

GUIDELINES FOR REPORTING EMISSIONS FROM MULTIPLE IDENTICAL DEVICES/EQUIPMENT

The AER Reporting Tool (tool) is designed to collect emission data at device operation levels. Due to the repetition of data entry, the tool offers users with Emission Source Grouping feature (ESG wizard) as an option to group the identical devices/equipment and report their emissions in fewer key strokes. This document describes the restrictions of the grouping feature. It also provides instructions and examples of steps associated with building up a model and applying it to the group members, and how emissions are calculated and reported.

RESTRICTIONS

In order to be grouped, the device/equipment members must meet the following restrictions:

- Similar permitting and operating status
- Identical class of fuel combustion devices
- Burning the same primary fuel

STEPS TO FOLLOW

STEP # 1. Pre-determine and select an emission source (ES) from one of the devices in the list below as the building block for grouping.

South Coast Air Quality Management District
Facility ID: 999142 - ABC - Reporting period: 2014

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 9 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	Source Category	Has Emissions	Equipment	ES status	Process Reference
Open	345678	G1234	D8	BOILER (>100 MMBTU/HR) NAT GAS ONLY	E59						
Open	987654	C1234	D7	BOILER (>100 MMBTU/HR) NAT GAS ONLY	E58						
Open			E1	ICE diesel GENERATOR, 1125 KW	E57						
Open	444444	M123	D6	INTERNAL COMBUSTION ENGINE, UNIT NO. 10,	E56						
Open	555555	G123	D5	INTERNAL COMBUSTION ENGINE, UNIT NO. 10,	E55						
Open	555555	G123	D4	INTERNAL COMBUSTION ENGINE, UNIT NO. 10,	E54						
Open	345678	B1234	D3	BOILER (<10 MMBTU/HR) NAT GAS ONLY	E53						
Open	234567	A1234	D2	BOILER (<10 MMBTU/HR) NAT GAS ONLY	E52						
Open	123456	D1234	D1	BOILER (<10 MMBTU/HR) NAT GAS ONLY	E51						

Showing 1 to 9 of 9 entries

STEP # 2. Click on “Open” hyperlink to edit that emission source. In this example, ES1 (device D1 with application number (A/N) 123456) is selected as shown. Define its operating status and classify it as an external combustion source (boiler rated < 10 MMBtu/hr). Continue with “Save and Proceed to Process Reporting”.

South Coast Air Quality Management District

test 2014
Logout | Edit Profile

Facility ID: 999142 - ABC - Reporting period: 2014

Edit Emission Source

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

Permitted

A/N 123456

Permit No D1234

A/N name (BCAT/CCAT) BOILER (5-20 MMBTU/HR) NAT GAS ONLY

Permit Device ID D1

Permit Equipment Description BOILER (<10 MMBTU/HR) NAT GAS ONLY

AER Device ID ES1

ES Name boiler 1

Operating ES Status Normal Operation

Comment

Emission Source Category External Combustion
Categorize Emission Source *

Design Capacity 7.00 MILLION BTU PER HOUR

Save and return to List of Emission Sources or **Save and proceed to Process Reporting** or Cancel

STEP # 3. The tool sets the first process (P1) based on the entered data and selection. Click on “Open” hyperlink to access emission reporting screen.

South Coast Air Quality Management District

test 2014
Logout | Edit Profile

Facility ID: 999142 - ABC - Reporting period: 2014

Form data is successfully saved.

Build Reporting Structure

Emission Sources (ES) Classification

Process References

A/N	Permit NO	Permit Device ID	Permit Device Description	AER Device ID	ES Name	Source Group	Emissions?	Equipment	ES Status
123456	D1234	D1	BOILER (<10 MMBTU/HR) NAT GAS ONLY	ES1	boiler 1	External Combustion	Y	Boiler <10 MMBTU/HR	Work in progress

Process ID	Source Group	Process Name	Process Status	Operation Type
Open P1	External Combustion		Work in progress	routine

Add Process

OK

Search:

Print Preview

STEP # 4. Define primary fuel type under “Process”. At the minimum, fuel unit must be selected at Step 2: Throughput (therms in this case). The user can skip the throughput value because ESG wizard allows user to enter throughput data at later stage. Populate with either defaults or source specific emission factors as shown.

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

Optional: Mark as Completed

Step 1: Process

	AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Equipment	Fuel
Open	ES1	D1	123456	P1	474	Boiler <10 MMBTU/HR	Natural Gas

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

Step 2: Throughput

	Annual Throughput	Criteria/Toxic Throughput	GHG Throughput
Open	therms		

Step 3: Criteria Emissions (lbs) Use [Default Emission Factors](#) if available.

	Pollutant	EF	Unit	EF Data Source	Emissions
Open	VOC	5.500000	lbs /	AQMD default	
Open	NOx	100.000000	lbs /	AQMD default	
Open	SOx	0.600000	lbs /	AQMD default	
Open	CO	84.000000	lbs /	AQMD default	
Open	PM	7.600000	lbs /	AQMD default	

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

	TAC/ODC Group	CAS #	EF	Unit	EF Data Source	Emissions
Open	Benzene	71432	8.00000e-3	lbs /	AQMD default	
Open	Formaldehyde	50000	1.70000e-2	lbs /	AQMD default	
Open	PAHs [PAH, POM]	1151	1.00000e-4	lbs /	AQMD default	
Open	PAHs [PAH, POM]	91203	3.00000e-4	lbs /	AQMD default	
Open	Ammonia	7664417	1.80000e+1	lbs /	AQMD default	

[Add New](#)

STEP # 5. After the data is saved, user is sent “Back to Emission Source Process Reference”. The next time user revisits process P1 of ES1, the tool will offer the ESG wizard for “Select as Grouping Model” for building a group of identical devices as shown.

South Coast
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test 2014
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AER Home Access Facility Facility Home

Facility ID: 999142 · ABC · Reporting period: 2014

Facility ID: 999142

Edit Emission Source

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

Permitted	<input checked="" type="checkbox"/>
A/N	123456
Permit No	D1234
A/N name (BCAT/CCAT)	BOILER (5-20 MMBTU/HR) NAT GAS ONLY
Permit Device ID	D1
Permit Equipment Description	BOILER (<10 MMBTU/HR) NAT GAS ONLY
AER Device ID	ES1
ES Name	<input type="text" value="boiler 1"/>
Operating ES Status	<input type="text" value="Normal Operation"/>
Comment	<div style="border: 1px solid #ccc; height: 20px;"></div>
Emission Source Category	External Combustion Categorize Emission Source *
Equipment	Boiler <10 MMBTU/HR
Design Capacity	<input type="text" value="7"/> MILLION BTU PER HOUR

Select as Grouping Model

STEP # 6. Upon “Select as Grouping Model”, the wizard offers user with additional area with a model device (ES1) as shown, where user can “Remove the Group” or “Add Emission Source” to the group. Note that user can enter total amount of fuel burned here.

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Facility ID: 999142

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[Build Reporting Structure](#)

[Combustion Fuels](#)

[Emission Sources \(ES\)](#)

[Report Process/Emissions Summaries](#)

[Data Validation](#)

[Print Facility Report](#)

[Excel Reports](#)

[Report Submission](#)

Edit Emission Source

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

Permitted	<input checked="" type="checkbox"/>
A/N	123456
Permit No	D1234
A/N name (BCAT/CCAT)	BOILER (5-20 MMBTU/HR) NAT GAS ONLY
Permit Device ID	D1
Permit Equipment Description	BOILER (<10 MMBTU/HR) NAT GAS ONLY
AER Device ID	ES1 (ESG model)
ES Name	<input type="text" value="boiler 1"/>
Operating ES Status	Normal Operation
Comment	<input type="text"/>
Emission Source Category	External Combustion
Equipment	Boiler <10 MMBTU/HR
Design Capacity	7 MILLION BTU PER HOUR

Total ESG Throughput terms *

Enter members' throughput as

Group members	ES Name	A/N	Permit No.	Permit Device ID	Permit Equipment Description	Equipment	Emergency Generator (for ICE only)	Part of Fire Suppression (for ICE only)	% Throughput	Throughput Value	Thro U
ES1	boiler 1	123456	D1234	D1	BOILER (<10 MMBTU/HR) NAT GAS ONLY	Boiler <10 MMBTU/HR	No	No		0.00	ther
										0.00	

[Remove the group](#)

[Apply Grouping Model](#)

STEP # 7. Click on “Add Emission Source” hyperlink, the wizard presents the list of ES for user to “Add” to the group as shown in the next two screens.

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[Emission Sources \(ES\)](#)

[Report Process/Emissions Summaries](#)

[Data Validation](#)

[Print Facility Report](#)

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[Report Submission](#)

Edit Emission Source

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

Permitted	<input checked="" type="checkbox"/>
A/N	123456
Permit No	D1234
A/N name (BCAT/CCAT)	BOILER (5-20 MMBTU/HR) NAT GAS ONLY
Permit Device ID	D1
Permit Equipment Description	BOILER (<10 MMBTU/HR) NAT GAS ONLY
AER Device ID	ES1 (ESG model)
ES Name	<input type="text" value="boiler 1"/>
Operating ES Status	Normal Operation
Comment	<input type="text"/>
Emission Source Category	External Combustion
Equipment	Boiler <10 MMBTU/HR

ID	Name	A/N	Permit No.	Permit Device ID	Description	Equipment	Emergency Generator	Fire Suppression	Throughput value	Thro U
ES2	boiler 2	234567	A1234	D2	BOILER (<10 MMBTU/HR) NAT GAS ONLY	Boiler <10 MMBTU/HR	false	false		
ES3	boiler 3	345678	B1234	D3	BOILER (<10 MMBTU/HR) NAT GAS ONLY	Boiler <10 MMBTU/HR	false	false		
ES4		555555	G123	D4	INTERNAL COMBUSTION ENGINE, UNIT NO. 10, DIESEL FUEL, EMD, MODEL 16-645-E1, WITH TURBOCHARGER, 1575 HP WITH CSGENERATOR, 1125 KW		false	false		
ES5		555555	G123	D5	INTERNAL COMBUSTION ENGINE, UNIT NO. 10, DIESEL FUEL, EMD, MODEL 16-645-E1, WITH TURBOCHARGER, 1575 HP WITH CSGENERATOR, 1125 KW		false	false		
ES6		444444	M123	D6	GENERATOR, 1125 KW		false	false	0.00	ther
ES8		987654	C1234	D7	BOILER (>100 MMBTU/HR) NAT GAS ONLY		false	false		
ES9		345678	G1234	D8	BOILER (>100 MMBTU/HR) NAT GAS ONLY		false	false	0.00	

[Add Cancel](#) [Apply Grouping Model](#)

Facility ID: 999142

Edit Emission Source

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

Permitted

A/N 123456

Permit No D1234

A/N name (BCAT/CCAT) BOILER (5-20 MMBTU/HR) NAT GAS ONLY

Permit Device ID D1

Permit Equipment Description BOILER (<10 MMBTU/HR) NAT GAS ONLY

AER Device ID ES1 (ESG model)

ES Name boiler 1

Operating ES Status Normal Operation

Comment

Emission Source Category External Combustion
[Categorize Emission Source](#)

Equipment Boiler <10 MMBTU/HR

Design Capacity 7 MILLION BTU PER HOUR

[Remove the group](#)

Total ESG Throughput therms *

Enter members' throughput as Percentage of total

Group members	ES Name	A/N	Permit No.	Permit Device ID	Permit Equipment Description	Equipment	Emergency Generator (for ICE only)	Part of Fire Suppression (for ICE only)	% Throughput	Throughput Value	Thro U
ES1	boiler 1	123456	D1234	D1	BOILER (<10 MMBTU/HR) NAT GAS ONLY	Boiler <10 MMBTU/HR	No	No		0.00	ther
ES2	boiler 2	234567	A1234	D2	BOILER (<10 MMBTU/HR) NAT GAS ONLY	Boiler <10 MMBTU/HR	No	No		0.00	ther
										0.00	

[Add Emission Source...](#) [Apply Grouping Model](#)

STEP # 8. In this example, user added two more devices to the group (ES2 and ES3). At this stage, user can enter total fuel for all 3 devices and specify either percentage (% Throughput) or actual throughput (Absolute Value in this example) for each member of the group as shown in the red boxes.

Facility ID: 999142

Edit Emission Source

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

Permitted

A/N 123456

Permit No D1234

A/N name (BCAT/CCAT) BOILER (5-20 MMBTU/HR) NAT GAS ONLY

Permit Device ID D1

Permit Equipment Description BOILER (<10 MMBTU/HR) NAT GAS ONLY

AER Device ID ES1 (ESG model)

ES Name boiler 1

Operating ES Status Normal Operation

Comment

Emission Source Category External Combustion
[Categorize Emission Source](#)

Equipment Boiler <10 MMBTU/HR

Design Capacity 7 MILLION BTU PER HOUR

[Remove the group](#)

Total ESG Throughput therms *

Enter members' throughput as Absolute value

A/N	Permit No.	Permit Device ID	Permit Equipment Description	Equipment	Emergency Generator (for ICE only)	Part of Fire Suppression (for ICE only)	% Throughput	Throughput Value	Throughput Units	Group Member
123456	D1234	D1	BOILER (<10 MMBTU/HR) NAT GAS ONLY	Boiler <10 MMBTU/HR	No	No	66.67	10,000.00	therms	
234567	A1234	D2	BOILER (<10 MMBTU/HR) NAT GAS ONLY	Boiler <10 MMBTU/HR	No	No	13.33	2,000.00	therms	Remove
345678	B1234	D3	BOILER (<10 MMBTU/HR) NAT GAS ONLY	Boiler <10 MMBTU/HR	No	No	20.00	3,000.00	therms	Remove

STEP # 9. As user select “Apply Grouping Model”, the wizard acknowledges it with a message as shown.

Facility ID: 999142

Form data is successfully saved.

Emission source grouping rules have been successfully applied to group members.

Edit Emission Source

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

Permitted 123456
 A/N 123456
 Permit No D1234
 A/N name (BCAT/CCAT) BOILER (5-20 MMBTU/HR) NAT GAS ONLY
 Permit Device ID D1
 Permit Equipment Description BOILER (<10 MMBTU/HR) NAT GAS ONLY
 AER Device ID ES1 (ESG model)
 ES Name boiler 1
 Operating ES Status Normal Operation
 Comment
 Emission Source Category External Combustion
 Categorize Emission Source
 Equipment Boiler <10 MMBTU/HR
 Design Capacity 7 MILLION BTU PER HOUR

Total ESG Throughput 15,000.00 therms *
 Enter members' throughput as Absolute value

Group members	ES Name	A/N	Permit No.	Permit Device ID	Permit Equipment Description	Equipment	Emergency Generator (for ICE only)	Part of Fire Suppression (for ICE only)	% Throughput	Throughput Value	Thru U
ES1	boiler 1	123456	D1234	D1	BOILER (<10 MMBTU/HR) NAT GAS ONLY	Boiler <10 MMBTU/HR	No	No	66.67	10,000.00	ther
ES2	boiler 2	234567	A1234	D2	BOILER (<10 MMBTU/HR) NAT GAS ONLY	Boiler <10 MMBTU/HR	No	No	13.33	2,000.00	ther
ES3	boiler 3	345678	B1234	D3	BOILER (<10 MMBTU/HR) NAT GAS ONLY	Boiler <10 MMBTU/HR	No	No	20.00	3,000.00	ther
									100.00	15,000.00	

Apply Grouping Model

The next 3 screens show that data from the model (ES1) are applied to the group members (ES2 and ES3). The tool also offers user an avenue to go back for adding/deleting group members or working in other areas.

Facility ID: 999142 - ABC - Reporting period: 2014

External Combustion

Please provide specific information for every process associated with your external combustion Emission Sources including usage, emission factor and control efficiency (if any). You must select Fuel and throughput units before reporting emissions. Detail instructions are available by clicking on Help icon in the tool bar.

This process is managed by emission source group. Review the group

Step 1: Process Optional: Mark as Completed

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Equipment	Fuel
Open ES1	D1	123456	P1	474	Boiler <10 MMBTU/HR	Natural Gas

Click here to delete this process.

Step 2: Throughput

Annual Throughput	Criteria/Toxic Throughput	GHG Throughput
Open 10,000.000000000 therms	0.95 mmscf	952,000.00 scf

Step 3: Criteria Emissions (lbs) Use Default Emission Factors if available.

Pollutant	EF	Unit	EF Data Source	Emissions
Open VOC	5.500000	lbs / mmscf	AQMD default	5.23
Open NOx	100.000000	lbs / mmscf	AQMD default	95.00
Open SOx	0.600000	lbs / mmscf	AQMD default	0.57
Open CO	84.000000	lbs / mmscf	AQMD default	79.80
Open PM	7.600000	lbs / mmscf	AQMD default	7.22

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

TAC/ODC Group	CAS #	EF	Unit	EF Data Source	Emissions
Open Benzene	71432	8.00000e-3	lbs / mmscf	AQMD default	7.600e-3
Open Formaldehyde	50000	1.70000e-2	lbs / mmscf	AQMD default	1.615e-2
Open PAHs [PAH, POM]	1151	1.00000e-4	lbs / mmscf	AQMD default	9.500e-5
Open PAHs [PAH, POM]	91203	3.00000e-4	lbs / mmscf	AQMD default	2.850e-4
Open Ammonia	766417	1.80000e+1	lbs / mmscf	AQMD default	1.710e-1

Add New

AER Home Access Facility Facility Home Facility ID: 999142 · ABC · Reporting period: 2014

Facility ID: 999142

External Combustion

Please provide specific information for every process associated with your external combustion Emission Sources including usage, emission factor and control efficiency (if any). You must select Fuel and throughput units before reporting emissions. Detail instructions are available by clicking on Help icon in the tool bar.

This process is managed by emission source group. [Review the group](#)

Step 1: Process Optional: Mark as Completed

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Equipment	Fuel
Open ES2	D2	234567	P1	474	Boiler <10 MMBTU/HR	Natural Gas

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

Step 2: Throughput

Annual Throughput	Criteria/Toxic Throughput	GHG Throughput
Open 2,000.000000000 therms	0.19 mmscf	190,400.00 scf

Step 3: Criteria Emissions (lbs) Use [Default Emission Factors](#) if available.

Pollutant	EF	Unit	EF Data Source	Emissions
Open VOC	5.500000	lbs / mmscf	AQMD default	1.05
Open NOx	100.000000	lbs / mmscf	AQMD default	19.00
Open SOx	0.600000	lbs / mmscf	AQMD default	0.11
Open CO	84.000000	lbs / mmscf	AQMD default	15.96
Open PM	7.600000	lbs / mmscf	AQMD default	1.44

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

TAC/ODC Group	CAS #	EF	Unit	EF Data Source	Emissions
Open Benzene	71432	8.00000e-3	lbs / mmscf	AQMD default	1.520e-3
Open Formaldehyde	50000	1.70000e-2	lbs / mmscf	AQMD default	3.230e-3
Open PAHs [PAH, POM]	1151	1.00000e-4	lbs / mmscf	AQMD default	1.900e-5
Open PAHs [PAH, POM]	91203	3.00000e-4	lbs / mmscf	AQMD default	5.700e-5
Open Ammonia	7664417	1.80000e+1	lbs / mmscf	AQMD default	3.420e+0

[Add New](#)

AER Home Access Facility Facility Home Facility ID: 999142 · ABC · Reporting period: 2014

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External Combustion

Please provide specific information for every process associated with your external combustion Emission Sources including usage, emission factor and control efficiency (if any). You must select Fuel and throughput units before reporting emissions. Detail instructions are available by clicking on Help icon in the tool bar.

This process is managed by emission source group. [Review the group](#)

Step 1: Process Optional: Mark as Completed

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Equipment	Fuel
Open ES3	D3	345678	P1	474	Boiler <10 MMBTU/HR	Natural Gas

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

Step 2: Throughput

Annual Throughput	Criteria/Toxic Throughput	GHG Throughput
Open 3,000.000000000 therms	0.29 mmscf	285,600.00 scf

Step 3: Criteria Emissions (lbs) Use [Default Emission Factors](#) if available.

Pollutant	EF	Unit	EF Data Source	Emissions
Open VOC	5.500000	lbs / mmscf	AQMD default	1.60
Open NOx	100.000000	lbs / mmscf	AQMD default	29.00
Open SOx	0.600000	lbs / mmscf	AQMD default	0.17
Open CO	84.000000	lbs / mmscf	AQMD default	24.36
Open PM	7.600000	lbs / mmscf	AQMD default	2.20

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

TAC/ODC Group	CAS #	EF	Unit	EF Data Source	Emissions
Open Benzene	71432	8.00000e-3	lbs / mmscf	AQMD default	2.320e-3
Open Formaldehyde	50000	1.70000e-2	lbs / mmscf	AQMD default	4.930e-3
Open PAHs [PAH, POM]	1151	1.00000e-4	lbs / mmscf	AQMD default	2.900e-5
Open PAHs [PAH, POM]	91203	3.00000e-4	lbs / mmscf	AQMD default	8.700e-5
Open Ammonia	7664417	1.80000e+1	lbs / mmscf	AQMD default	5.220e+0

[Add New](#)

Additional Notes

- ❖ An ES can not be a member of two groups.
- ❖ ES members can be added or removed from groups at any time before report is submitted.
- ❖ The wizard is applicable to the primary (first selected) fuel and its throughput. The secondary fuel or other processes and upsets/spills emissions data can be separately added for individual ES.
- ❖ Adjust throughput (percentage or absolute value) accordingly as members are added or removed from a group.
- ❖ Changes made to primary process in model device and re-applied to group will override all member's primary process data. Re-applying "Grouping Model" will not affect other added processes and upsets/spills emission data.