



Guidelines for Importing Storage Tank Data into the AER Reporting Tool (for CY2020 and after)



December 2020

Introduction

The AER Reporting Tool was designed to accommodate the upload of storage tank emissions text output from US EPA TANKS 4.0.9d (EPA TANKS). The EPA TANKS program was developed based on the storage tanks emissions methodology presented in EPA AP-42, Volume I, Chapter 7, November 2006. This methodology was updated in June 2020. Currently, there is no EPA software available for reporters to use to estimate storage tank emissions based on the June 2020 version of EPA AP-42, Volume I, Chapter 7.

In order to assist reporters with batch loading storage tank emissions into the AER Reporting Tool, beginning with the 2020 emissions reporting year, the AER Reporting Tool has been updated to allow the upload of storage tank emissions in Excel format. Since reporters are familiar with the EPA TANKS output format, for convenience, the AER Reporting Tool Excel file format is based on the same output format.

Guidance for uploading storage tank emission batch files has been arranged as follows:

1. Adding an Emission Source Before Uploading Tank Data
2. Setting Up the Excel Batch File
3. Importing Tank Data into AER Reporting Tool
4. Appendix

1. Adding an Emission Source Before Uploading Tank Data

The AER Reporting Tool is based on devices and processes. A device and process must be defined before emissions can be assigned. Equipment permitted by the South Coast AQMD are preloaded in the AER Reporting Tool when facilities are initially notified to report emissions. If the storage tank has not been preloaded, the reporter will need to add the storage tank. New devices can be added as follows:

- a. On the left-hand side under “Build Reporting Structure” and “Emission Source (ES),” click on the “Add New Emission Source.”

Facility ID: 999999

[Facility Information](#)
[Build Reporting Structure](#)

[Combustion Fuels](#)
[Emission Sources \(ES\)](#)
[Report Process/Emissions Summaries](#)
[Data Validation](#)
[Print Facility Report](#)
[Excel Reports](#)
[Report Submission](#)

Facility ID: 999999 • SOUTH COAST AIR QUALITY MGT DIST(SCAQMD) • Reporting period: 2020

Build Reporting Structure

Emission Sources (ES) Classification

This section contains facility permit profile. Please make sure that every device has a specified Emission Source (ES). New emission sources can also be added.

EPA TANKS Software DATA IMPORT - [Click here](#) for more instructions.

Displaying 1 emission sources.

A/N Permit NO
AER Device ID Permit Device ID
[Search Emission Sources](#)

[Add New Emission Source](#)

Search: [Print Preview](#)

Action	A/N	Permit NO	Permit Device ID	Permit Equipment Description	AER Device ID	ES Name	ES Group Name	Source Category	Has Emissions	Equipment	ES Status	Process Reference
Open			0001		ES4	Dev0001		External Combustion	Y	Boiler >100 MMBTU/HR	Work in progress	Reference

Showing 1 to 1 of 1 entries

- b. Add source information and categorize the source using the orange “Categorize Emission Source” button.

Facility ID: 999999

[Facility Information](#)
[Build Reporting Structure](#)
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Facility ID: 999999 • SOUTH COAST AIR QUALITY MGT DIST(SCAQMD) • Reporting period: 2020

Edit Emission Source

Providing correct information and proper selection categories would help to classify emission source.

Permitted	<input checked="" type="checkbox"/>
Uploaded	<input type="checkbox"/>
A/N	<input type="text" value="111111"/> Add New
Permit No	<input type="text"/>
Permit Device ID	
AER Device ID	will be assigned upon saving
ES Name	<input type="text" value="Storage Tank No1"/>
Operating ES Status	<input type="text" value="Normal Operation"/>
Comment	<input type="text"/>
Emission Source Category	Categorize Emission Source
Design Capacity	<input type="text" value="0"/>

[Save](#) or [Save and return to List of Emission Sources](#) or

[Save and proceed to Process Reporting](#) or [Cancel](#)

[Optional: Save and Mark as Completed](#)

- c. Click on the “Click Here” link under Source #5 Storage Tanks.

Facility ID: 999999 · SOUTH COAST AIR QUALITY MGT DIST(SCAQMD) · Reporting period: 2020

Facility ID: 999999

Categorize Emission Source

Permitted	A/N	Permit No	Permit Device ID	Permit Equipment Description	AER Device ID	ES Name
Yes	111111				ESnull	Storage Tank No1

1. External Combustion Equipment (e.g., boiler, dryer, oven, furnace, heater, afterburner, flare, kiln or incinerator) [click here](#) to select one the following Equipment:

2. Internal Combustion Equipment (e.g., internal combustion engine (excluding vehicles), turbine or micro turbine) [click here](#) to select one of the following Equipment:

3. Spray Coating/Spray Booth (e.g., coatings, solvents, adhesives, etc.) [click here](#) to select one of the following Equipment:

4. Other Use of Organics (e.g., coatings, solvents, inks, adhesives, etc.) except in Spray Coating/Spray Booth, [click here](#) to select one of the following Equipment:

5. Liquid Storage Tank (e.g. Underground, Aboveground, Small Tanks, Dispensing Systems) [click here](#) to select one of the following Equipment:

6. Fugitive Components (Emission Leaks from Process Components per Rule 462, 1173 and 1176), [click here](#) to select all applicable Equipment:

7. Other Processes (does not fit in any of the groups mentioned above), click [click here](#) to mark "Other Process Equipment":

Save **Cancel**

- d. Check the “Storage tank- will upload file with estimated emissions” box, then choose the “Save” button.

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Facility ID: 999999

Categorize Emission Source

Permitted	A/N	Permit No	Permit Device ID	Permit Equipment Description	AER Device ID	ES Name
Yes	111111				ESnull	Storage Tank No1

1. External Combustion Equipment (e.g., boiler, dryer, oven, furnace, heater, afterburner, flare, kiln or incinerator) [click here](#) to select one the following Equipment:

2. Internal Combustion Equipment (e.g., internal combustion engine (excluding vehicles), turbine or micro turbine) [click here](#) to select one of the following Equipment:

3. Spray Coating/Spray Booth (e.g., coatings, solvents, adhesives, etc.) [click here](#) to select one of the following Equipment:

4. Other Use of Organics (e.g., coatings, solvents, inks, adhesives, etc.) except in Spray Coating/Spray Booth, [click here](#) to select one of the following Equipment:

5. Liquid Storage Tank (e.g. Underground, Aboveground, Small Tanks, Dispensing Systems) [click here](#) to select one of the following Equipment:

☐ Storage tank and Dispensing

☐ Above Ground Small storage tank - <10,000 gallons

☒ Storage tank – Will upload file with estimated emissions

☐ Underground Small storage tank - <10,000 gallons

6. Fugitive Components (Emission Leaks from Process Components per Rule 462, 1173 and 1176), [click here](#) to select all applicable Equipment:

7. Other Processes (does not fit in any of the groups mentioned above), click [click here](#) to mark "Other Process Equipment":

Save **Cancel**

2. Setting Up the Excel Batch File

- a. A template of the storage tank batch file in Excel format can be found on the [AER webpage](#).
- b. As stated previously, the storage tank emissions batch file format for the AER Reporting Tool is based on the EPA TANKS, Version 4.0.9.a Excel output file. The format of the

cells follows the formatting detailed in Appendix A of the [User's Guide to TANKS, Storage Tank Emissions Calculation Software, Version 4.0, September 30, 1999](#).

- c. The USER ID for the storage tanks must match the AER Device ID in the AER Reporting Tool for the emissions to be populated correctly.

	A	B	C	D	E	F	G	H	I	J	K	L
1	ID	MIX ID	PRIMARY	NAME	CAS	MONTH	TANK_TYPE	USER ID	CITY	STATE	COMPANY	DESC
2	18	1	TRUE	Methyl alcohol	00067-56-1	Annual	Horizontal Tank	ES10	Los Angeles C.O.	California		
3	5	1	TRUE	Gasoline (RVP 7)		Annual	Internal Floating Roof Tank	ES12	Los Angeles C.O.	California		Sample IFRT#1
4	13	1	TRUE	Ethylbenzene	00100-41-4	July	Vertical Fixed Roof Tank	ES11	Los Angeles C.O.	California		Sample VFRT #3
5	13	2	TRUE	Toluene	00108-88-3	August	Vertical Fixed Roof Tank	ES11	Los Angeles C.O.	California		Sample VFRT #3
6	5	1	FALSE	Benzene	00071-43-2	Annual	Internal Floating Roof Tank	ES12	Los Angeles C.O.	California		Sample IFRT#1
7	5	1	FALSE	Unidentified Components	00071-43-2	Annual	Internal Floating Roof Tank	ES12	Los Angeles C.O.	California		Sample IFRT#1

3. Importing Tank Data into AER Reporting Tool

- a. Under “Build Reporting Structure” in the AER Reporting Tool page, the “Click here” link for Storage Tank Emissions Batch File Import presents brief instructions for uploading storage tank emissions into the AER Reporting tool.

AER Home
Browse Facilities
Access Facility
Facility Home

Facility ID: 999115 · SOUTH COAST AIR QUALITY MGT DIST(SCAQMD) · Reporting period: 2020

Facility ID: 999115

Facility Information
Build Reporting Structure
Combustion Fuels
Emission Sources (ES)
Report Process/Emissions
Summaries
Data Validation
Print Facility Report
Excel Reports
Report Submission

Build Reporting Structure

Emission Sources (ES) Classification

This section contains facility permit profile. Please make sure that every device has a specified Emission Source (ES). New emission sources can also be added.

Storage Tank Emissions Batch File Import - [Click here](#) for more instructions.

Displaying 93 emission sources. You can use filter to narrow down selection.

A/N

Permit NO

AER Device ID

Permit Device ID

Search Emission Sources

[Add New Emission Source](#)

Search:

Print Preview

Action	A/N	Permit NO	Permit Device ID	Permit Equipment Description	AER Device ID	ES Name	ES Group Name	Source Category	Has Emissions	Equipment	ES Status	Process Reference
Open					ES163			Storage Tanks	Y	Storage tank – Will upload file with estimated emissions	Work in progress	Reference

- b. Use the “Choose File” to browse for the storage tank emissions output file.

AER Home Browse Facilities Access Facility Facility Home

Facility ID: 999115 · SOUTH COAST AIR QUALITY MGT DIST(SCAQMD) · Reporting period: 2020

Facility ID: 999115

Facility Information
Build Reporting Structure
Combustion Fuels
Emission Sources (ES)
Report Process/Emissions
Summaries
Data Validation
Print Facility Report
Excel Reports
Report Submission

Build Reporting Structure

Emission Sources (ES) Classification

This section contains facility permit profile. Please make sure that every device has a specified Emission Source (ES). New emission sources can also be added.

Storage Tank Emissions Batch File Import - [Click here](#) for more instructions.

The AER Reporting Tool supports import of data files that are formatted to the output file generated by the EPA TANKS program, Version 4.0.9.d. Please see <http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/batchtankfiles.pdf> for further guidance.

Select batch file in EPA TANKS format

Choose File No file chosen

Please Add Upload Comments

Import

- c. Once the correct excel file or text file has been chosen, highlight the file and use the “Open” button to attach it.

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Facility ID: 999115

Facility Information
Build Reporting Structure
Combustion Fuels
Emission Sources (ES)
Report Process/Emissions

Build Reporting Structure

Emission Sources (ES) Classification

This section contains facility permit profile. Please make sure that every device has a specified Emission Source (ES). New emission sources can also be added.

Open

« Documents > Storage TANKS Data File

Search Storage TANKS Data Fi...

Organize New folder

Name	Status	Date modified	Type
Storage TANK Emissions	✓	12/17/2020 1:12 PM	Mid

File name: Storage TANK Emissions Custom Files

Open Cancel

- d. Click on “Import” button to import the tank data into the AER Reporting Tool.
- e. In the comment section, specify what methodology/modeling program was used to estimate emissions in the output file.

Facility ID: 999115 · SOUTH COAST AIR QUALITY MGT DIST(SCAQMD) · Reporting period: 2020

Build Reporting Structure

Emission Sources (ES) Classification

This section contains facility permit profile. Please make sure that every device has a specified Emission Source (ES). New emission sources can also be added.

Storage Tank Emissions Batch File Import - [Click here](#) for more instructions.

The AER Reporting Tool supports import of data files that are formatted to the output file generated by the EPA TANKS program, Version 4.0.9.d. Please see <http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/batchtankfiles.pdf> for further guidance.

Select batch file in EPA TANKS format

Storage Ta...missions.xls

Storage tank emissions estimated using AP-42, Vol I,
Chapter 7.1 (June 2020) methodologies

Once storage tank emissions data have been uploaded into the AER tool, the ES profile is complete.

AER Home
Browse Facilities
Access Facility
Facility Home

Facility ID: 999115 · SOUTH COAST AIR QUALITY MGT DIST(SCAQMD) · Reporting period: 2020

Facility ID: 999115

Facility Information
Build Reporting Structure
Combustion Fuels
Emission Sources (ES)
Report Process/Emissions
Combustion
External Combustion
Internal Combustion
Use of organics
Spray Coating/Spray Booth
Other Use of Organics
Storage Tanks
Fugitive Components
Other Processes
Process Upset
Summaries
Data Validation
Print Facility Report
Excel Reports
Report Submission

Back to Emission Source Process Reference

Storage Tanks

Please provide specific information for every process associated with the liquid storage tank Emission Sources including usage, emission factor, and control efficiency (if any). You must select Product stored in storage tank before reporting emissions. Emission data from liquid storage tanks can be imported from EPA TANKS output; or can be accessed for entering data. Detailed instructions are available by clicking on Help icon in the tool bar.

Step 1: Process
Optional: Mark as Completed

	AER Device ID	Permit Device ID	A/N	Process ID	Equipment	Tank Type	Product	Rule #	SCC
Open	ES163			P1	Storage tank - Will upload file with estimated emissions	Internal Floating Roof Tank	Gasoline (RVP 7)		

Click here to [delete](#) this process.

Step 2: Throughput

	Annual Throughput
Open	30,000.00000000 M gal

Step 3: Criteria Emissions (lbs)

Use [Default Emission Factors](#) if available.

	Pollutant	EF	Unit	Controlled EF	EF Data Source	Overall CE	Emissions
Open	VOC	9.23508633e-2	lbs / M gal	No	Back-calculation		2.77052590e+3

Step 4: Toxic (TAC/ODC) Emissions (lbs)

	TAC/ODC Group	CAS #	EF	Unit	Controlled EF	EF Data Source	Overall CE	Emissions
Open	Benzene	71432	1.37079933e-3	lbs / M gal	No	Back-calculation		4.11239800e+1

Add New

Appendix

The guidance provided in this Appendix was developed when EPA TANKS used the most recent AP-42, Chapter 7.1 guidance. AP-42, Chapter 7.1 was updated by EPA in June 2020. The guidance provided in this appendix is provided for historical reference.

Running EPA TANKS Program and Uploading Text Output Files

Use the tanks program as per EPA guidelines keeping the following directions in mind:

Under the IDENTIFICATION tab, enter into the “Identification No.” field the AER Device ID (ES #) that is assigned by the AER tool. Use “Description” field to elaborate on the tank as well as its content.

The screenshot shows the 'Vertical Fixed Roof Tank' window with the 'Identification' tab selected. The 'Identification No.' field contains 'ES4', which is highlighted by a callout bubble labeled 'ES# from AER'. The '* Description:' field contains 'Device D27 for Residual Product'. The '* State:' dropdown is set to 'California', '* City:' to 'Los Angeles AP', and '* Company:' to 'XXXXXXX'. Below these fields is a section for '* Optional' information. At the bottom of the window are buttons for 'Copy', 'Run Report', 'Save', 'Close', and 'Help'.

Field	Value
Identification No:	ES4
* Description:	Device D27 for Residual Product
* State:	California
* City:	Los Angeles AP
* Company:	XXXXXXX

EPA TANKS program offers default speciation profiles for certain petroleum products. User can use this tool to build the specific toxic profile for the tank contents. In order to fully utilize toxic profiles in emission calculations, the stored materials must be identified as “Multi-Component Liquid” and be analyzed with “Partial Speciation” option.

Vertical Fixed Roof Tank

Identification | Physical Characteristics | Site Selection | Tank Contents | Monthly Calculations

Chemical Category of Liquid: Crude Oils

Single or Multi-Component Liquid: Multiple

Speciation Option: Partial Speciation

Mixture Name: Crude oil (RVP 5)

Average Liquid Surface Temperature	66.430259
Minimum Liquid Surface Temperature (F):	60.992995
Maximum Liquid Surface Temperature	71.867522
Bulk Liquid Temperature (F):	64.328333
Vapor Pressure (psia):	3.2601
Minimum Vapor Pressure (psia):	2.9344
Maximum Vapor Pressure (psia):	3.6143
Liquid Molecular Weight:	207
Vapor Molecular Weight:	50

Copy Speciation Profile View/Add Components

Calculate Mixture Properties

Delete Mixture

Next Mixture >

< Previous Mixture

Add Mixture

Mixture 1 of 1

Copy Run Report Close Help

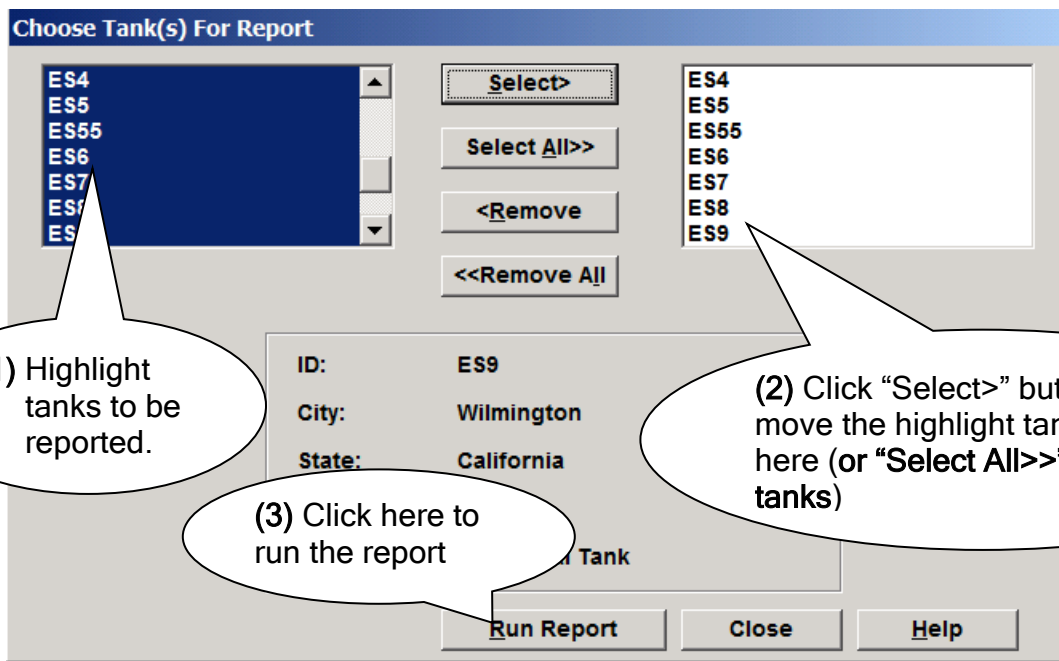
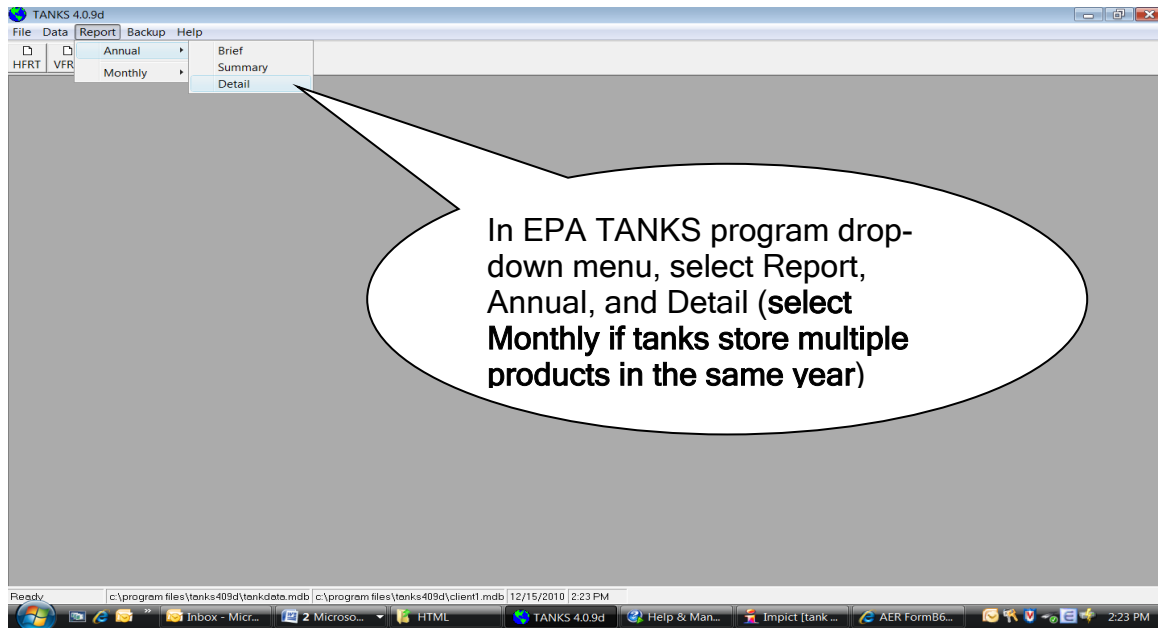
Use this to add/modify existing speciation profiles.

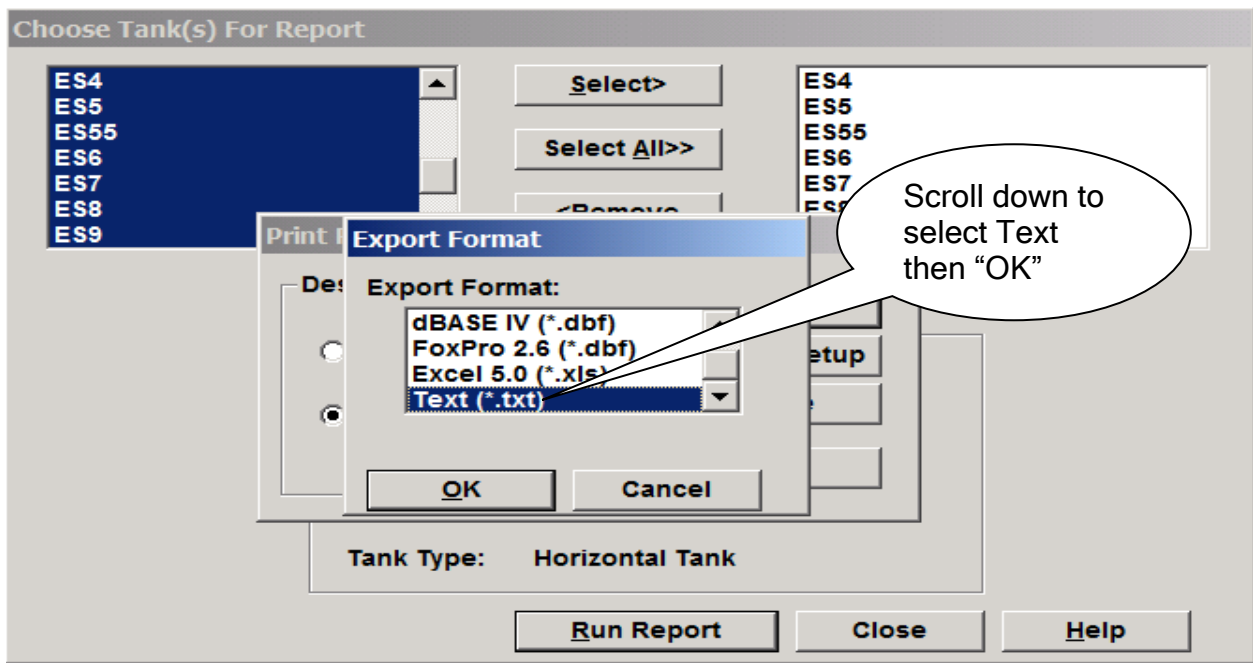
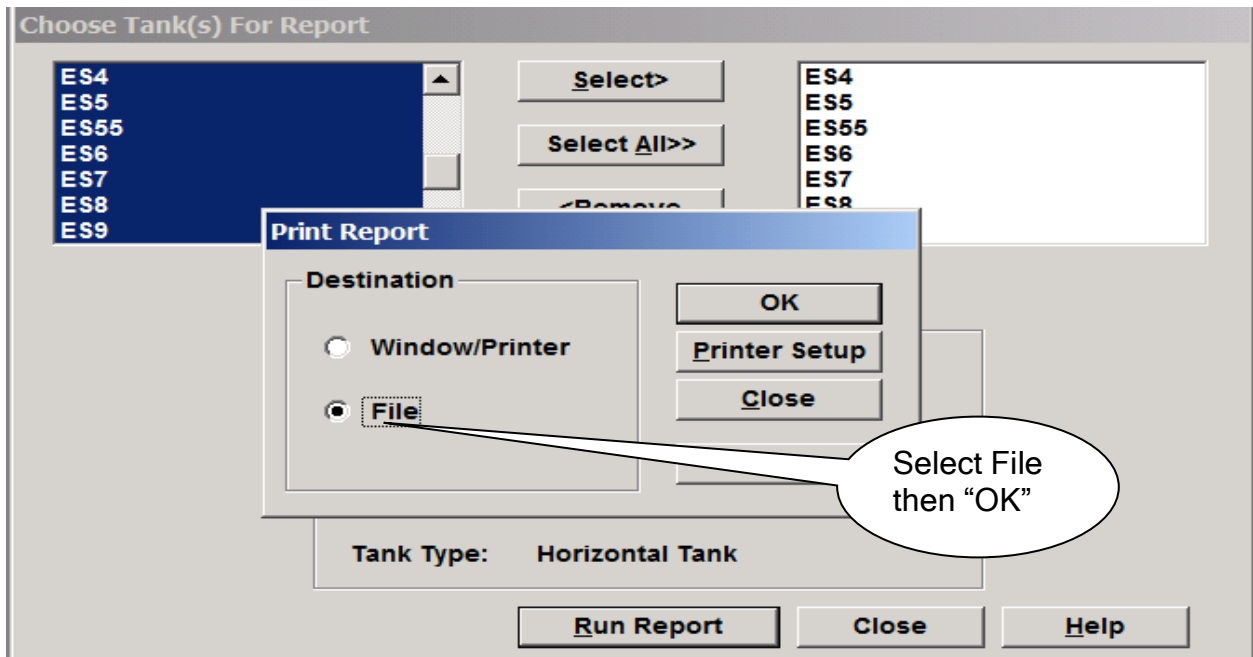
Use this to build and add a profile specific to stored material.

Creating EPA TANKS Data Output File

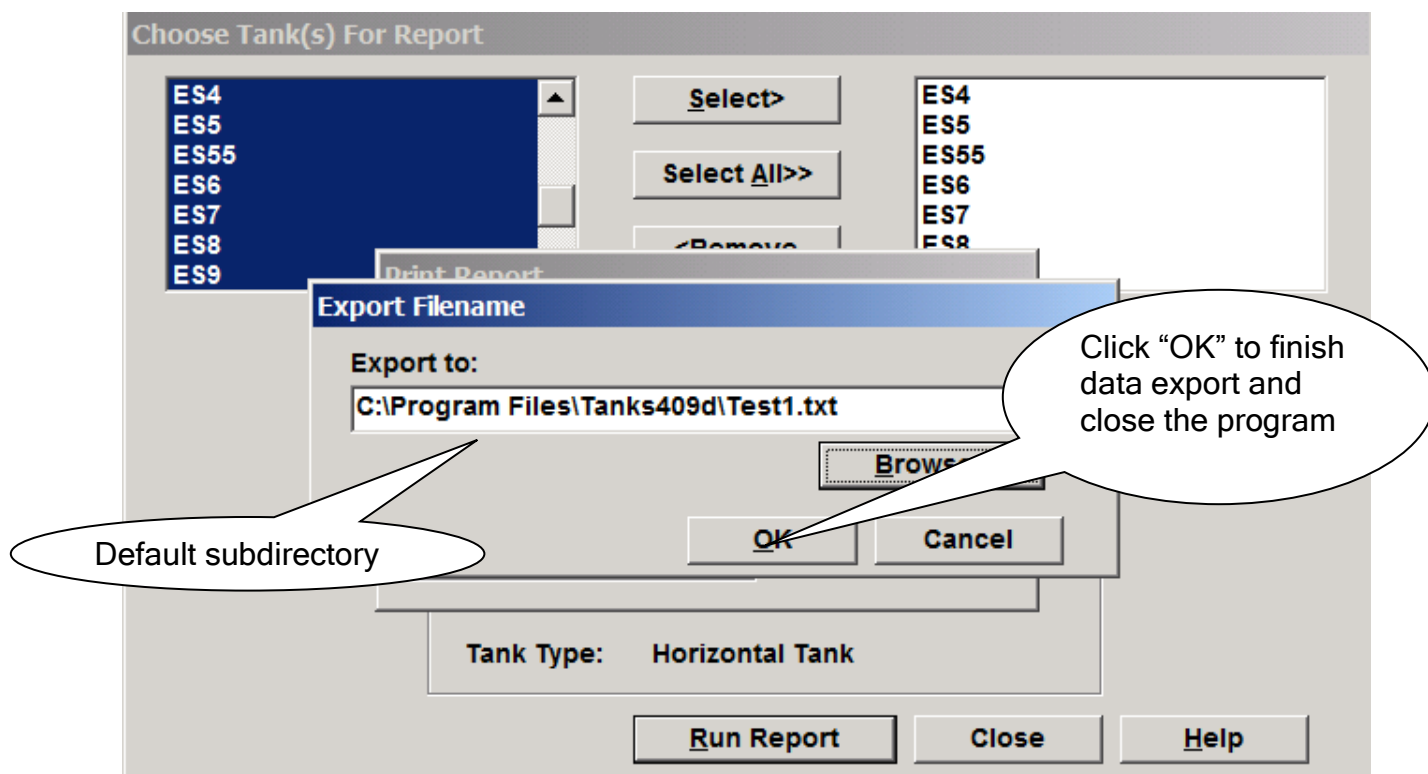
Emission data and results calculated by the EPA TANKS program can either be printed on paper or electronically exported in different format including “text file format”, which works best with the AER Reporting Tool. The program also offers user with choices of reporting one tank at a time, selected multiple tanks, or all tanks in one report.

The AER Reporting Tool is currently designed to accept output data file from the EPA TANKS program in text format only (At the time guidance for EPA TANKS upload was developed only text format output could be uploaded into the AER Reporting Tool. For guidance on uploading Excel files in EPA TANKS format into the AER Reporting Tool, please see the main document associated with this appendix). The series of screenshots below illustrate the procedure to report all tanks in one output file:





The EPA TANKS program, will ask to export the selected tanks to a file. User can use the "Browse" button to specifically name the file and designate a storing location. If the sub-directory (place to store the text file) is not specified, the program will store the text file in its default sub-directory under Tanks409d as shown in the next image.



Text File Correction

When creating an output text file, the EPA Tanks program assigns a CAS number to “Unidentified Components” which, in turn, is identified by the AER Reporting Tool as another toxic VOC material. In order to avoid importing a duplicate VOC or Toxics emissions, user must manually delete the text line associated with “Unidentified Components” and re-save, and import the new text file into the AER tool.

The following image is a capture of the EPA TANKS output text file. It is best to use MS Windows Note Pad to open the text file. The text line is highlighted. Deleting this line will clear up the duplicate reporting of non-toxic components as toxics.

ES6 - Notepad

File Edit Format View Help

"ID","MIX ID","PRIMARY","NAME","CAS","MONTH","TANK_TYPE","USER ID","CITY","STATE","COMPANY","DESC","M

48,1,1,"Gasoline (RVP 9)",,"Annual","External Floating Roof Tank","ES6","Los Angeles AP","California"

48,1,0,"Hexane (-n)","00110-54-3","Annual","External Floating Roof Tank","ES6","Los Angeles AP","Cali

48,1,0,"Benzene","00071-43-2","Annual","External Floating Roof Tank","ES6","Los Angeles AP","Californ

48,1,0,"Toluene","00108-88-3","Annual","External Floating Roof Tank","ES6","Los Angeles AP","Californ

48,1,0,"Ethylbenzene","00100-41-4","Annual","External Floating Roof Tank","ES6","Los Angeles AP","Cal

48,1,0,"Xylene (-m)","00108-38-3","Annual","External Floating Roof Tank","ES6","Los Angeles AP","Cali

48,1,0,"Isopropyl benzene","00098-82-8","Annual","External Floating Roof Tank","ES6","Los Angeles AP"

48,1,0,"1,2,4-Trimethylbenzene","00095-63-6","Annual","External Floating Roof Tank","ES6","Los Angele

48,1,0,"Cyclohexane","00110-82-7","Annual","External Floating Roof Tank","ES6","Los Angeles AP","Cali

48,1,0,"Methyl-tert-butyl ether (MTBE)","01634-04-4","Annual","External Floating Roof Tank","ES6","Lo

48,1,0,"Unidentified Components","01634-04-4","Annual","External Floating Roof Tank","ES6","Los Ange