

NEWMOA



EMFACT

Energy & Materials Flow and Cost Tracker

# EMFACT Workshop

## EMFACT Overview – Part 1

Northeast Waste Management  
Officials' Association (NEWMOA)

*January 2009*



- EMFACT Overview – Part 1
  - Setup: Drop Down Lists, Buildings, Departments
  - Define: Materials, Equipment, Outputs, Regulations



### 1 Install/Set Up EMFACT

- Download EMFACT
- Install
- Initial Setup

### 2 Set Up Admin

- User List
- Drop Down Lists
- Facility Location List
- Building List
- Department List

### 3 Define Materials

- Material List
- Material Detail
- CAS Number List

### 4 Define Equipment

- Equipment List
- Equipment Detail
- Production Unit List
- Production Unit Detail

### 5 Define Outputs

- Products List
- Intermediate Products List
- Air Source List
- Air Source Detail
- Water Discharge Point List
- Waste Type List
- EPA Codes per Waste Type

### 6 Define Regulations

- Permits List
- Permit Details
- Chemicals of Concern

### 7 Link Equipment, Prod Units, & Products

- Link Equipment
- Link Production Unit
- Link Product

### 8 Enter Inputs

- Materials Purchased**
- Prepare Electronic Data File
  - Import Purchases (*electronically*)
  - View Data List
  - Manage List
  - Enter Purchases (*manually*)

- Material Usage**
- Enter Water Use
  - Enter Fuel/Paint/Other Air Use
  - Enter Other Materials Use
  - View List
  - Manage List

### 9 Compute/Determine Outputs

- Product Output**
- Enter Product Volume

- Non Product Output**
- Compute Air Emissions
  - Enter Wastewater Discharge
  - Wastewater Discharge with Pollutants
  - Waste Management List
  - Waste Management Detail

### 10 Run Reports

- Materials**
- Materials Defined List
  - Materials Purchased or Materials Used (*by Dept, Weight per Material, or Weight per CAS Number*)

- Product**
- Product: Weight per CAS Number

- Air**
- Usage (*Weight per Material, Weight per Material with 12 Month Rolling*)
  - Emissions (*Weight per Pollutant with 12 Month Rolling, by MSDS VOC%*)

- Water**
- Usage (*Weight per Material*)
  - Discharge (*Weight per Material, Weight per Pollutant*)

- Waste Management**
- Activity Costs
  - Chargeback Costs

- Mass Balance**
- Mass Balance Purchased

### 11 Set Up / View Reminders

- Materials**
- Calendar Reminder List
  - Calendar Reminder Details
  - View Calendar Events Coming Due

# NEWMOA Setup → Drop Down Lists

Default Drop Down values are provided with EMFACT



Code	Description	Include in My List?	Update Date
SANDER	Sa	<input checked="" type="checkbox"/>	12/09/2008
ABLAST	Abrasive Blasting	<input checked="" type="checkbox"/>	11/04/2003
ACC	Accessory	<input checked="" type="checkbox"/>	11/04/2003
AIRHEAT	Air Heaters	<input checked="" type="checkbox"/>	11/04/2003
AST	Above Ground Storage Tank	<input checked="" type="checkbox"/>	01/22/2007
BALANCE	Balancing Equipment	<input checked="" type="checkbox"/>	11/04/2003
BENCH	Bench Operations (Burring, marking, etc.)	<input checked="" type="checkbox"/>	11/04/2003
BEND	Bending & Forming Machine	<input checked="" type="checkbox"/>	11/04/2003
BLOW OFF	Blow Off Booth	<input checked="" type="checkbox"/>	
BOILER	Boilers	<input checked="" type="checkbox"/>	
BORING	Boring Machine	<input checked="" type="checkbox"/>	
BROACHING	Broaching Machine	<input checked="" type="checkbox"/>	
BURNISH	Burnishing Machine	<input checked="" type="checkbox"/>	
CHEM STORE	Chemical Storage Vents	<input checked="" type="checkbox"/>	
COOLING	Cooling Exhaust - Air Cooling ventilation	<input checked="" type="checkbox"/>	

## Manage Drop Down Lists

Select the list name from the **Drop Down List** (e.g., Equipment Category)

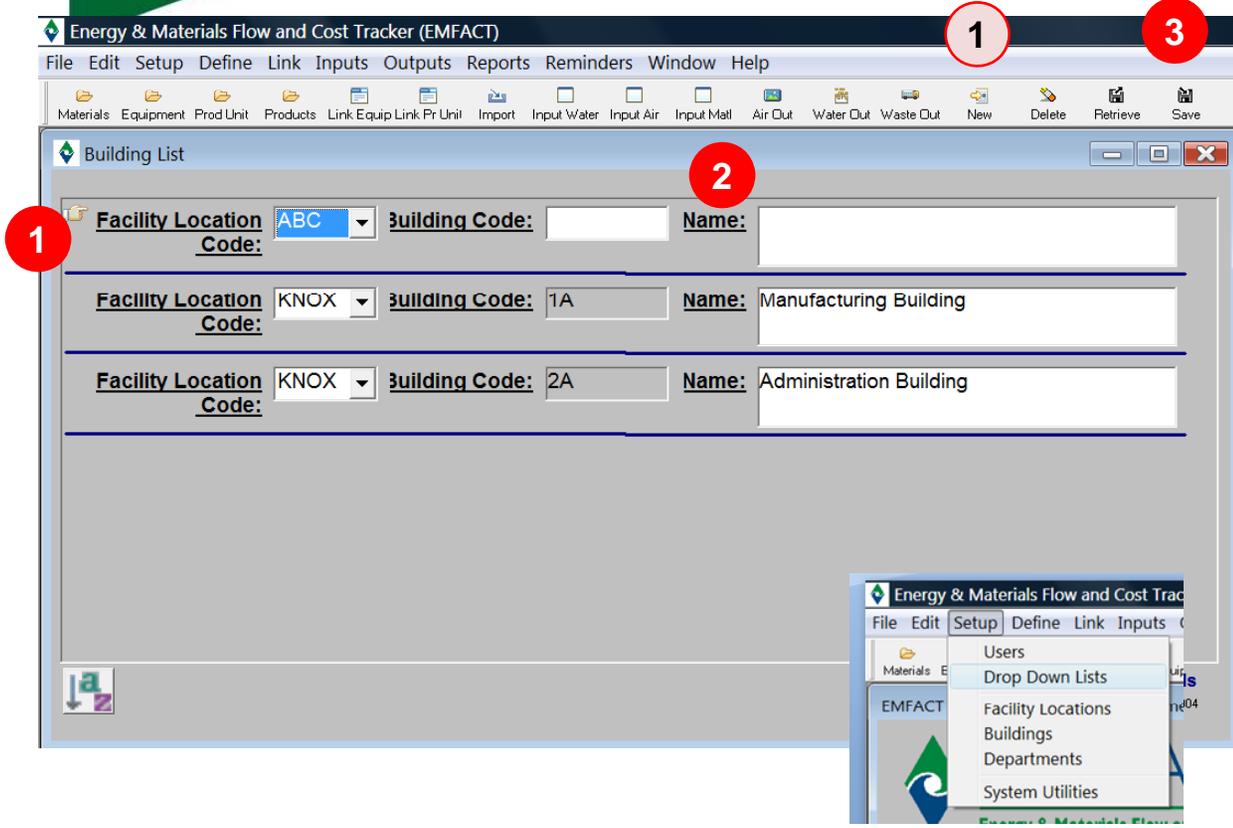
The window will update to include the values for that dropdown list

To exclude a value from a list, locate the value and uncheck the **Include in My List?**

To add a value, click **New** - a blank row will display for you to complete

To modify a value, edit the **Code** or **Description**

Click **Save** to save changes



### Manage Buildings

To add one or more **Buildings** to facilities that have been created, click **New** - a blank row will display for you to complete

Enter new Building information

Click **Save** to save changes



# Setup → Departments

Department Code	Department Name	Active?	Update Date:
3		<input checked="" type="checkbox"/>	00/00/0000
1 K1000	Manufacturing	<input checked="" type="checkbox"/>	11/11/2008
2 K2000	Engineering	<input checked="" type="checkbox"/>	11/11/2008

## Manage Departments

To add one or more **Departments** for your organization, click **New** - a blank row will display for you to complete

Enter new Department information

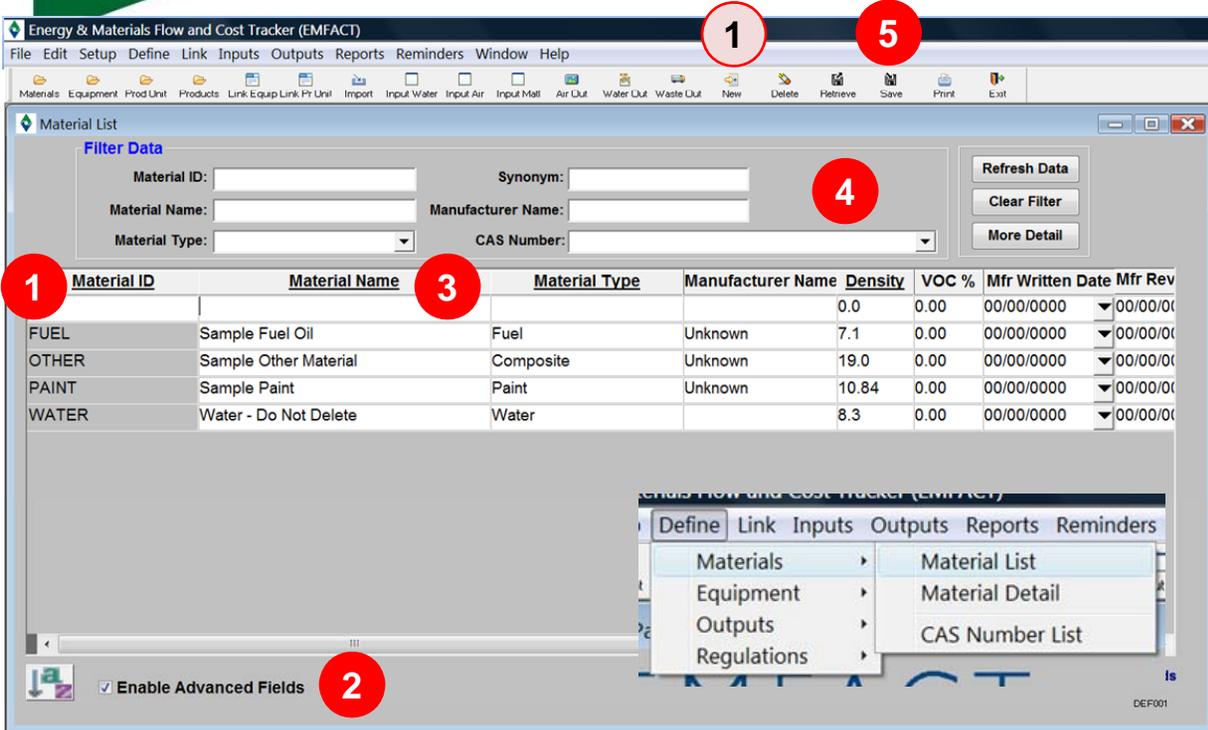
Click **Save** to save changes



Let's try EMFACT Setup now....

- See how Value Lists work - Equipment Category
  
- Add some Buildings
  
- Create some Departments

# NEWMOA Define → Materials → Material List

Energy & Materials Flow and Cost Tracker (EMFACT)

File Edit Setup Define Link Inputs Outputs Reports Reminders Window Help

Materials Equipment Prod Unit Products Link Equip Link Pr Unit Import Input Water Input Air Input Mill Air Out Water Out Waste Out New Delete Retrieve Save Print Exit

Material List

Filter Data

Material ID:  Synonym:

Material Name:  Manufacturer Name:

Material Type:  CAS Number:

Refresh Data  
Clear Filter  
More Detail

Material ID	Material Name	Material Type	Manufacturer Name	Density	VOC %	Mfr Written Date	Mfr Rev
FUEL	Sample Fuel Oil	Fuel	Unknown	7.1	0.00	00/00/0000	00/00/00
OTHER	Sample Other Material	Composite	Unknown	19.0	0.00	00/00/0000	00/00/00
PAINT	Sample Paint	Paint	Unknown	10.84	0.00	00/00/0000	00/00/00
WATER	Water - Do Not Delete	Water		8.3	0.00	00/00/0000	00/00/00

Define Link Inputs Outputs Reports Reminders

Materials → Material List  
Equipment → Material Detail  
Outputs → CAS Number List  
Regulations

Enable Advanced Fields

## Manage Materials

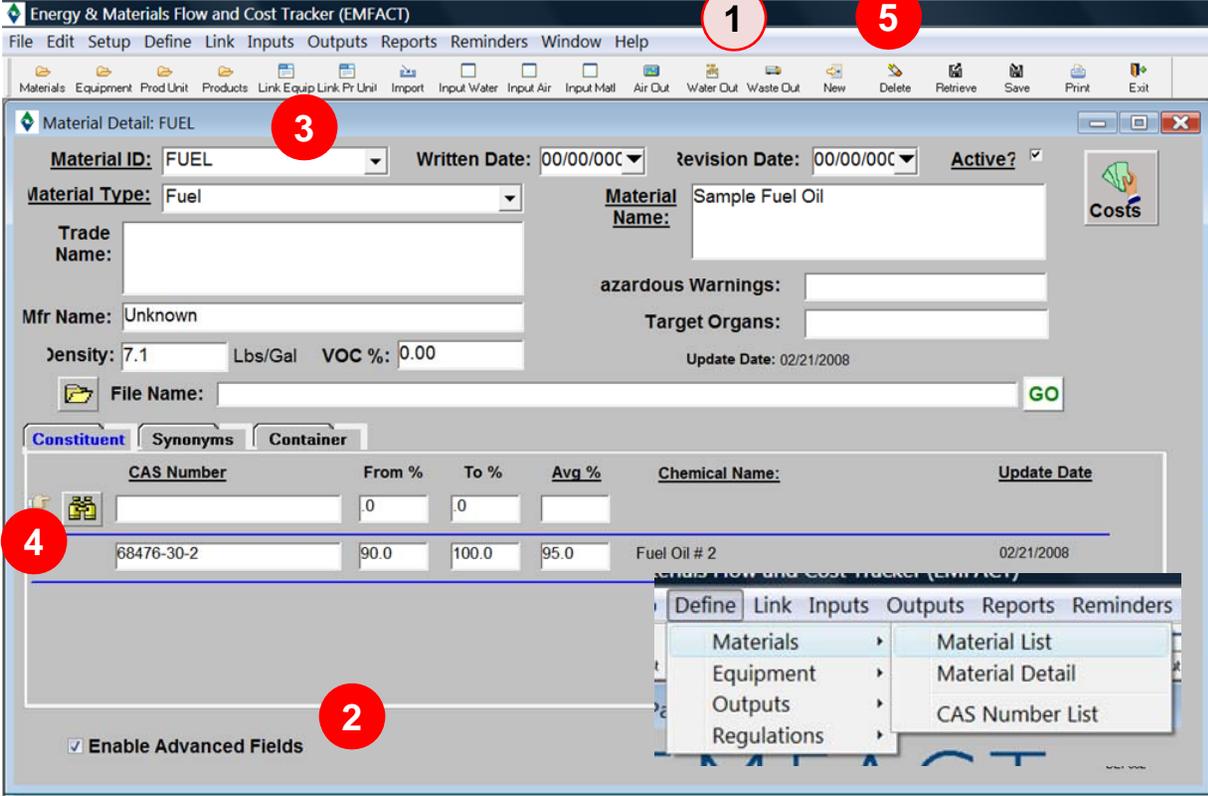
To add one or more **Materials**, click **New** - a blank row will display for you to complete

Check “**Enable Advanced Fields**” to see all available fields

Enter new Material information

If you are making a change to an existing material, search for the material by completing at least one field in the **Filter Data** section then click **Refresh Data**

Click **Save** to save changes



**Manage Materials**

To add detail to a **Material**, click **New** - a blank row will display for you to complete

Check “**Enable Advanced Fields**” to see all available fields

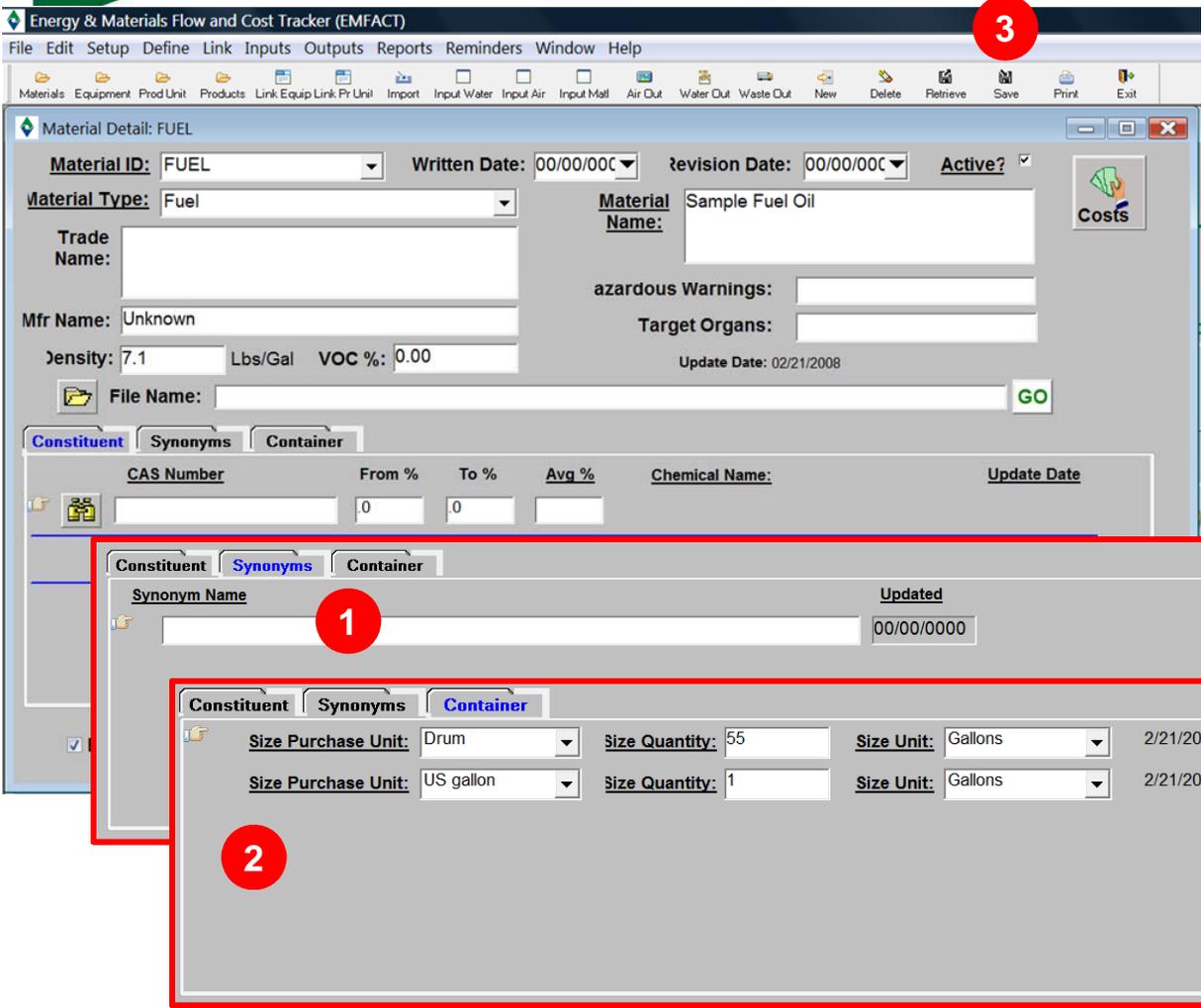
Select a material from the **Material ID** dropdown

The **Constituent tab** will be populated with CAS Numbers (if you have defined) or add new

**CONSTITUENT tab:** Click **New** to add a **CAS Number** then use the **binoculars** to lookup an existing CAS Number

Click **Save** to save changes

NEWMOA Define → Materials → Material Details

Energy & Materials Flow and Cost Tracker (EMFACT)

File Edit Setup Define Link Inputs Outputs Reports Reminders Window Help

Materials Equipment Prod Unit Products Link Equip Link Pr Unit Import Input Water Input Air Input Mill Air Out Water Out Waste Out New Delete Retrieve Save Print Exit

Material Detail: FUEL

Material ID: FUEL Written Date: 00/00/00C Revision Date: 00/00/00C Active?

Material Type: Fuel Material Name: Sample Fuel Oil

Trade Name: azardous Warnings: Target Organs:

Mfr Name: Unknown Update Date: 02/21/2008

Density: 7.1 Lbs/Gal VOC %: 0.00

File Name: GO

Constituent Synonyms Container

CAS Number	From %	To %	Avg %	Chemical Name:	Update Date
	0	0			

Constituent Synonyms Container

Synonym Name Updated

Constituent Synonyms Container

Size Purchase Unit:	Size Quantity:	Size Unit:	Updated
Drum	55	Gallons	2/21/2008
US gallon	1	Gallons	2/21/2008

### Manage Materials

Click the **Synonyms tab** to associate a **synonym** or **alias** with the material

Click the **Container tab** to add size/weight container detail (as it is purchased) for the material

Click **Save** to save changes

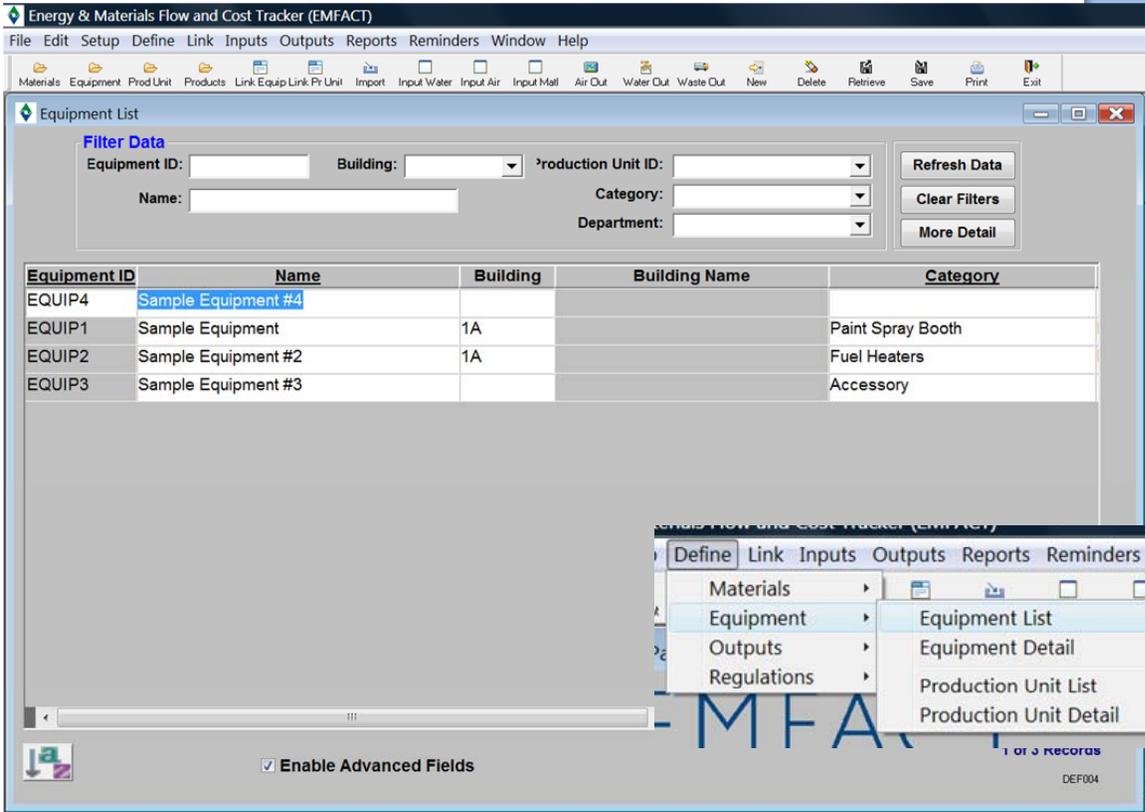
- At this point, we will not be providing as much detail as we have in previous slides, such as how to enter a new record or remind you to save...instead, we will focus on what data is required to complete the definition of the required master data



Let's try EMFACT Define Materials now....

- Add to the Material List
  
- Document CAS number constituent
  
- See the container sizes

# NEWMOA Define → Equipment → Equipment List

## Manage Equipment List

You must define the **Equipment** that is in use at your facility.

Required fields include:

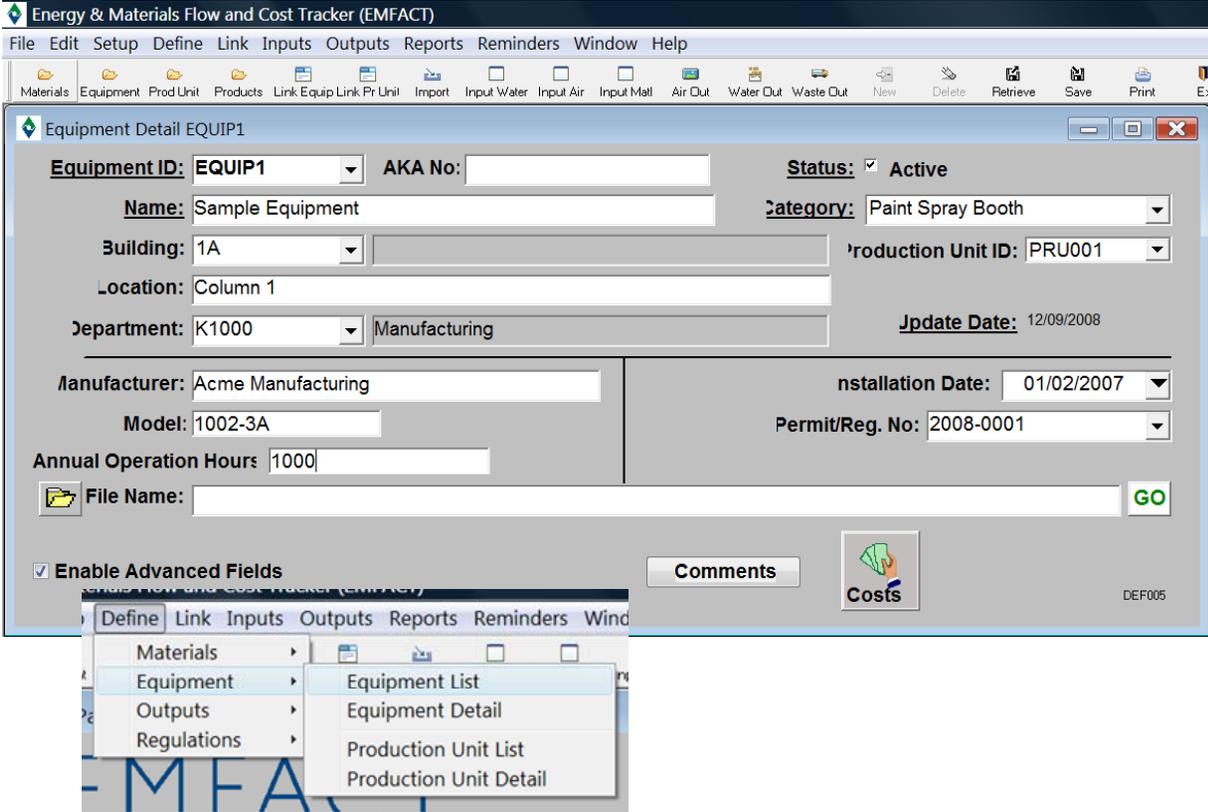
- Equipment ID
- Equipment Name
- Category

Optional fields include:

- Department
- Location
- Installation Date
- Others

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*

# NEWMOA Define → Equipment → Equipment List

**Equipment ID:** EQUIP1    **AKA No:**    **Status:**  Active

**Name:** Sample Equipment    **Category:** Paint Spray Booth

**Building:** 1A    **Production Unit ID:** PRU001

**Location:** Column 1

**Department:** K1000 Manufacturing    **Update Date:** 12/09/2008

**Manufacturer:** Acme Manufacturing    **Installation Date:** 01/02/2007

**Model:** 1002-3A    **Permit/Reg. No:** 2008-0001

**Annual Operation Hours:** 1000

**File Name:**    **GO**

**Enable Advanced Fields**    **Comments**    **Costs**

## Manage Equipment Detail

You may optionally add additional information on the **Equipment** that is in use at your facility.

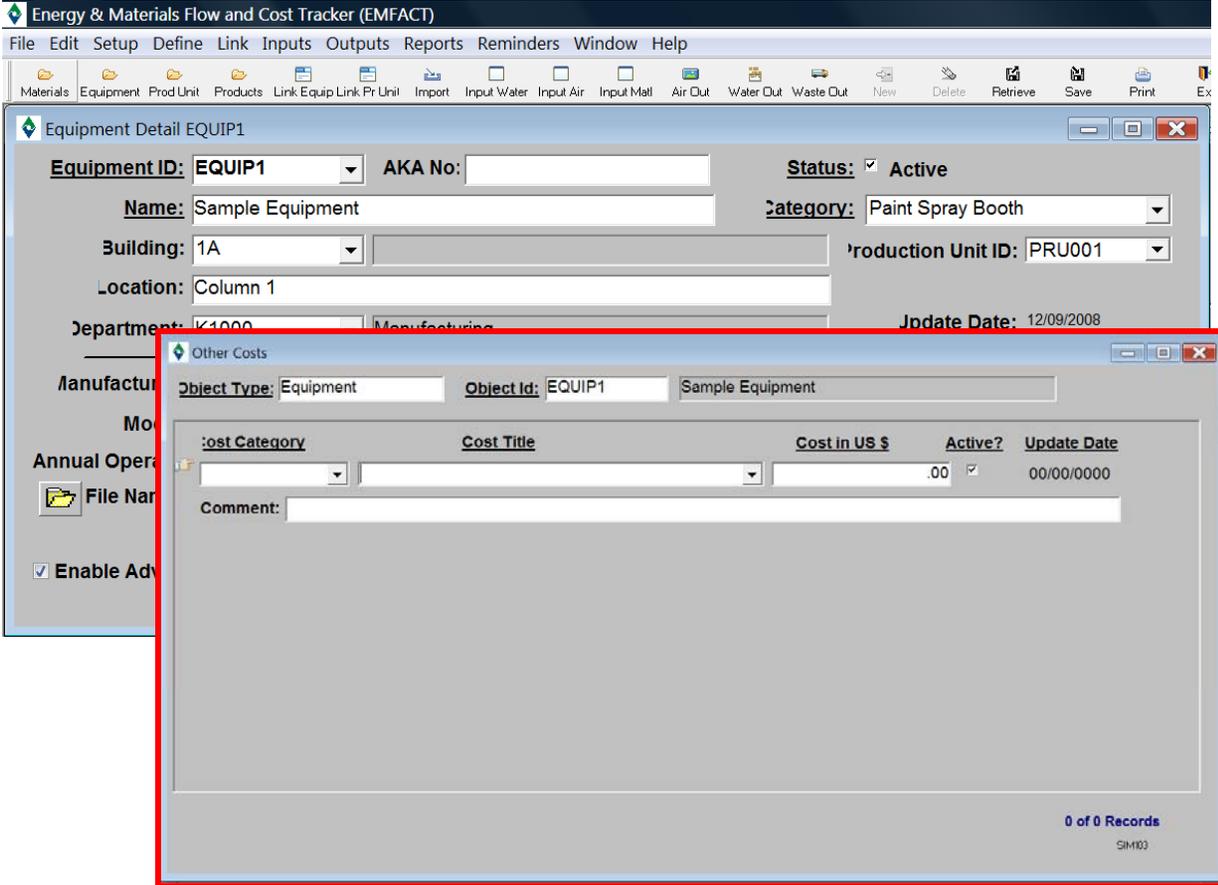
- Manufacturer
- Model
- Annual Operation Hours
- Permit/Regulation Number

Attach a **File** to the record by clicking the **GO** button

Add **Comments** by clicking the **Comments** button

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*

NEWMOA Define → Equipment → Equipment List

The screenshot shows the EMFACT software interface. The main window is titled "Equipment Detail EQUIP1" and contains the following fields:

- Equipment ID: EQUIP1
- AKA No: [Empty]
- Status:  Active
- Name: Sample Equipment
- Category: Paint Spray Booth
- Building: 1A
- Production Unit ID: PRU001
- Location: Column 1
- Department: K1000 Manufacturing
- Update Date: 12/09/2008

An "Other Costs" window is overlaid on top, containing a table with the following columns:

Cost Category	Cost Title	Cost in US \$	Active?	Update Date
[Dropdown]	[Dropdown]	.00	<input checked="" type="checkbox"/>	00/00/0000

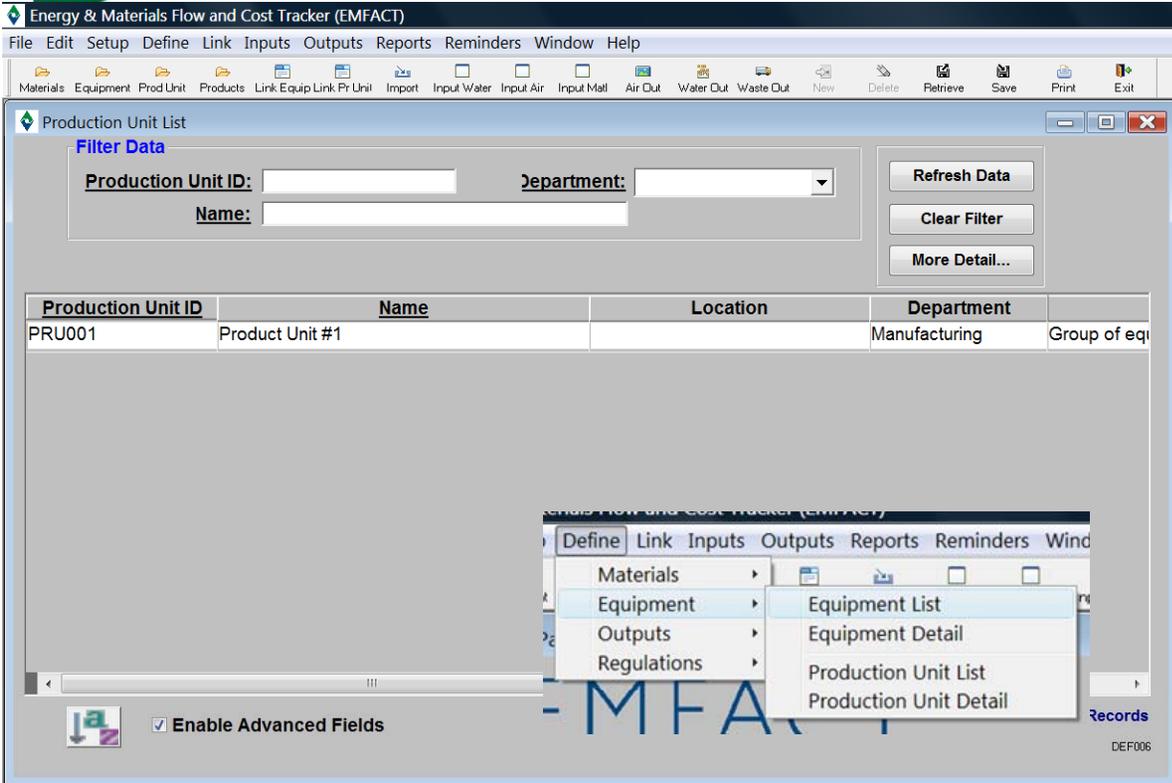
Below the table is a "Comment:" field. At the bottom right of the window, it says "0 of 0 Records".

### Manage Equipment Detail

Click the **Costs** button to add **Cost** information to the Equipment



*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*



### Manage Production Unit List

You may define the **Production Units** that are in use at your facility. Production Units are groups of **Equipment**.

Required fields include:

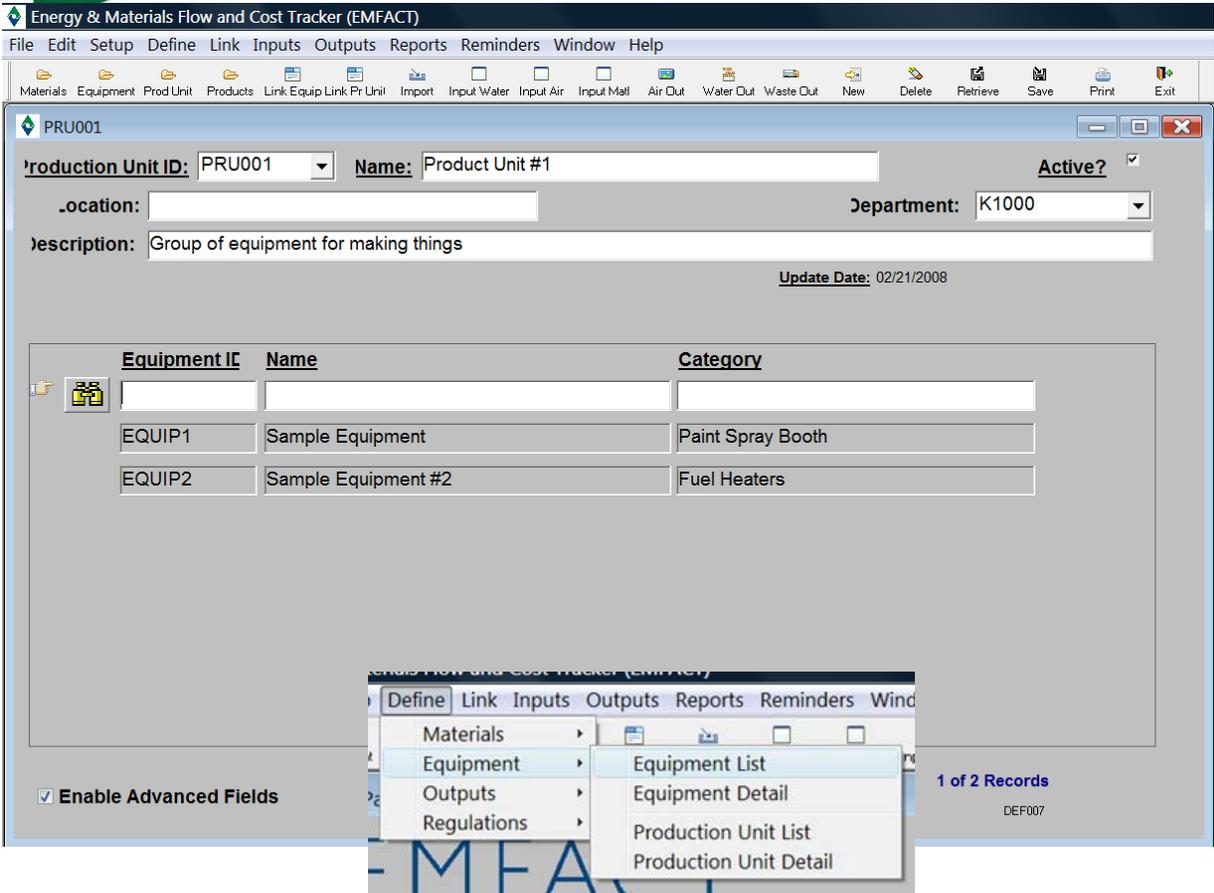
- Production Unit ID
- Production Unit Name

Optional fields include:

- Department
- Location
- Description
- Others

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*

# NEWMOA Define → Equipment → Production Unit Detail

Production Unit ID: PRU001    Name: Product Unit #1    Active?

Location:    Department: K1000

Description: Group of equipment for making things    Update Date: 02/21/2008

Equipment IC	Name	Category
EQUIP1	Sample Equipment	Paint Spray Booth
EQUIP2	Sample Equipment #2	Fuel Heaters

1 of 2 Records    DEF007

## Manage Production Unit Detail

Identify which **Equipment** belongs to the Production Unit

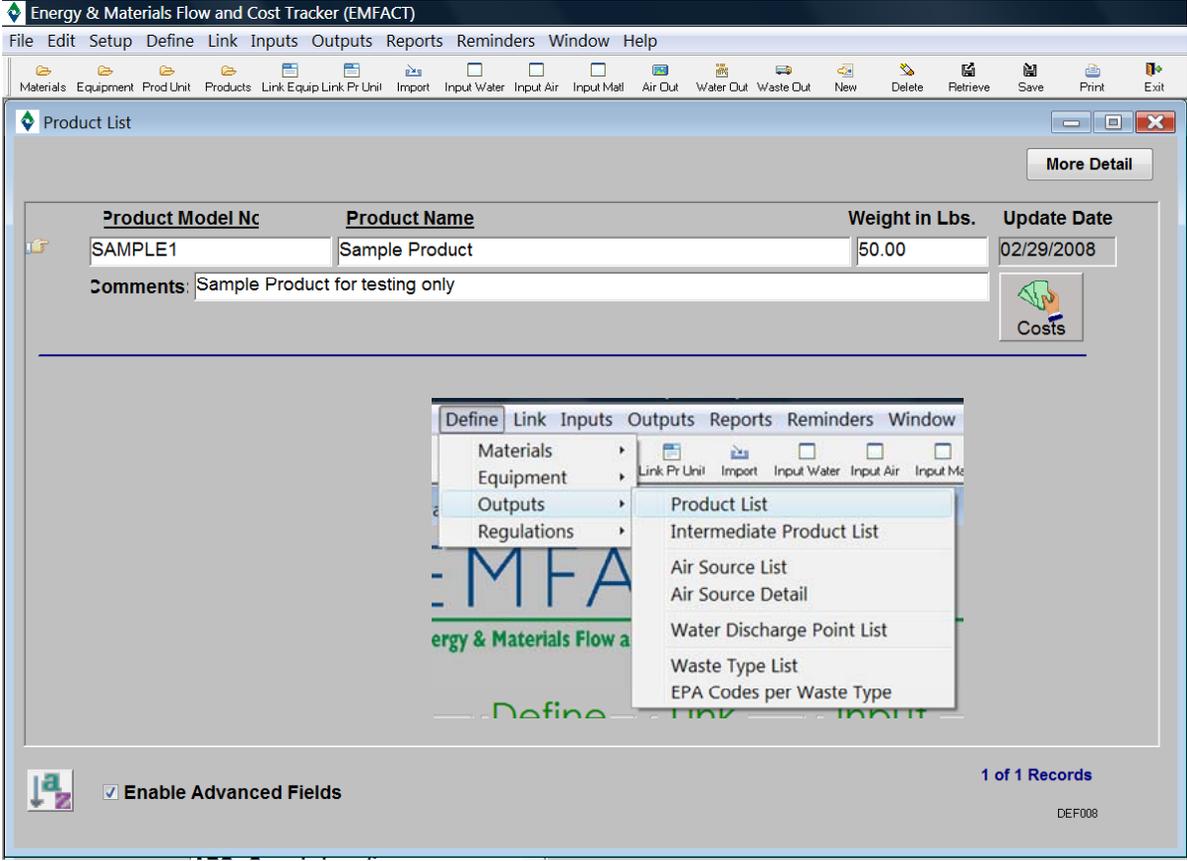
If you don't know the Equipment ID, click the **binoculars** icon to launch the search process to add Equipment

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*

Let's try EMFACT Define Equipment/Production Unit now....

- Add to the Equipment List
  
- Review Equipment Detail
  
- Create a Production Unit

# NEWMOA Define → Outputs → Product List

## Manage Product List

A **Product** is an output from your manufacturing process

Required fields include:

- Product Model Number
- Product Name

Optional fields include:

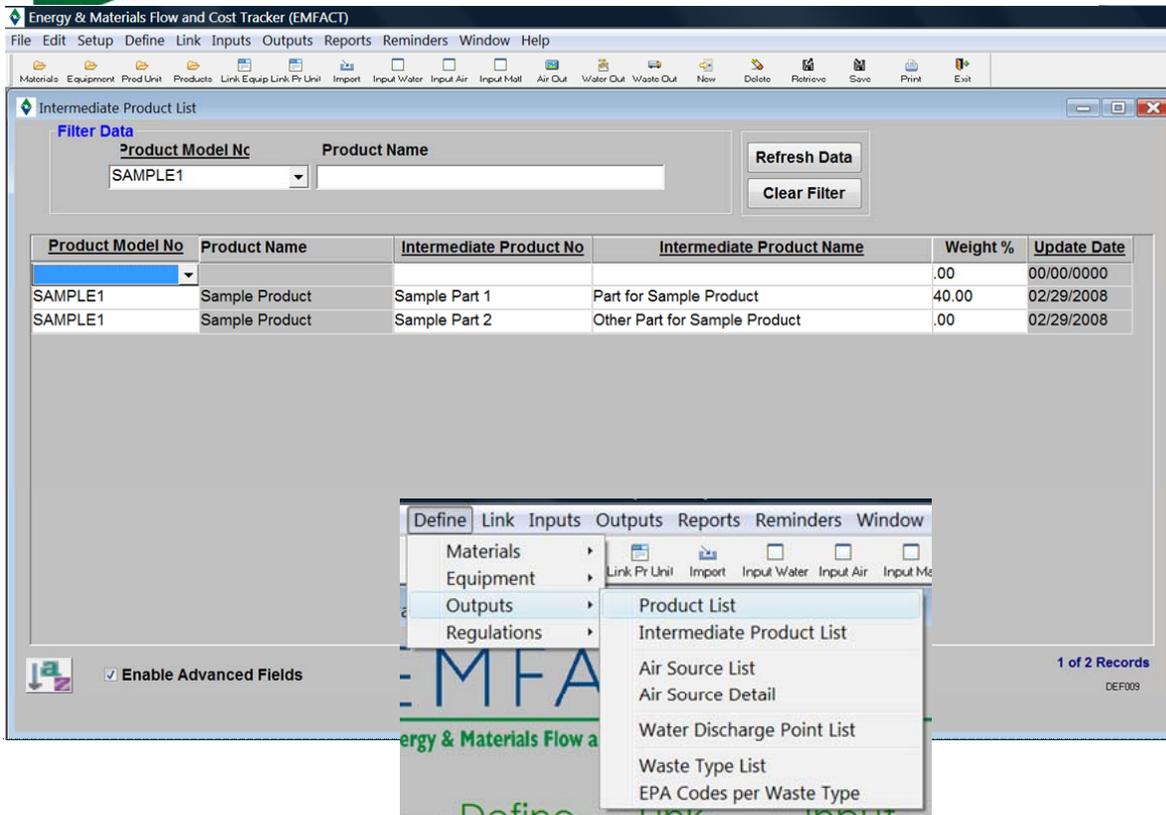
- Weight in pounds
- Comments

Click the **Costs** button to add Cost information to the Product



*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*

# NEWMOA Define → Outputs → Intermediate Product List

## Manage Intermediate Product List

An **Intermediate Product** is a component of the Product

You may define one or more Intermediate Products per Product

Required fields include:

- Intermediate Product Number
- Intermediate Product Name

Optional fields include:

- Weight %

**All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets**

# NEWMOA Define → Outputs → Air Source List



Air Source ID	Exit Direction	Air Source Lining	Air Source Category	Through Roof?	Fugitive Emission?	Rainhat?	Active?	Building Code	Permit No
AIR001	Vertical	Metal	Ambient Air Vents - Sky v	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

## Manage Air Source List

**Air Sources** are outputs from your manufacturing process.

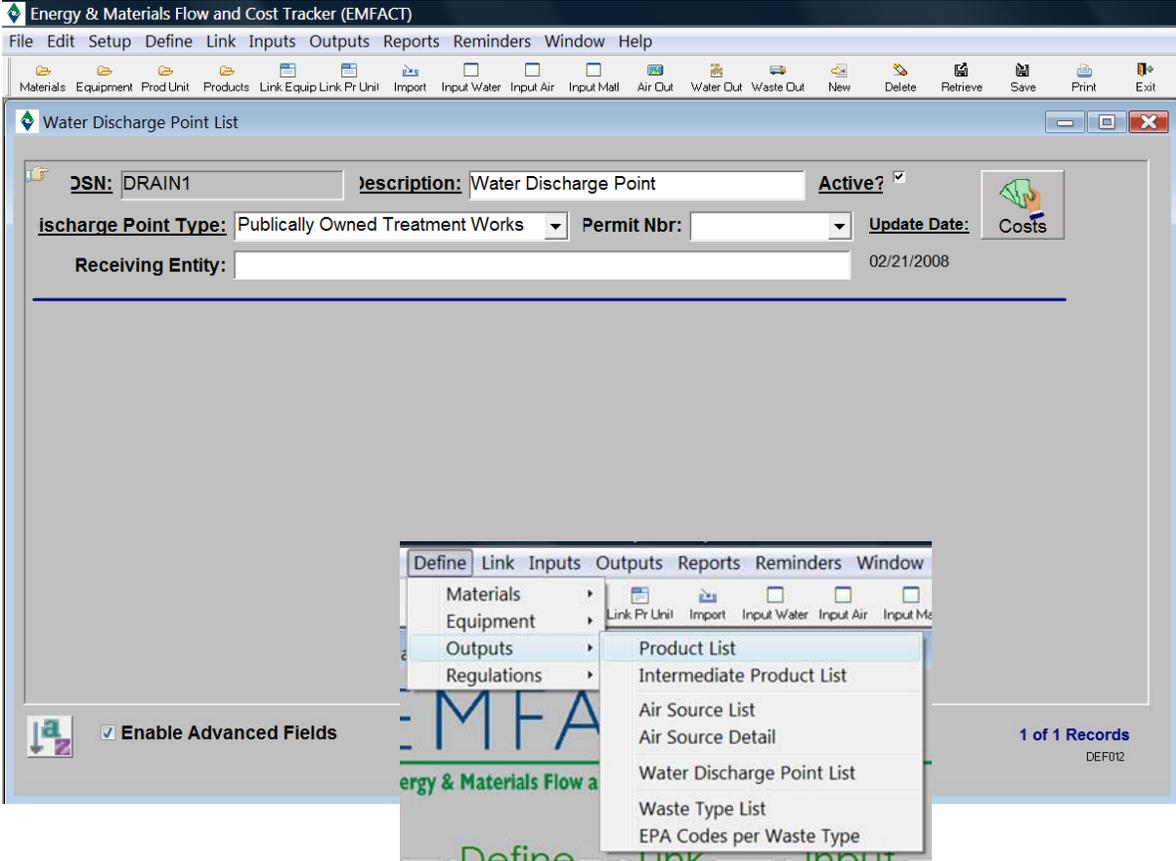
You may define Air Sources as **Stacks** or **Fugitive Emissions**

Required fields include:

- Air Source ID
- Exit Direction
- Air Source Lining
- Air Source Category
- Through Roof?
- Fugitive Emission?
- Rainhat?
- Active?

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*

NEWMOA Define → Outputs → Water Discharge Point List

**Manage Water Discharge Point List**

**Water Discharge Points** are outputs from your manufacturing process.

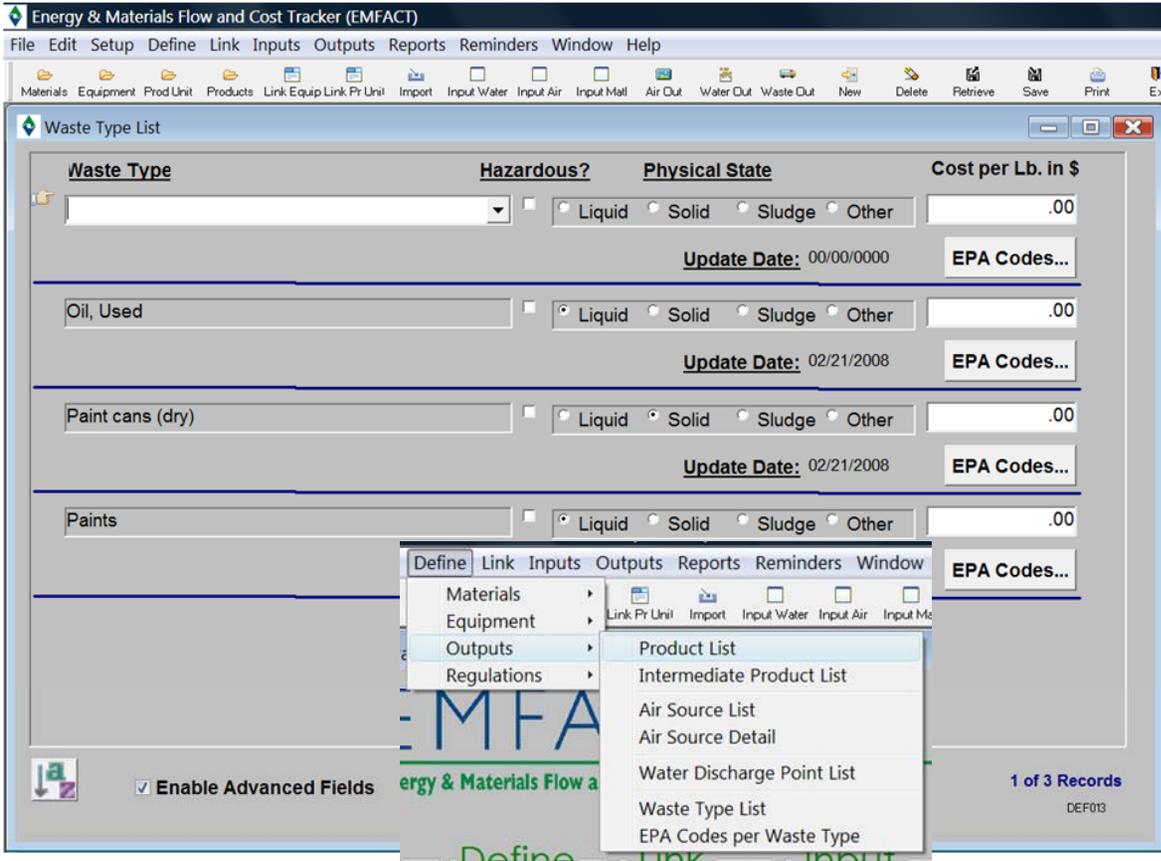
Document the **Water Discharge Flow** that will be related to **Equipment** or **Production Units**

Required fields include:

- DSN
- Description
- Discharge Point Type
- Active?

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*

NEWMOA Define → Outputs → Waste Type List

**Manage Waste Type List**

**Waste** is an output from your manufacturing process.

Document the **Waste Types** that will be related to **Equipment** or **Production Units**

Required fields include:

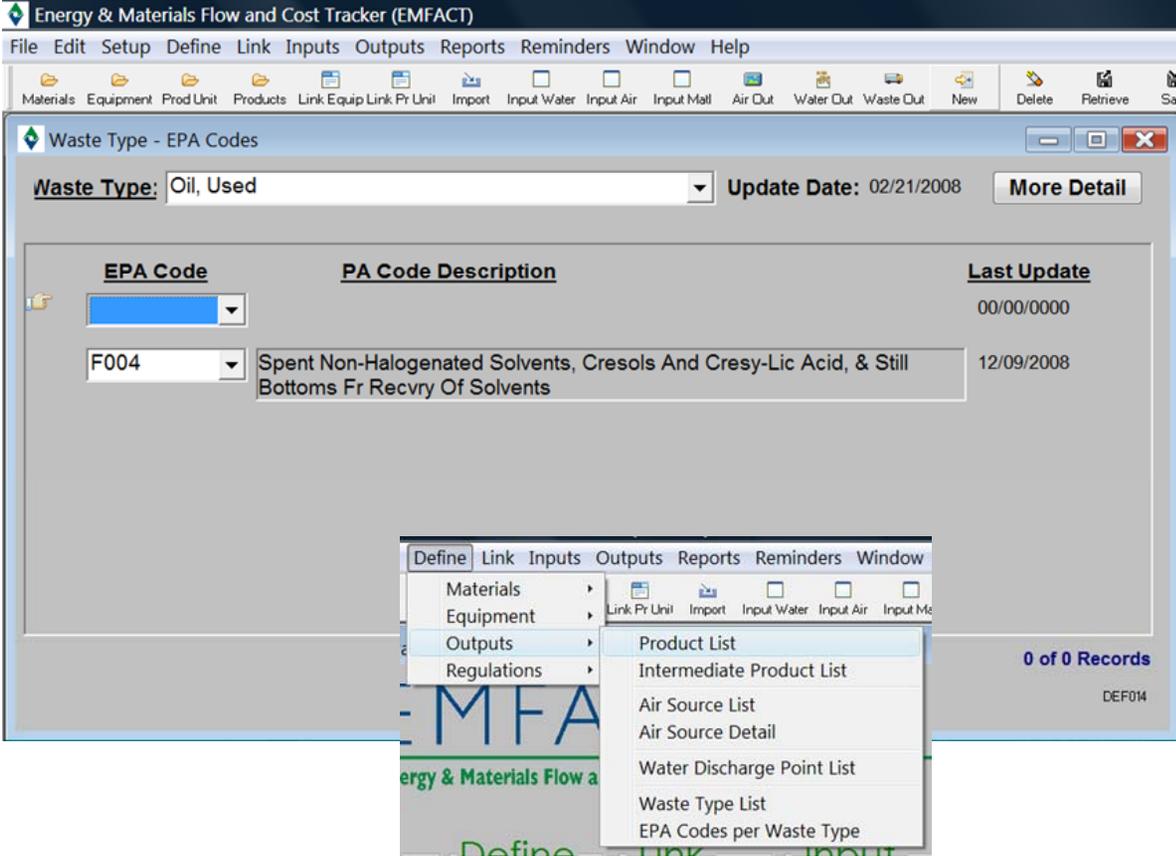
- Waste Type
- Hazardous?
- Physical State

Optional fields include

- Cost per pounds in \$

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*

NEWMOA Define → Outputs → EPA Codes Waste Type

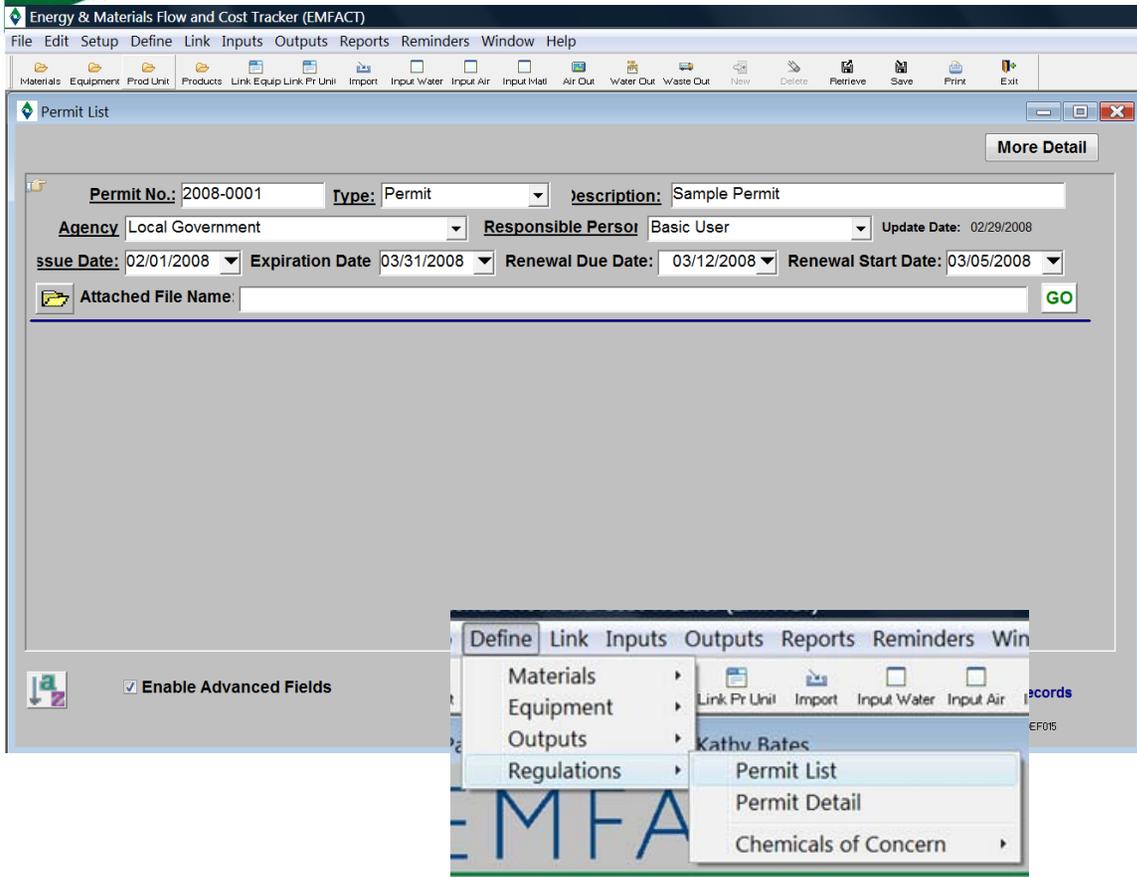
**Manage EPA Codes per Waste Type**

You may assign one or more **EPA Codes** to **Waste Types**

Select a **Waste Type** and appropriate **EPA Codes**

**EPA Codes** are managed in **Setup → Drop Down Lists**

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*



### Manage Permit List

You may document a Permit or other certificate that controls equipment operation

Required fields include:

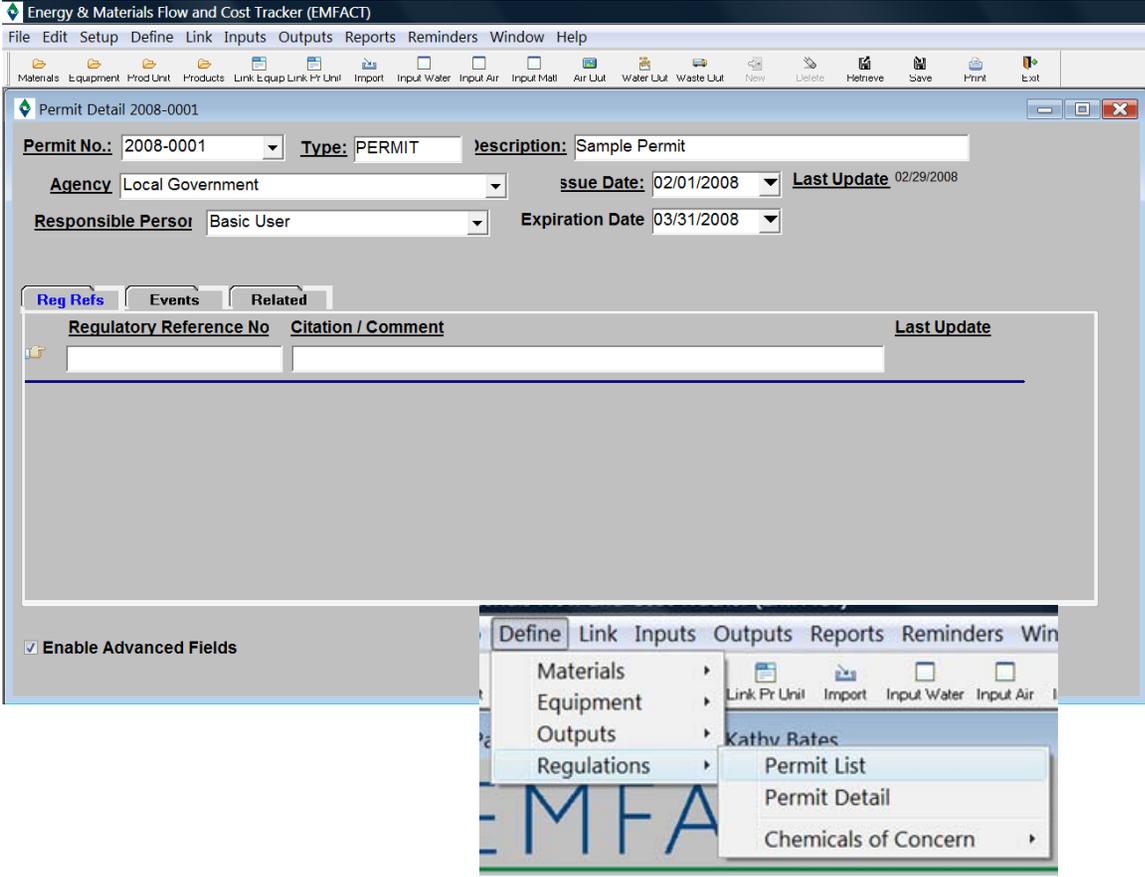
- Permit Number
- Type
- Description
- Agency
- Responsible Person
- Issue Date

Optional fields include

- Expiration Date
- Renewal Due Date
- Renewal Start Date

**All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets**

NEWMOA Define → Regulations → Permit Detail List

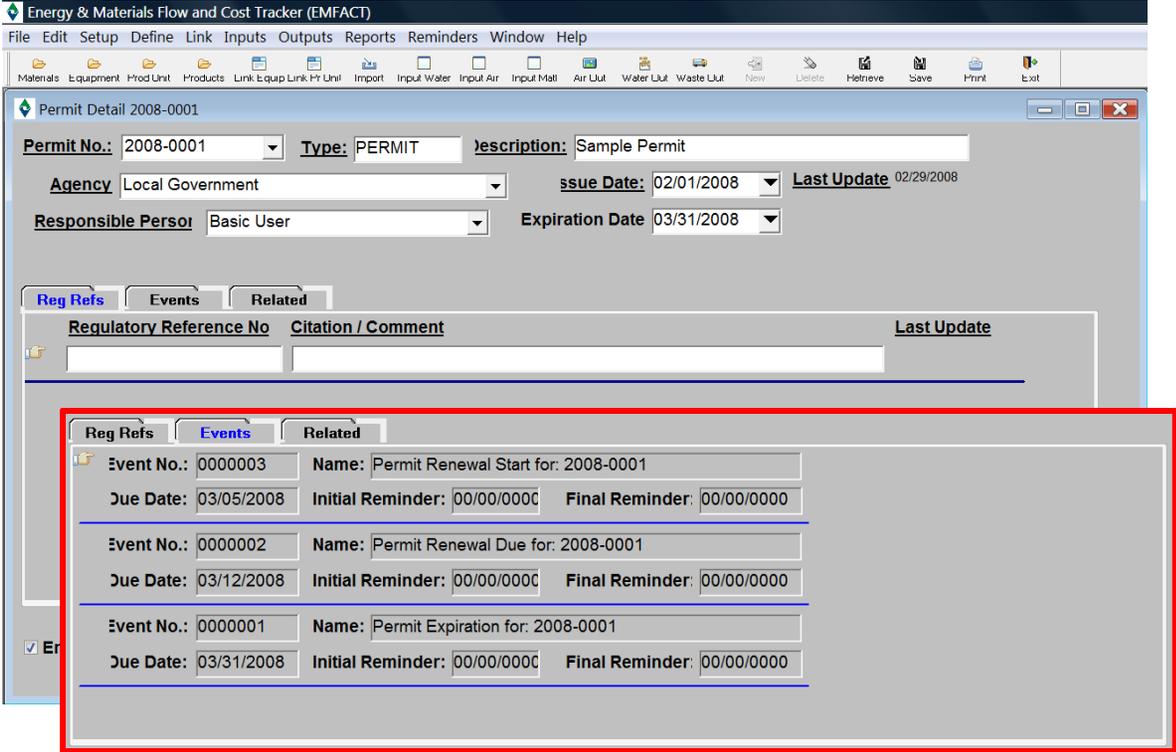



**Manage Permit Detail List**

The **Reg Ref tab** enables you to document the descriptive title of the applicable **Regulation** (e.g., 40 CFR 54) and a description of the specific **Citation** (or **Comment**) within the applicable regulation

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*

NEWMOA Define → Regulations → Permit Detail List

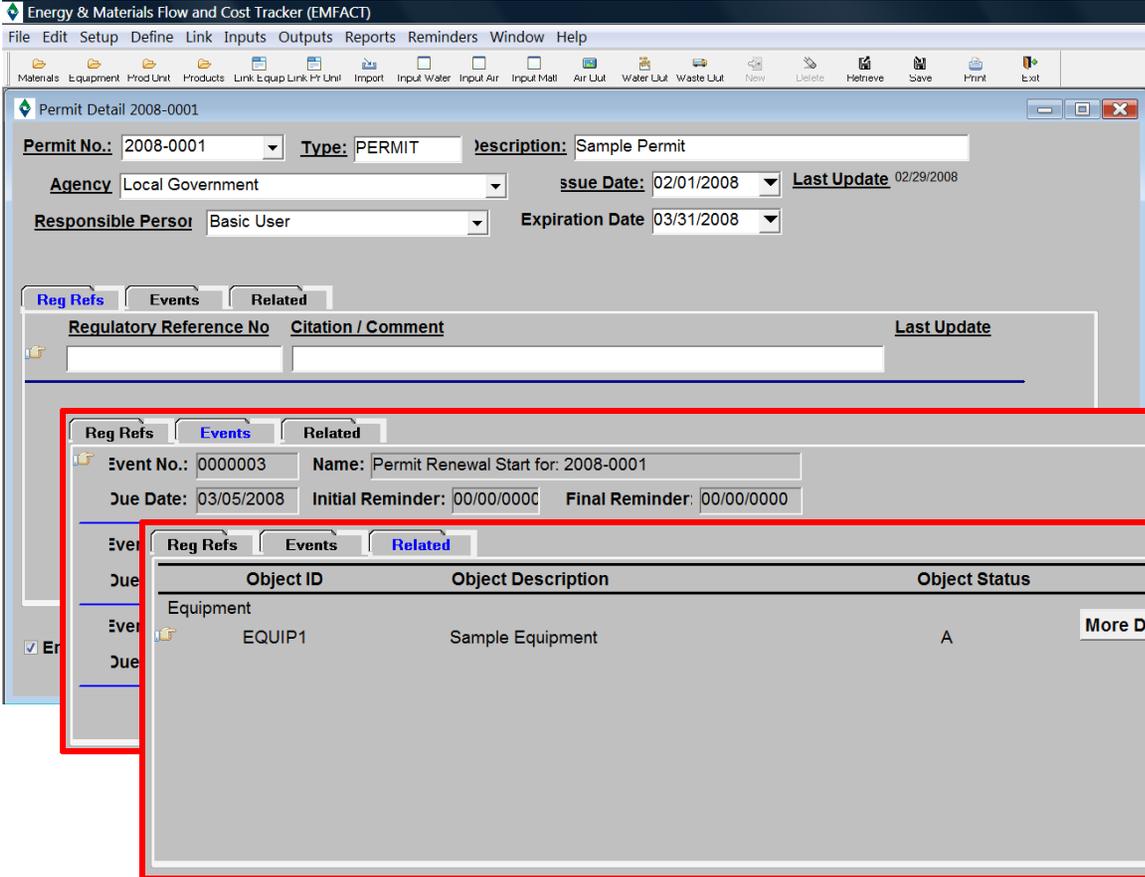
Event No.:	Name:	Due Date:	Initial Reminder:	Final Reminder:
0000003	Permit Renewal Start for: 2008-0001	03/05/2008	00/00/0000	00/00/0000
0000002	Permit Renewal Due for: 2008-0001	03/12/2008	00/00/0000	00/00/0000
0000001	Permit Expiration for: 2008-0001	03/31/2008	00/00/0000	00/00/0000

### Manage Permit Detail List

The **Events tab** allows you to view the date-based events related to the **Permit**

The **Permit Expiration Date, Renewal Due Date, and Renewal Start Date** from the **Permit Detail** are automatically established

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*



Permit Detail 2008-0001

Permit No.: 2008-0001 Type: PERMIT Description: Sample Permit

Agency: Local Government Issue Date: 02/01/2008 Last Update: 02/29/2008

Responsible Person: Basic User Expiration Date: 03/31/2008

Reg Refs Events Related

Regulatory Reference No	Citation / Comment	Last Update

Event No.: 0000003 Name: Permit Renewal Start for: 2008-0001

Due Date: 03/05/2008 Initial Reminder: 00/00/0000 Final Reminder: 00/00/0000

Reg Refs Events Related

Object ID	Object Description	Object Status	
Equipment			
EQUIP1	Sample Equipment	A	More Detail

### Manage Permit Detail List

The **Related** tab allows you to view EMFACT objects (equipment, air sources, and/or water sources) that have been related to the **Permit**

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*

# NEWMOA Define → Regulations → Chemicals of Concern

Define → Regulations → Chemicals of Concern → List Names



List	List Name	List Scope	State Code	Last Update	Active?
		Federal		12/09/2008	<input checked="" type="checkbox"/>
ACR	Accidental Release Substances	Federal		12/05/2001	<input checked="" type="checkbox"/>
CA PROP	CA Prop 65 Feb 06	State	CA	06/02/2006	<input checked="" type="checkbox"/>
CT HAP	CT Hazardous Air Pollutants	State	CT	12/05/2001	<input checked="" type="checkbox"/>
CT PETRO	CT Petroleum Products	State	CT	08/27/2003	<input checked="" type="checkbox"/>
CT WATER	CT Water Permit Renewal Tox/Haz Substances	State	CT	03/11/2005	<input checked="" type="checkbox"/>
EU REACH	EU REACH Candidate SVHCs Jun 2007	Federal		10/26/2007	<input checked="" type="checkbox"/>
FED HAP	Hazardous Air Pollutants	Federal		12/05/2001	<input checked="" type="checkbox"/>

## Manage Chemicals of Concern

There are three windows available to help you manage and maintain **lists of Chemical Concerns:**

View and maintain the **entire list** of chemicals on all lists of concern

Maintain the names of the chemicals on **one list** by selecting the list name from the predetermined drop down of list names.

Maintain the **names** of the lists of chemicals of concern **(example)**

*All fields available for each setup and define process are identified in the EMFACT Data Dictionary and in the Data Entry Worksheets*

This concludes **Part 1** of the **EMFACT Overview**

Please reference  
**EMFACT Workshop EMFACT Overview Part 2 FINAL.PPT**  
for **Part 2**