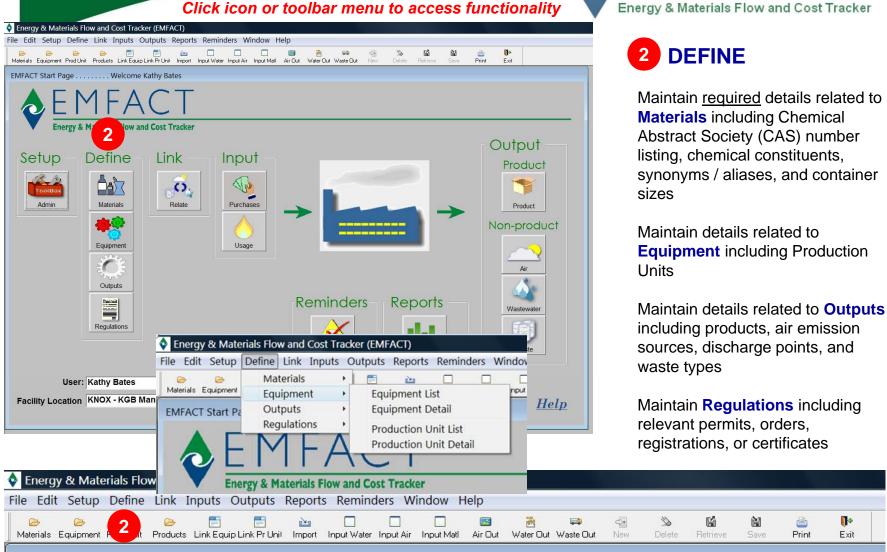
EMFACT Toolbar







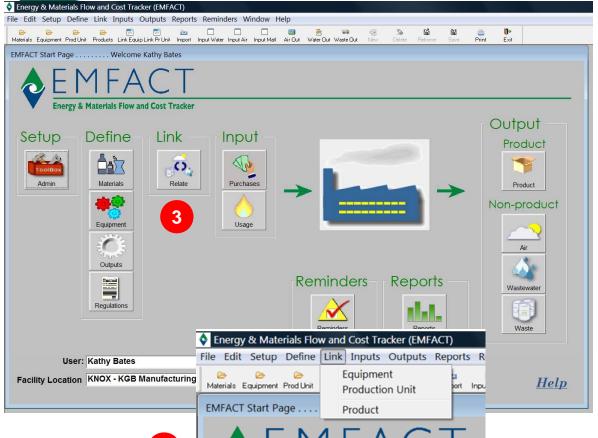




EMFACT Navigation Click icon or toolbar menu to access functionality Emergy & Materials Flow and Cost Tracker

Air Out

Input Matl



Energy & Materials Flow

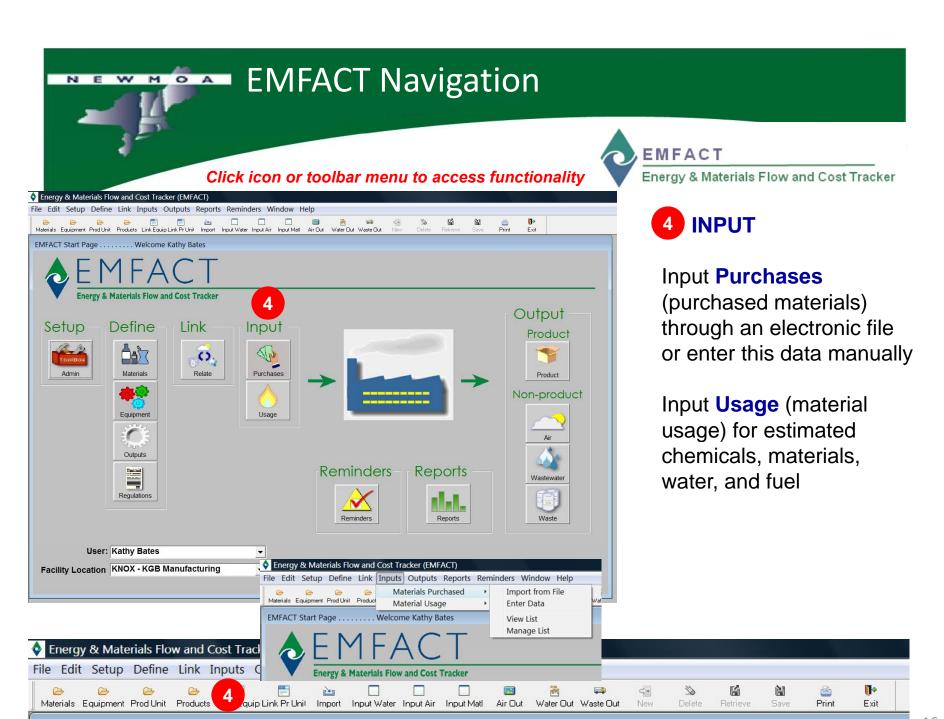
File Edit Setup Define Link In

Materials Equipment Prod Unit Products Link Equip Link Pr Unit Import Input Water Input Air

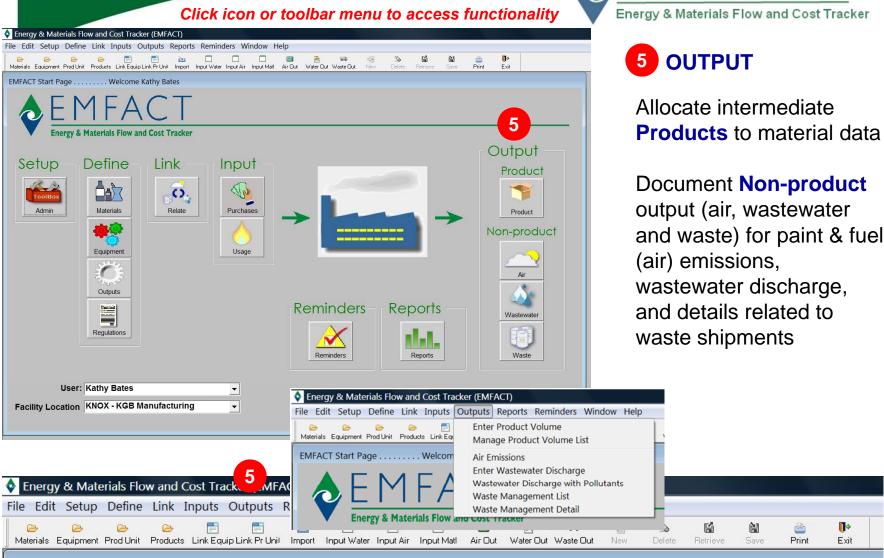
3 LINK

The LINK windows allow you to describe the various inputs and outputs associated with **Equipment**, **Production Units**, and **Products**

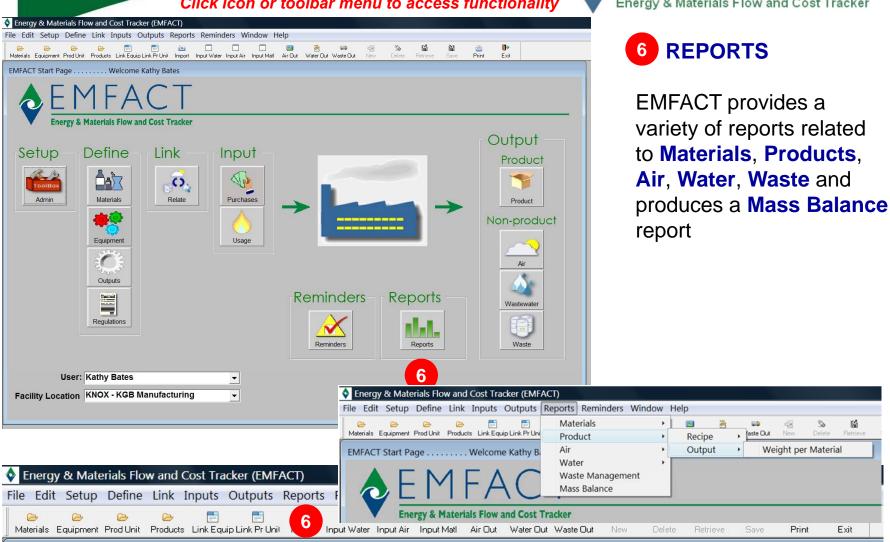
15



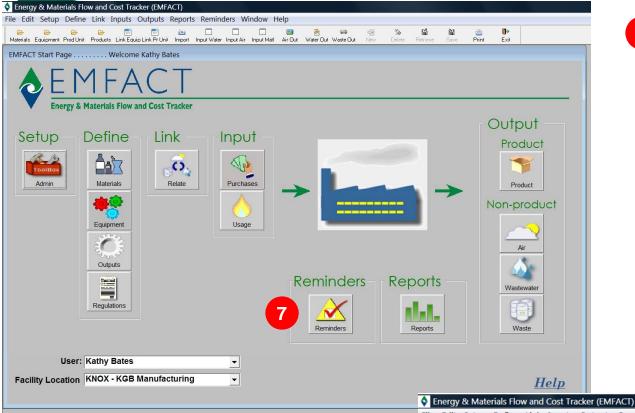
EMFACT Navigation Click icon or toolbar menu to access functionality Emergy & Materials Flow and Cost Tracker



EMFACT Navigation Click icon or toolbar menu to access functionality EMFACT Energy & Materials Flow and Cost Tracker





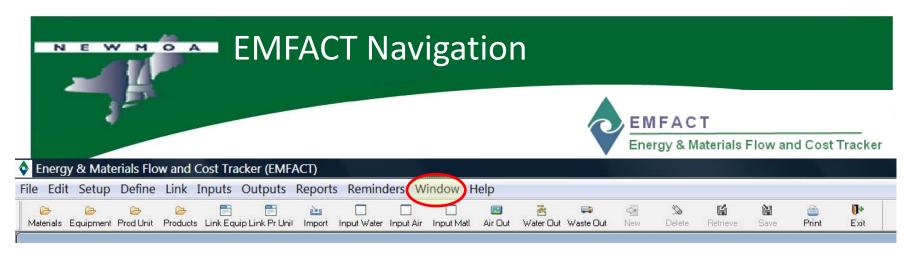


7 REMINDERS

The **Reminders** menu allows you to setup and view calendar events



19

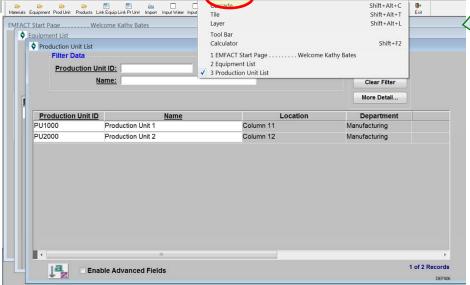


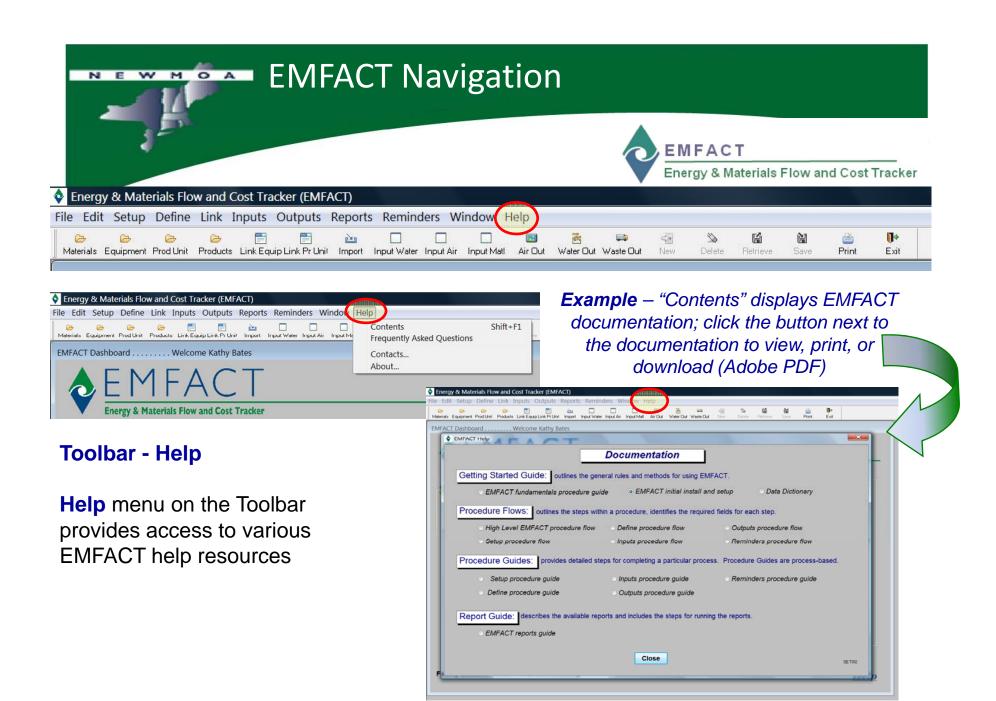


Example – multiple EMFACT windows open shown as "Cascade" with the active window indicated

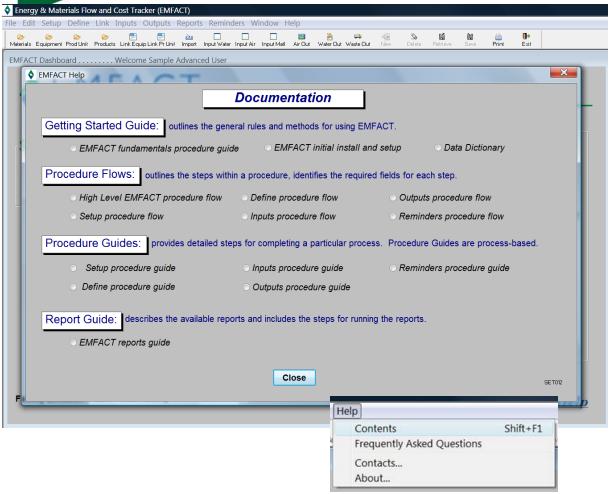
Toolbar - Windows

The Windows menu on the Toolbar provides normal "windows" functionality to manage window displays (e.g., select active window, Toolbar position, display as Cascade, Tile, Layer, etc.)









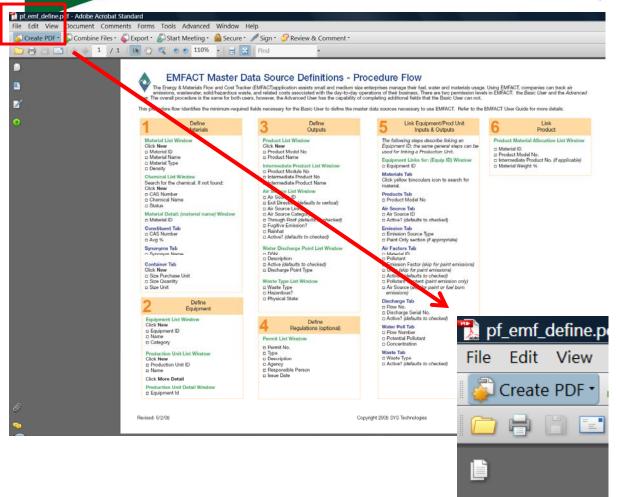
Help

EMFACT contains extensive step-by-step documentation for <u>all</u> of the features and functionality you have seen in this workshop today

Select **Contents** to open the Documentation window

Simply click a button next to the document you wish to open





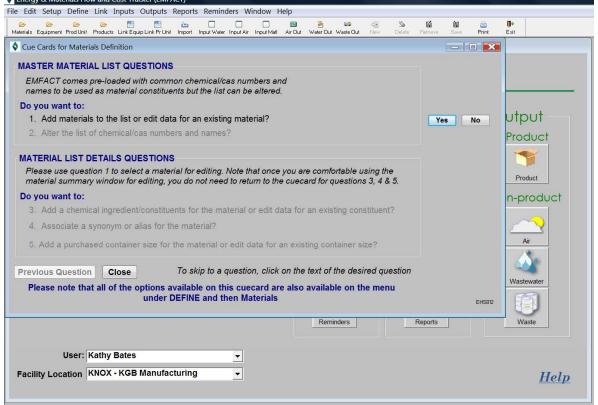
Help

An Adobe PDF viewer window will open with the selected document

From here, you can view the document in Adobe, print the document, or save the document to your computer or network

We strongly encourage you to review the EMFACT documentation for each step in the EMFACT process as you are using EMFACT for the first time





Each Cue Card contains a series of questions. Users click Yes or No to the questions. When answering Yes, the appropriate EMFACT window will display. If answering No, the prompt advances to the next question. "Cue Cards" are provided for the user to guide them through the logical series of tasks associated with EMFACT windows

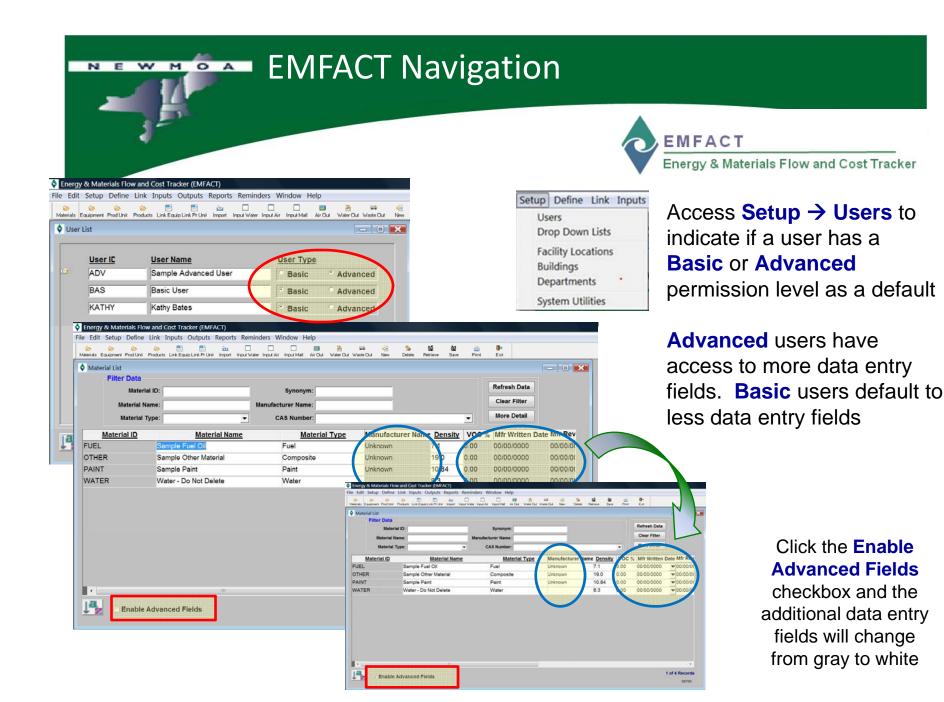
Cue Cards are displayed when you click a dashboard icon

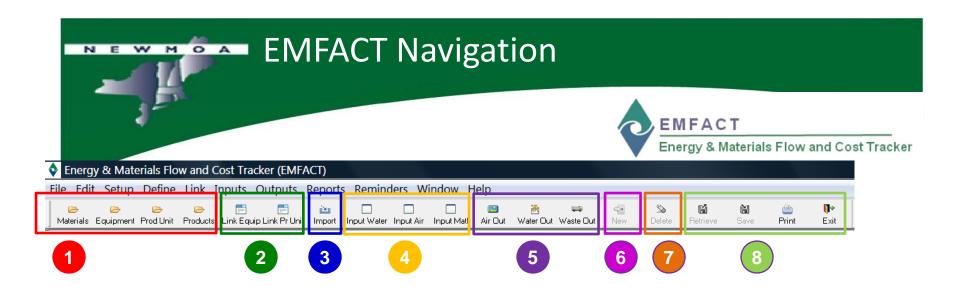
To access a window without using Cue Cards, select the desired functionality from the Toolbar menus





et's try EMFACT now
☐ Logon
☐ Complete the Initial Setup
☐ Click through the Menu Options
☐ Try out some Cue cards
☐ Check out the HELP





Moving from left to right, the Toolbar icons are presented as groups or individual icons.

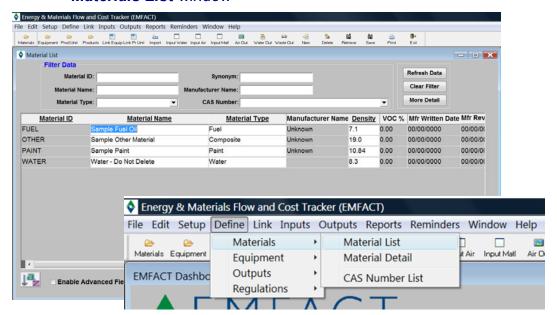
- 1.Search Folder
- 2.Link
- 3.Import
- 4.Input
- 5.Out
- 6.New
- 7.Delete
- **8.Common Functions**

The EMFACT **Toolbar** is similar to toolbars in other applications in that it provides shortcuts to common functions (e.g., save and delete)

In addition, this toolbar provides shortcuts to commonly-used windows



Click the Materials folder to directly open the Materials List window







The alternative menu path is displayed above

Define → Materials → Material List

1

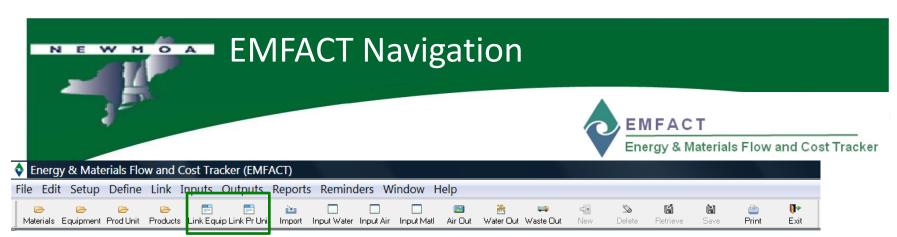
Clicking the **Materials** button under the **Define** column on the **Home** page will open the **Materials List Cue Card**

Search Folder Buttons

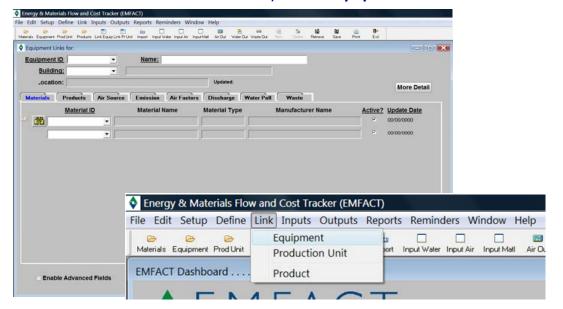
Clicking one of the yellow folder icons will open the corresponding **List** window (*Materials List, Equipment List, Production Unit List, Product List*) for that item

The windows are used to maintain a list of materials, equipment, production units, and products for each Facility

Note: Each **Facility** has its own set of lists. The active Facility is the Facility indicated on the **Home** page.



Click the Link Equip folder to directly open the Equipment Links window







The alternative menu path is displayed above Link → Equipment



Link Buttons

Clicking the **Link Equip**button or **Link Pr Unit** button
opens the *Equipment Links* window or *Production Unit Links* window

These windows are used to characterize your equipment and production units by linking related materials, products, air sources, emission sources, pollutants, and waste types

Clicking the **Relate** button under the **Link** column on the **Home** page will open the **Link Equipment and Production Units Cue Card**



3 Click the Import button to directly open the Import Data from a File window

o Import Data from a File Select Import File Data Source: Purchasing - G Ø №-Load Purchase Data Date modified Type Material Purchase File Format Verification Documentation Close gs In order to load this data, you must: () utilities L. Verify the following EXACT column order and purchase_import_template.txt - Max Column Width - Tab Deli Open Material Id 25 Chars Purchase Date Tab-delimited Text Files (*.TXT) Purchase Unit 15 Chars Purchase Quantity 6,2 Chars Purchase Cost Files of type: Cancel 12,2 Chars Department Number 12.2 Chars 2. Once step 1 has been completed, press OK to browse for the file and import the data. Otherwise, press Cancel to stop the import Clicking the **OK** button 3. After importing, check the import log for important information about records that have been skipped or incompletely imported will allow you to select User: Kathy Bates the data file to be Facility Location KNOX - KGB Manufacturing uploaded

Import Button

Clicking on the **Import** button opens the *Import Data from a File* window

This window is used for importing electronic files of materials purchased data

Note: An import **template** (Excel) for materials purchased data is provided with EMFACT.



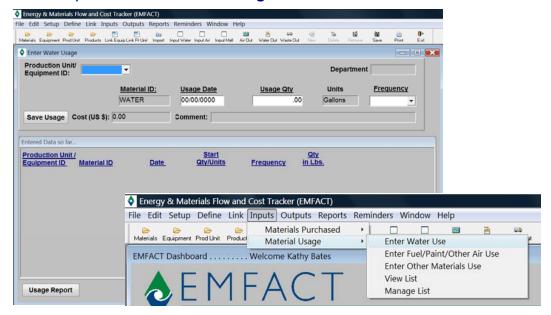


Clicking the **Purchases** button under the **Input** column on the **Home** page will open the **Import Data from a File** window



Click the **Input Water** button to directly open the **Enter Water Usage** window





Input Buttons

Clicking one of the **Input**buttons opens the
corresponding data entry
window (*Enter Water Usage, Enter Material Usage, Enter Material Usage with Air Emissions*) for entering
usage

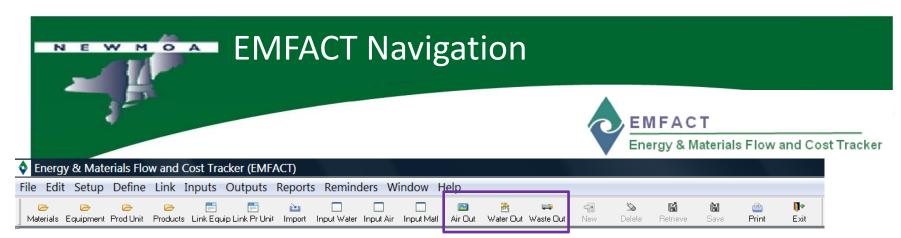




The alternative menu path is displayed above Inputs → Material Usage → Enter Water Use

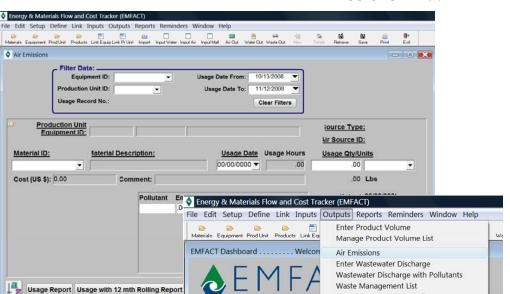


Clicking the **Usage** button under the **Input** column on the **Home** page will open the **Materials Usage Cue Card**



5

Click the **Air Out** button to directly open the **Air Emissions** window







The alternative menu path is displayed above Outputs → Air Emissions

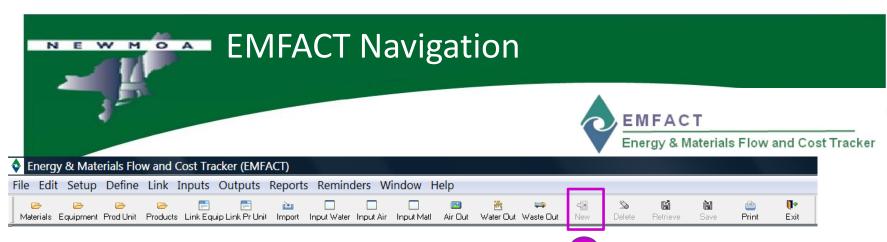
Waste Management Detail



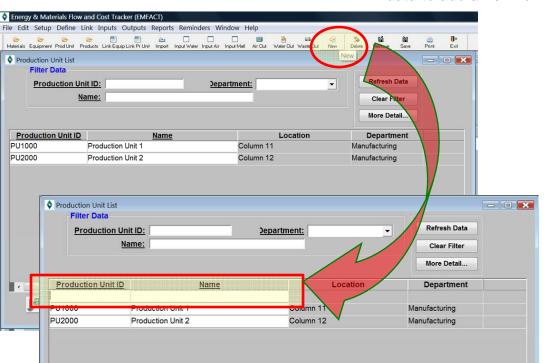
Clicking the **Air** button under the **Non-product** column on the **Home** page will open the **Air Emissions** window

Out Buttons

Clicking one of the Out
buttons opens the window for
viewing/maintaining
output data for that item (air
emissions, wastewater
discharge, waste
management activity)



Click the **New** button when you are entering data to add a new row

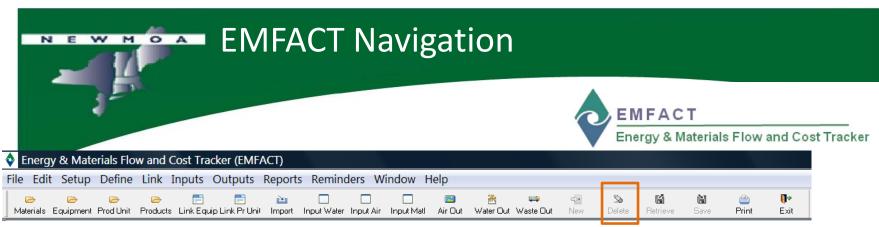


New Button

Clicking the **New** button allows you to make a **new** row when entering lists of data

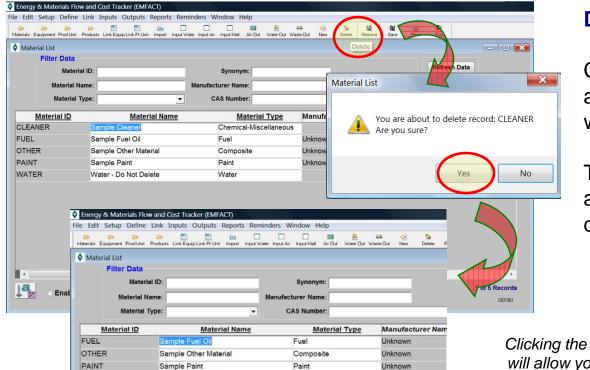
The **New** button is not active unless you are in a data entry window

Note: Remember to click **SAVE** when you are entering data!



Place the cursor **in the row to be deleted** and click the **Delete** button when you are in a data window





Water

WATER

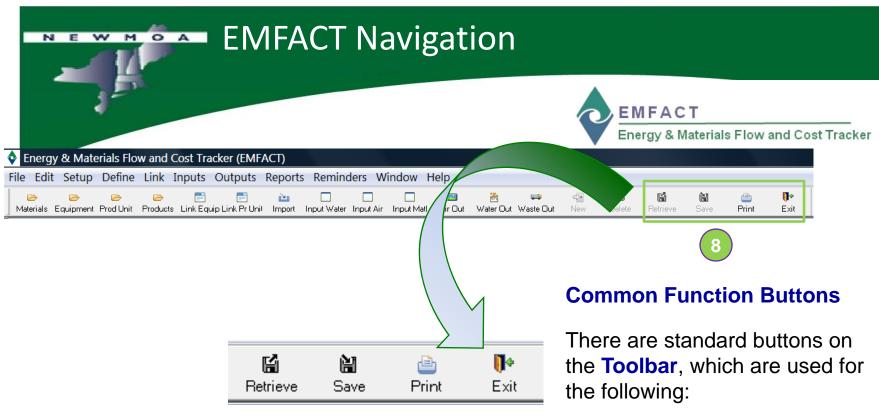
Water - Do Not Delete

Delete Button

Clicking the **Delete** button allows you to **delete a row** when entering lists of data

The **Delete** button is not active unless you are in a data entry window

Clicking the **Yes** button will allow you to delete the row indicated

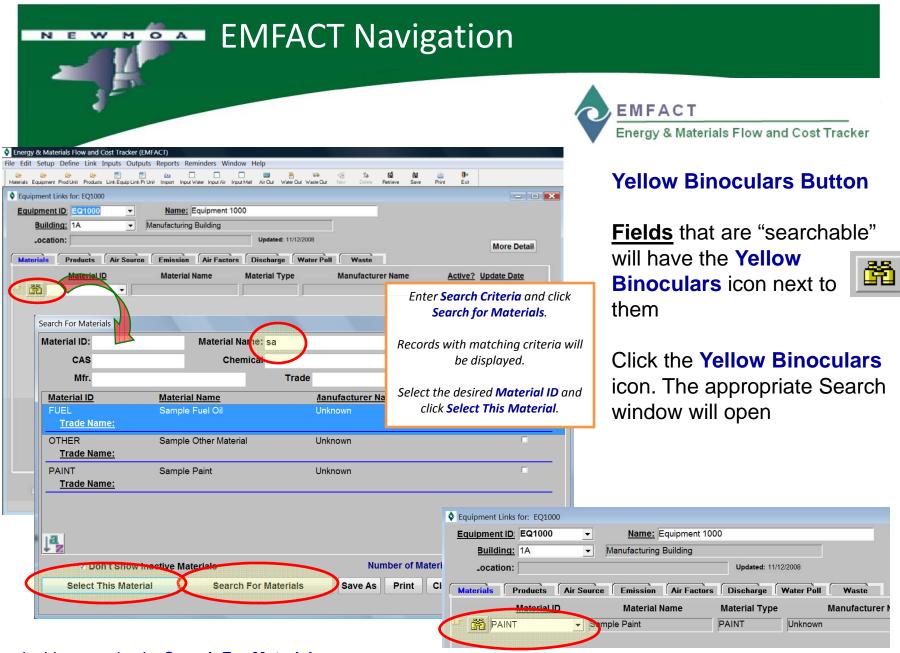


Retrieve is used to access data or records from the database

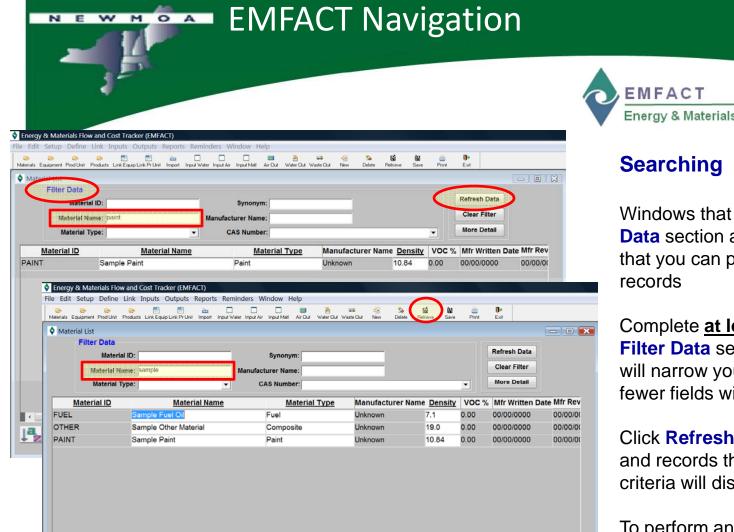
Save is used to commit your changes to the database

Print is a shortcut used for printing data a report or window in EMFACT

The **Exit** button closes all open windows within the module; if you have made any changes, you will be prompted to save your data



In this example, the **Search For Materials** window is launched





Windows that have a **Filter Data** section at the top indicate that you can perform a search for records

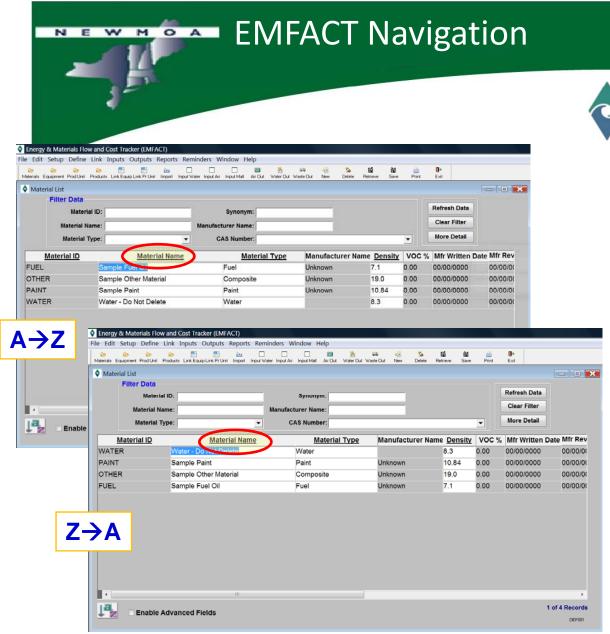
Complete <u>at least one field</u> in the **Filter Data** section. More fields will narrow your search, while fewer fields will broaden it

Click **Refresh Data** or **Retrieve** and records that match the search criteria will display

To perform another search, click Clear Filters

1 of 3 Records

Enable Advanced Fields





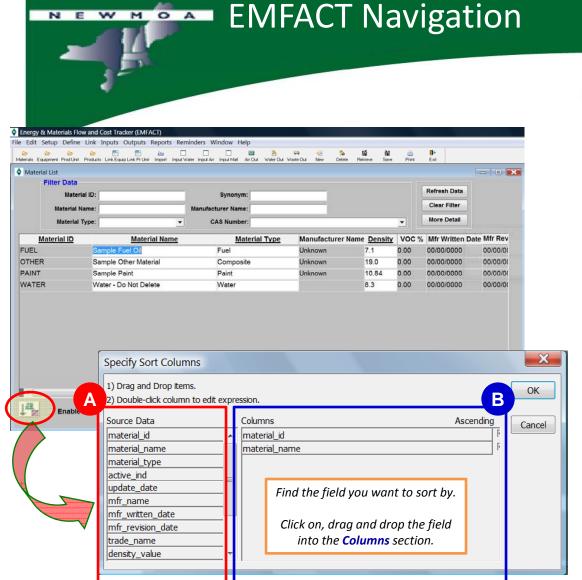
Sorting

To use this feature, you must have already performed a search and there must be search results in the bottom half of the window

Click the **heading of the column** you wish to sort by

Search results will change in ascending $(A \rightarrow Z)$ order; click column heading again to sort descending $(Z \rightarrow A)$

In this example, the **Material List** window has been accessed (**Define** → **Materials** → **Materials** List)





Sorting on Multiple Fields

This method is used when needing to sort first on one field then on another, and so on

Click the **Sort button**

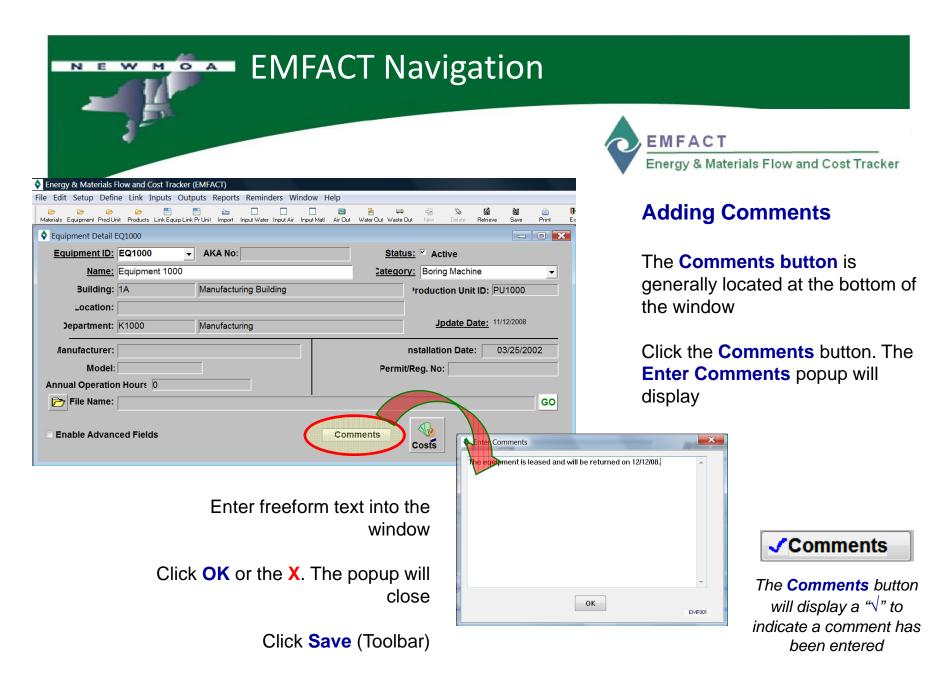


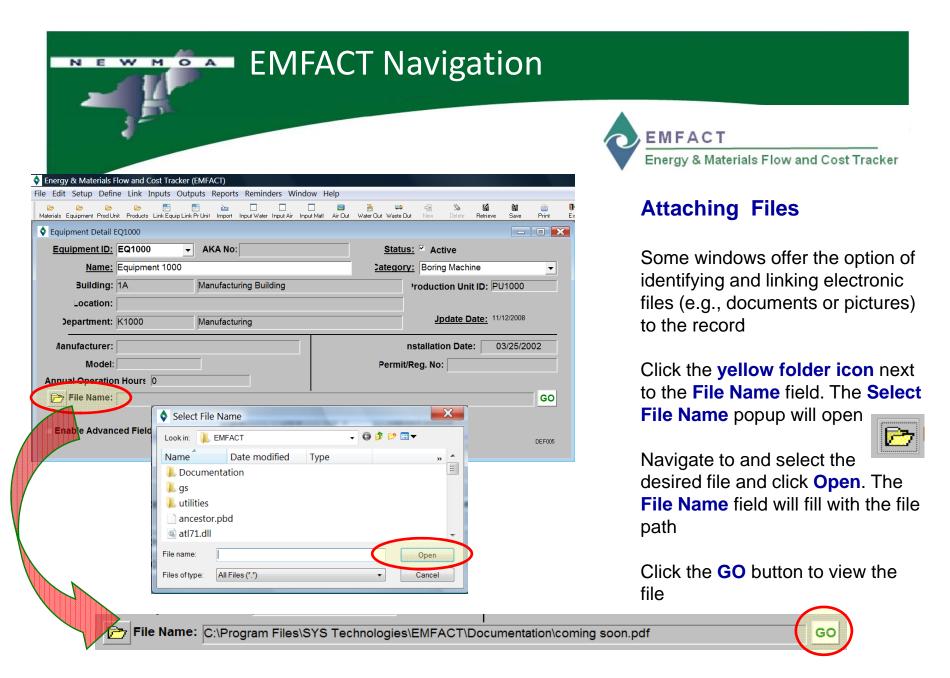
The Specify Sort Columns window will display

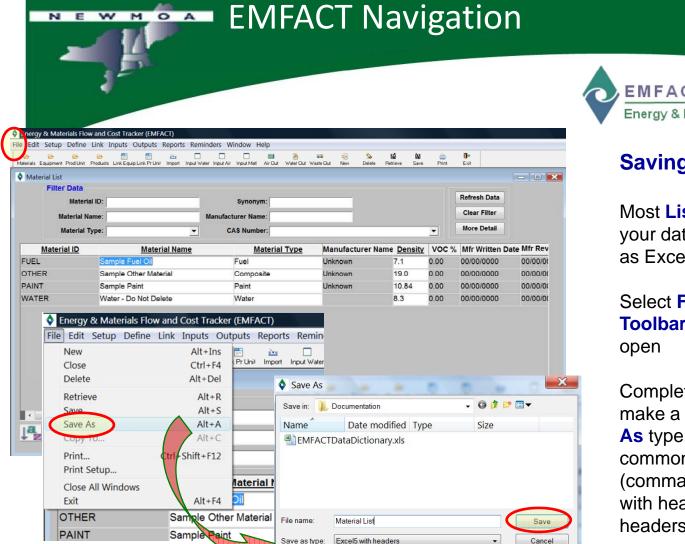
- The **Source Data** section displays every field on which the data can be sorted
- B The Columns section displays the field(s) on which the data is currently sorted and defaults to ascending order

Click OK

NEWMOA









Saving Data Output

Most **List** windows allow you **save** your data to another format such as Excel[™] or a Text file

Select File → Save As from the Toolbar. The Save As popup will open

Complete the **Filename** field and make a selection from the **Save As** type dropdown. The most common choices are CSV (comma separated values), Excel with headers, and Text with headers

Click Save

Encoding:



Material Detail: FUEL Material ID: EUE Written Date: 00/00/0000 Revision Date: 00/00/0000 Active? ✓ **Material Type:** Fuel Sample Fuel Oil Costs Name: **Trade** Name: azardous Warnings: Mfr Name: Unl Energy & Materials Flow and Cost Tracker (EMFACT) File Edit Setup Define Link Inputs Outputs Report Jpdate Date: 02/21/2008 GO New Alt+Ins Pr Unit Import Ctrl+F4 Close Delete Alt+Del mical Name: **Update Date** Alt+R Retrieve 68476 02/21/2008 Save Alt+S Alt+A Save As Alt+C Copy To., Print... Ctrl+Shift+F12 Print Setup... Close All Windows Print Preview Exit Enable Density: 7.1 Material Summary Report: FUEL File Na Material ID: FUEL Written Date: 00/00/0000 Revision Date: 00/00/0000 Material Type: Fuel Material Sample Fuel Oil Trade Mfr Name: Unknown VOC %: 0.00 Density: 7.1

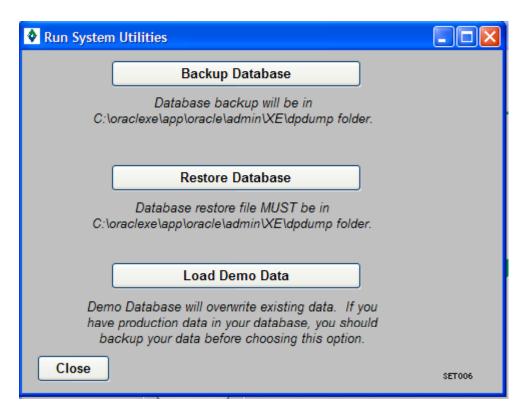
Some windows have summary reports that you can **print**:

- Material Detail
- Equipment Links
- Production Unit Links

Select File → Print from the main menu. A Print Preview window will display. Click the Print button at the bottom of the Print Preview window

The report will print to your default printer







Backup and Restore

EMFACT runs on your local C drive. It is **VERY IMPORTANT** to remember to backup your data.

You can always get a new version of EMFACT installed, but you cannot recover your data unless it has been backed up.

There is no automatic backup feature in EMFACT.

Select **Setup System Utilities** from the main menu.

Backup saves the data from EMFACT to a file on your c drive with the data in the name.

Restore prompts the user to select a previously backed up file and will reset the EMFACT database to the data from the file. 44

In this example, the **System Utilities** window has been accessed (Setup → System Utilities)





Let's try EMFACT now.... ☐ Advanced vs. Basic use ☐ Toolbar for commonly used windows □ New - Delete - Retrieve - Save ☐ Searching – Sorting – Save As – Printing – Material List ☐ Binoculars – Comments – File Attach - Material Detail window