west virginia department of environmental protection

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Foreword

Welcome to Satellite i-STEPS Version 5. As in previous years, air pollution sources in WV will use Satellite i-STEPS for gathering their emissions inventory data, and sending that data to the air inventory group at the WV Department of Environmental Protection. After we receive your data, we will use the i-STEPS master program to review your data, so we can do our quality assurance check. Then we will send the data from all facilities to US EPA to fulfill the grant commitment. We will also use your data for air quality planning purposes in West Virginia. If you have been charged with the unenviable task of preparing the air emission inventory for a facility in West Virginia, you will need this training manual. Satellite i-STEPS Version 5 is required for the job. Because of changes in the database structure, previous versions of i-STEPS will no longer work for the inventory submittal.

Satellite i-STEPS Version 5 is available free of charge. This manual contains detailed instructions for acquiring and installing the software. This manual also contains password information that will be required every time you start the Satellite i-STEPS program.

The Satellite is the front-end program that will make it easy for you to input your emission inventory data. But, as you may have already guessed, version 5 is not backward compatible with previous versions. Version 5 will not read your data from before 2004. You will need to use the data contained in last year's submittal and update it with 2009 emissions data. If you do not have your 2008 inventory in Version 5 format, please contact Dave Porter at 304/926-0499 ext. 1699 or by email at david.j.porter@wv.gov and he will send you a correctly formatted data set.

This manual is based on the training manual for Satellite i-STEPS written by the Indiana inventory program staff. We are eternally grateful to Mr. Jay Koch of Indiana for making the electronic version of this training manual available to us. After changing "Indiana" to "West Virginia", the manual was almost ready for our use. We simply checked it for compatibility, and updated it with the changes we made to the database structure.

We have put this manual through extensive rigorous testing. We take full responsibility for any errors and omissions in the manual. Please do not bother the good folks at Indiana if you find a mistake in this manual.

Section 1 of this manual begins by telling how to install Satellite i-STEPS on your computer. It goes on to explain the icons, buttons, and windows in Satellite i-STEPS. After finishing section 1, you will be ready for the exercises in section 2.

Section 2 explains step by step how to enter a very limited amount of data for a fictitious new facility by using the wizard. Do the exercises on your computer to get familiar with the satellite and the 2 different levels of wizardry available to you - the wizard, and the wizard assistant. This section will be particularly useful for anyone with a new facility. It will also be useful for anyone who prefers to ignore their submittal from last year and start over.

Section 3 explains how to import data from last year*. The exercise starts by having you delete the facility you created in section 2 so you can import the full data set that we have provided for that fictitious facility. We recommend that you do the deletion exercise. As paragraph 12 on page 27 shows, deletions can be facility-wide, or you can pick and choose which parts of your submittal you want to delete so you can start over on that part. Deleting and/or importing can be useful if you accidentally leave the satellite open at home, and your grandchildren decide it looks more exciting than their latest video game. Temporary summer employees can be just as damaging to your data as your grandchildren.

Most of the stuff in section 4 was briefly covered in section 2, but section 4 gives a more detailed look at general facility information with suggestions on where to obtain the missing data you need.

The exercises in sections 5 through 10 were written specifically for the fictitious facility that you will import from the data set that we have provided. As the manual states, you will need to (delete and) import that fictitious facility before beginning section 5. Although the information in section 5 was covered in section 2, section 5 gives additional practice at entering new stacks in the fictitious facility. Section 5 will prepare the fictitious facility for the exercises in the later sections. The exercises in section 5 are easy. Practice makes perfect.

The remaining sections all cover new ground as they systematically take you through exercises in abatement equipment, group area designations, process unit identification, control scenarios, process unit emissions, and finally exporting your data so you can send it to us. The time it takes to do the exercises will be well worth it. You will quickly become an expert on Satellite i-STEPS.

A set of appendices can be found at the back of the manual. One is called Short Instructions. In this appendix, each main screen in Satellite i-STEPS has been summarized to a one-page description of that screen for easy reference.

Other appendices give more information on various aspects of Satellite i-STEPS. One is a data entry flow chart, another tells about printing, another gives additional information about deleting, and the final appendix has definitions for some of the common terms that you will encounter.

One last caution. This manual was written for Satellite i-STEPS, not to be confused with WebSatellite i-STEPS. WebSatellite was still being developed when we wrote this manual. If you are preparing an air emission inventory for a facility in a state that uses WebSatellite, please be aware that WebSatellite may or may not have the same look and feel as Satellite i-STEPS.

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* Do not attempt to import any data you sent us for 2003 or earlier - it will not work properly. Instead, use your CY2008 data or the CY2003 data that we reformatted for you.

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Section 1: Introduction

Introduction

It is the objective of this manual to not only show you how to enter data, but also to point out places where the Satellite i-STEPS program can leave you hanging in space wishing someone would toss you a parachute.

Installing Satellite i-STEPS

The software can be simply installed by running the WVSat.exe file and following the instructions. The software can be downloaded from the WVDEP/DAQ website at www.dep.wv.gov/daq/planning/inventory/pages/2009pointsources.aspx.

HELP: When installing this software we recommend that you install it to the C:\ drive of your computer. If you do not, it will prompt you for the location where you installed it as the last step. If you skip this, you will not be able to use the Satellite, and you will need to uninstall and then re-install the software.

Another thing is that this software is not shareable across a network, so don't try it. If you want this software to do that, you will need to contact MACTEC for an upgrade.

Lastly, if you are unable to install due to limitations placed upon you by your computer professionals or by company policy, we cannot help you. You will need to either get permission to install the software, or have it installed by your computer professionals.

Manual Conventions

Although a basic knowledge of Windows is assumed, we have tried to make the conventions used in this manual as intuitive as possible.

Click means to position the mouse cursor on whatever object, button, or tool is mentioned, press and release the left mouse button.

Select is often used interchangeably with click, but it can have the added meaning of highlighting objects. See how intuitive we are?

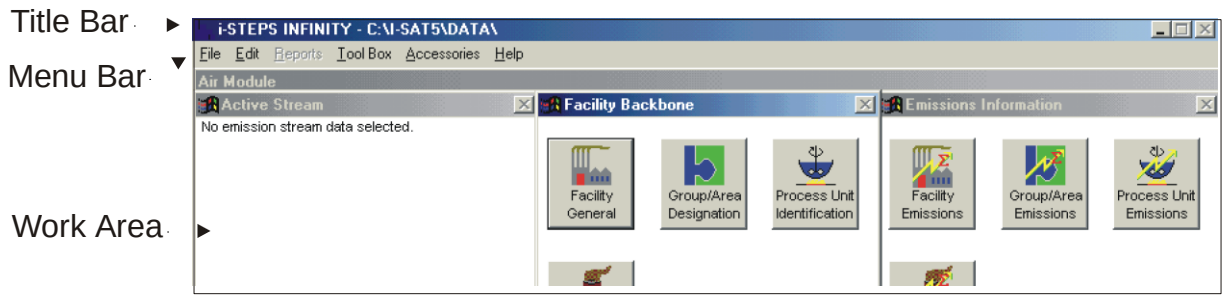
Text that you are to type will be in **bold letters**.

There are a number of yes/no data entry fields on various screens throughout the software. Some are handled intuitively by typing "**Y**" or "**N**" into the blank. Others are handled with a check-box - some with "Yes" for the default, others with "No" for the default. You can change the entry as many times as you want simply by clicking in the check-box. In all cases, if the check-box is

unchecked (no check mark in the box), it means "No". When there is a check mark in the box, it means "Yes". With this in mind...

Check means to click in an unmarked check-box, thus changing it from "No" to "Yes".
Uncheck means to click in a marked check-box, thus changing it from "Yes" to "No".

Common Windows Terms



All programs designed to run in Windows are supposed to have a common graphical user interface. The elements of this common GUI that are of interest to us include the title bar, the menu bar, and the work area.

Title Bar

The Title Bar shows the name of the open application and the location of the file being accessed. The right side of the bar contains buttons useful to modify the size of the window. Only the first, or the minimize button, is enabled. Pressing this button will send the application to the Windows Task Bar.

Menu Bar

The Menu Bar contains the commands that you will use to access many of the functions you will use in Satellite i-STEPS. Each of the menus contains a list of commands in a drop-down menu that you access by clicking on the menu. For example, click on Edit and you will see a drop-down menu. Notice the commands are grayed out. This just means that you haven't done something that you need to do before you can invoke it.

Work Area

The Work Area is the entry point to the screens where all of the stuff you do will get done. It contains a graphical map of the various data entry/data maintenance windows that are available in Satellite i-STEPS.

What is Satellite i-STEPS?

The United States Environmental Protection Agency (USEPA) requires each state to maintain an estimated level of air quality. Maintaining data relevant to air quality, permitting, compliance, and emissions accomplish this task. USEPA requires the appropriate state agency (WV DEP) to compile air quality and emissions data, quality control the data compiled, run analysis on the data, and return the results to USEPA. WV DEP uses a program called i-STEPS® Infinity to compile the data and perform the analysis.

Satellite i-STEPS is a scaled-down version of the i-STEPS program designed to run on a Personal PC in a Windows operating system. You can use Satellite i-STEPS to input your data and then send it on to WV DEP.

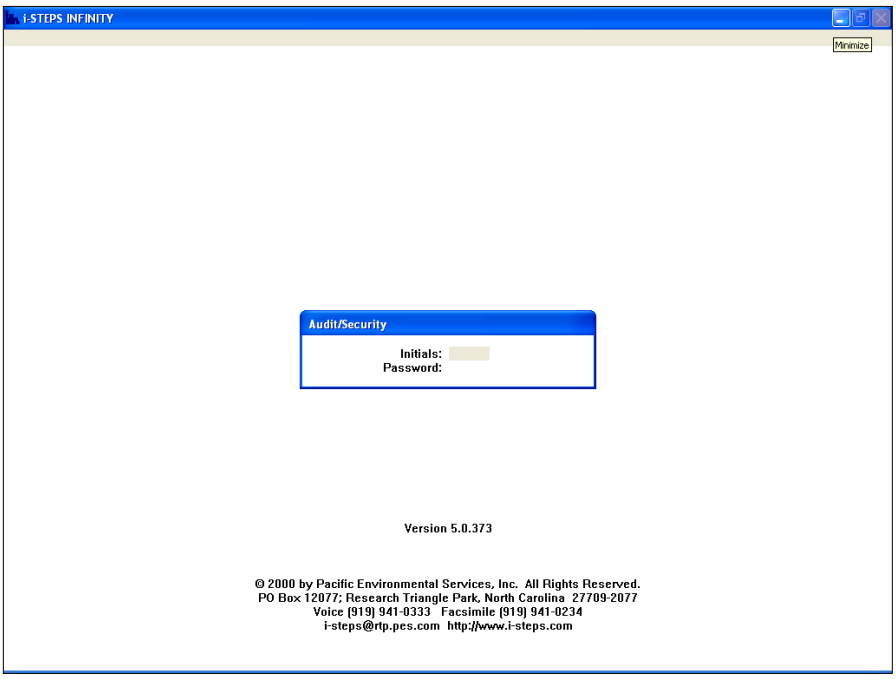
In summary, you collect the data, forward it on to WV DEP who in turn compiles it and then sends it on to USEPA.

Starting Satellite i-STEPS

To start Satellite i-STEPS:

1. Find the Satellite i-STEPS icon on your desktop.

2. Double click on the icon.
3. After a short splash screen you will be greeted with the following:



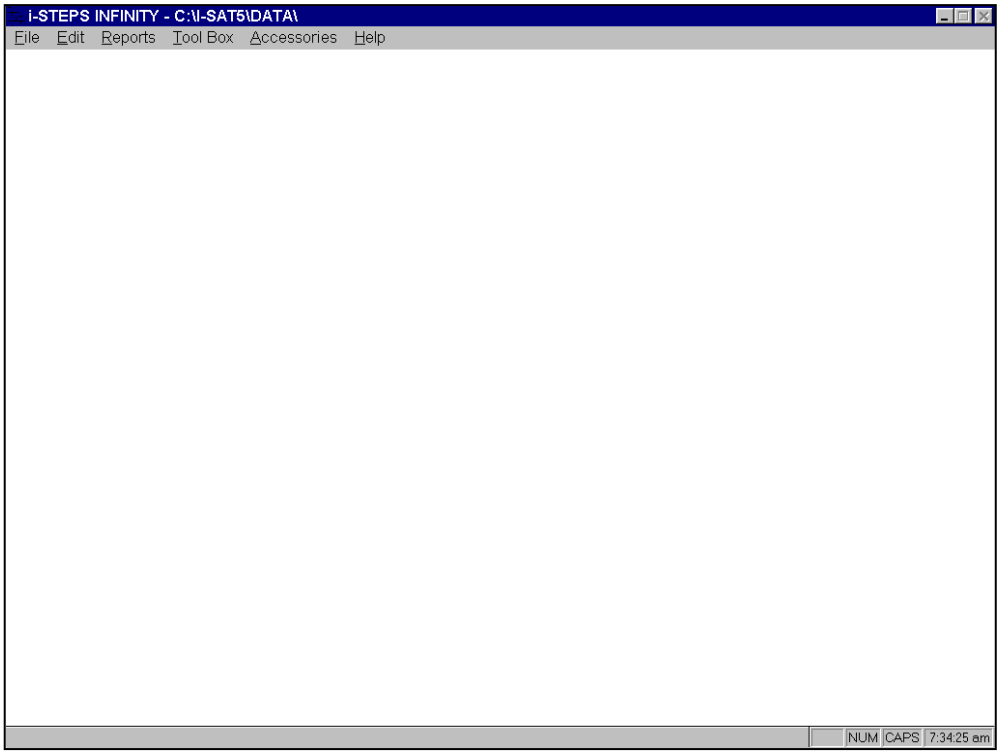
Satellite i-STEPS requires the use of two fields, initials and a password. We need to use the initials "SAT", and the password "LAUNCH". This information is case sensitive, so be sure you input it in capital letters!

4. Type "**SAT**" in the Initials field and press the TAB key. The computer will pause for a while and you will see an information box telling you that the Satellite is establishing a connection to the back end database.

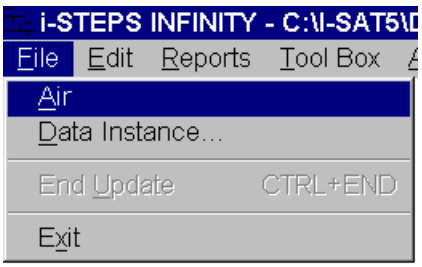
5. Type "**LAUNCH**" in the Password field and press the ENTER key. That same information box will appear telling you that you have SUPERVISOR access.

OK, so what happens if you type SIT instead of SAT? You will be told that you have an invalid Username/Password combination, and that you should try again. Keep getting it wrong and the Satellite will eventually give up on you, and you can start all over. Try it.

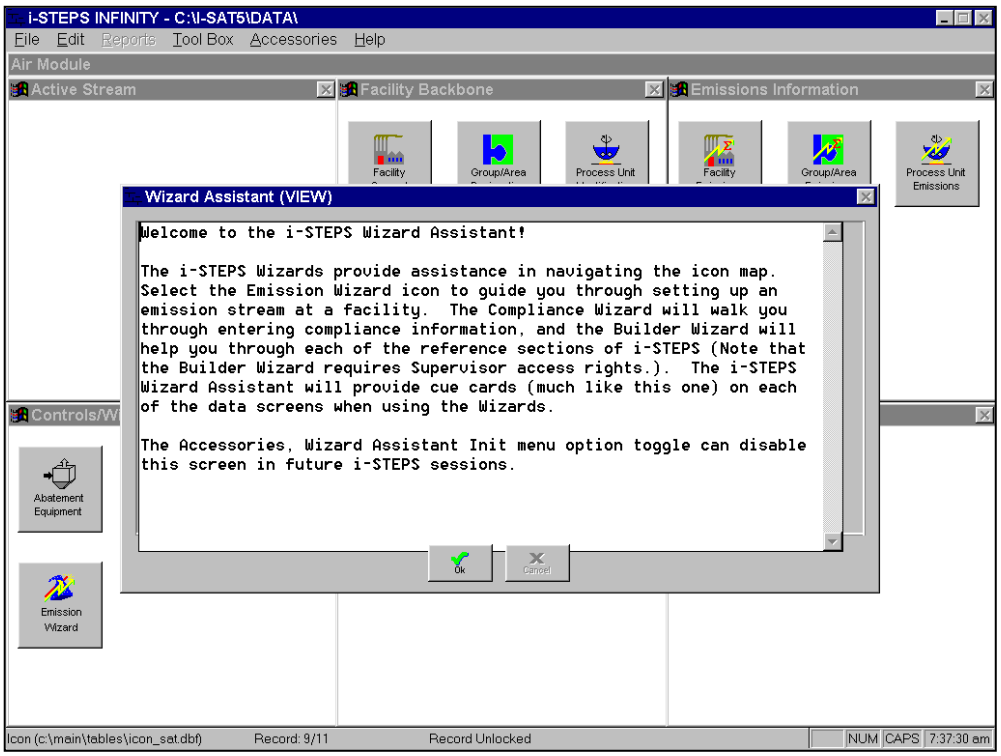
6. You will now be presented with this exciting screen:



7. Select **Air** from the **File** menu

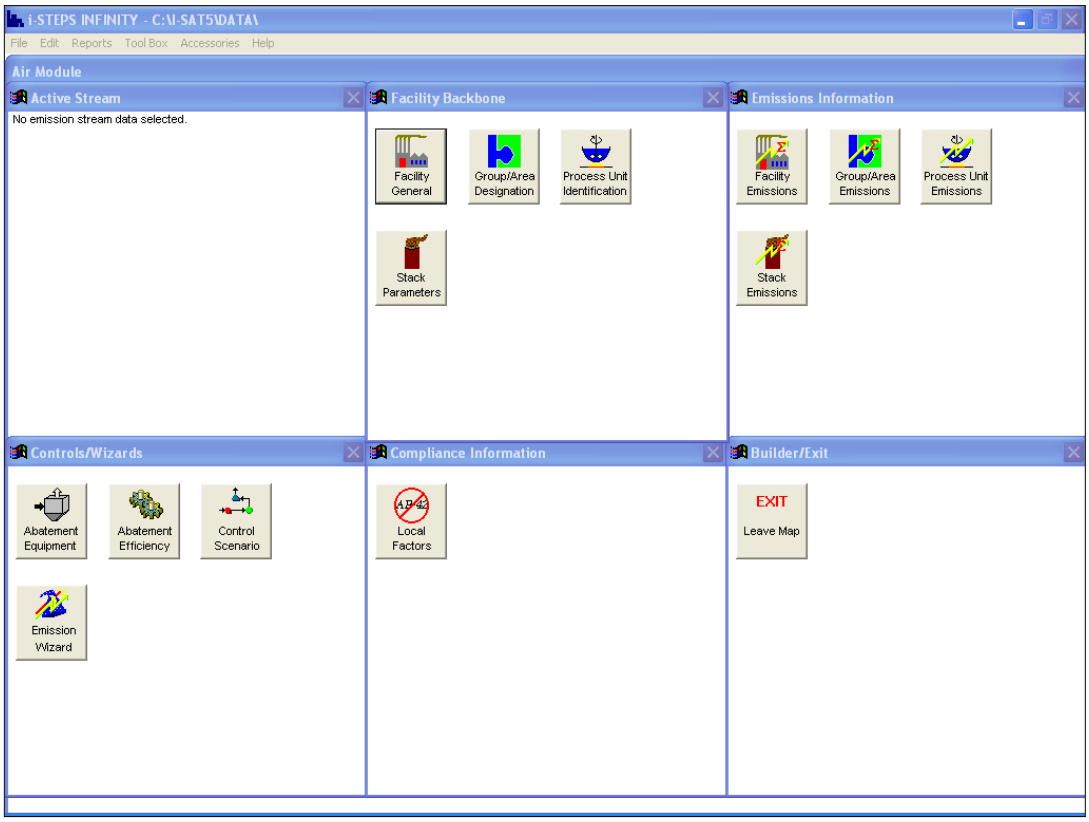


Here's your next screen:



Using the Data Map

8. Click OK to close the Wizard, if it pops up.



Notice that the Work Area is divided into six sections, Active Stream, Facility Backbone, Emissions Information, Controls/Wizards, Compliance Information, and Builder/Exit.

Active Stream

This section will show information about the stream currently being analyzed. Information will include State, County, Facility, Group, Process, and Pollutant. It is currently blank, because we haven't yet entered any information into the database.

Facility Backbone

Here is where information about a facility and its processes, is maintained. Four categories of data are input or maintained here.

Facility General. Information tracked here includes geographic coordinates of the facility, emissions and contact information, site address, and Standard Industrial Classification (SIC) code designations.

Stack Parameters. Each facility can contain one or more physical or logical emission stacks. The classical smoke stack represents a physical stack, while vents, windows, and the like represent logical stacks. Stack parameter information contains heights, diameter, exit gas velocities, and temperatures.

Group/Area Designation. Each facility contains one or more groups of process units. Process units can be logically or physically grouped, based on operating schedule, product line, equipment type, input material type, or any other grouping determined by the user, such as applicability of various air programs or regulations.

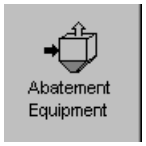
Process Unit Identification. A process unit is a logical piece of equipment or procedure that generates a unique set of media at a facility. For example, a boiler that burns two types of fuel at different times of the year (each fuel type burned produces a unique emission stream) is considered two process units. Process units can consist of equipment, production or service bays. Information such as Source Classification Code (SCC), actual process rate, and maximum design rate are maintained at this level.

Emissions Information

Process Unit Emissions. All emissions are calculated by the system or entered by the user at the Process Emissions level. Pollutants from each process unit are tracked with any applicable abatement equipment controls applied at this level.

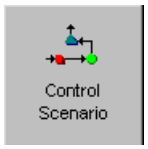
Satellite i-STEPS automatically summarizes emissions at the Group (Group/Area Emissions), Stack (Stack Emissions), and Facility (Facility Emissions) levels.

Controls / Wizards



Abatement Equipment. The entries in the Abatement Equipment area are used to identify the devices that reduce the emissions from each process unit.

Abatement Efficiency. The entries in the Abatement Efficiency area are used to define control efficiencies by pollutant for all abatement equipment.



Control Scenario. The entries in the Control Scenario area are used to apply abatement equipment to a process emission stream.

Emission Wizard. This wizard will guide the user (that's us) through the respective tasks of entering / viewing an emission stream or compliance data.

Compliance Information

Local Factors. Entries in this screen can be used to maintain local emission factors and comments for specific pollutants.

Builder / Exit

Builder / Exit. Here is where we perform the most delightful of our tasks so far. When we invoke this command, Satellite i-STEPS will take all of the information we have input and incorporate it into the database. Then, it will quietly send itself off into the ether, and we will find ourselves at that incredibly empty screen we saw after logging in.

Section Review

Believe it or not, we got a lot of stuff done in this section. We now know that Satellite i-STEPS is written in one of the more powerful database programs, a product called FoxPro. FoxPro was written by computer geeks for computer geeks, so it is not very well socialized. This section was also filled with terms and maps. We will learn to bend this program's aberrant behavior to our will!

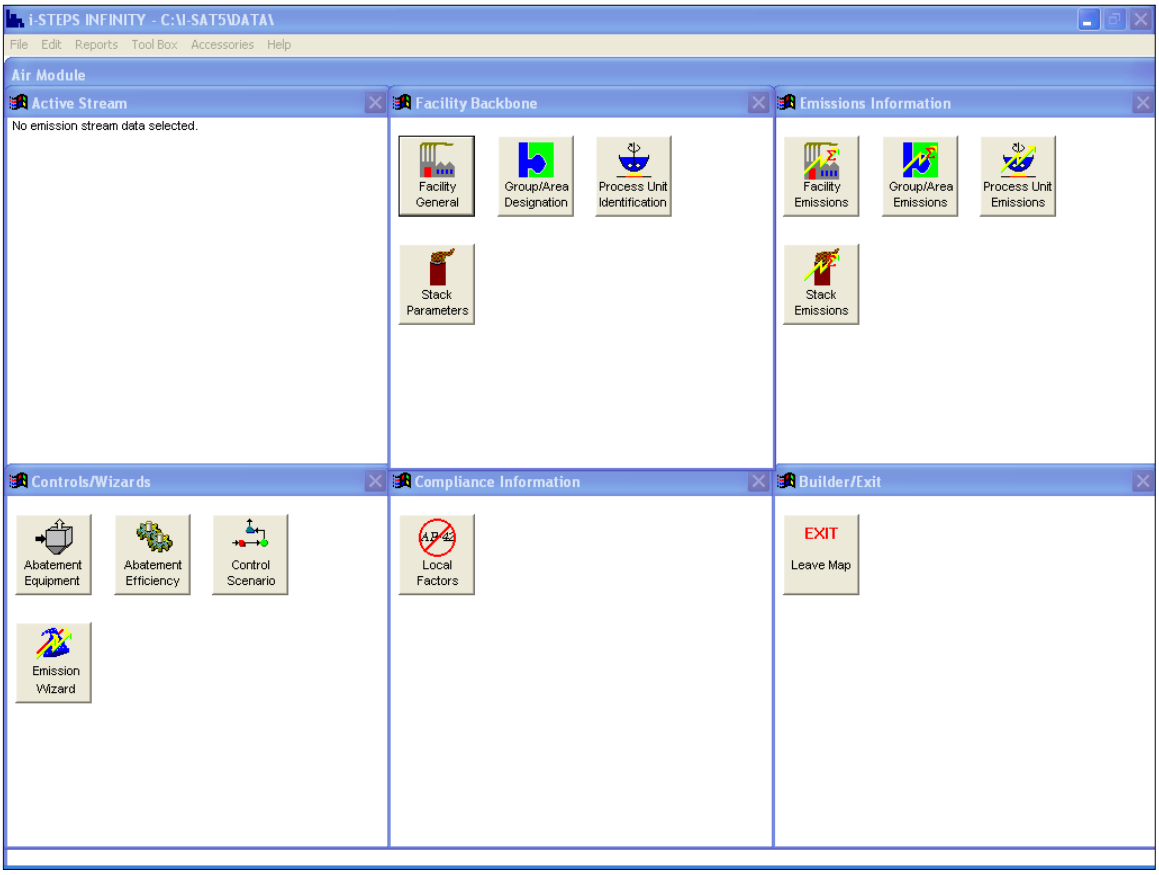
Section 2: Entering Data Using the Wizard

Introduction

This section focuses on entering information using the Emission Wizard. The Wizard can be helpful when entering data for the first time or for a new facility. If you don't want to use the Wizard to input information, skip to either Section 3 to import data or Section 4 to start inputting information.

Looking at a Data Entry Screen

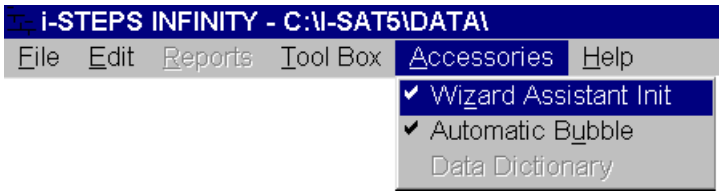
1. If you do not already have the Satellite up and running, go ahead and start it using the initials "**SAT**" and the password "**LAUNCH**" (both must be in uppercase)
2. Go to File, Air.
3. Now, Click **OK**, to shut up the wizard assistant if it pops up.
4. You should now be here, the Data Map:



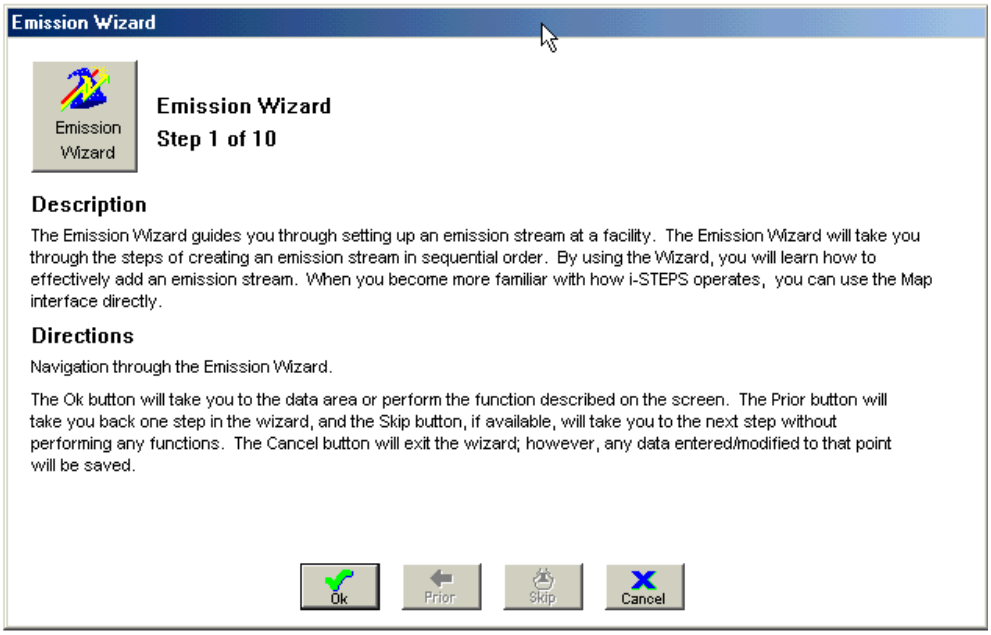
Let's tell the assistant that we are familiar with what it is saying, and we don't really need to hear it anymore. Do this by:

- Clicking on the **Accessories** Menu
- Click on **Wizard Assistant Init**

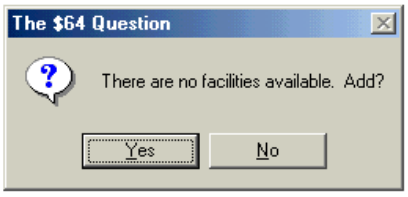
  This removes the check, and lets the Wizard Assistant, and us, get some rest.



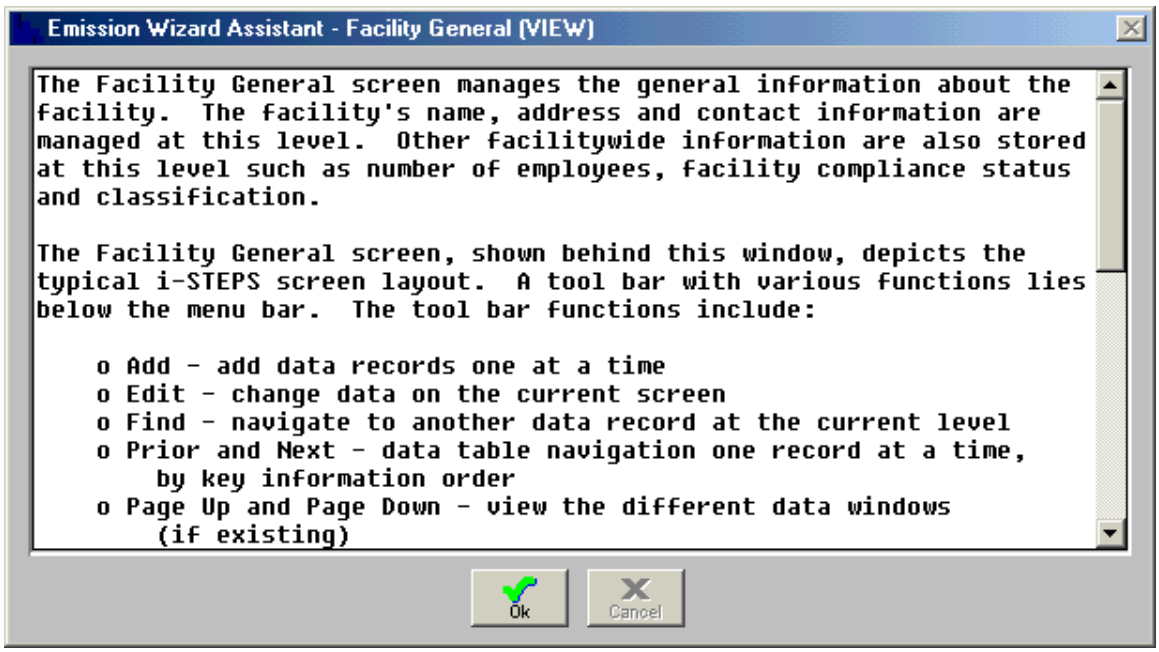
5. Click on the Emission Wizard
6. The Wizard opens.



- Read the screen then thank the Wizard by clicking on the **OK** Button.
- Read the next screen too, then thank the Wizard a second time, and if you haven't entered any information into the Satellite you will see:



- Say **yes** once again, and The Wizard gives you a description of the Facility General Screen.



This information is important, so take a moment to scroll through the box and read.

- Click on **OK.**

Using the Emission Wizard

Note that items in blue are required, and the Satellite is really insistent that you fill them.

State Code

West Virginia's State Code is **54**. If you don't know it, click on the Help button and a helpful list will appear on the screen. (F1 works, too.)

County Code

We will use a county code of **039**. If you don't know the code for the county your facility is in, scream

Facility ID

This is a five-character plant identifier required to assign emission/compliance information to a plant. We will use **03999**

Facility Name (Including corporate name – see page 32.)

How about **Cleanest Air Ever, Inc.?**

- Here's where we are so far:

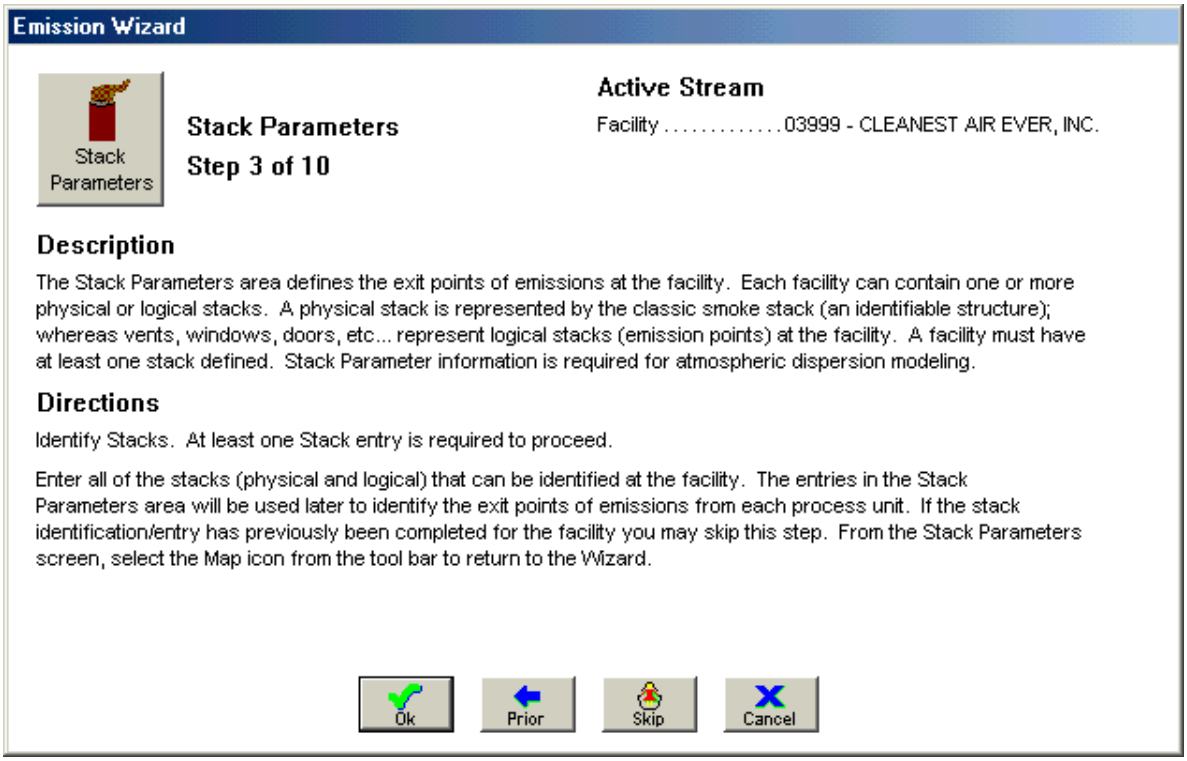
- Go ahead and fill out the remainder of the facility general screen, using help whenever you hit a wall. No need to worry about the meaning of these data items for now. They will be explained in great detail in Section 4. Simply enter them, and click on the **End** button when done. Use the following information, skipping any field not listed:

Field Name	Suggested Filler	Required by	
		State	Software
Facility Description	WE MAKE STUFF		✓
Location-Street	5350 OAK WAY BLVD	✓	✓
Location-City	HARTSDALE	✓	✓
Location-Zip Code	25301	✓	✓
Mailing Address-Street	1050 BLVD PARKWAY	✓	
Mailing Address-City	DAYTON	✓	
Mailing Address-State	OH	✓	
Mailing Address-Zip Code	45390	✓	
UTM Zone	17	✓	
UTM Vertical	4245.184	✓	
UTM Horizontal	444.269	✓	
Latitude	382117	✓	
Longitude	813816	✓	
Primary NAICS Code	321999		✓
Primary SIC Code	2499	✓	
Government Facility Code	We recommend using 0		✓
Contact – Emissions	DAVID P. BARGER	✓	
Contact - Emissions, Title	ENV. QUALITY MANAGER	✓	
Telephone #-Emissions	(304)555-5555	✓	
Year of Inventory	2009	✓	✓
Date of Last Update	This is automatically filled		✓
Updated By	This is automatically filled		✓
BART Eligibility	2		
BART Category 1	22		

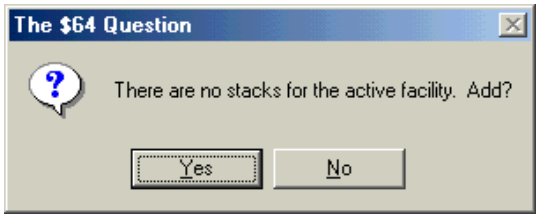
Tip: You will make mistakes in data entry, and the computer will start dinging at you, not letting you go back and correct them without doing something else first. Count to ten. Try clicking help and filling in anything that seems like it fits. Eventually, you will win. If all else fails, click on the **End** button and don't save changes.

7. Click on the **Map** button on the Toolbar

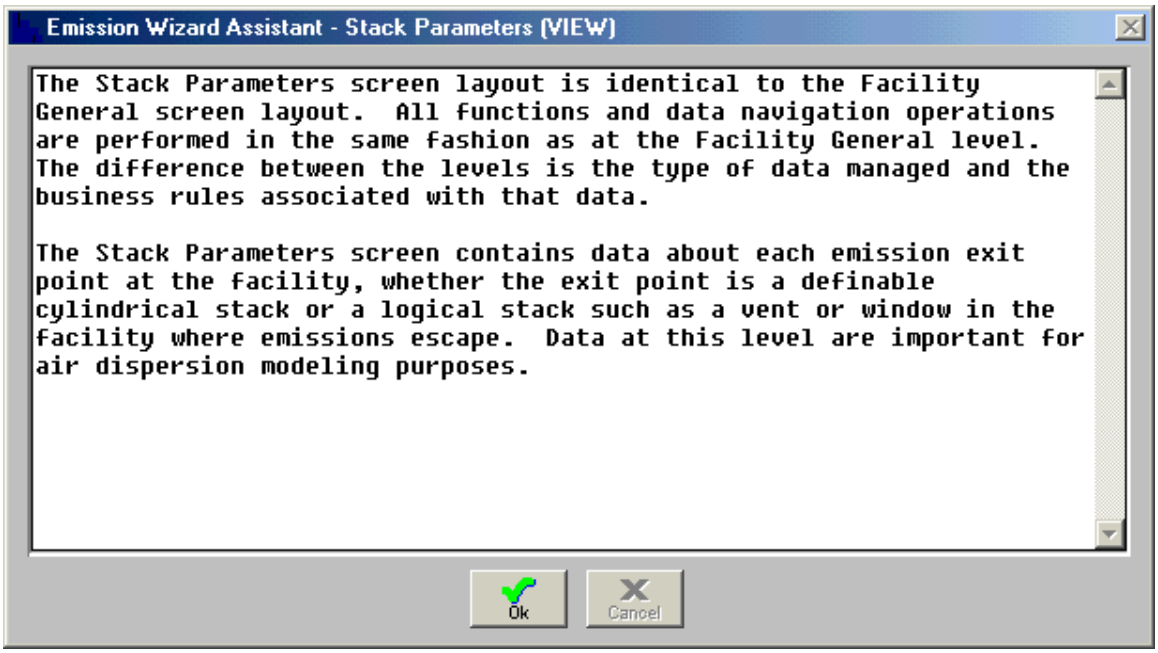
Entering Stack Parameters



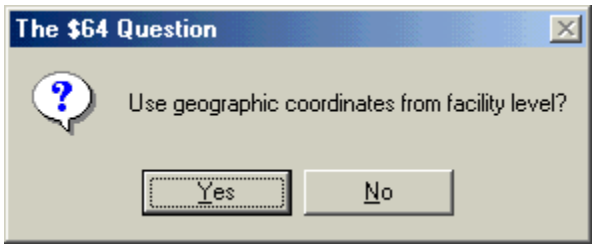
8. Say **OK** yet one more time, and …
9. Click on **Yes.**



Nobody ever said that Wizards were shy, you know.

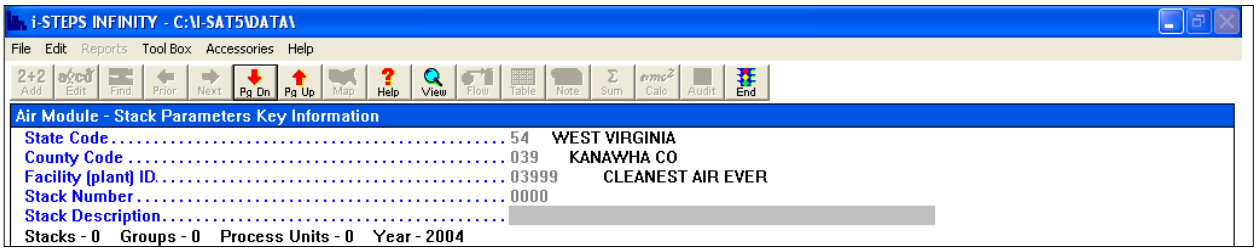


10. One more **OK** will get us to where we want to be, or will it? If the program asks you "Add from clipboard?", be sure to answer "No".



Sigh.

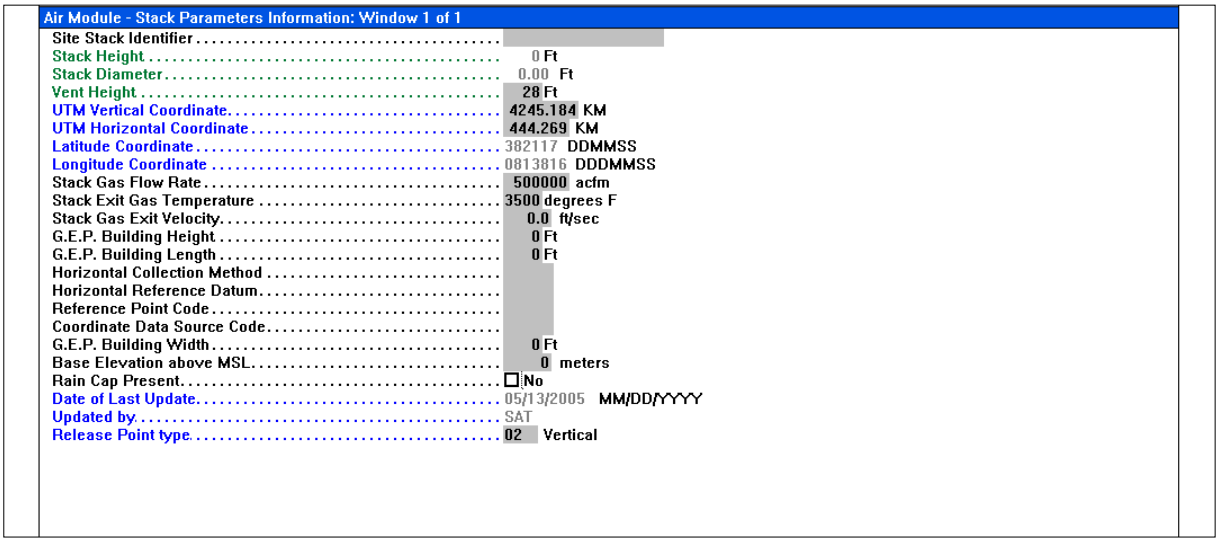
11. Say **Yes**, unless specific stack coordinates are known.



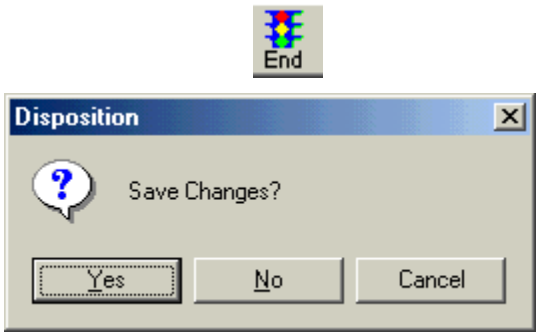
Stack Description is blue and blank. Better fill it in.

12. Enter **Boiler 1** as the description of the stack we will add.

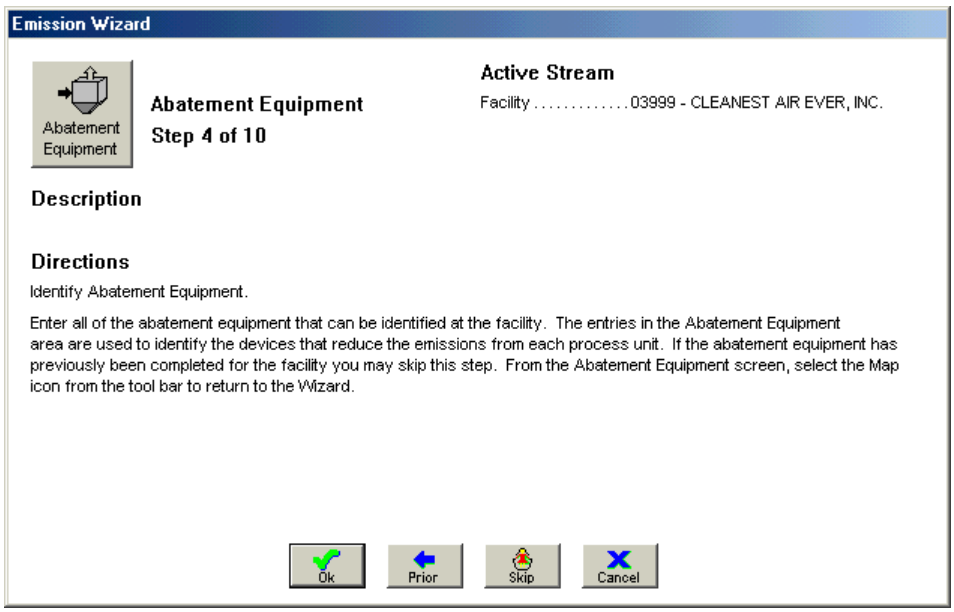
13. Our Stack has a Vent Height of **28** feet, a Gas Flow Rate of **50,000** (acfm), and an Exit Gas Temperature of **350** degrees (F). Release Point Type is "**02**" for vertical stack. Fill in the info and we get:



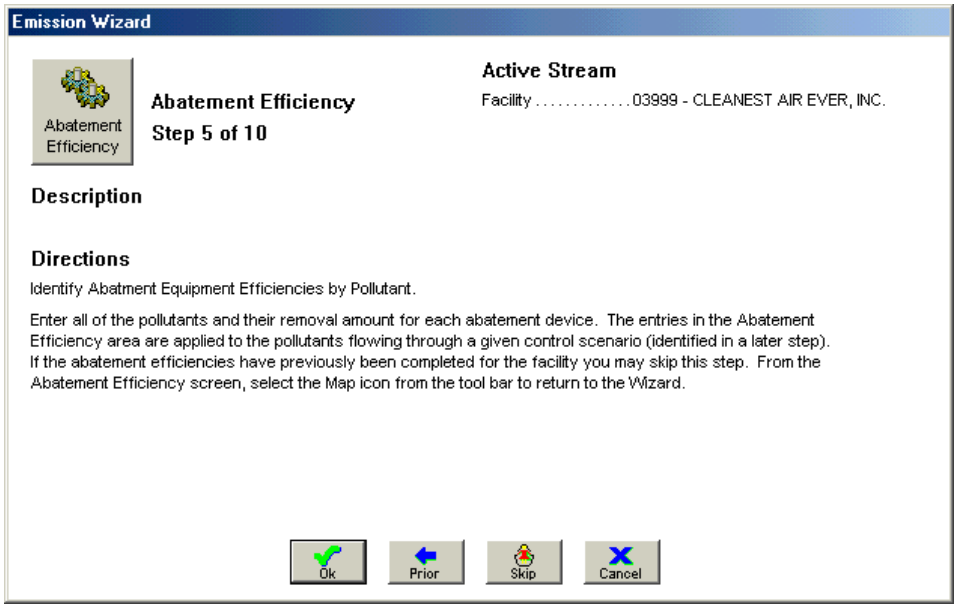
14. All of the Blue information is filled in, the one Green conditional piece of information we needed (you did read the Wizard …didn't you?) is in place, and so we can now press the **End** button on the toolbar to finish out the stack.



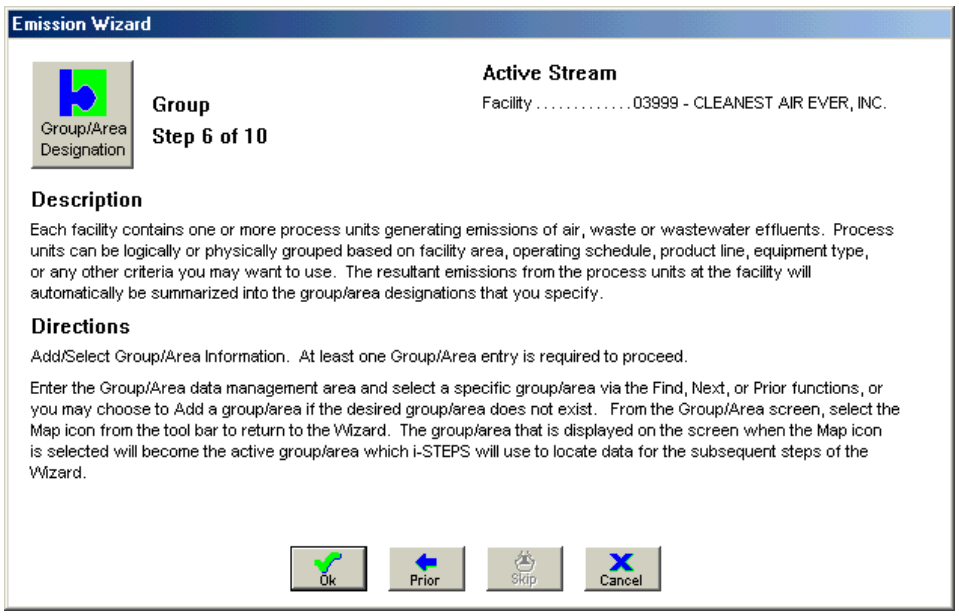
15. Oh **Yes**.
16. Click on the **Map** icon on the toolbar to continue on in the Wizard.



17. This one's easy; our boiler does not have any Abatement Equipment, so click on the **Skip** button. However, if there was, see section 9 for capture efficiency examples..



18. Doesn't take a Wizard to figure out that if there is no Abatement Equipment, we won't need to worry about its efficiency, so click once more on the **Skip** button.

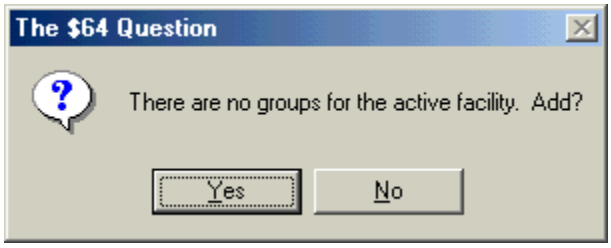


Entering Group Information

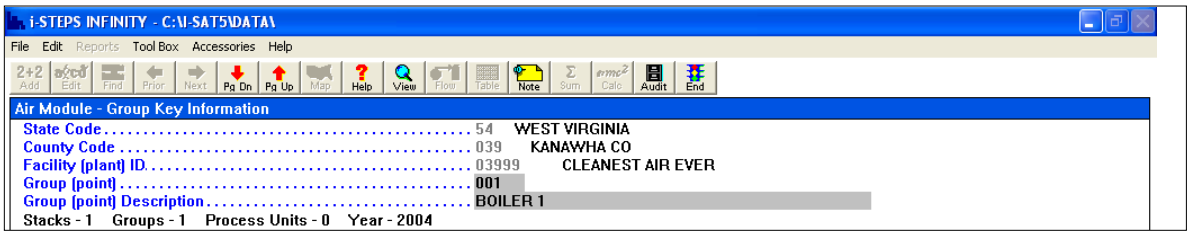
We need to establish a group that contains our boiler, so the data can be more easily summarized later on, and here is where we do it.

To create a Group:

19. Click on the **OK** button in the Wizard.



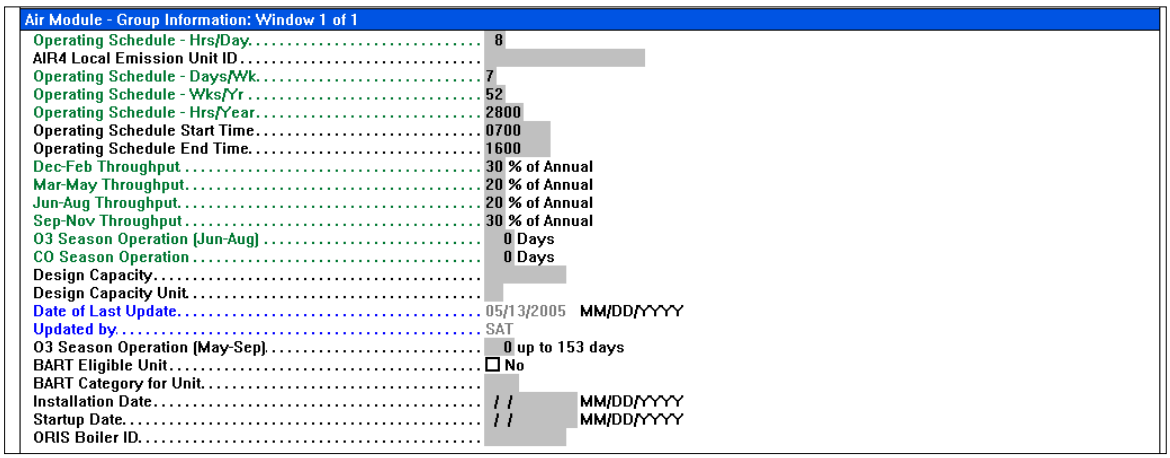
20. Select **Yes**
21. Call the Group **001**, and the Description **Boiler 1**



22. The boiler works **8** hours a day, **7** days a week, and **52** weeks a year. Counting down time for maintenance, the boiler runs **2800** hours a year.

23. The boiler is fired up at 7:00 am (**0700** in Government speak) and shuts down by 4:00 pm (**1600**). It operates **30**% in the 1st Quarter, **20**% in the 2nd, **20**% in the 3rd, and **30**% in the 4th.

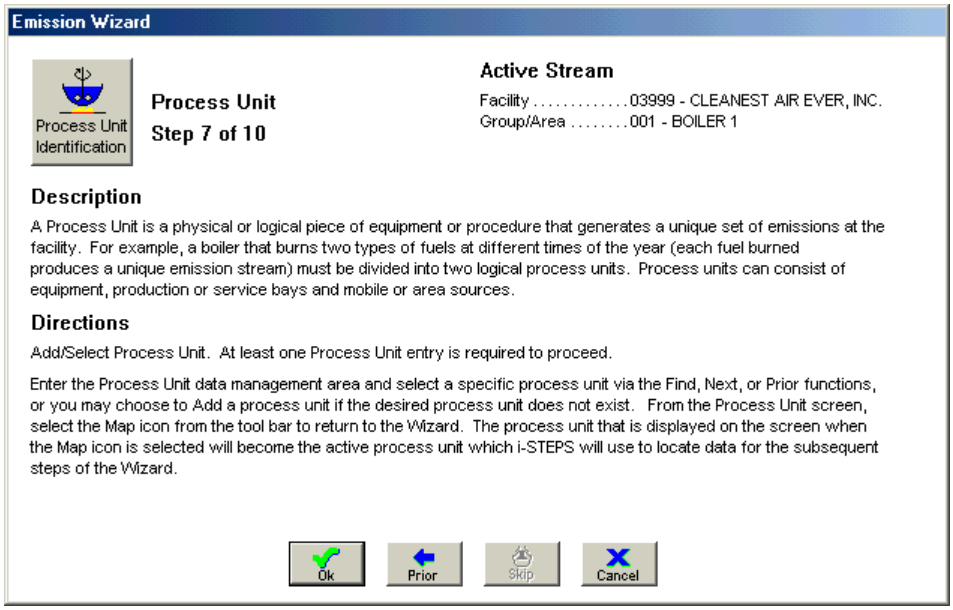
Does your screen look like this?



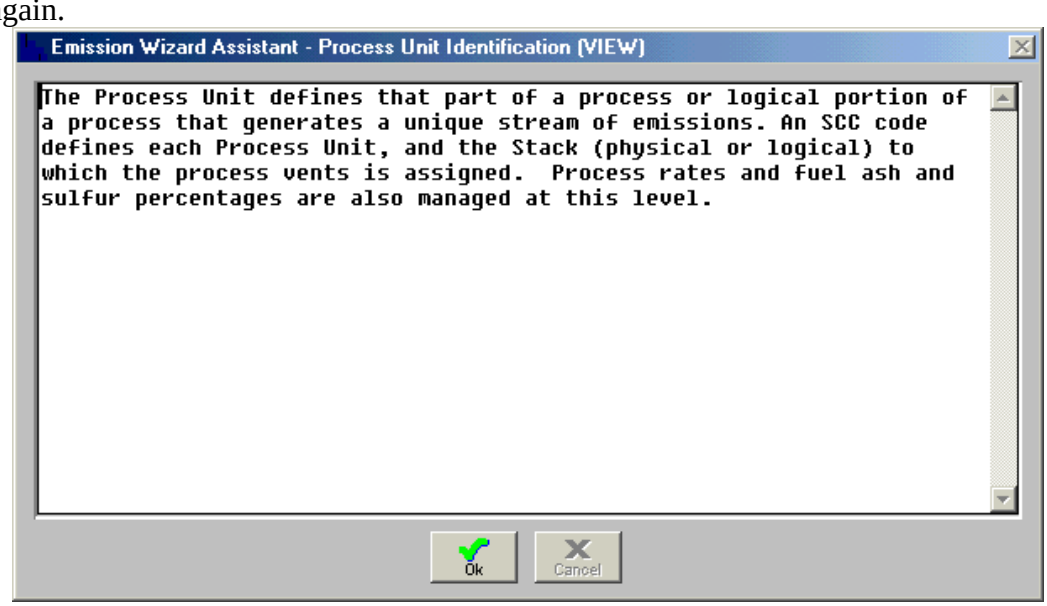
24. Our facility has a 7500 horsepower boiler with a maximum design heat input of 650 million Btu per hour which was constructed, installed, and started up in 1970, clearly making it a BART-eligible unit with potential emissions in excess of 250 tons per year. Click on the **BART Eligible Unit** check box until the accompanying text says "Yes".
25. Then go on to the **BART Category for Unit** line. Click on **Help** to bring up the list of 26 BART categories. Select the appropriate category.
26. Move on to **Installation Date** and put in 10/15/1970.
27. **Startup Date** was 12/15/1970.
28. Click on the End button in the toolbar.
29. Save your changes.
30. Click on the **Map** icon in the toolbar to get back into the Wizard.

Entering Process Unit Information

A Process Unit is similar to a Group, with the major exception of the Process Unit containing only a single source, as the Wizard will gladly tell you.



31. Click on **OK.**
32. Say **Yes**.
33. Pay polite attention to the Emission Wizard Assistant as it tells you what a Process Unit is, again.



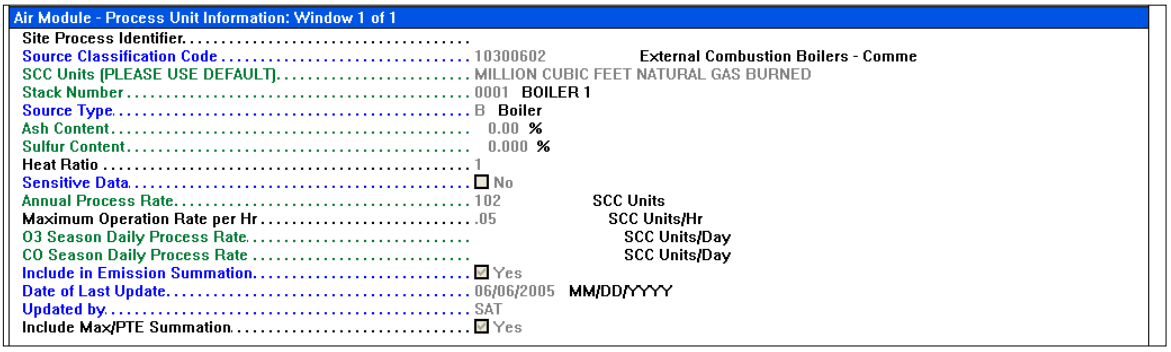
34. Click on **OK**
35. Here is the information, bet you can fill it in!

Process Information

Process Number: **1** Description: **Natural Gas Usage**	
Source Classification Code (SCC) **10300602**	Units : **Standard**
Stack Number : **1**	Process Rate (Throughput): **102**
Maximum Operation Rate (SCC Units/Hour): **.05**	

36. Got a surprise or two on the way. Did you figure out how to get the Source Type?

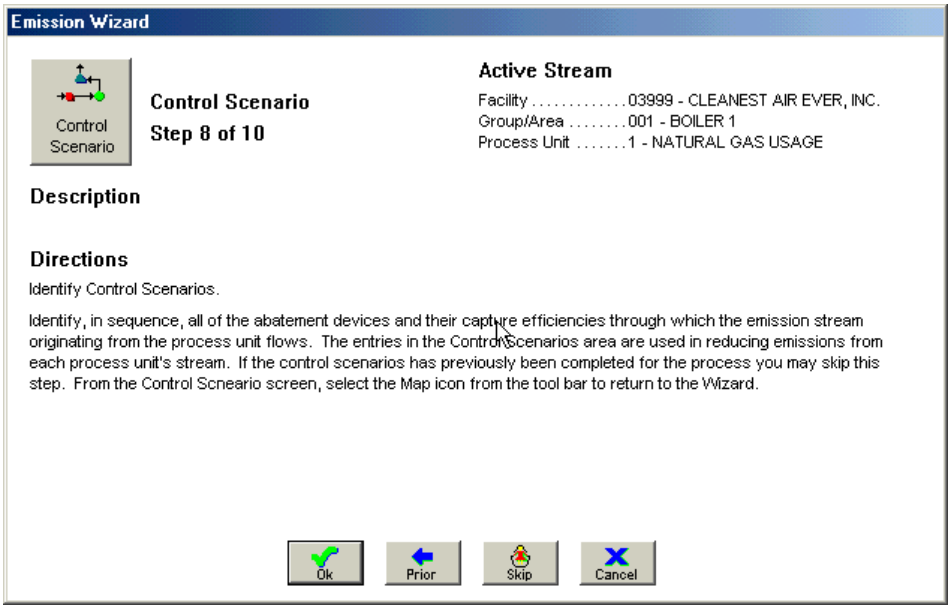
Hint: Click in the data entry field (i.e. Source Type) and hit **F1** to bring up **help** or a pick list, etc. so you can choose an acceptable entry for any data field that is not intuitively obvious.



37. When you have the information in, press the **End** button on the toolbar, answer **Yes** to save changes, and answer **Yes** to calculate pollutants.

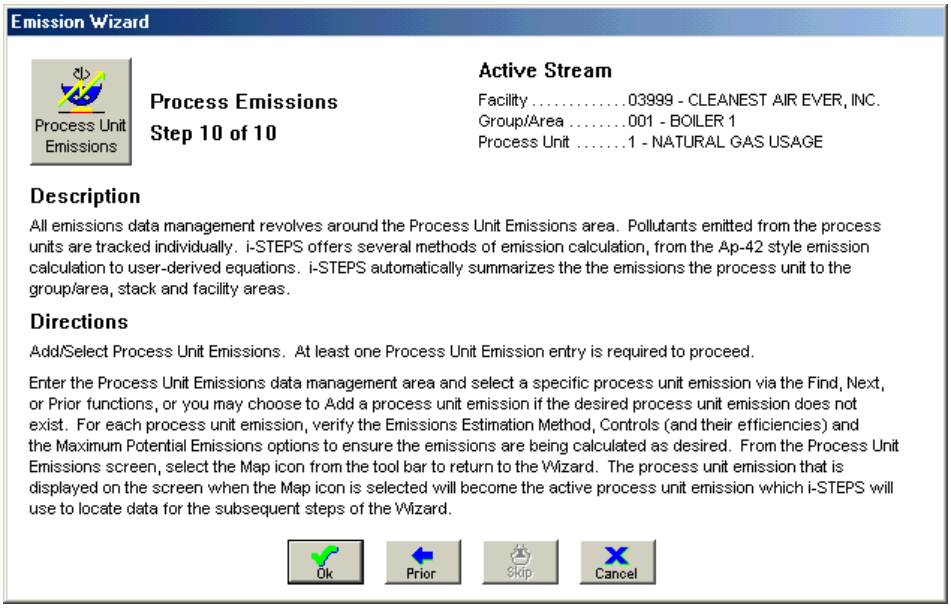
    Watch it go! Good machine! Satellite *i*-STEPS knows the pollutants generated based upon the Source Classification Code, and has gone ahead and added them.

38. Click on the **Map** icon again to get back to the Wizard.

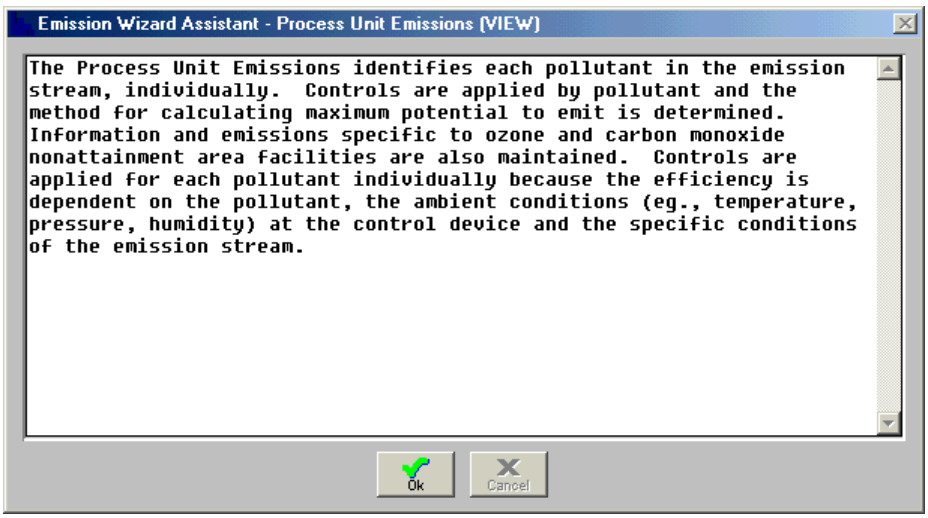


39. Since we don't have any abatement equipment, we can **Skip** this Wizard.

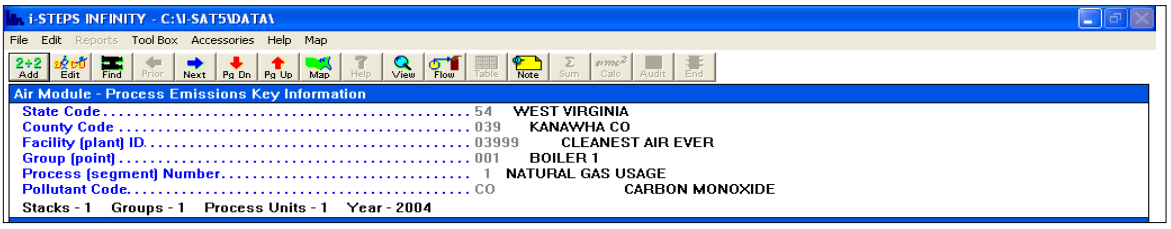
Entering Process Emissions



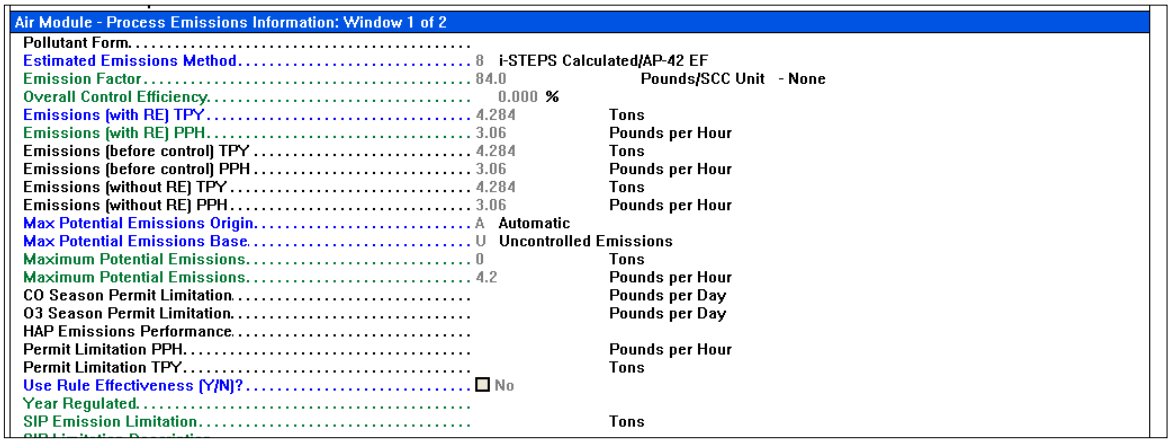
40. Step 10 of 10. Click on the **OK** button to get to the screen where we enter the pollutants.



41. Say **OK** to the Wizard Assistant one last time, and we get:



How nice. The Satellite has determined that Carbon Monoxide is one of the pollutants generated by the boiler.



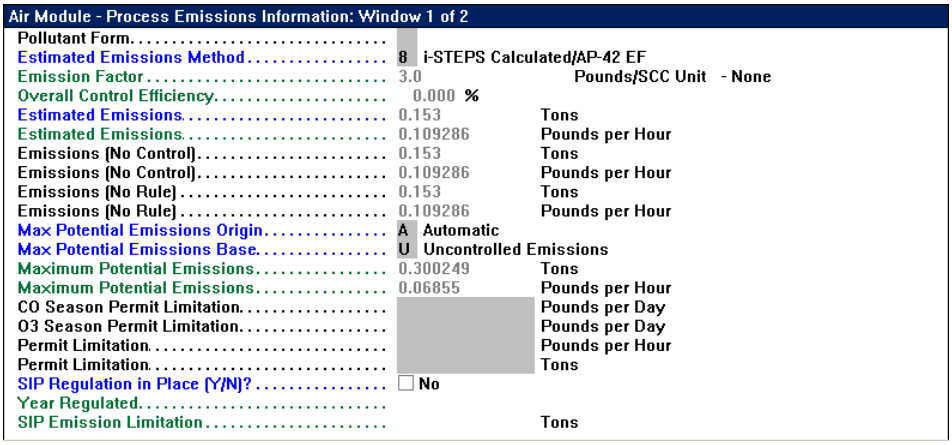
It has even determined the emission factor and estimated emissions for us.

- Notice that the toolbar now has a Next button. Click on this button and you will cycle through all of the pollutants that have been added for this process.

Editing Data

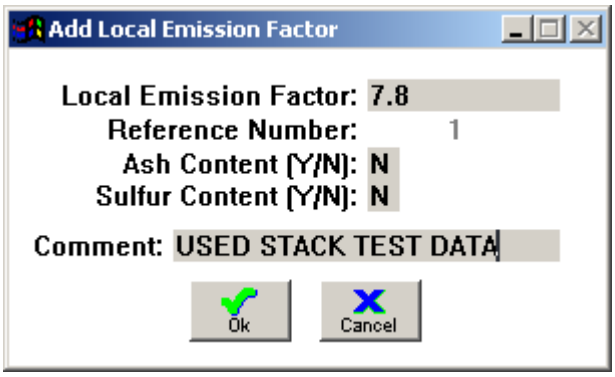
All of the entries look pretty good, except the information for Particulate Matter 10. PM10 needs to reflect a different Emissions Method and Emission Factor.

42. Click on either the buttons to get to the record for PM10 (the pollutants are in alpha order).
43. Click on the button. The record will be opened for editing.



44. Change the Estimated Emissions Method to **9**. After you enter the change and then change fields, an interactive dialog box will appear.
45. Change the Local Emission Factor to 7.8
46. Add the comment.

The dialog box should now look like the following:



47. Click on **OK**.

    The emissions information is recalculated and re-summarized to reflect the change.

Notes on Max Potential Emissions Origin and Base

These fields will not be used by WVDEP for the current Emission Inventory, but may be used in future years. If the software insists that you fill them in, the default values are "**A**" (automatic calculation) for the Max Potential Emissions Origin field and "**U**" (uncontrolled emission rate) for the Max Potential Emissions Base.

If you CHOOSE to enter your own maximum potential emissions values in the optional green data entry fields, enter "**U**" (user calculated) in the Max Potential Emissions Origin field.

If the maximum potential emissions values you enter are based on controlled emissions, enter "**C**" in the Max Potential Emissions Base field. Otherwise, enter "**U**" for uncontrolled emission rate in the Max Potential Emissions Base field.

48. Click on the **End** Button
49. **Save** your changes.

    The computer will recalculate using the new information.

50. Click on the **Map** icon to get back to the Data Map.
51. Time for a break? Click **File Exit** to shut down the Satellite. Or go on to Section 3 on page 25, or Section 4 on page 31.

Section Review

We learned to use the wizard to enter all of the necessary information for a facility, a stack, a group and one process. One very nice thing to say about the wizard is that it didn't let us forget to enter anything. We also learned that editing the data is not terribly difficult. You get to the data you want to change, click on the Edit button, change the data, and then save the changes.

Section 3: Let's Import Last Year's Data

Introduction

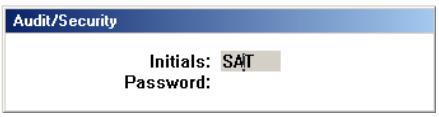
Prior to 2005 the WV DEP mailed out updates to the Satellite *i*-STEPS program and a copy of the previous year's data. This year, the program is available on our internet web site for you to download. A copy of last year's data can be imported into *i*-STEPS to ease the data entry. Who really wants to enter the same information over and over again?

If you don't have a copy of your data, please contact Dave Porter at 304/926-0499 ext. 1699 or by email at david.j.porter@wv.gov and he will send you a correctly formatted data set.

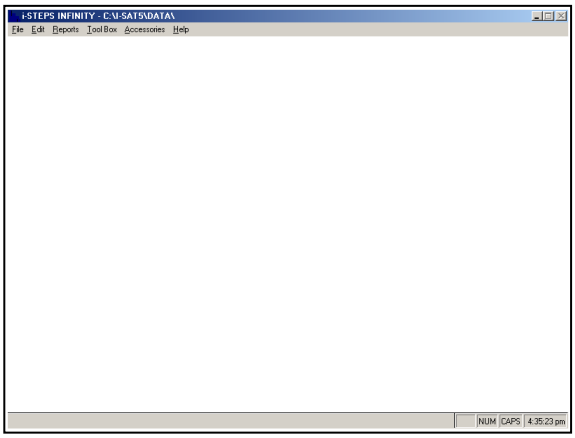
Starting and Importing the Data

1. Naturally, the first thing we'll have to do is start the Satellite. When the software was installed it placed an icon on the Windows Desktop. Let's double click it and get started.

2. After a moment you should see the login screen. You will need to enter the initials "**SAT**" and use the password **"LAUNCH"** both in uppercase. These cannot be changed. After typing each of these hit **enter**.

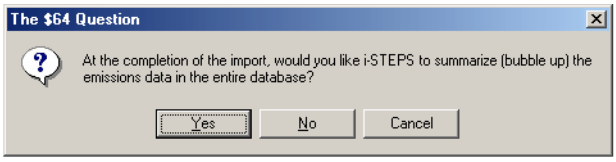


3. Now you're in that plain white screen. Over time you'll discover that this is where you'll perform most of the maintenance related functions allowed by the software. This is the only place where you can import, export, delete, and generate reports for printing.

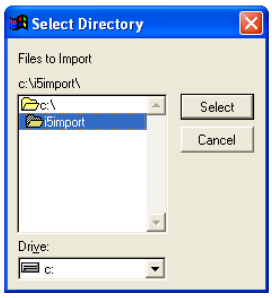


4. Let's import. Make sure that you know where your data is located (Is it on a CD, on your hard drive, or on some other media?). Select Tool Box, Interfaces, Imports, i-STEPS.

5. Satellite will now ask you a question about summarizing the data after importing (also called "bubbling up"). Pick Yes so that the correct emission totals are available immediately.

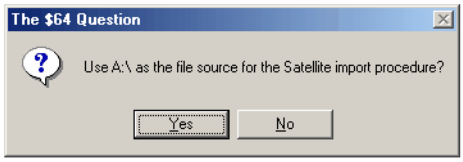


6. Now you will be asked to select a directory where the data is located. This is the point where you need to know where that data is located. For this example we will assume that you have downloaded your data to a subdirectory on your hard drive named i5import. To point to a different directory you will need to select it from the folder list.

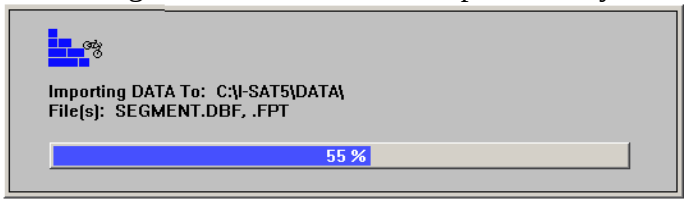


PLEASE NOTE YOU ARE ONLY SELECTING A FOLDER OR DISKETTE, NO FILE NAMES WILL APPEAR IN THIS WINDOW.

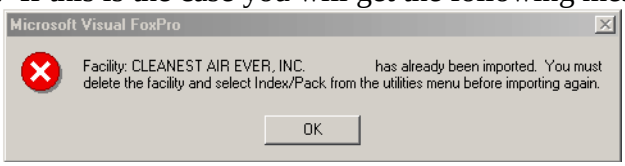
7. Now in the great tradition of Windows software you will be asked if you are sure. Now we'll do what everyone else does and ignore the question. Hit Yes.



8. You will now get a window that shows you the progress of the import. If you do not, call the staff at WV DEP. There may be a couple of errors that they can help you resolve. Most often the error is due to missing data files, which can be provided by WV DEP staff.

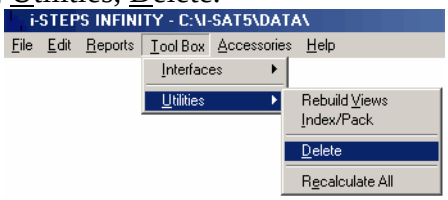


9. The Satellite should return you to that plain white screen. If it doesn't, some error must have occurred. A common error is when you already have data in the Satellite about the company you are trying to import. If this is the case you will get the following message:

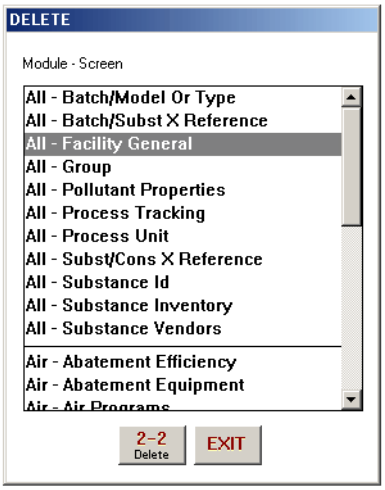


10. At this point you must decide whether you want to continue working with the data already in the Satellite or do you want to delete what is in the Satellite and import data. If you do decide to import the data, proceed with the next few steps. Otherwise, continue to Section 4.

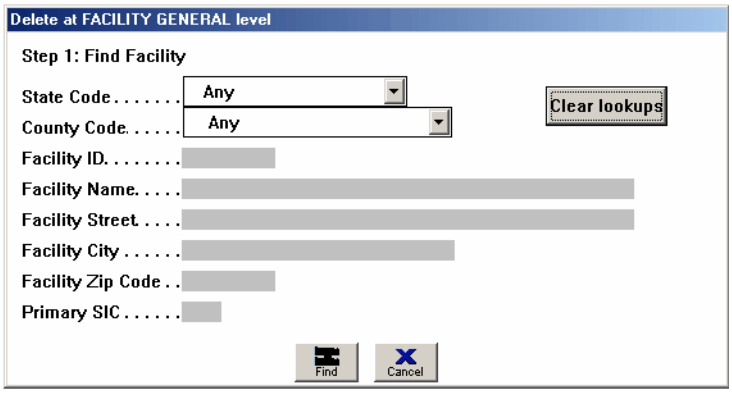
11. If you have decided to import the data, you must first delete that company from the Satellite. To do that, select Tool Box, Utilities, Delete.



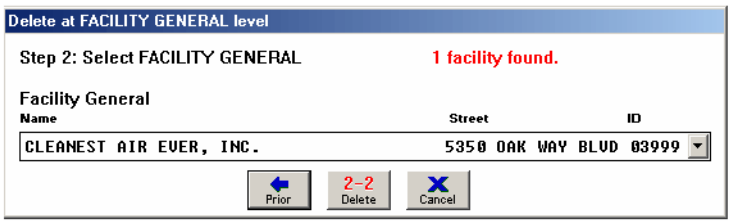
12. In the next window you must select at which level you want to delete. Since we need to delete the entire company from the Satellite we need to select "**All-Facility General**." This will delete the company (a.k.a. Facility) and all associated groups, processes, abatement equipment, and stacks.



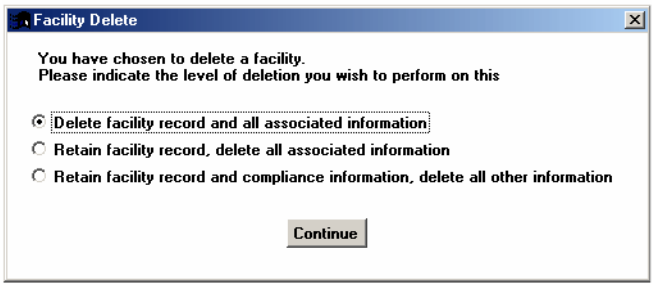
13. Once you have selected "All – Facility General", click on the "2-2 Delete" Button. You will now be prompted to select the facility to be deleted. Most often you can just hit the "**Clear lookups**" and then the **Find** button. This will show you all of the facilities loaded into the Satellite.



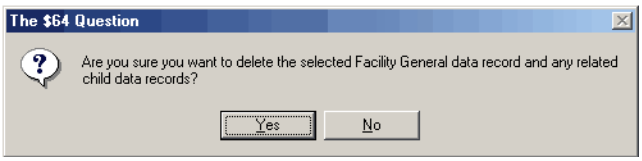
14. You will now get a window asking you to select the facility that needs to be deleted. The window lets you know how many facilities were found. In this case there is only one facility. Highlight the facility, then click on the "**2-2 Delete**" button.



15. Now you will be prompted for what level of detail you wish to delete. You need to make sure to select the first option, "**Delete facility record**…" Now click on the **Continue** button.



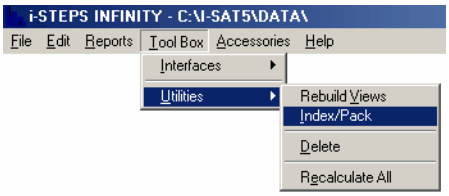
16. Again you will be prompted if you are sure or not. Well, we probably are, considering all the steps necessary just to delete something. Click on the Yes button.



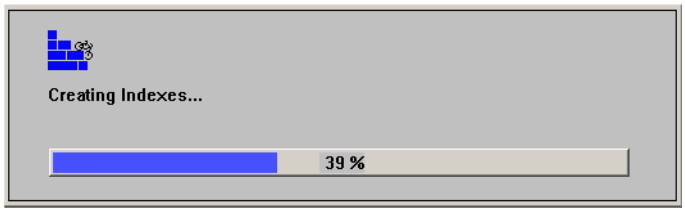
17. When the Delete is finished you'll get a message in the upper right corner letting you know.

18. You'll then back out of the delete procedure. First click on the **Cancel** button on the Find window, then click on the **Exit** button in the Delete window.

19. Now for the final step in deleting. You must run the **Index/Pack** under the Utilities. This will clean up and complete the delete. This is a simple housekeeping measure for databases that ensures that all of the information that you wanted to be removed is. Go to Tool Box, Utilities, Index/Pack.



20. Now you will see the process run in two steps. First you'll get a window showing the progress in re-indexing, then in building foreign keys. Here's an example of the indexing window.



21. Now you can import the data for the facility just deleted using the above steps. Or you can do the exercises in Section 4 which require a blank database with everything deleted and packed.

Section Review

In this section we have reviewed the steps necessary to import your facility's data. We have also reviewed the most common error that occurs when importing data. Finally, we have been given just a hint about the capabilities of this software's deleting capabilities. If we can delete a whole source, just what else can we get rid of? Appendix D on page 79 gives more information about partial deletions.

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Section 4: Facility General

Introduction

In this section we'll go through the data entry process for the Facility General Screen. We will also point out what information is required to be submitted under state rules and any additional information the Satellite software will demand that you provide. We will only go through the items that are required (either by reporting requirements or by the software). Anything not covered is not required at all.

This is where we explain the data items you entered on page 12. Read through this section, reentering the data if you want to. But delete it again before importing the sample facility that will be required for Sections 5 through 10.

Opening the Satellite

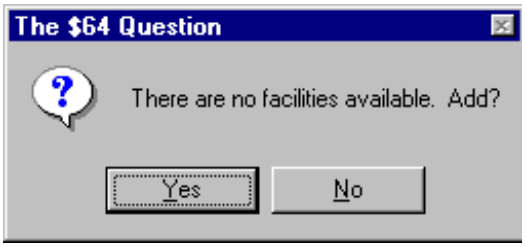
1. If you haven't yet, go ahead and start the Satellite.
2. Remember the initials are "**SAT**" and the password is "**LAUNCH**" (case sensitive)
3. Select ***File,*** then ***Air***
4. Now you are in the Data Map

Enter Facility Information

5. Click on the ***Facility General*** button to start entering the facility data.

Attention: The $64 Question

If you get the following question, you don't have any information in the Satellite yet. If you think that you should, refer to the section on importing. If you are entering data for the first time, go ahead and click on Yes.



6. Click on ***Edit***

. If you are entering a facility for the first time skip this step, you are already in the edit screen.

7. **State Code:** West Virginia's State Code is **54**.

8. **County Code:** Fill in the County Code. You can refer to your permit or click on the help button. The help will provide you with a drop down list of the West Virginia counties, if you used 54 as your state code. For the example we will use **039**, Kanawha County.

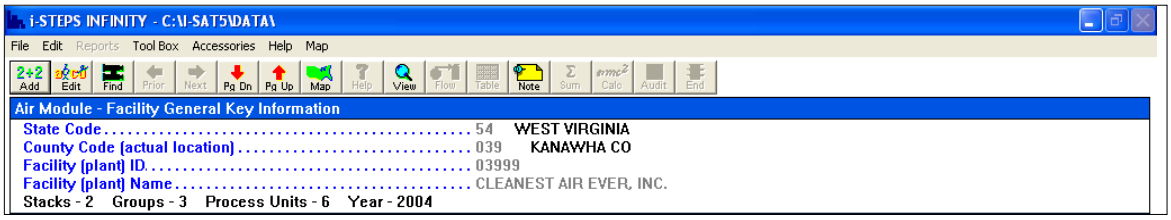
9. **Facility ID:** Fill in the Facility ID. If you don't know your Facility ID, please refer to your permit. The following diagrams a typical permit number for a facility's county and Plant ID. For the example we will use **03999**.

R30-03903999-2004

County Code **Plant ID**

10. **Facility Name:** Include corporate name at the beginning of this field. Feel free to shorten or abbreviate your corporate name to 1 or 2 pertinent words as long as the abbreviation can reasonably be expected to uniquely identify your company in WV. If your company has more than one facility in WV, please also include in this field whatever additional identifying information that your company normally uses to unambiguously distinguish one facility from another. Be aware that this field can handle only 40 characters, so be creative if necessary. For the example we'll use **Cleanest Air Ever, Inc.** , which is sufficient because it includes their corporate name, and they only have one hypothetical facility in WV. But if Cleanest Air Ever, Inc. had 2 hypothetical facilities, such as an east plant and a west plant, the facility name field should indicate which plant by reading something like Cleanest Air - West Plant.

What you should see so far.



11. **Facility Description:** Enter a brief description of the plant. This is the first of those nuisances mentioned earlier. A description is required by the software, but it is not a reporting requirement. So fill it in with whatever you want. We do ask that you limit the profanities, you only have 25 spaces.

12. **Location-Street, City, Zip Code:** Enter the physical location of the company, NO POST OFFICE BOXES. You may notice that it doesn't ask for the state, but you already identified the state in Step 1. For the example, use **5350 Oak Way Blvd., Hartsdale 25301**.

13. **Mailing Address-Street, City, State, and Zip Code:** Make sure these are correct and up to date. For the example use **1050 Blvd Parkway, Dayton, OH 45390**.

A note about your Facility's coordinates: This is required information and you must fill it in, but you will only have to give the UTMs or the Latitude and Longitude. The Satellite will automatically calculate the other.

14. **UTM Zone:** **Do not enter if you are using Latitude and Longitude, skip to Step 17.** The UTM Zone for West Virginia is **17** or **18**.

15. **UTM Vertical:** Enter the vertical (northing) coordinates for your facility. The vertical coordinate for the example is **4245.184**.

16. **UTM Horizontal:** Enter the horizontal (easting) coordinate for your facility. The horizontal coordinate for the example is **444.269**. If you filled out the UTM coordinates, skip Steps 17 and 18, because the software will calculate the Latitude and Longitude based on your UTM.

17. **Latitude:** Enter the Latitude Coordinates. This must be in degrees, minutes, and seconds (DDMMSS). For example, if your latitude is 38° 25' 7" enter the following 382507.

18. **Longitude:** Enter the Longitude Coordinates. This must be in degrees, minutes, and seconds (DDMMSS). For example, if your longitude is 81° 9' 46" enter the following 810946.

19. **Primary NAICS Code:** Enter the North American Industrial Classification System (NAICS). Refer to the help button or F1 for assistance. This code can also be found at www.census.gov/eos/www/naics. The example NAICS is **321999**.

20. **Primary SIC Code:** Enter the 4 character Standard Industrial Classification Code (SIC) identifying the main product produced or service performed at the plant. Refer to the help button or F1 for assistance. This code can also be found at www.census.gov/epcd/www/sic.html. The example SIC is **2499**.

21. **Contact-Emissions:** Enter the name of the person who will be the contact person, this must be someone employed at the plant and cannot be a consultant. This field is not marked as required because it should be on the certification letter, but we ask that you fill it in with the appropriate contact person. For the example we will use **David P. Barger**.

22. **Contact-Emissions, Title:** Enter the title of the contact person. We'll use **Env. Quality Manager**.

23. **Telephone #-Emissions:** Enter the telephone number for the contact person. Example: **(304) 555-5555.**

Can I enter my email address?

Yes. See line 25 below.

24. Year of Inventory: **Enter the year for which you are estimating emissions. This should almost always be the previous calendar year.**

Date of Last Update and Updated By: These are automatically filled in by the Satellite software. Be aware that these fields are in every data screen and are automatically filled.

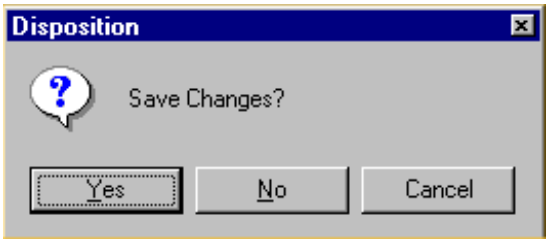
25. E-Mail Address: Enter the e-mail address for the emissions contact person at the plant.
26. BART Eligibility: If any part(s) of your facility is a BART-eligible unit, please use selection 2 from the pick list. Otherwise use one of the other selections.
27. BART Category 1: From the pick list, select any BART category that applies to your facility.
28. BART Category 2: If your facility has 2 or more BART-eligible units, select a category that applies.

If you have been following along with the example Cleanest Air Ever, Inc. here is a check list of what should have been entered.

- ❑ State Code
- ❑ County Code
- ❑ Facility ID
- ❑ Facility Name
- ❑ Location-Street
- ❑ Location-City
- ❑ Location-Zip Code
- ❑ Mailing Address-Street
- ❑ Mailing Address-City
- ❑ Mailing Address-State
- ❑ Mailing Address-Zip Code
- ❑ UTM Zone
- ❑ UTM Vertical
- ❑ UTM Horizontal
- ❑ Latitude
- ❑ Longitude
- ❑ Primary NAICS Code
- ❑ Primary SIC Code
- ❑ Contact Emissions
- ❑ Contact Emissions-Title
- ❑ Telephone Number-Emissions
- ❑ Year of Inventory
- ❑ E-Mail Address
- ❑ BART Eligibility
- ❑ BART Category 1
- ❑ BART Category 2

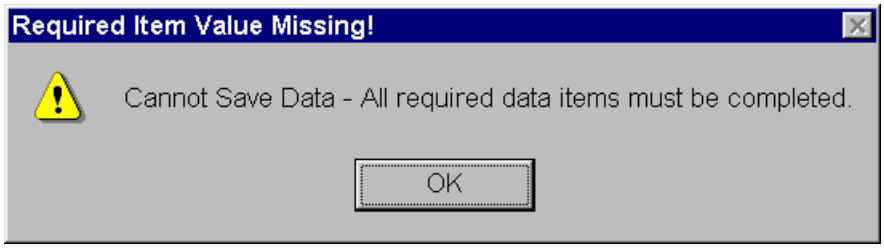
Closing and Saving Data

29. To complete the editing of Facility General data click on **End** then Yes to save your changes.



Error!? What now?!

Did you just try to save all of your changes, but the software gave you a message like the following.



Well, that means you left something out. Sometimes the message will let you know what is missing, but many times it won't. So you'll need to use the above checklist to make sure that you fill in all of the information required by the software. Remember that anything in blue is required to be filled in.

30. Now, return to the data map by clicking on the button below to continue updating your information.

Section Review

In this section we entered and updated information pertaining to the facility. We have identified the emissions contact, the physical and mailing addresses, and other data. We have even made sure that we updated the reported year (check at the top, the year should have been changed to reflect the year of emissions being reported). Now we'll move on to things that start getting down to the details of your facility.

Note

The remaining sections of this manual will utilize the sample facility that has been provided. Before doing the exercises in Sections 5 through 10, you will need to delete (and pack) your database, then import the sample facility as shown in Section 3. If you have entered any valuable information into your database, you may want to save a copy of your data by exporting it (see Section 11) before deleting and packing your database.

Section 5: Stack Parameters

Introduction

In this section we will cover data entry for emissions release points, stacks and vents. The Stack Parameters screen contains the physical characteristics of a stack such as: stack diameter and height, or vent height. Each facility can contain one or more physical or logical stacks. The classical smoke stack represents the physical stack (an identifiable structure), while vents, windows, and doors represent logical stacks (emission points).

The stack parameters screen layout is nearly identical to the facility general screen layout. All functions and data navigation operations are performed in the same fashion.

1. To start entering and updating stacks click on the ***Stack Parameters*** button under the **Facility Backbone** section of the Data Map.

Updating Information

2. Find the stack which you want to edit. You can find a stack by using the next and previous buttons in the toolbar. For this example we are going to update (**Edit**) a couple of the parameters for Stack 0001 - *Boiler 1*.

3. **Stack Height:** Enter the vertical distance between the point of discharge and the ground in feet. As you can see the stack height was not entered, a vent height was. Let's change this and correct the error. Use a **stack height of 28** feet. When you move to the next field you will see that the vent height changed to 0.

4. **Stack Diameter:** Enter the inside diameter of a round gas exit point of emission, measured in feet. If the exit is not round, calculate the product of the square root of the area and 1.128. See the following equation, where A is the cross-sectional area in square feet and D is the equivalent diameter. For this example we'll use **2** feet.

$$1.128 \times \sqrt{A} = D$$

5. We are done updating this stack, now hit **End** and **save** changes.

6. Now let's update another stack. Go to Stack 0003 - *Surface Coating* using the **Next** button.

7. Take a look at the information for this stack. This stack is supposed to be a stack venting emissions from a surface coating process, but it has some strange parameters. There are a couple of things that seem to really stick out

8. **Stack Gas Flow Rate:** This is the flow in actual cubic feet per minute. The flow looks a little high; in fact it is a typo. There are too many zeros. Click **Edit** and change this to **5,000**.

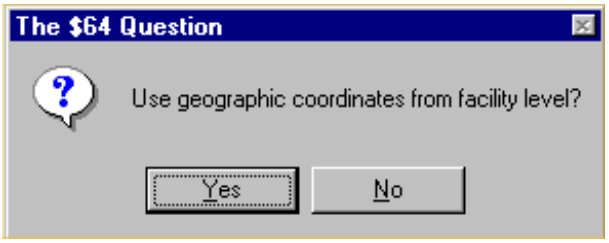
9. Did you notice that the velocity changed?

10. **Stack Exit Gas Temperature:** 350° F seems a little high doesn't it? Let's change this to **70**^{o} to reflect ambient temperature.

Adding a Stack

1. To add a new stack, click on the **Add** button in the toolbar. A drop down list will appear; select **Blank**.

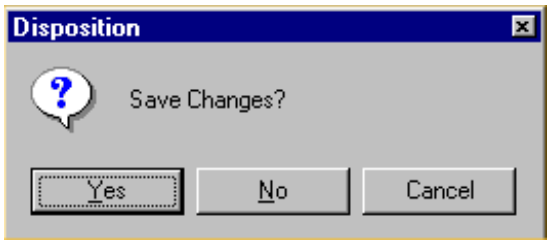
2. The software will then ask you if you want to "Use the geographical coordinates from the facility level?"



3. Click Yes, unless you have more accurate information. You are now ready to enter the following information for the new stack.

Stack Description	Sawdust Pile
Stack Height	35 Feet
Stack Diameter	1.5 Feet
Gas Flow Rate	4585 acfm
Exit Gas Temperature	70°F

4. Release Point Type is **02** (vertical stack) for most physical stacks. **F1** or **Help** will give a dropdown list of the six different selections available for Release Point Type.
5. To complete the edit of the Stack Parameters data click on **End,** then Yes



6. Now enter another Stack using the following information;

Stack Description	Topcoat Paint Booth
Stack Height	31 Feet
Stack Diameter	2 Feet
Gas Flow Rate	7500 acfm
Exit Gas Temperature	70°F

At the conclusion of this section you should have updated and identified stacks to reflect the following.

State Code	54	54	54	54
County Code	039	039	039	039
Facility ID	03999	03999	03999	03999
Stack Number	0001	0003	0004	0005
Stack Description	Boiler 1	Surface Coating	Sawdust Pile	Topcoat Paint Booth
Stack Height	28	28	35	31
Stack Diameter	2	2	1.5	2
Vent Height	0	0	0	0
UTM Vertical Coordinate	4245.184	4245.184	4245.184	4245.184
UTM Horizontal Coordinate	444.269	444.269	444.269	444.269
Latitude Coordinate	382117	382117	382117	382117
Longitude Coordinate	0813816	0813816	0813816	0813816
Stack Gas Flow Rate	50000	5000	4585	7500
Stack Gas Temperature	350	70	70	70
Stack Gas Velocity	265.3	26.5	43.2	39.7
Release Point Type	02	02	02	02

Section Review

In this section we have reviewed the steps for updating and entering new stack information. We have entered and updated the information that is required to properly identify stacks and their parameters. We can now proceed to the next section.

Before you proceed to the next stack or section use the following checklist to make sure you have filled in the appropriate information.

- ❑ State Code
- ❑ County Code
- ❑ Facility ID
- ❑ Stack Number
- ❑ Stack Description - Make sure to use something that you can readily recognize
- ❑ Stack Height in feet
- ❑ Stack Diameter (only if stack height is used) in feet
- ❑ Vent Height (only if stack height is not used) in feet
- ❑ UTM Vertical
- ❑ UTM Horizontal
- ❑ Latitude
- ❑ Longitude
- ❑ Stack Gas Flow Rate in actual cubic feet per minute
- ❑ Stack Exit Gas Temperature in degrees Fahrenheit
- ❑ Stack Gas Exit Velocity in feet per second
- ❑ Release Point Type

Section 6: Abatement Equipment

In this section we'll review the steps necessary to update and add abatement equipment. The Satellite offers a great deal of flexibility when applying abatement equipment. The Satellite contains codes describing more than one hundred different types of controls that can be used. The software will also let you apply any control efficiency to those pieces of equipment. You can generally find information on your control equipment in your permit or permit application, or even from the manufacturer. Please keep in mind to apply the appropriate controls to the appropriate pollutants, for instance fabric filters do not control gaseous emissions.

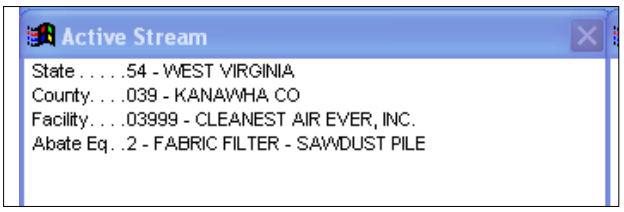
1. Updating and adding abatement equipment is a two step process. The first step is to identify the equipment. Click on the ***Abatement Equipment*** button under the **Controls/Wizards** section.

Updating Information

2. If you have properly imported data from a previous year the Abatement Equipment screen will appear. This screen contains information about the type of control equipment. Using the **Next** and **Prior** buttons find the "Fabric Filter - SawDust Pile".

3. To update the description or the equipment code you will need to click on the Edit button, but in this step we are just simply identifying the control equipment. Return to the Data Map by clicking on the **Map** button.

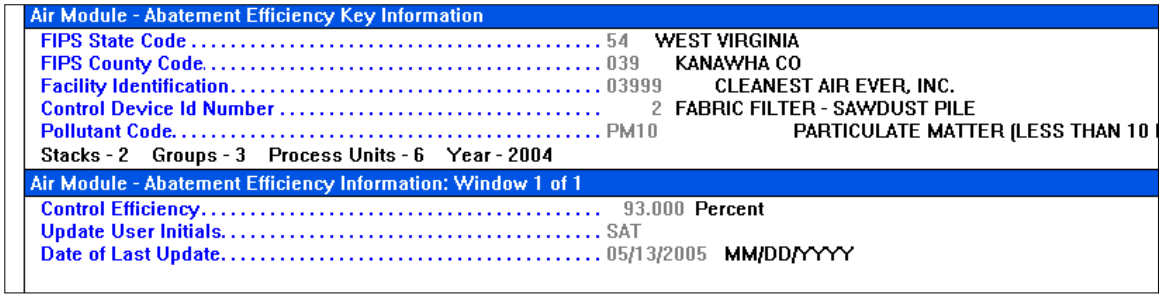
4. Now that we are back in the Data Map take a look in the upper left hand corner of your screen. The Active Stream window is a way of tracking where you are when you go to the Map. Your Active Stream should look something like this,



5. Now that we have identified the control we need to update the control efficiencies for it. Click on the Abatement Efficiency button.

6. We need to update the control efficiency for PM10-PRI. We have found that while the fabric filter does control total particulate at 99%, it only controls PM10-PRI to about **93**%. Click on the Edit button and change the Control Efficiency.

7. When you have finished editing click on the End button and save changes. Your screen should look something like this.



Adding Abatement Equipment

1. Now let's add a new piece of equipment. If you are not there now go back to the Data Map by clicking on the Map button.

2. Now the first step is to identify the abatement equipment. Click on the Abatement Equipment button in the Controls/Wizards window.

3. Since this is a new piece of equipment we will need to click on the Add button and select Blank.

4. Now there are only two things you will need to identify in this screen. The Abatement Equipment Code and the Equipment Description.

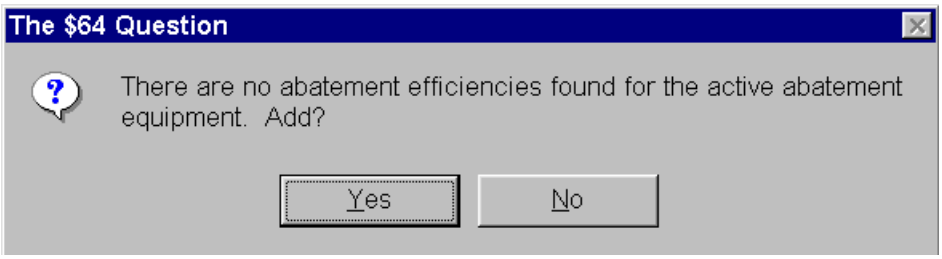
5. Abatement Equipment Code - If you hit the **F1** key or click on help when your cursor is in this field a window will pop-up with a list of devices. For this example we will use Activated Carbon Adsorption.

6. Equipment Description - Enter a description that you can readily recognize. This will be very important later when you link this control device to a process. Let's name this "**Topcoat Paint Booth Control**".

7. Click **End** and save changes.

8. Now we have to identify the pollutant controlled and the control efficiency for the Abatement Device. Click on the Map button, then click on the Abatement Efficiency button.

9. You will get the following window. Select Yes.

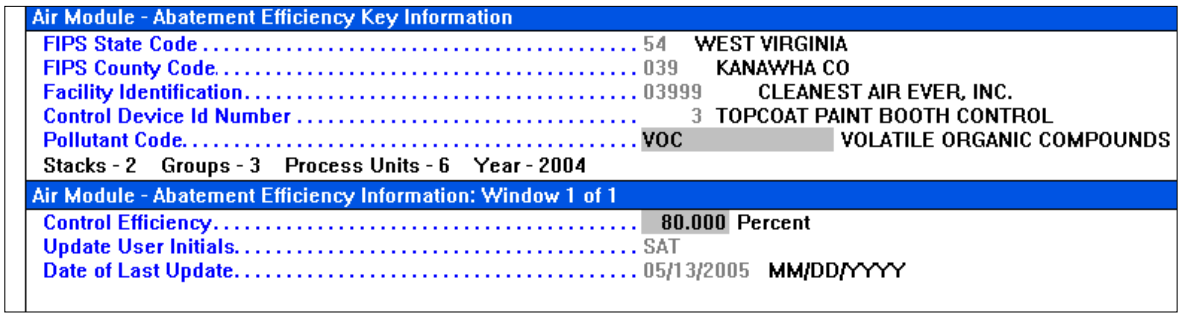


10. Now there are only two entries that will need to be made. Identify the Pollutant Code and the Control Efficiency.

11. Pollutant Code - If you already know the pollutant code, go ahead and enter it here, otherwise hit the **F1** button or click the Help button for a list of pollutants. For this example we will identify **VOC** as the pollutant.

12. Control Efficiency - In this field you need to state the ability of the device to capture or destroy those emissions routed to it. This can be found in your permit, permit application or sometimes in the manufacturer's specifications. We will use **80**% as the control efficiency.

13. Click on **End** and **save** changes. The program will do a couple of things and your screen should look like this,



14. Now add the following pollutants and control efficiencies. Use the **Add** button, then **save** your changes after each pollutant.

Pollutant	Control Efficiency
Toluene	80%
Xylene	80%
Methanol	80%

HINT: When identifying a pollutant in the pop-up window type the first letter of the pollutant name. It will take you to or at least near the pollutant if it is listed.

Section Review

In this section we have updated and added abatement equipment. We have also learned that we must use two different data screens when identifying abatement equipment – each of the two data screens has two required fields. We must first identify and categorize the control equipment, then we must go to another screen to identify the pollutant(s) controlled, and assign their control efficiency(s).

This is important enough to restate. When inputting your abatement equipment you must go through the following process:

1. Identify and categorize the abatement device by filling in 2 required fields in the "Abatement Equipment" Screen
2. Go back to the Data Map – the Active Stream should be the new Abatement Equipment.
3. Identify the pollutants and assign control efficiencies by filling in 2 required fields in the "Abatement Efficiency" Screen.
4. Use a different "Abatement Efficiency" Screen for each pollutant controlled by the Abatement Equipment.

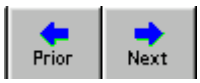
Section 7: Group/Area Designation

In this section we will review the steps necessary to update and add emissions groups. Each facility contains one or more process units and these units can be grouped together based on area, operating schedule, product line, equipment type, or any other parameter that would categorize the equipment for applicability of air regulations. The emissions from each of the units at the facility will be summarized into the group/area designations that you specify. Only information pertaining to the operating schedule and a description are in the Group Information screen.

1. If you are not already there get to the Data Map and then click on the ***Group/Area Designation*** button under the **Facility Backbone** section.

Updating Information

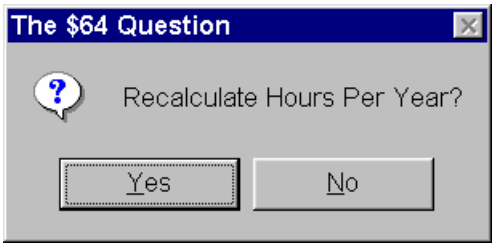
2. Let's update the Surface Coating Group. You can find this group by using the Prior and Next buttons located in the toolbar.



3. Click on the Edit button to start making changes.

4. Now update the hours per day to **10**.

5. When you try to move out of the hours per day box you will get the following message,



6. If you select Yes the hours per year will be updated from 1,250 to 2,500. If you select No the hours will not be updated.

7. Click **End** and **save** changes.

Adding a Group

1. If you are not in the Group Information Screen you can get there by clicking on the Group/Area Designation button in the Data Map.

2. Since we are adding a group, click the Add button in the toolbar, and then select the Blank option.

3. Now we have a screen with a bunch of blank fields that need to be filled. At the top of the screen notice that the State Code, County Code, and Facility ID are already filled.

4. **Group Number** - This is the first field that needs to be filled. This should generally be a sequential number. If you enter a one or two digit number the software will automatically add leading 0s till there are three digits. For this example just type the number **4** and move to the next field, you'll see that it becomes 004.

5. **Group Description** - This should be a simple description so that you can identify the processes that have been grouped together. For the example use "**Topcoat Paint Booth**".

6. **Operating Schedule-Hours/Day** - Simply the hours per day the group normally operates. For the example use **8.**

7. **Operating Schedule-Days/Week** - The days per week this group normally operates. This is not required, but by entering it and the next step the software will calculate your hours per year. We'll use **5** for the example.

8. **Operating Schedule-Weeks/Year** - Enter **50.**

9. **Operating Schedule-Hrs/Year** - If you have entered the above information the software has automatically calculated this.

A note about Quarterly Throughputs

Each Quarterly Throughput needs to be expressed as percent (%) for each quarter and must add up to 100%. Refer to the following to properly allocate your quarterly activity.

In West Virginia, the quarters are as follows:

1. December through February
2. March through May
3. June through August
4. September through November

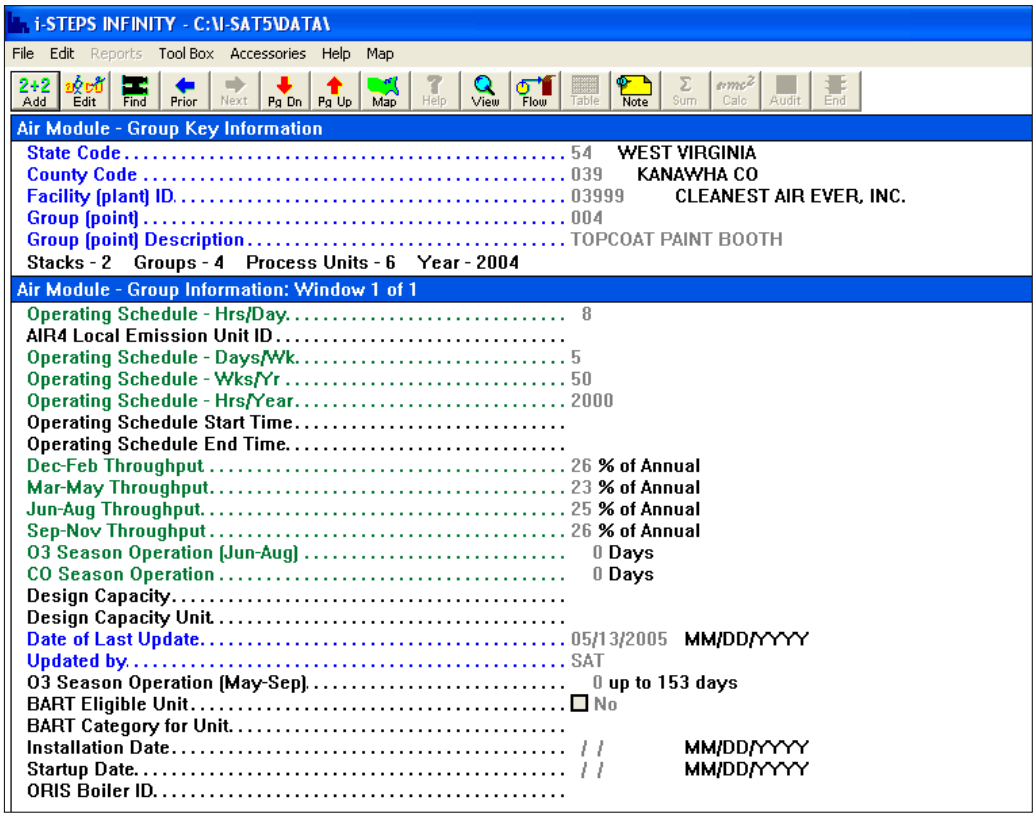
10. **1st Quarter Throughput** - The percent of activity, for the example use **26**.

11. **2nd Quarter Throughput** - Enter **23**.

12. **3rd Quarter Throughput** - Enter **25**.

13. **4th Quarter Throughput** - Enter **26**.

14. Now click on **End** and **save** changes. Your new Group Information Screen should look like the following,



Notes Concerning BART

Let's take a look at the data entry items that determine BART-eligibility. From the data map, click on the Group/Area Designation button in the facility backbone section. There is a check box near the bottom of the data entry screen labeled BART Eligible Unit. This box should be unchecked (No) for the Surface Coating group and the Sawdust Pile group. Navigate to the Topcoat Paint Booth group that you just added to see that the BART Eligible Unit box is unchecked and says No for the Topcoat Paint Booth group. Now go to Group 001 Boiler 1 by using the Find button or the Prior and Next buttons. You will notice that our boiler is a BART-eligible unit because the check box says Yes. Click Edit and look at the list of selections available for the BART Category for Unit data entry line by clicking on Help. This is a pick list of all 26 BART categories. Units (Groups) that fall into one of these categories are considered BART-eligible depending on the dates entered on the next 2 data entry lines if the potential emissions for all such units totals 250 tons per year or more.

Section Review

In this section we have gone over how to update and add groups. We have also stated that processes can be grouped together based upon a number of factors including physical location, product line, schedule, or equipment type.

Group Information Checklist

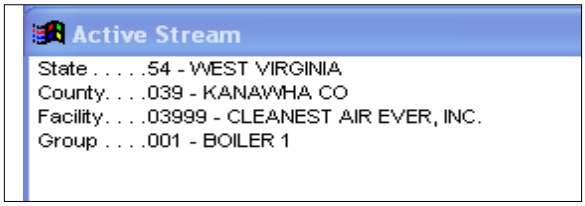
- Group Number
- Group Description
- Operating Schedule - Hrs/Day
- Operating Schedule - Days/Wk
- Operating Schedule - Wks/Yr
- Operating Schedule - Hrs/Year
- 1st Quarter Throughput
- 2nd Quarter Throughput
- 3rd Quarter Throughput
- 4th Quarter Throughput

Section 8: Process Unit Identification

A Process Unit is a piece of equipment or procedure that generates emissions. Process Units can consist of equipment, production or service bays. Source Classification Codes (SCC) define each process. Process rates (throughputs), ash, heat and sulfur contents are also managed at this level.

Updating Process Information

1. The first thing we need to do is make sure that we get to the process we want to update. This is where the Active Stream window (upper left side) comes in handy. Make sure that it says that you are in the group for Boiler 1.



2. If the Boiler 1 group is not identified click on the Group/Area Designation button then use the Prior and Next buttons to find it. Then go back to the Data Map, and your active stream should look like the above.

3. Click on the ***Process Unit Identification*** button.

4. You are now in the first process for this group, Natural Gas Usage. Click on the Edit button to update this record.

5. About the only thing we really need to update on this screen is the process rate (throughput). Let's change that to **92**.

HINT: You'll notice that the text "SCC Units" is to the right of the number you input. If you are wondering what those are look at the second or third line below the blue line that says "Air Module - Process Unit Information: Window 1 of 1", those are the units that you should be using. They are normally tied to the SCC code identified, but you can change them.

6. Now click **End** and **save** changes.

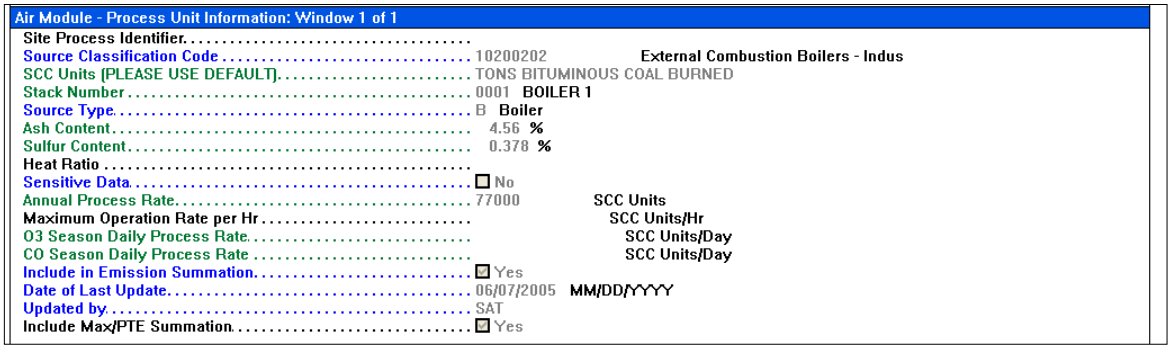
7. Now the software will give you a message about updating process emissions. More on that later.

8. Now let's update the next process. Use the **Next** button to go to the second process, Coal Usage.

9. For this process we need to update more than the process rate. Let's assume that we got a report from our coal supplier that states that the coal we burned this year was slightly different than last year. We need to update the sulfur and ash content based on this report. Go to the Ash Content and change it to **4.80**%, then change the Sulfur Content to **0.390**%.

10. Now let's update the amount of coal used in the Process Rate to **80,000** tons.

11. Click on End and save the changes. Your screen should look like the following:



12. Now let's update the other processes. First go back to the Data Map.

13. Click on the **Group/Area Designation** button and select the next group to work on, Woodworking Operation.

14. Go back to the Data Map.

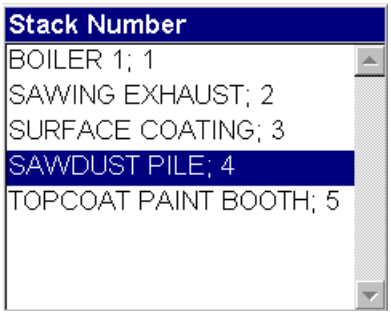
15. Click on the **Process Unit Identification** button. Tedious ain't it.

16. You should now be in the first process for the Woodworking Operation, Cyclone Exhaust.

17. A quick scan of this process reveals that it is one of those rare instances where we won't have to update the throughput. The throughput is based on the air flow to the cyclone unit (note the SCC Units) and that hasn't changed. Let's move on to the **Next** process, Sawdust Pile Handling.

18. We will have a couple of updates here. First is that we want to link the stack that we identified earlier to this process. Go to the Stack Number field, and hit the **F1** key or the Help button.

19. You should get the following pop-up list. Select the stack by clicking on it.

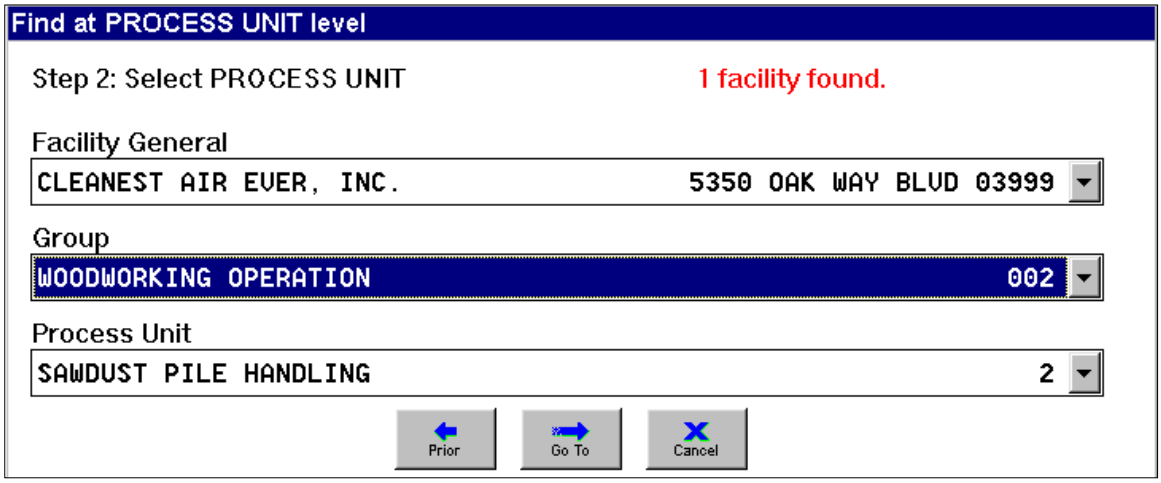


20. Now we need to update the process rate to **4350**. Click on **End** and save changes.

21. We have more processes to update, but why go through the steps we went through earlier. Let's use the Find feature. Click on the Find button.

22. You now have a window asking to find a facility. You should already be in the facility you're working in, so hit the **Find** button at the bottom of this window.

23. The next window (pictured below) shows a few drop-down selections. The first is the Facility, the second is the group and the third is the process. Change the group to Surface Coating by clicking on the arrow to the right of the description.



24. Now select the Paints/Coating process (process 1), and click on the **Go To** button.

25. Voila! You are now at the Paints/Coating process under the Surface Coating group.

26. Let's update the process rate to **3287**, and update the process rate for Primer (process 2) to **2865**.

27. We have now completed updating the existing processes.

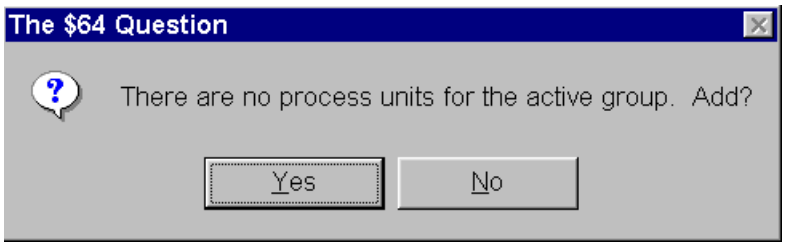
Adding a Process Unit

1. We now have to add a process unit for the Group we added in the previous section, Topcoat Paint Booth.

2. Go to the Data Map if you aren't already there.

3. Click on the **Group/Area Designation** button, then find the Topcoat Paint Booth.

4. Go back to the Data Map, and click on the **Process Unit Identification** button. You will get the following message.



5. Click **Yes**.

6. Now we can enter the following information;

7. Process Description - Topcoat

8. Source Classification Code - Hit the **F1** key or the help button. Go to Surface Coating Operations, hit **enter** or click on it. Now pick Surface Coating Application - General, then Paint: Solvent Based, and finally Gallons Coating Processed. You should now have the SCC of 40200110. Please do not use 10-digit SCC codes.

9. SCC Units - You will be asked if you want to use standard SCC units, select Yes. You can use other units but you won't be able to use the automatic EPA emissions calculations.

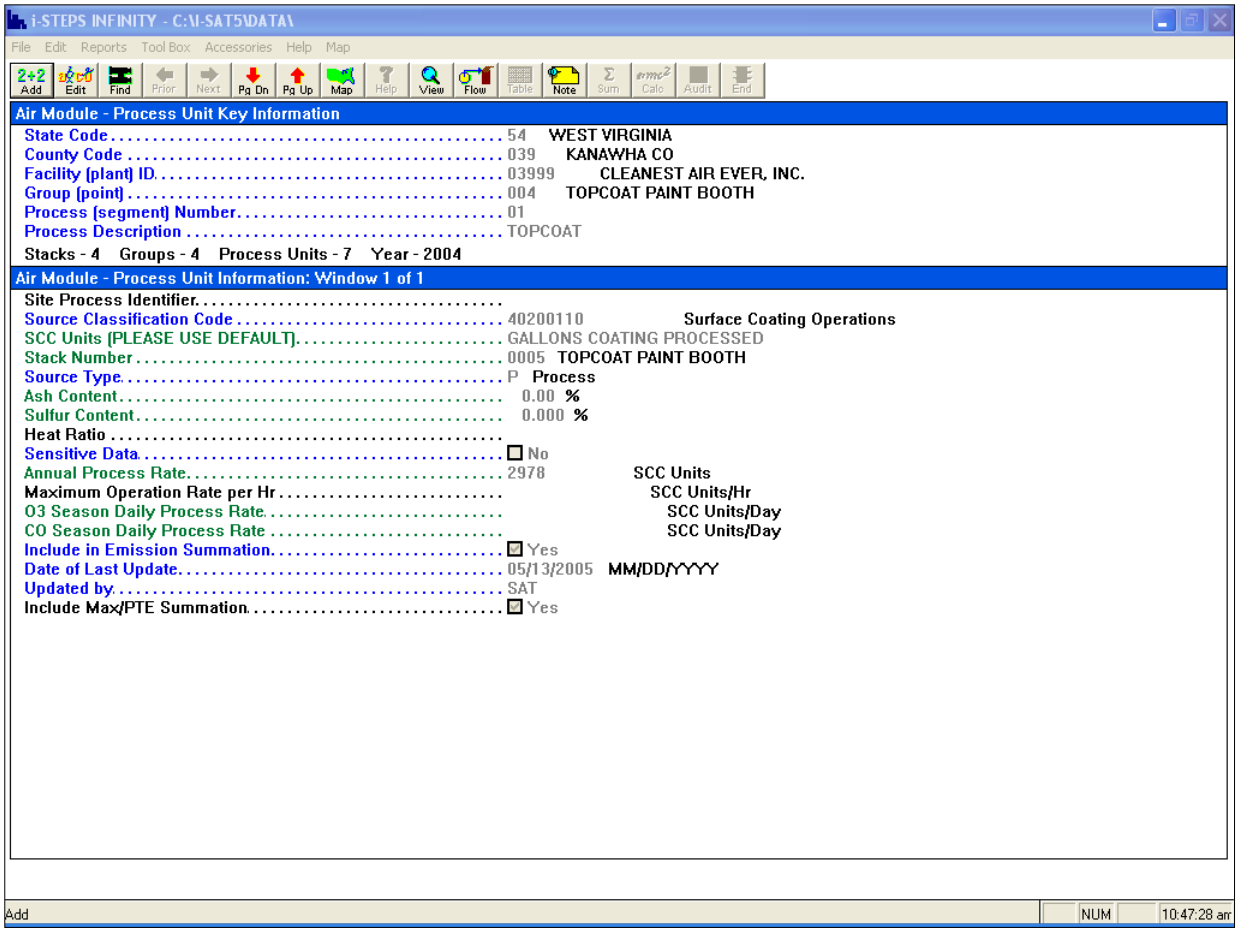
10. Stack Number - Select the stack (Remember how to get the pop-up window?)

11. Source Type - Select the process type, this has a pop-up window as well. We'll use **P** for **Process.**

12. Process Rate – **2978.**

13. Click on **End** and **Save** changes.

14. You will be prompted if you want to automatically add pollutants, select Yes. Your screen should now look like the following picture.



Process Information Checklist

The following fields must be filled; they are required either by the Satellite or by the State Rule. Blue fields are always required, and green are conditional and may be required by the software to estimate something else.

- Process Description
- Source Classification Code
- SCC Units
- Source Type
- Ash Content - Ash and Sulfur contents are required if part of the emissions calculation
- Sulfur Content
- Process Rate

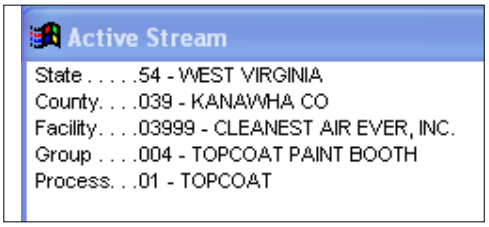
Section Review

In this section we have gone over the steps necessary to update and add Process Units. We have updated a few units and added one. We have even taken the extra step of identifying the stacks associated with a couple of the processes. We also used the Find function to help navigate our way to another process.

Section 9: Control Scenario

This is where we connect the abatement equipment identified earlier to the process unit. This area is used to identify, in sequence, all of the abatement devices and their capture efficiencies. We can connect one to ninety-nine different pieces of equipment to a process unit.

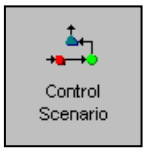
1. First we need to make sure that we have the correct process identified. We can do that by referring to the Active Stream. We want to go to the Topcoat process. Navigate to that using the methods described in the previous section. Your Active Stream should look like the following,



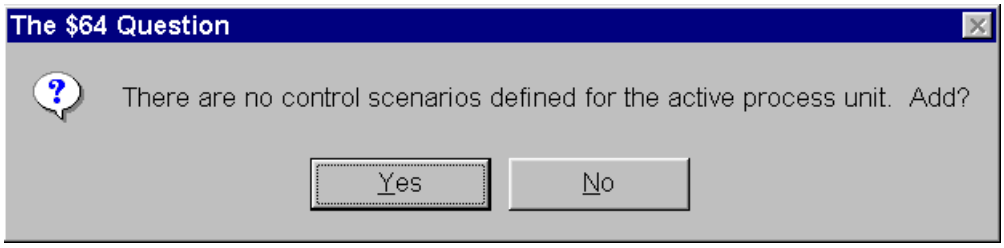
Did you remember how to find the process? Just in case, here's a hint, use the **Find** button or find the Group first.

Adding a Control Scenario

2. Click on the ***Control Scenario*** button under the **Controls/Wizards** section.



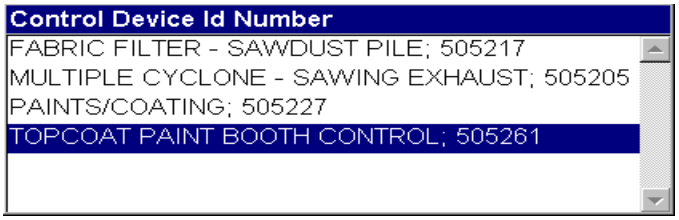
3. The following box will appear on the screen. Choose Yes.



The Control Scenario Information screen will appear.

4. Enter Control Scenario Information. There are only two things you will need to enter here; the Control Device ID Number and the Capture Efficiency.

5. **Control Device ID Number** - In this field we need to identify the abatement equipment associated with the process. If you hit the **F1** key or click on the Help button, a pop-up window will appear with a list of the abatement equipment. For this example select the **Topcoat Paint Booth Control**.



6. **Capture Efficiency** - This is the percentage of the emissions routed to the control device. For this example we have a carbon adsorption system controlling the emissions, but because of doors, leaks, and vents about **93**% of the total emissions make it to the control device. That is our Capture Efficiency.

7. Click on **End** and **save** changes.

Hints

Linking other pieces of control equipment to the same process.

- If we were to add another control to this process we would click on the **add** button and repeat the above steps.

Linking controls to other processes

- You must first identify the process; then go to the **Control Scenario**.

Typical capture efficiency is 100% capture - (never use zero for capture efficiency)

- Most control scenarios should have 100% capture efficiency in line 6 above. Do not confuse capture efficiency with control efficiency. Control efficiency refers to how good the control device is for removing emissions from the exhaust stream, and is explained in Section 6. Capture efficiency refers to the amount of the exhaust stream that goes to the control device. Capture efficiency is normally 100% for any scenario where pipes and ductwork connect the control device directly to the process. Use a capture efficiency less than 100% only for situations such as hoods where part of the emissions never makes it to the control device.

Section Review

In this very short section we have seen how to link a piece of abatement equipment to a specific process. We have seen that we must first identify the process and then link the abatement equipment by using the control scenario. We have also learned that the Capture Efficiency is the amount of emissions that is routed to the abatement equipment, which may or may not be 100%. Keep in mind you should not have to update this information very often, but if you do the navigation is the same. Find the Process, then go to the Data Map, and then the Control Scenario.

Section 10: Process Unit Emissions

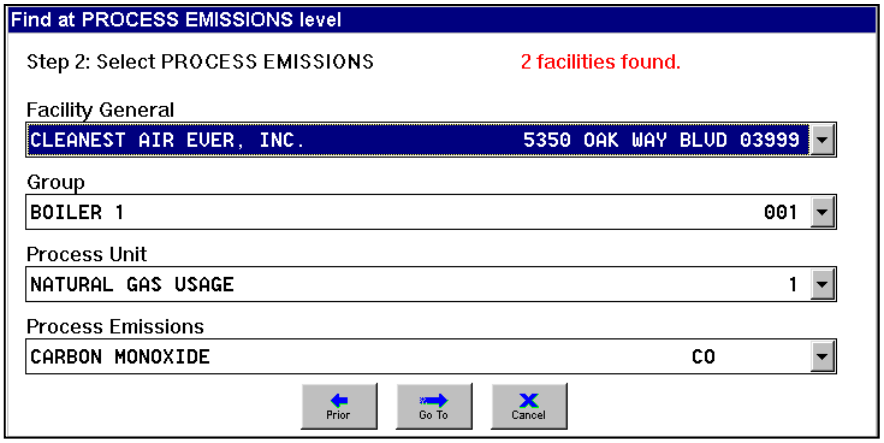
This is where we finally get down to the emissions calculations. Pollutants emitted from the process units are tracked for each unit. The Satellite offers several methods of emissions calculations, ranging from AP-42 emissions factors to manual entry of emissions. The Satellite automatically summarizes emissions by the group, stack and facility areas.

1. To start entering process emissions information click on the ***Process Unit Emissions*** button under the **Emissions Information** section.

Updating Emissions Information

2. Let's find the first Group and the first Process Unit. Click on the **Find** button, then make sure your source is identified, or go ahead and hit **Clear Lookups**, then the **Find** button in the "Find" window.

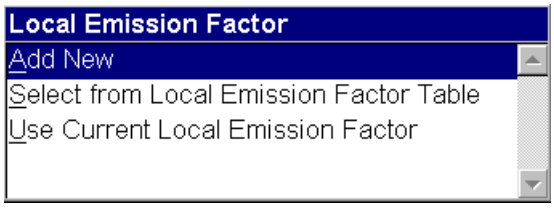
3. Now you'll see a series of drop down selections. The first row is the Facility; make sure your facility is picked. The second is the Group, select Boiler 1. Next is the Process Unit, go to number 1. Finally pick the pollutant; they're listed in alpha order by the software so make sure you go to CO (**carbon monoxide**). You selection window should look like the following image. Now hit **Go To**.



4. Let's check out the information. Using the **Next** and **Prior** buttons we can see that the software has updated the emissions for many of the pollutants. This happens when you use method 8 or 9. 8 is the automatic *i*-STEPS calculated AP-42 emission factor, 9 is when you input your own emission factor.

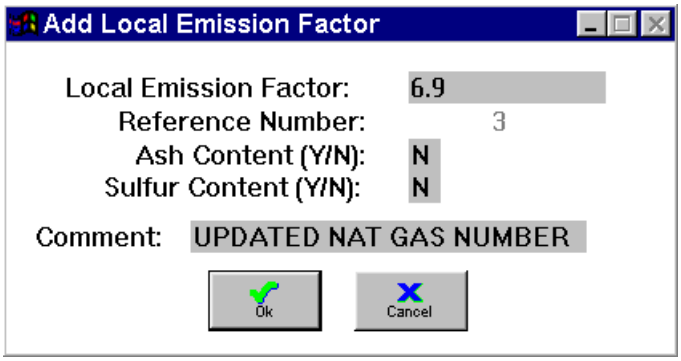
5. When looking at this, did you notice that the emission factor for PM10-PRI was higher than PM-PRI (total particulate)? Not a very likely situation. Let's correct this by changing the factor, click on the **Edit** button.

6. Go to the Estimated Emissions Method field. Hit the tab key or try to move to the next field. You will get the following window asking you for information.



7. Select the Add New option to enter a new emission factor.

8. Now we have the Add Local Emission Factor window. Update the number to **6.9**, and you can enter something in the Comment field if you wish. When complete your window should look something like the following. If it does click on the **Ok** button.



9. That pollutant has now been updated. Click on **End** and save changes.

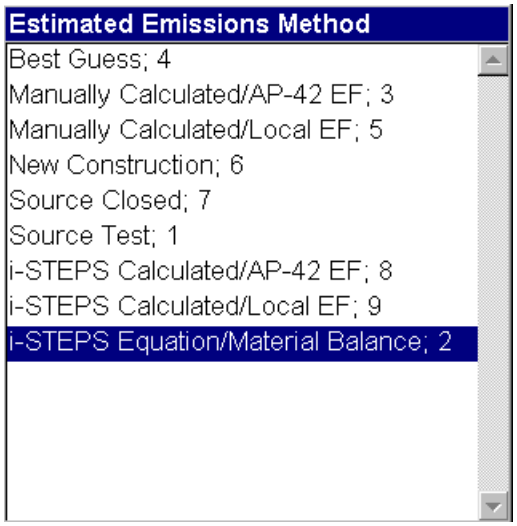
10. Let's check the next process. Go to the Map, click on **Process Unit Identification**. Use the **Next** button to get to Unit 2, Coal. Now back to the Map and click on **Process Unit Emissions**.

11. Go ahead and look at the rest of these emissions. See that they are all using the AP-42 method and are already calculated. Go ahead and start looking at the rest of the process unit emissions. Try using both the **Map** and the **Find** to get to the emissions.

12. Let's go to the last process; Group 004, Process Unit 1 Top Coat Paint Booth, Topcoat.

13. See that we have VOC identified as the only pollutant using the AP-42 Method. Well, we have better information and have used mass balance to calculate a more accurate number. So let's change this. Click on the **Edit** button.

14. Go to the Estimated Emissions Method, hit the **F1** Key or the **Help** button, and then select *i*-STEPS Equation/Mass Balance (Method 2).



15. After you make the selection, your cursor will go to the field "Emissions (before control)". When in this field you must enter the uncontrolled emissions, which was calculated at **7.147** Tons.

16. Did you notice that Estimated Emissions changed to 1.829632? That number reflects the VOC emissions after control of 74.4%.

17. Now we have also calculated the emissions for a couple other pollutants. These need to be added. Click on the **Add** button to get a blank screen.

18. In the Pollutant Code field, hit the **F1** key or the **Help** button to get a list of the pollutants. Find and select **Methanol**.

    Hint: To get to the pollutant you want you can either scroll through the list or type the first letter of the pollutant name. The list is in alpha order, so you should at least be able to get close to the pollutant.

19. Just like the above, select **Method 2**, then enter **1.28** for the uncontrolled emissions, and **save** your changes.

20. Now enter the following in the same way.

Pollutant	Method	Uncontrolled Emissions
Toluene	2	1.58
Xylene	2	0.75

21. Now we have completed all of the data entry for this facility. At least it was better than an IRS audit.

Process Unit Emissions Checklist

- ❑ Pollutant Code
- ❑ Estimated Emissions Method
- ❑ Emissions Factor - if using method 8 or 9
- ❑ Estimated Emissions - automatically filled when other fields are complete
- ❑ Emissions [No Control] - If using method 2, 3 ,4, 5, 6, or 7
- ❑ Emissions [No Rule] - if using method 1

Section Review

In this section we have updated emission factors and entered emissions that were calculated manually. We have seen that the Satellite is capable of calculating emissions for processes that are controlled, and it is also capable of accepting calculations that are made external to the software. Let's take a look at the ways the Satellite will handle emissions information. Below is a table of the ways you can input emissions information. The methods vary from the standard AP-42 emission factors to direct input of emissions estimates.

Number	Method Description	Explanation
1	Source Test	This method should be used when reporting emissions calculated from a continuous emissions monitor. This will require you to enter emissions in the Emissions (No Rule) field. You need to enter the amount of emissions after control in this field.
2	i-STEPS Equation/Material Balance	This method should be used when a calculation has been made outside of the software using mass balance techniques. You will need to enter the amount of uncontrolled emissions in the Emissions (No Control) Field.
3	Manually Calculated/AP-42 EF	This method should be used when a calculation has been made outside of the software using techniques from AP-42 (this is especially useful for estimates based on models). You will need to enter the amount of uncontrolled emissions in the Emissions (No Control) Field.
4	Best Guess	Try not to use this method. You will need to enter the amount of uncontrolled emissions in the Emissions (No Control) Field.
5	Manually Calculated/Local EF	Same as Method 3, except using a local factor.
6	New Construction	No emissions, newly constructed. Enter 0 emissions.
7	Source Closed	Don't really need to use this. You can delete anything that's closed.
8	i-STEPS Calculated/AP-42 EF	The Satellite will calculate emissions for any <u>available</u> AP-42 emission factors.
9	i-STEPS Calculated/Local EF	The Satellite will calculate emissions using any factors entered by you. You must have a local emission factor.

Discussion:

Emissions calculation method is the heart and soul of emissions inventory. Everything we've done to get to this point has been descriptions of what has happened to get these emissions. EPA, state and local agencies, and industry trade groups have worked long and hard to help emission inventory preparers make the best estimates by using the best methodology. A product of this effort is the Emission Inventory Improvement Program (EIIP). You can tap into this

resource by going to EPA's CHIEF webpage at www.epa.gov/ttn/chief/eiip. Click on the "EIIP Volumes 1 - 10" link and then click on the "Point Sources" link.

EPA, state and local, and industry stakeholders worked together for about 10 years to identify and share their knowledge about estimating emissions from the most broadly important emissions producing activities.

As a rule of thumb, the list below provides some guidance about which methods are best. Methods are listed best to worst.

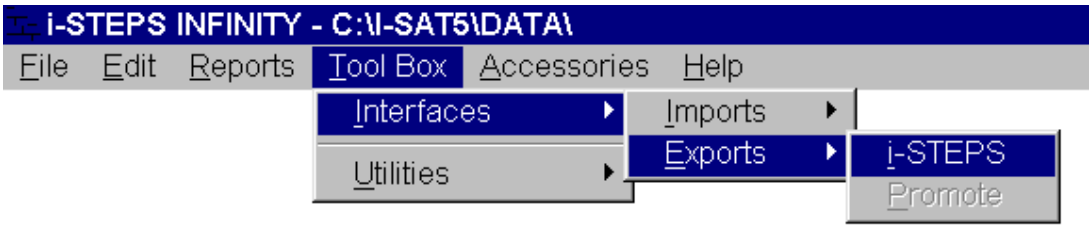
Pollutant	Method	Comment
NO_2, SO_2, CO, and VOC	Continuous Emission Monitor (CEM)	Best for these pollutants but too expensive for all but the largest emission sources. No i-STEPS code: Use Method Code 1.
VOC and HAPs emitted by evaporative loss	Material balance	The PERFECT Method: Cheap and accurate. Method Code 2.
PM, PM10, PM25, SO_2, NO_2, CO, VOC, etc.	Source Test	Less expensive than CEM but more expensive than other methods. It is source-specific (as opposed to AP-42). Source tests normally done at permit max rate which tends to increase emission rates. This is offset by fact that controls are usually optimized during testing, which decreases emissions. Method Code 1.
all	AP-42	Least expensive but generally pretty representative. Method Codes 3, 8, or 9.
all	Industry trade group emission factors	Another resource if no AP-42 EF or if AP-42 process differs significantly from source. Method Codes 5 or 9.
all	Engineering judgement, permit application, all others	Best estimate if nothing more robust is available. Method Code 4.

Section 11: Exporting Data

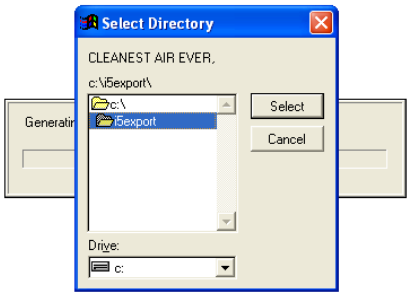
Caution: Before exporting, you must prepare a subdirectory to receive the data files. Use windows explorer, my computer, or another file utility. The satellite will delete everything in the drive or directory, without checking its contents, as part of its export command.

1. If you're not there already, start the Satellite i-STEPS and log in using the initials **SAT** and the password **LAUNCH**.

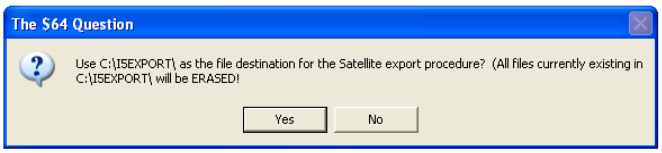
2. Go to Tool Box, Interfaces, Exports, i-STEPS



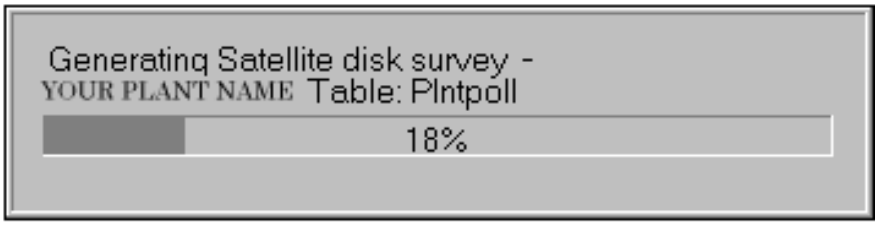
3. The program will now ask you where you want to export the data. For the most part you will be exporting to a hard drive, so you can easily zip the files and email it to us.



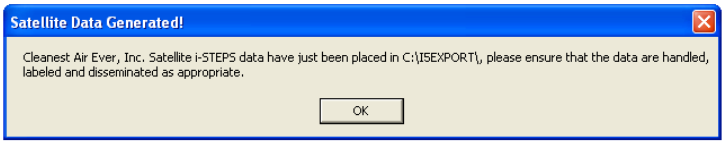
4. Now you will get this ominous warning. Read it carefully, and make sure you are exporting to the correct subdirectory. You wouldn't want to delete your resume or favorite recipe. When you are sure select **Yes**.



Once you hit **Yes** you will get the following status message showing that the program is exporting.

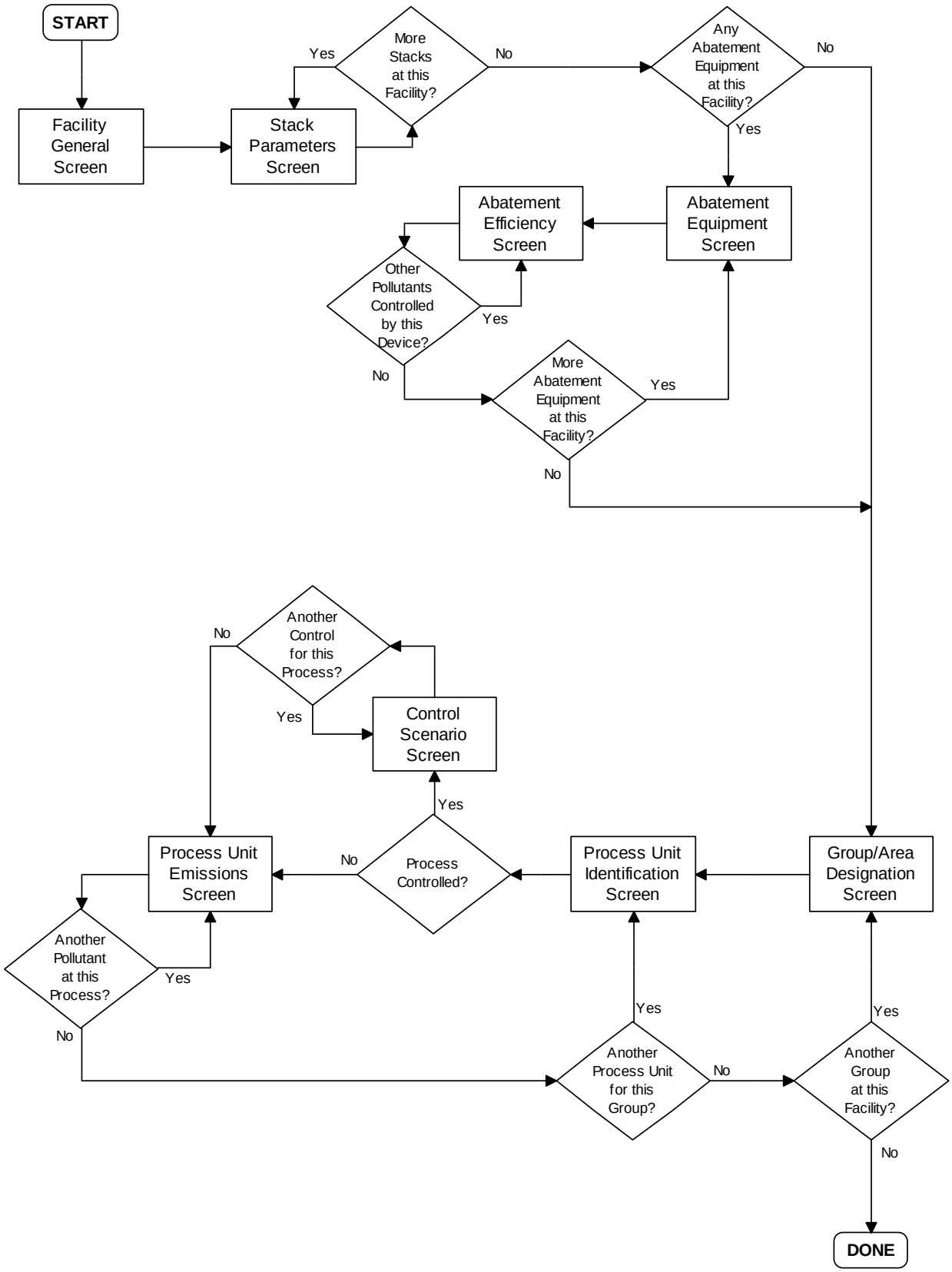


5. After the Satellite is done exporting you should get another message telling you that the export is done.



As the window says, it is now up to you to send in the updated emissions information and the signed certification letter.

Appendix A : Data Entry Flow Chart


START
Facility General Screen
Stack Parameters Screen
More Stacks at this Facility?
Yes
No
Any Abatement Equipment at this Facility?
No
Yes
Abatement Equipment Screen
Abatement Efficiency Screen
Other Pollutants Controlled by this Device?
Yes
No
More Abatement Equipment at this Facility?
Yes
No
Group/Area Designation Screen
Process Unit Identification Screen
Process Controlled?
No
Yes
Control Scenario Screen
Another Control for this Process?
No
Yes
Process Unit Emissions Screen
Another Pollutant at this Process?
Yes
No
Another Process Unit for this Group?
Yes
No
Another Group at this Facility?
Yes
No
DONE

Appendix B : What is the Carry Option?

Using the Carry Option:

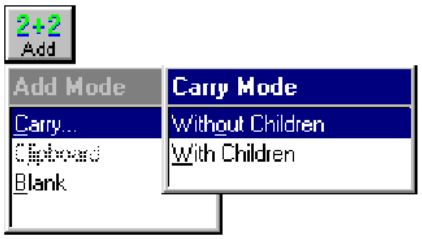
We have learned how to add information by selecting the Add button and then Blank. This would show us a screen with a bunch of blank fields that would need to be filled in. Now we can add information by copying, say a group, and then just simply changing the information, the name or whatever may be different. There are two ways we can do this:

Carry Without Children:

Suppose your company has three boilers that need to be entered. Before you would have added a group for each boiler and then added three separate processes for Boiler 1, Boiler 2 and Boiler 3 and then finally added the process emissions information. An easier way to add each Boiler would be to:

Add a group for Boiler 1 by choosing the Add Button in the toolbar and then selecting the Blank option and entering the first group from scratch.

Since you have two more boilers just like the one you entered instead of adding each one from scratch again, select the Add button in the toolbar, and then select the Carry Without Children option.



This will copy the information from the first boiler and all you would need to do is change the name to Boiler 2. Then select the Add button in the toolbar, and then Carry Without Children option to add the third boiler.

Carry With Children:

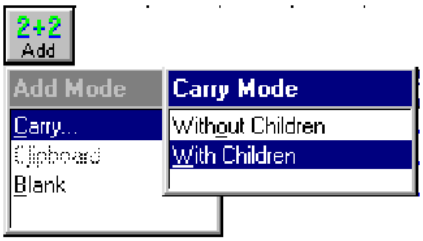
Your company has three boilers that need to be entered. Before you would have added a group for each boiler and then added three separate processes for Boiler 1, Boiler 2 and Boiler 3 and then finally added the process emissions information. An easier way to add each boiler would be to:

Add a group for Boiler 1 by choosing the Add Button in the toolbar and then selecting the Blank option and entering the first group from scratch. Then complete the steps to enter the Process Unit and Process Emissions Information.

Now that you have one complete group entered into the software instead of adding the other two boilers into each section from scratch we can simply copy the entire information and then change what may be different.

Go back to the Group/Area Designation Screen by using the Map.

Select the Add button from the toolbar and then the Carry With Children option.



Just like before it will copy the group information but it will also copy the process unit and emissions information for that group. All you would need to do now is to change the name to Boiler 2 and maybe change the process rate. The third boiler can be added in the same way.

Note:

Both of the Carry options will work with any information put into the software. The Carry without Children option will copy just the information that you see in the current screen (group will copy just the group info, process just the process info, etc.). The Carry with Children option will copy all of the information on the screen and everything that is associated below that screen (group will copy the group and process, control scenario, and emissions; process will copy the process, control scenario, and emissions).

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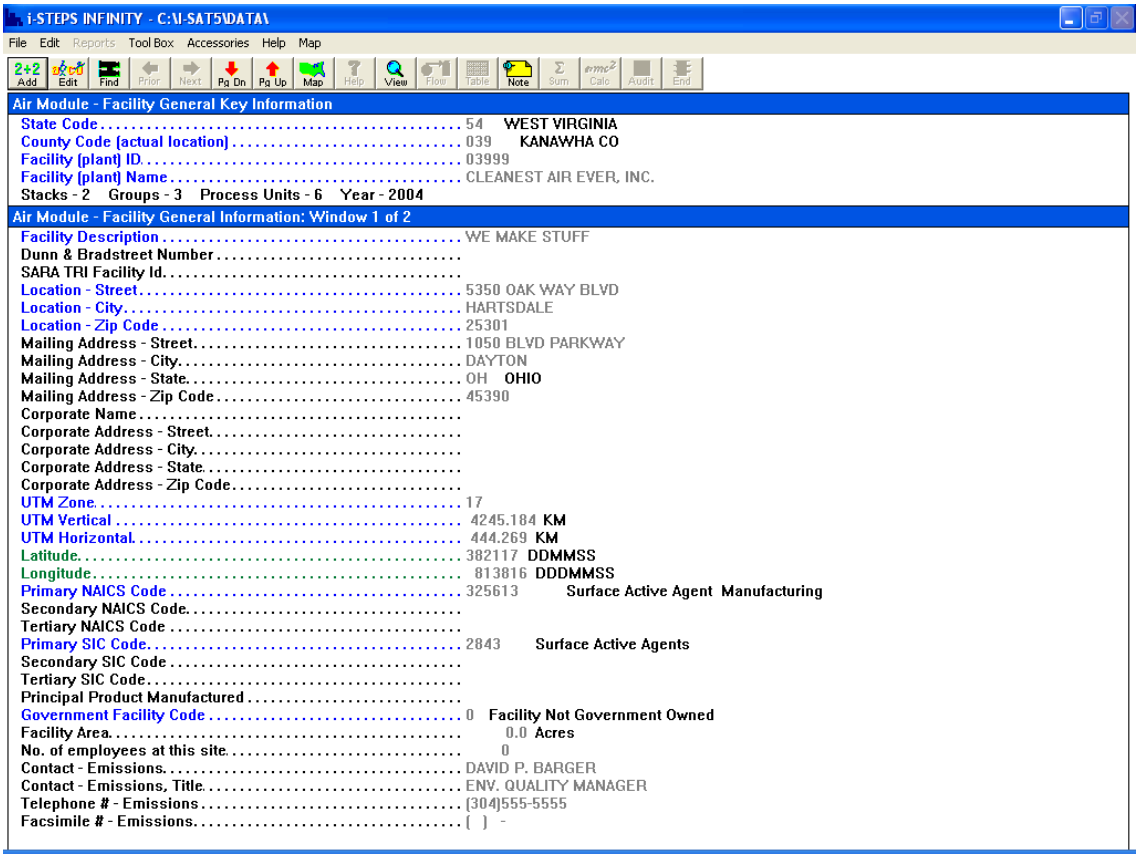
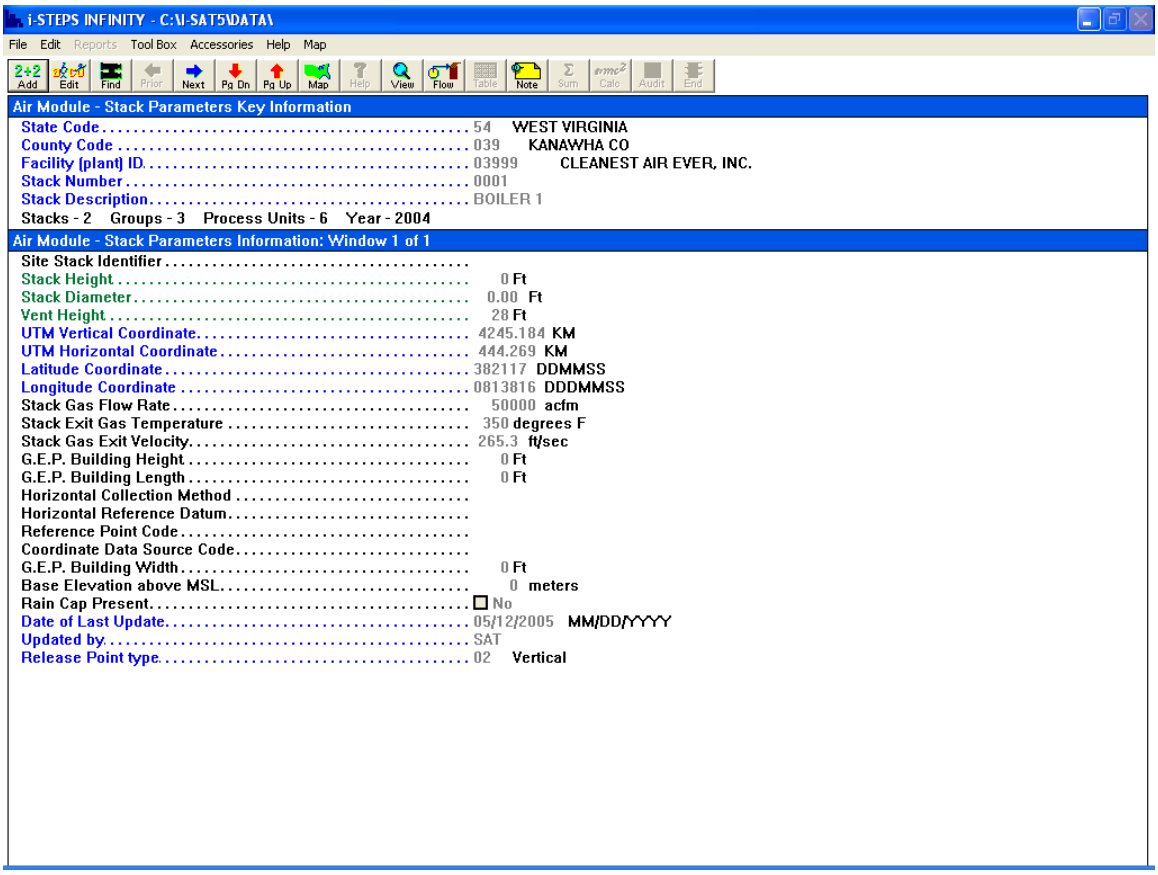
Appendix C : Short Instructions

Facility General



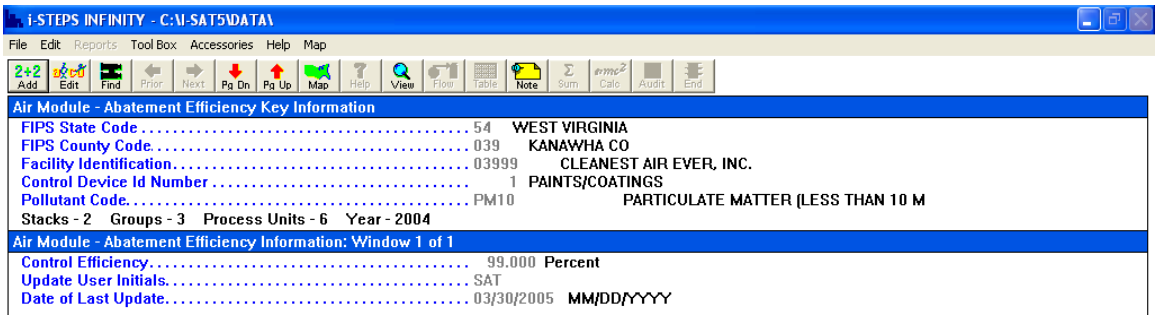
1. Enter the State Code
2. Enter County Code - Usually first three numbers of permit ID
3. Enter Facility ID - Usually last five numbers of permit ID
4. Enter Facility Name. Must include corporate name – see page 32 for examples.
5. Enter Location - The actual physical location, NO P.O. BOXES
6. Mailing Address - The address where all mail should be sent
7. Enter the UTM or Latitude and Longitude - One or the other. The software will calculate the one not entered
8. Primary NAICS - Use the Help option
9. Primary SIC - Refer to Permit
10. Contact - Enter the contact at the facility, NOT A CONSULTANT'S NAME
11. Year of Inventory - Usually the previous year

Stack Information



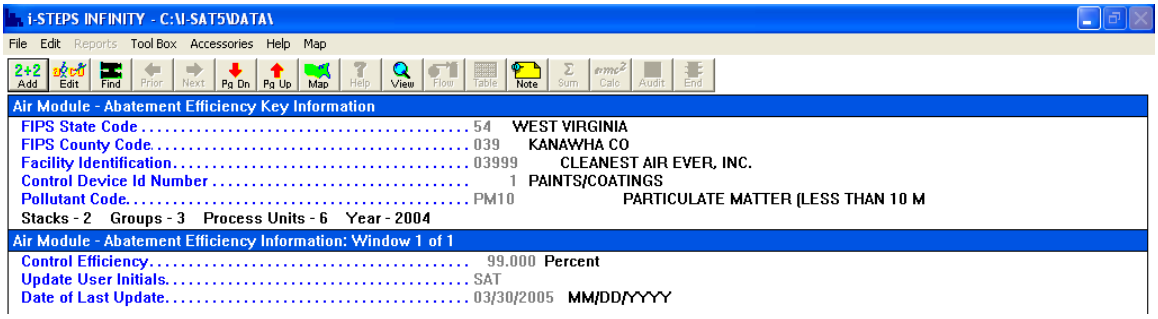
1. Enter a Description
2. Enter a Stack Height and Diameter or enter a Vent Height
3. UTMs or Lat and Long - Can use the facility default if nothing more accurate
4. Stack Gas Flow Rate - Can be found in permit or permit application
5. Stack Exit Gas Temperature - Can be found in permit or permit application
6. Stack Gas Exit Velocity - Can be found in permit or permit application
7. Repeat until each stack is input or updated

Abatement Equipment and Abatement Efficiencies



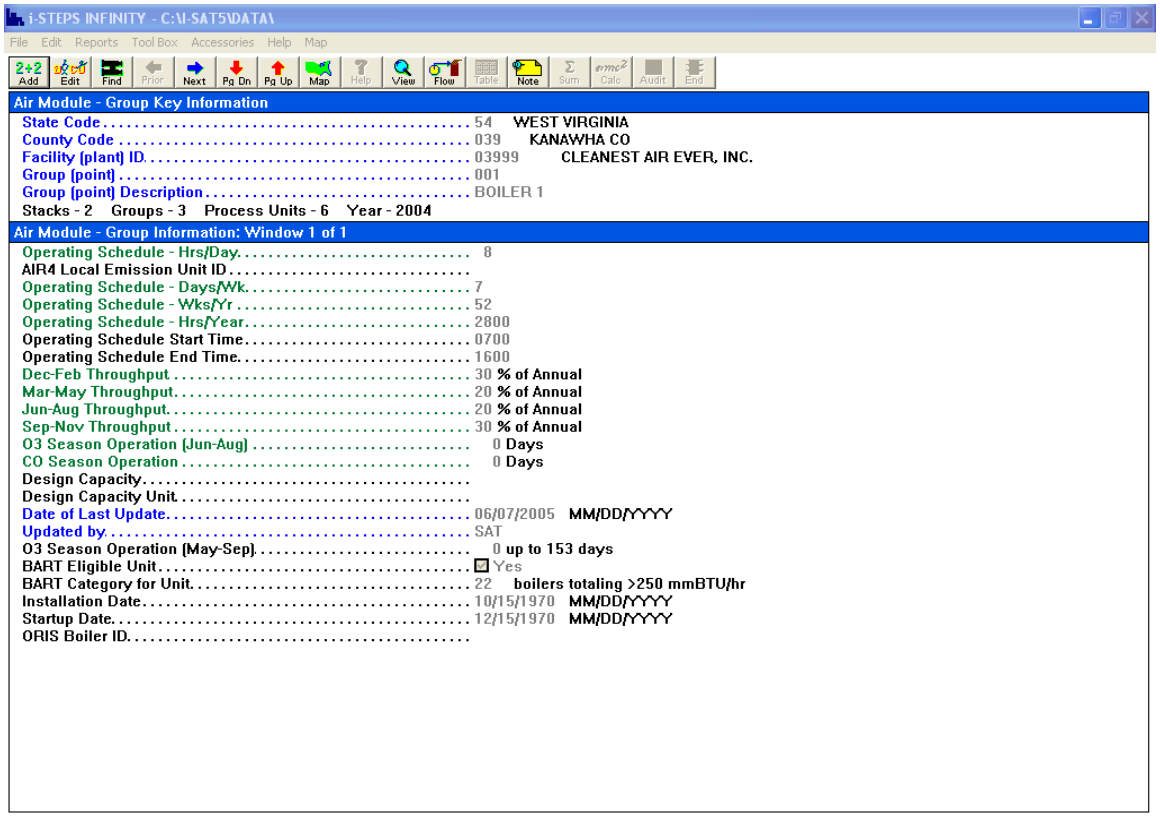
1. Enter the Abatement Equipment Code - You can use the Help option to find one
2. Enter a description that you can readily recognize
3. Click on the Map button

4. Click on the Abatement Efficiency button



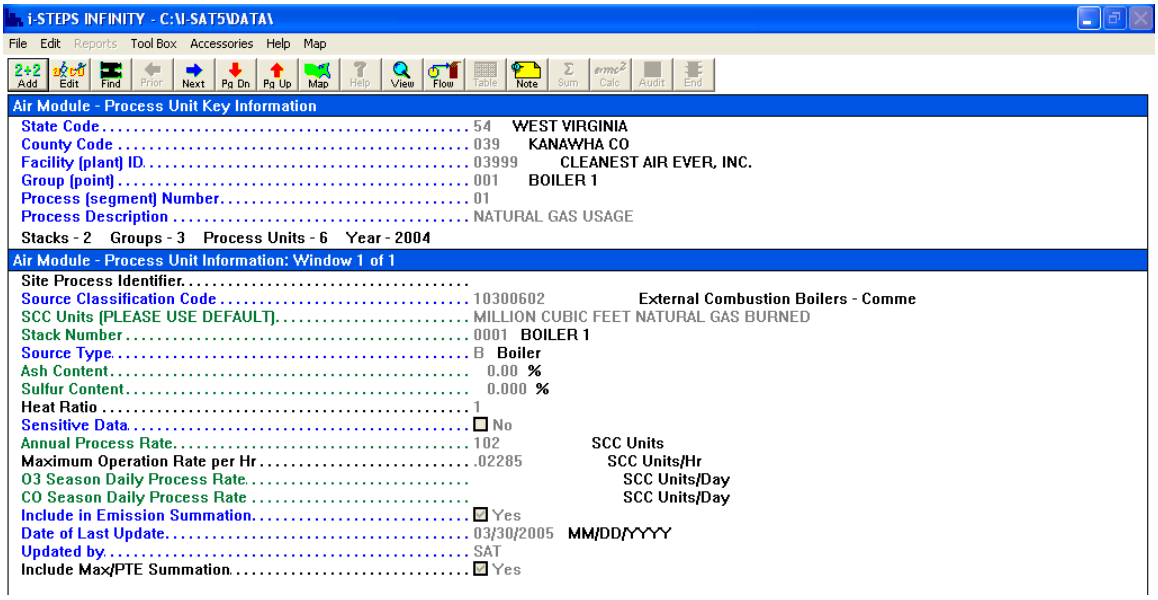
5. Enter the Pollutant Code and Control Efficiency for the pollutant, then enter the rest of the pollutants and efficiencies by using the add button.
6. Repeat these steps until all abatement equipment have been updated or added.

Group Information



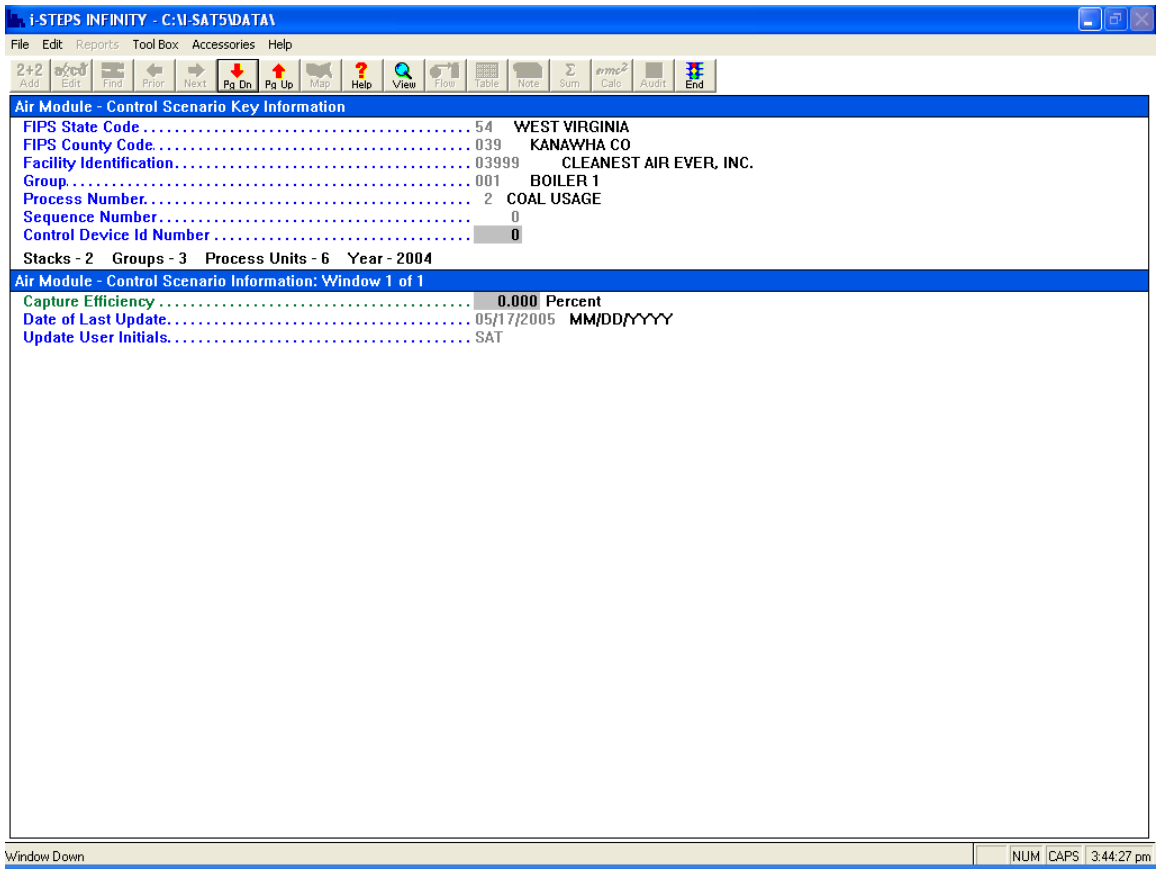
1. Enter a Group Number
2. Enter a short Description
3. Enter the Hrs/Day
4. Days/Week
5. Weeks/Year
6. Hrs/Year are automatically calculated
7. Enter the Quarterly Throughputs, see Section 7 for more info on these
8. Check the “No” box to change it to “Yes” if applicable. Otherwise leave it “No”.
9. Click in the field and press F1 for a pick list of BART categories.
10. Provide the best information available for Installation Date and Startup Date.
11. If BART is applicable for any part of your facility, go back to the Facility General data entry page, press Page Down, and enter the appropriate information in the BART fields.
12. Repeat these steps until each Group is entered

Process Unit Information



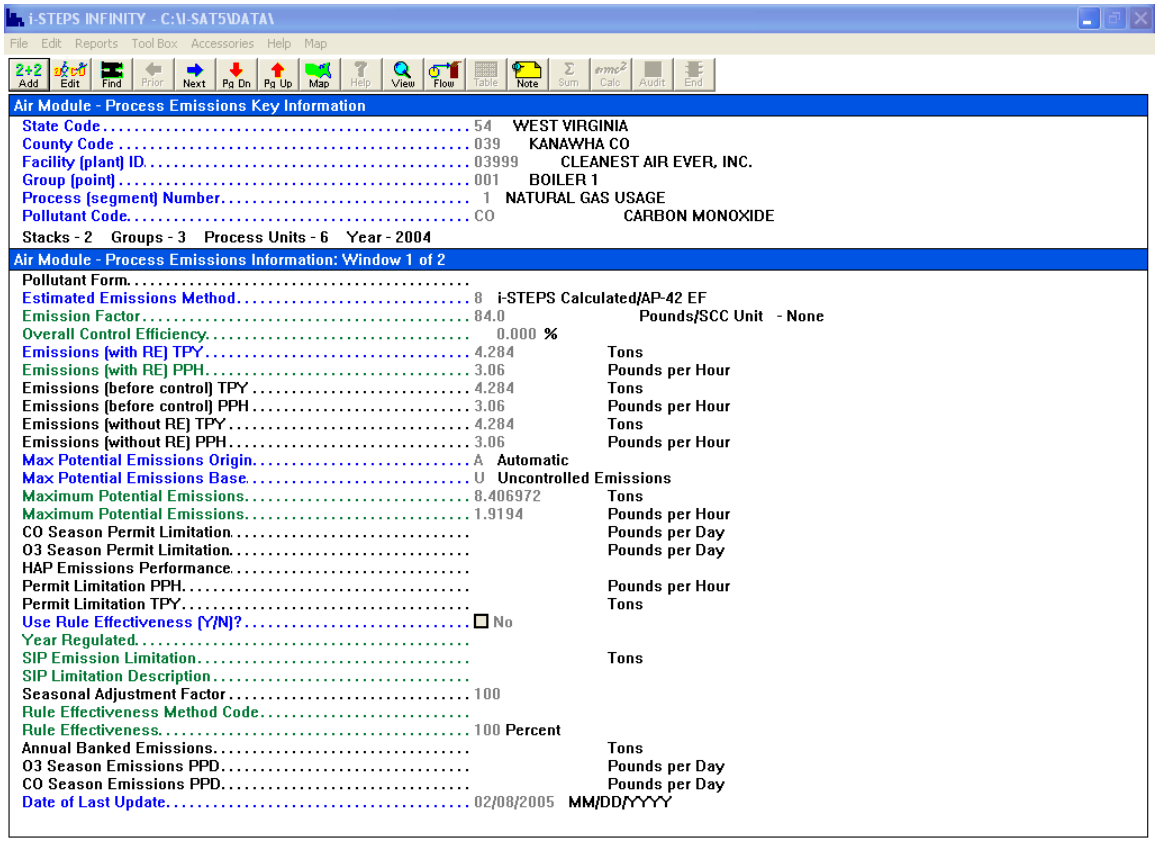
1. Enter the Description
2. Enter the 8-digit SCC - Use the Help option, if necessary
3. SCC Units - Generally use the defaults
4. Stack Number - Use the Help to get a pop-up with the stacks you've already entered.
5. Source Type - Use the Help
6. Ash Content - Only necessary if part of the emissions calculation
7. Sulfur Content - Only necessary if part of the emissions calculation
8. Process Rate - Your total annual throughput in the same units as the above SCC Units
9. Identify the Control Scenario for this Process, if the emissions are controlled (see next page)
10. Check the Process Unit Emissions (see following instructions)
11. Go to the next Process Unit using the Next/Prior buttons, if available. Otherwise;
    i. go back to the Data Map,
    ii. go to the Group/Area Designation,
    iii. select the next group,
    iv. go back to the Map,
    v. then to Process Unit Information
12. Repeat until all Process Units and Process Emissions are updated

Control Scenario



1. From the Process Unit Screen click the Map, and then click on the Control Scenario button.
2. Enter the Capture Efficiency of the abatement equipment.
3. Use the Add button to identify any other equipment controlling emissions from this process.
4. Go to the Process Unit Emissions Screen to check, update, and append any pollutants.

Process Unit Emissions

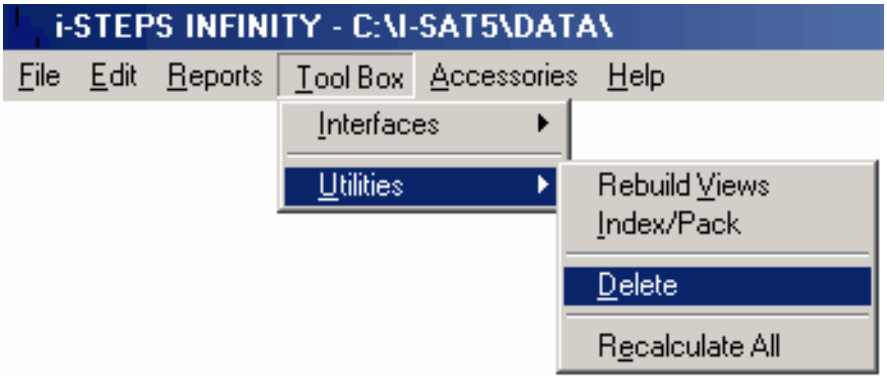


1. Using the Edit button update any emissions.
2. Use the Prior/Next buttons to find a pollutant
3. Use the Add button to append any pollutants
4. Return to Process Unit Identification to move to the next Process.

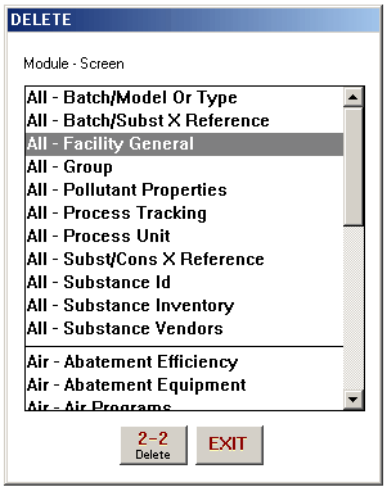
Appendix D : Deleting

Deleting Information

1. If you're not there already, start the Satellite i-STEPS and log in using the initials SAT and the password LAUNCH.
2. Since deleting can be a very useful tool we'll show you how to really mess up and lose all of the information that you have entered. KEEP IN MIND THERE IS NO UNDO BUTTON. Go to Tool Box, Utilities, Delete.



3. The next screen asks what you want to delete. There is a long list of things you can select. The items in the list reflect the buttons from the data map. So you will need to know not only what to delete, but how to locate it.



Select the appropriate level at which you want to delete. At this point you need to know that the software will delete from the level you indicate downward. So if you pick to delete a group, Satellite will delete the group indicated and any associated process units and process unit emissions. If you decide to select the Facility General, you will delete everything. The following gives a brief description of what is deleted from what level.

All-Facility General - Selecting this will delete the entire facility and all associated groups, processes, stacks, and abatement equipment.

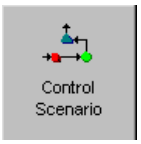
Air-Stack Parameters - This will delete all information for a selected stack. The stack is chosen by selecting the facility and then the stack.

Air-Abatement Equipment - This will delete a particular piece of control equipment and all associated abatement efficiencies .

Air-Abatement Efficiency - This will delete the efficiency for a particular pollutant for a piece of abatement equipment.

All-Group - This will allow you to select a group and delete it and all associated processes and process emissions.

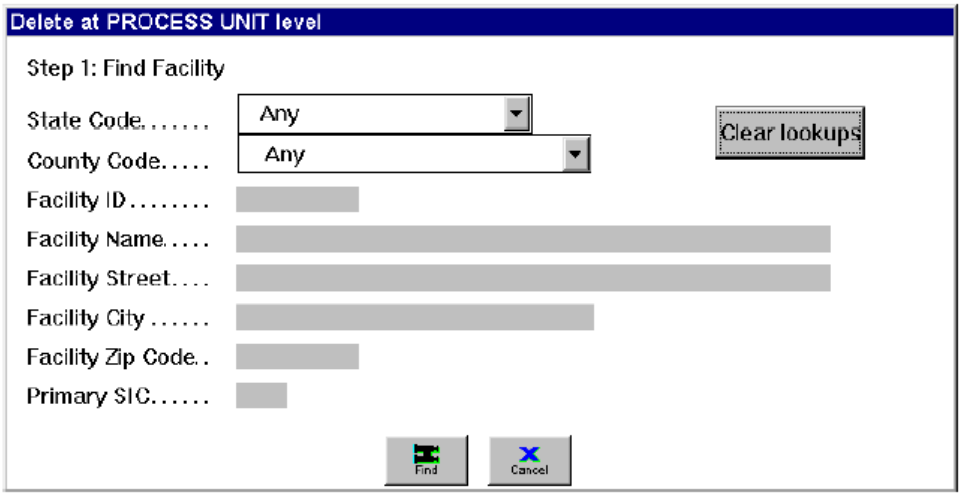
All-Process Unit - This will allow you to delete a process from the group without losing the group information and will delete emissions attributed to the process.



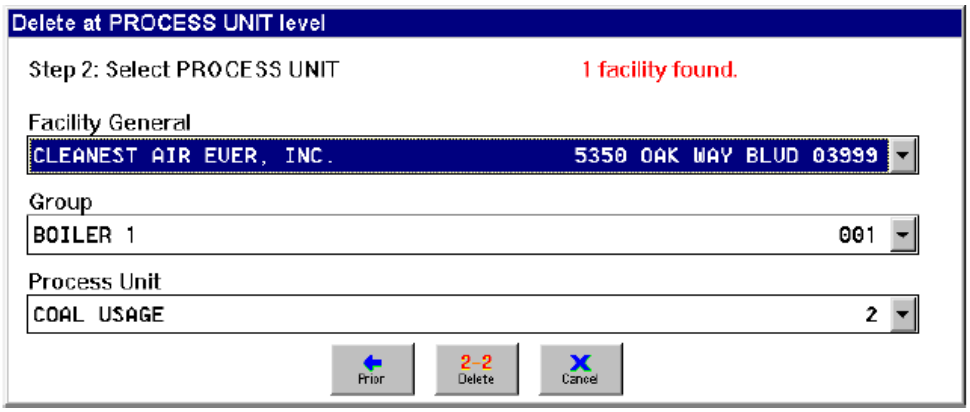
Air-Control Scenario - This will remove a control scenario, disconnecting the abatement equipment from the emissions estimate.

Air-Process Emissions - This will delete any emissions estimate at the process level by selecting the facility, group, process, and pollutant. Handy if you have entered the wrong pollutant.

4. Now that you have selected what category you want to delete, hit the delete button.
5. Next you will get a Find screen, which can be helpful if you have more than one facility. If you do have more than one Facility go ahead and Clear Lookups, then click on Find.

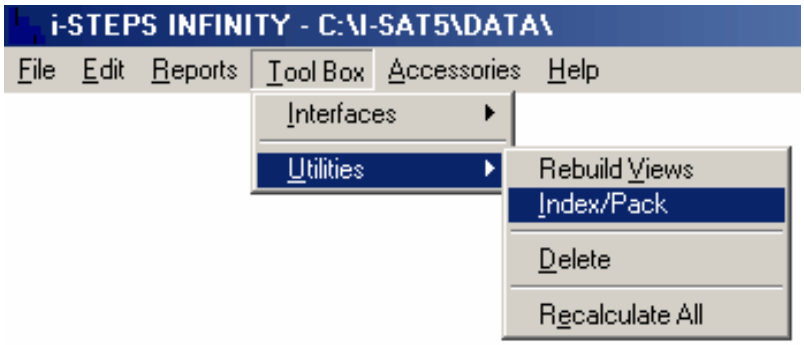


6. For this example we will be deleting coal usage from a boiler, let's assume that it was converted to strictly natural gas. The next screen will show the details of what you will need to identify to get to the proper process unit.

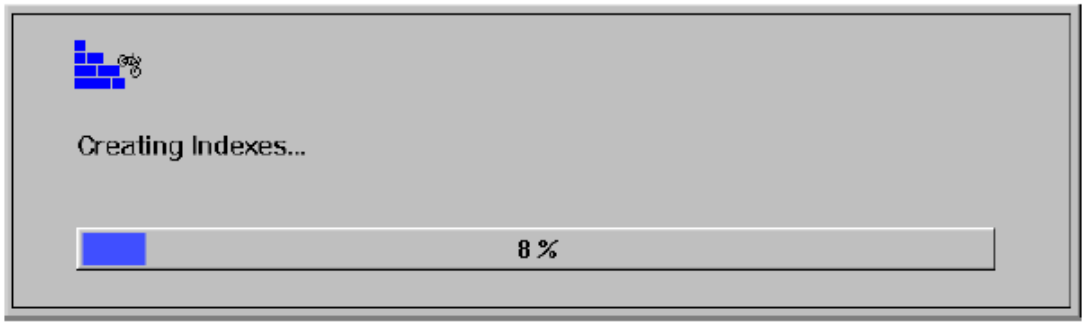


7. Now select delete. That process and all associate control scenarios and emissions will be deleted. The same procedure can be followed for any of the identified information, **just be careful not to delete information that you need**.

8. For the final step you will need to run the Index/Pack Option in the Utilities.



9. When you start the procedure you will get the following two information windows letting you know what the program is doing.



After these are done you should find yourself back at the opening screen. The white screen that you see when you first log into the Satellite.

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Appendix E : Definitions

Abatement Efficiency is the emission reduction efficiency of a control device, which shows the amount of reduction of a particular pollutant for a process' emissions due to controls or material change. Abatement efficiency is expressed as a percentage.

abatement equipment The control equipment used to reduce emissions.

abatement equipment code means the three (3) digit code used to identify the type of equipment used to reduce emissions.

actual emissions are the actual rate of emissions of a pollutant from an emissions unit calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.

annual process rate means the actual or estimated annual fuel, process, or solid waste operating rate in an emission statement operating year.

authorized individual means an individual responsible for the overall operation of one (1) or more manufacturing, production, or operation plants or a duly authorized representative of such person.

capture efficiency means the percent of the total emissions captured and routed to a control device.

certifying individual means the individual responsible for the completion and certification of the emission statement, such as an officer of the company or an employee, and who will take legal responsibility for the accuracy of the emission statement.

control efficiency means the actual emission control efficiency achieved by the applicable emission control device(s) during the emission statement operating year. The percent of the emissions routed to a control device that are destroyed or captured by the control device. Control efficiency includes control equipment downtime, operation with diminished effectiveness, and any other malfunctions that occurred while the emission source or sources were in operation. If the actual control efficiency during the emission statement operating year is unknown or cannot reasonably be predicted from available data, then the efficiency designed by the manufacturer may be used. When the actual control efficiency is unknown, it should be clearly indicated that the designed efficiency, and not the actual efficiency, is being reported. Control efficiency is a measure of how well the device controls emissions; it should not be confused with capture efficiency which reflects how much of the pollutant is routed to the control device.

control scenario includes the capture efficiency of abatement equipment and links the control equipment to a process.

corporate address means the address at which the corporate office is located for the submitting plant.

county code means the three (3) digit code used to identify each county as defined by the i-STEPS software.

downtime means the period of time when the control device is not operational during the corresponding period of the process.

Emission Factors are ratios that relate emissions of a pollutant to an activity level at a plant that can be easily measured, such as an amount of material processed, or an amount of fuel used. Given an emission factor and a known activity level, a simple multiplication yields an estimate of the emissions. Emission factors are developed from separate facilities within an industry category, so they represent typical values for an industry, but do not necessarily represent a specific source. Published emission factors are available in numerous sources.

Emission Statement Operating Year means the twelve (12) consecutive month time period starting January 1 and ending December 31.

emissions contact means the individual responsible for completing the emissions statement and with whom all correspondence should occur.

emissions unit means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant under the Clean Air Act.

estimated emissions method means the manner in which the emissions are calculated, such as AP-42 emission factor, mass balance, or stack test.

estimated emissions method code means a code provided by the department that identifies the estimation technique used in the calculation of estimated emissions.

facility description means a brief description of the physical plant.

facility general means general information about the facility and includes geographic coordinates, contact persons, mailing addresses and SIC code designations.

facility ID means a five character plant identifier required to assign emission/compliance information to a plant.

facility means any one (1) structure, piece of equipment, installation or operation which emits or has the potential to emit any air contaminant. Single pieces of equipment or installations with multiple emission points shall be considered a facility.

fugitive emissions means releases to the air that are not emitted through stacks, vents, ducts, pipes, or any other confined air stream, including fugitive equipment leaks, evaporative losses from surface impoundments, and releases from building ventilation systems.

group description means a description of the area where the process occurs in which emissions are created.

group number means a unique three (3) digit number assigned to a group for identification purposes.

group/area designation means general information about the area in which emissions are created and includes operating schedule and throughput.

location means the street address of where the submitting facility is located.

mailing address means the address to which all correspondence is sent for the facility.

Material Balance is a method for estimating emissions that attempts to account for all the inputs and outputs of a given pollutant. If inputs of a material to a given process are known and all outputs except for air emissions can be reasonably well quantified, then the remainder can be assumed to be an estimate of the amount lost to the atmosphere for the process.

maximum design capacity means the maximum operational capacity for an emission unit.

maximum design rate means the maximum fuel use rate based on the equipment's or process' physical size or operational capabilities.

NAICS (pronounced "nakes") is the new North American Industry Classification System. It replaces the decades-old Standard Industrial Classification (SIC) system. It was developed jointly by the United States, Canada and Mexico to provide statistical comparability across all of North America.

plant means the total facilities emission units available for production or service.

point means a physical emission point or process such as a distinct building or a portion of a building within a plant that results in pollutant emissions. A unique identifier (point identification number) exists for each point within each facility in the AIRS database.

pollutant code means the abbreviation or CAS number for the pollutant being emitted.

potential to emit means the maximum capacity of a source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is enforceable.

process description means the description of the process in which emissions are created.

process means any action, operation, or treatment and the equipment used in connection therewith, and all methods or forms of manufacturing or processing that may emit air contaminants.

process rate means a quantity per unit time of any raw material or process intermediate consumed, or product generated through the use of any equipment, source operation, or process. For a stationary internal combustion unit or any other fuel burning equipment, this term means the quantity of fuel burned per unit time.

process unit emissions means the emissions created by the processes in a facility.

process/unit identification means the general information about the process in which emissions are created and includes SCC code and process rate.

segment means components of an emissions point or process, at the level that emissions are calculated. An example of a segment is a boiler burning #2 oil. A unique

identifier exists for each segment within each point and plant in the AIRS database. Each segment is also identified by a source classification code (SCC).

senior management official means the individual who oversees facility operations and signs the certification letter.

SCC is a source classification code. It is a process-level code that describes the equipment or operation emitting pollutants. 8-digit SCC codes are required for every process in the point source emission inventory.

SIC code is a standard industrial classification code from the series of codes devised by the United States Office of Management and Budget (OMB) to classify establishments according to the type of economic activity in which they are engaged.

source means an aggregation of one (1) or more facilities which are located on one (1) piece of property or non contiguous or adjacent properties, and which are owned or operated by the same person (or by persons under common control.)

Source Classification Code, see SCC.

Source Tests are short-term tests used to collect emissions data that can then be extrapolated to estimate long-term emissions from the same or similar sources. Uncertainties arise when source test results are used to estimate emissions under process conditions that differ from those under which the test was performed.

source type means **B**oiler, **C**ombustion, **P**rocess, or **S**olid waste.

stack means an exit point of emissions at the facility. Each facility can contain one or more physical or logical stacks. A physical stack is represented by the classical smoke stack; whereas vents, windows, doors, etc…represent logical stacks at the facility. A facility must have at least one stack defined.

Stack Diameter is a stack physical diameter.

Stack Height is a stack physical height above the surrounding terrain.

stack number means the number used to identify the corresponding stack that serves as an exit point of emissions for the specific process.

stack parameters means the exit point of emissions at the facility and includes stack height and diameter, and gas flow rate and temperatures.

state code means the two (2) digit number used to identify each state as defined by the i-STEPS software.

stationary source means any building, structure, facility, or installation which emits, or may emit, any air pollutant subject to regulation.

throughput means the amount of time per year that a group operates, shown as a percent.

UTM zone means a two (2) digit code used to identify the zone in which the plant is located.

Volatile Organic Compounds (VOC) as cited in 63 FR 17331, April 9, 1998, means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate that participates in atmospheric photochemical reactions. This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity:

- methane
- ethane
- methylene chloride (dichloromethane)
- 1,1,1-trichloroethane (methyl chloroform)
- 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113)
- trichlorofluoromethane (CFC-11)
- dichlorodifluoromethane (CFC-12)
- chlorodifluoromethane (HCFC-22)
- trifluoromethane (HFC-23)
- 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114)
- chloropentafluoroethane (CFC-115)
- 1,1,1-trifluoro-2,2-dichloroethane (HCFC-123)
- 1,1,1,2-tetrafluoroethane (HFC-134a)
- 1,1-dichloro-1-fluoroethane (HCFC-141b)
- 1-chloro-1,1-difluoroethane (HCFC-142b)
- 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
- pentafluoroethane (HFC-125)
- 1,1,2,2-tetrafluoroethane (HFC-134)
- 1,1,1-trifluoroethane (HFC-143a)
- 1,1-difluoroethane (HFC-152a)
- parachlorobenzotrifluoride (PCBTF)
- cyclic, branched, or linear completely methylated siloxanes
- acetone
- perchloroethylene (tetrachloroethylene)
- 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)
- 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)
- 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee)
- difluoromethane (HFC-32)
- ethylfluoride (HFC-161)
- 1,1,1,3,3,3-hexafluoropropane (HFC-236fa)
- 1,1,2,2,3-pentafluoropropane (HFC-245ca)
- 1,1,2,3,3-pentafluoropropane (HFC-245ea)
- 1,1,1,2,3-pentafluoropropane (HFC-245eb)
- 1,1,1,3,3-pentafluoropropane (HFC-245fa)
- 1,1,1,2,3,3-hexafluoropropane (HFC-236ea)
- 1,1,1,3,3-pentafluorobutane (HFC-365mfc)
- chlorofluoromethane (HCFC-31)

- 1-chloro-1-fluoroethane (HCFC-151a)
- 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)
- 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane ($C_4F_9OCH_3$ or HFE-7100)
- 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ($(CF_3)_2CFCF_2OCH_3$)
- 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane ($C_4F_9OC_2H_5$ or HFE-7200)
- 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ($(CF_3)_2CFCF_2OC_2H_5$)
- methyl acetate
- 1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-$C_3F_7OCH_3$, HFE-7000)
- 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500)
- 1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea)
- methyl formate ($HCOOCH_3$)
- 1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE–7300)
- and perfluorocarbon compounds which fall into these classes:
    i. cyclic, branched, or linear, completely fluorinated alkanes
    ii. cyclic, branched, or linear, completely fluorinated ethers with no unsaturations
    iii. cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations and
    iv. sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.