



Emissions Inventory & SLEIS Workshop

2017 Data Basic Training/Boot Camp for New Users

South Carolina Department of Health and Environmental Control

Healthy People. **Healthy Communities.**

General Housekeeping

- Restrooms
- Canteen
- Fire Drill
- Restaurants

General Overview

- 2017 Emissions Inventory requirements
- What's new
- Data gathering/prep
- State and Local Emissions Inventory System (SLEIS) web-based collection tool

2017 Emissions Inventory Requirements

- Title V Facilities will submit their Emissions Inventory on a schedule based on the **POTENTIAL** amount of pollutants emitted
- Inv Type A Sources – submit every year:
 - SO_x, NO_x, CO ≥ 2500 tons/yr,
 - VOC, PM₁₀, PM_{2.5}, NH₃ ≥ 250 ton/yr
- All other Title V Sources – submit every 3 years (2014, 2017, 2020, etc.)



2017 Emissions Inventory Requirements

- Insignificant Activities will be required to be estimated once
- Inventories and all documentation are due by March 31, 2018

2017 Emissions Inventory Requirements

- We use EPA approved methodologies to review inventories and expect facilities to use same methodologies when calculating/entering emissions
- Use preferred methods over less preferred methods
- BAQ incorporates all EIP Preferred Methods Documents into our operating procedures

2017 Resources

- EIP Documents, AP-42 and other EPA estimating tools may be accessed at:
 - <http://www.epa.gov/chief>
- BAQ-EI webpage:
 - <http://www.scdhec.gov/Environment/AirQuality/ComplianceandReporting/EmissionsInventory/>
- SLEIS Homepage:
 - <https://sleisprod.dhec.sc.gov/sleis>
- SLEIS Training Videos:
 - <https://www.youtube.com/playlist?list=PLqGWmyz3QMps1NO4OioA9-X6QXJVGlur4>

What's new ? (since 2014 data...)

- SLEIS ! (State and Local Emissions Inventory System)
- Registration - one form - R.O. registers, lists 'standard' users on form
- Account-based – keep same ID/PW, but re-register each year that you are required to report
- Can have multiple facilities per account and different roles for each facility
- Attachments/supporting calcs, list of IAs – can be uploaded directly into SLEIS

What's new ?

- Method codes – new/different codes see handout
- Pollutants – some we are no longer tracking, some have different codes
 - PMs are now PM-FIL, PM10-FIL, PM2.5-FIL and PM-CON
 - YOU will need to update all PMs in your inv to new codes
- No multiple factors in SLEIS
- Multiple stacks per process – apportionment
 - Facility-level coordinates were imported for all release points – need to review

What's new ?

- 'Operating Status' - located on EUs, Controls, Exhaust Points, and Processes
 - All were defaulted to 'Operating' - check and set accordingly
 - Tip: only items that are coded 'OP' appear on pick lists and printed emissions reports
- You create new items in SLEIS as needed! - Controls, Exhaust Points, EUs, Processes
 - Do not need to wait for us to create objects for you.
 - Be careful!

What's new ?

- Validation - field-level and entire inventory
 - Field-level is automatic during data entry; inventory-level can be user-initiated anytime
 - SLEIS prohibits Certifier/Signer from signing/submitting unless validation is error-free
- SLEIS Training Videos!
 - <https://www.youtube.com/playlist?list=PLqGWmyz3QMps1NO4OioA9-X6QXJVGluR4>
 - OR go to www.youtube.com/scdhec and look for SLEIS in DHEC's playlists

What's New ?

- Support
 - All support requests should go through ei_submittals@dhec.sc.gov
 - Only call if you are contacting your inventory reviewer about a facility-specific inventory question
 - We can track and qualify support requests made through one specific portal, i.e., ei_submittals@dhec.sc.gov
 - Hard for one or two individuals to field calls from several hundred users

What's new ? - Confidentiality

- Currently, nothing is marked confidential in SLEIS for facils with imported 2014 data (and no inventory since)
- Users will have to review and mark
- Confidential flag only exists on Process Emissions level
- Setting confidential flag to 'yes' prevents the emission factor and throughput from being made public

What's New ? - Confidentiality

- If your facility is considered confidential, you **MUST**:
 - Send/attach “public” (sanitized) copy of supporting docs **AND**
 - “Confidential” copy of docs
- Submittal not complete until we get both!

Data Gathering and Preparation

- Copy of current Permit (e.g., Title V) and any activated construction permits not already incorporated into the TV permit
- Report of data in SLEIS (we'll show reports in SLEIS demo later)
- Any reports and/or supplemental sheets from last time (i.e., 2014 review)
 - Contact you inventory reviewer if you need any of these.

Facility General

- Facility general sheet must be sent in with supporting documentation, marked with any changes – email is ok, attach in SLEIS preferred
- Mark-up pre-populated sheet with any changes
- No changes currently allowed in SLEIS “Facility General” screen

Emission Units

- Reported in terms of your current permit
- Be sure to review EU Type code in SLEIS – change/update accordingly
- Operating Status/Status Date – be careful if EU shutdown in EI year or prior – will discuss in SLEIS demo

Fuel Burning

- Remember to enter fuel amounts in appropriate units, i.e. kgal, mmcf, tons, mmbtu
- Throughput units are driven by SCC and are found in the description pane
- Factors in SLEIS are dependent on SCC units – important!
- Multiple factors – specific to boiler type, burner type, etc. – multi-factor spreadsheets available in SLEIS

Evaporative Loss

- Painting, coating, cleaning operations, etc.
- Calculate emissions using the material balance method
- Spreadsheets, supporting docs – attach in SLEIS
- HAP/TAPs...
 - Make sure your TRI emissions are the same as your Emission Inventory emissions!!!

HAPs/TAPs

- Report if you emit any of these HAPs at any level:
 - <http://scdhec.gov/Environment/docs/HAPs%20of%20Primary%20Concern.pdf>
- All other HAPs and TAPs should be reported if the facility wide total of that HAP or TAP exceeds 200 lbs
 - <http://www.epa.gov/ttn/atw/orig189.html>
 - <http://www.scdhec.gov/Agency/RegulationsAndUpdates/LawsAndRegulations/Air>
- All HAPs/TAPs are reported at the Process Emissions Level – no facility-level reporting available

HAPs/TAPs – Fiberglass Boat Facilities

- Unified Emission Factor table has been updated for Styrene and Methyl Methacrylate emissions from Fiberglass boat facils
- See these resources to complete your 2017 inventory:
 - <http://www.scdhec.gov/Environment/AirQuality/ComplianceandReporting/EmissionsInventory/PolyesterResinPlasticProductsFabricationEmissionEstimates/>

HAPs/TAPs - Resources

- NIST Chemistry Web Book
<http://webbook.nist.gov/chemistry>
- EPA's Substance Registry System
<http://www.epa.gov/srs>

Controls

- Controls are tracked separately from their associated emission unit equipment and release points
- Fuel use in controls should be reported separately as a fuel burning source
- Incinerators which are controls should also be listed on a Control Device page. Check that the control device has been linked into the proper process
 - Fuel Use – don't forget! Must also be a process
- Control pollutant efficiencies – need to check

Release Point (Stack)

- Check to make sure release point parameters are correct
 - Facility coordinates imported for all release points – need to review
- Can have multiple release points per process (like real world)
- Can create new release points to support the previous bullet

Tanks

- When is detailed storage tank information needed?
 - Tank's capacity is greater than 38.7 cubic meters (10,000 gallons), *or*
 - Stores a hazardous air pollutant, *or*
 - Emits one or more HAPs
- Detailed storage tank information is **not** needed for:
 - Pressurized storage tanks containing fluids such as liquid petroleum gas (LPG), liquid natural gas (LNG), natural gas, or inert gases

Tanks

- Tank emissions can be estimated using EPA program TANKS 4.09D
 - Is based on the emission estimation procedures from Chapter 7 of EPA's AP-42
 - <http://www.epa.gov/ttn/chief/software/tanks/index.html>
 - EPA has discontinued support/development of TANKS 4.09D due to the model not being reliably functional on Windows Vista or Windows 7 computers
 - If you wish to use other tank estimation software methods, please contact Chad Wilbanks for approval
 - Can do manual calculations with AP-42 Chapter 7 algorithms if desired

Other Source Types

- Landfill calculations:
 - Use LandGEM model and formulas in AP-42 Chapter 2.4
- Wastewater Calculations
 - Use Water9 model
- See: <https://www.epa.gov/air-emissions-factors-and-quantification/emissions-estimation-tools>

Insignificant Activities

- Traditionally listed on your Title V Permit
- New permits do not list Insignificant Activities, but contain requirement to maintain list onsite
- You must submit that list with your supporting docs! (can be attached electronically in SLEIS – preferred)
- Emissions from all Insignificant Activities must be reported at least once
 - If all not previously reported, need to report missing IAs in this Inventory!

Calculations

- When preparing for calculations, it is helpful to have a copy of the most recent Detailed Emissions Inventory Report and any supplemental sheets
- Rule effectiveness – take into account when control equipment did not operate as designed – contact EI staff if you have questions
- Emission estimates are required for all regulated air pollutants, including but not limited to: criteria, 112R, HAP, and TAP pollutants
- Include any regulated pollutants in your calculations that have been missed in past inventories

Calculations

- Emissions should be calculated using the same methodology as previously entered in SLEIS unless a significant change has occurred at the process (i.e., a Bureau-reviewed source test where there was previously not one)
- You do not have to do manual/supporting calculations for pollutant emissions where a factor exists in SLEIS – SLEIS will calculate – see below
- We use EPA-approved methodologies and implement a preferred-method hierarchy

Calculations

- The order of preferred methods from best to least desirable are:
 - Material balance calculations (method code 3)
 - Continuous Emissions Monitor (CEM) data (method code 1)
 - Bureau approved and reviewed source test emission factors (method codes 4, 10)
 - AP-42 or FIRE Emission factors (method codes 9, 29)
 - In-house source test (method code 2)
 - Other (method codes 12, 32)

Method Code 9, 29, 12, or 32

- 9, 29, 12, or 32 will automatically calculate the emission tonnage based on the throughput and the emission factor
- Manual updating of emissions tonnages is only necessary for pollutants with method codes other than 9, 29, 12, or 32
- Method Codes 12 and 32 should be used only with certain facilities and with prior approval
 - Factors would be entered by user
 - Contact Chad Wilbanks for approval/questions

Method Code 4 - Source Test

- Emissions were calc'd based on the results of a Bureau-reviewed source test. Source test emission factors from a source test should be based on emission-per-throughput rate units where possible (i.e. lb/ton, lb/million BTU, etc.) and not a lb/hr factor
 - Contact us if you have questions regarding lb/hr factors
- Calculations must be supplied and the date of the source test(s) being used must be indicated
 - Spreadsheets, word files, etc. ok – attach in SLEIS

Method Code 4 - Source Test

- Source Tests are applicable from the date of the test up until the day before the source is retested. The below two examples should help clarify this:

Example 1: A facility had a source test in 2015 and again on April 15, 2017. The emission calculations for January 1 through April 14 should be based on their 2015 test. The calculations for April 15 to the end of the year should be based on the April 15 test. These two sets of calculations are then added to get total emissions for the tested pollutant.

Method Code 4 - Source Test

- Example 2: A facility had a source test in 2015 and again on Feb 15, 2017 and failed this second test. They did a retest on Jun 25, 2017 and passed. The calculations for Jan 1 through Feb 14 should be based on their 2015 test. The calculations for Feb 15 through Jun 24 should be based on the Feb 15 test. Finally, the calculations for Jun 25 to the end of the year should be based on the Jun 25 test. These three sets of calculations are then added to get total emissions for the tested pollutant.

Method Code 4 - Source Test

- For particulate emissions: don't forget take into account any condensable particulate factors found in AP-42 or FIRE. EPA Reference Method 5 only captures filterable particulate emissions
- For PM10 Emissions: If Bureau-reviewed testing for PM10-FIL has not been performed and AP-42 factors are available for PM-FIL and PM10-FIL, the ratio of these factors can be used to estimate PM10-FIL emissions from tested PM emissions

Method Code 10 - MATS

- Applicable if you have a factor derived from a Bureau-approved MATS (Mercury and Air Toxics Standard) source test
 - Mainly applicable to EGUs
 - You will need to enter the pollutant emission factors in SLEIS
 - Throughput units and factor units must match
 - Contact Chad Wilbanks if you have questions.

Method Code 1 - CEMS

- This method code indicates that reported emissions are based on Continuous Emission Monitor (CEM) data
- This data should only be from a CEM that is Bureau-certified
- Calculations and/or documentation of the annual emissions should be supplied
 - We do not need a ream of paper with CEM hourly data, a summary is fine – can be attached electronically in SLEIS (preferred!)

Method Code 2 – Engineering Judgment

- This method code is used when there is no better method for determining emissions
- Generally used only when there is no Bureau certified CEM data, material balance information, Bureau-reviewed source test, or AP-42 or FIRE emission factors available for estimating emissions
- May be from in-house source tests, the facility's Title V permit application, industry factors, etc.
 - Prior approval may be required, contact Chad Wilbanks
- Complete calculations should be supplied with the Inventory – attach in SLEIS

Method Code 3 – Material Balance

- Material balance method
- Generally evaporative loss/coatings sources
- Calculations/supporting documentation should be supplied with the inventory
- Contact ei_submittals@dhec.sc.gov with questions

More thoughts...

- Method Code definitions can be found on SLEIS homepage
- Emission units, release points, controls, etc. on your current permit that are not listed in SLEIS must be added to the SLEIS database
 - Contact your individual emissions inventory person if you have questions
- Ammonia, condensable organics, and organic and elemental carbon are precursors to PM 2.5
- Report any Ammonia, PM 2.5, or its precursors

Finishing up

- After SLEIS data entry and Certifier electronic signature, we need these things to have a complete submittal:
 - Supporting calculations/documentation of emissions
 - Facility General page marked with any changes
 - List of Insignificant Activities
- All of the above can be attached electronically in SLEIS – preferred!
- Confidential – MUST send “public” (sanitized) copy of supporting docs AND “confidential” copy of docs



Finishing up

- Supporting docs can be sent electronically (email) or hardcopy, but we prefer to have them attached electronically in SLEIS
- If you have any questions about completing your Inventory, please contact the Emissions Inventory Staff member who last reviewed your inventory or Chad Wilbanks at (803) 898-4106
- For questions related to SLEIS, email SLEIS support: ei_submittals@dhec.sc.gov



Contacts

• Chad Wilbanks-Manager	898-4106	wilbanmc@dhec.sc.gov
• Carla Bedenbaugh	898-4279	bedenbcw@dhec.sc.gov
• Larry Bunn	898-4301	bunnll@dhec.sc.gov
• Logan Caldwell	898-1403	caldwelp@dhec.sc.gov
• Chris Cheatham	898-3827	cheathcc@dhec.sc.gov
• Chip Lominick	898-4086	lominijr@dhec.sc.gov
• Dave McClard	898-3723	mcclarad@dhec.sc.gov
• Elisa Vincent	898-4296	vincenef@dhec.sc.gov



South Carolina Department of Health and Environmental Control
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CONTACT US

SLEIS Support:

ei_submittals@dhec.sc.gov

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