



Emissions Inventory/SLEIS Webinar

2020 Data Basic Training for New Users
February 18, 2021

South Carolina Department of Health and Environmental Control
Healthy People. **Healthy Communities.**



Overview

- Welcome
- What's New
- Inventory Reporting Requirements
- Inventory/SLEIS
- Wrap up



Welcome

- Webinar
 - Limitations – approx 10-15 sec delay
 - Recording should be downloadable by attendees up to 180 days after webinar (please allow a few minutes after webinar for Teams to process video file)
 - Use QA feed in live event or send questions to: ei_submittals@dhec.sc.gov
 - Materials (powerpoint) will be posted to SLEIS homepage (sleisprod.dhec.sc.gov/sleis) and EI webpage (<https://scdhec.gov/environment/air-quality/compliance-monitoring/emissions-inventory>)



Welcome - continued

- Scope of webinar
 - Basic process of doing an inventory in SLEIS
 - Use SLEIS training videos for “how-to” lessons on navigating SLEIS screens(<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

- SLEIS 2.0 is here!
 - Many changes are in background, BUT what affects you are in Process Emissions – we will go over later
- Multiple Factors now in SLEIS
- We updated Facility names and added contact info in SLEIS
- Revised Electronic Signature Agreement (ESA)
 - Fillable pdf
 - Notary signature requirement removed



What's New - continued

- TV billing/invoicing cycle changes
- Staff
 - Retirements and exits
 - Section Contact list at end of presentation



Contacts

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- General SLEIS questions/support: ei_submittals@dhec.sc.gov



TV Billing/Invoicing Cycle Changes

- Send invoices in mid January 2022 instead of July 2021
 - Permanent change for Title V facilities only
 - No change to minor and CM facility July billing (based on latest industry averages)
- Delays Title V facility billing by 6 months. Why?
 - Billing can be based on latest reviewed inventory
 - Delay allows time to complete review of all inventories and upload to EPA before billing
 - Avoids requests to use current-year inventory for billing
 - 2020 inventories impacted by COVID-19



TV Billing Changes - continued

- Billable emissions provided when inventory review is complete instead of Alert Letters in May
- New policy only changes the timing the TV invoice
 - All applicable reporting deadlines remain the same



TV Billing Changes - continued

	2021				2022	
	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan	
Submit 2020 Invs						
Staff Review Invs						
FY22 Invoice Alert Letters						mid May
FY22 Billing - Minors						late Jul
Invs due to EPA						late Dec
FY22 Billing - TVs						mid Jan



Inventory Reporting Requirements

- Title V Facilities submit their Emissions Inventories on a schedule based on the POTENTIAL amount of pollutants emitted
 - Potential emissions listed in Statement of Basis for your TV permit and unincorporated construction permits
- 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 data, 2017 data , 2020 data, etc.)



How do I get started?

- Register with SLEIS / register for reporting cycle
 - Must register each cycle in which you have to report an inventory
 - Electronic Subscriber Agreement (ESA)
 - Existing users still have SLEIS account and PW but 2020 Inventory report stub will not be created until ESA processed
 - Allows us to keep SLEIS and facility associations “clean” by refreshing them regularly



Getting Started – don't forget

- Notes, Notes, Notes!
 - Make note of non-standard decisions
 - When you accounted for an emission elsewhere
 - Something temporarily didn't operate
 - Etc.
 - Helps us understand what you did
 - Use Comments sections in SLEIS – multiple locations/opportunities
 - Anything helps – bullet lists, etc., doesn't have to be complicated
 - In addition to Supporting Documentation



Getting Started – don't forget

- SLEIS tables: Factor Table, SCC listing, and Method Codes
 - Download from SLEIS homepage
- Confidential – two copies of supplemental info: public & conf
 - Confidential flag only exists on Process Emissions level
 - Setting confidential flag to 'yes' prevents the emission factor and throughput from being made public
 - Contact us if you have questions



Inventory

- Get your permits - active operating and any construction permits not incorporated in TV which operated during reporting year (2020)
- SLEIS reports
- Any reports and/or supplemental sheets from last inventory (i.e., 2017, etc. 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 (or marked 'no changes')
- Updates are currently not allowed on SLEIS Facility General screen
- Must return Facility General page we sent you (not screenshot of SLEIS) marked-up appropriately by March 31, 2021 (via attach in SLEIS, email, or postmark 3/31/2021 via postal delivery)



Inventory – what to report?

- All permitted Emission Units
- All associated processes
- All regulated pollutants
- All Insignificant Activities (at least once)



Inventory – what to report? - HAPs/TAPs

- Report if you emit any of these HAPs at any level (HAPs of Primary Concern:
 - <https://www.scdhec.gov/sites/default/files/docs/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



Inventory – what to report? - HAPs/TAPs

- TRI
 - Check your amounts reported to TRI vs EI
 - TRI should be close/equal to EI where practical
 - We realize that there are some de minimis reporting levels for TRI
 - EPA asks us for explanation when TRI is significantly different from EI



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
 - Tip: only items that are coded 'OP' appear on pick lists and printed emissions reports



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 emission factor table
- Factors in SLEIS are dependent on SCC units – important!
- Multiple factors – specific to boiler type, burner type, etc. – Multiple factors are loaded now in SLEIS – use factor spreadsheet as guide



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!!!



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
 - If you wish to use other tank estimation software methods, please ensure calcs are based on AP-42 Chapter 7 algorithms
 - Can do manual calcs with AP-42 Chapter 7 algorithms if desired



Control Devices

- Controls are tracked separately from their associated emission unit equipment/process 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 the 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



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 have been listed on your Title V Permit
- Newer permits do not list Insignificant Activities, but contain requirement for you to maintain list of IAs
- 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

- Rule effectiveness/control device downtime – 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

- 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 (MATS))
 - AP-42, FIRE, or RICE Emission factors (method codes 8_0, 9, 29)
 - In-house (non Bureau approved) 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



Stationary RICE – factors and emissions

- Optional procedure to estimate emissions from Stationary Reciprocating Internal Combustion Engines.
 - Choose factors from AP-42 or 40 CFR 60/63
 - Spreadsheet Tool developed to help pick pollutants/factors
 - Companion document to explain intricacies



Stationary RICE – factors and emissions

- Spark Engines
 - AP-42 pollutants factors are still preferred
 - Spreadsheet Tool contains these
- Compression Engines
 - Choose AP-42 factors or 40 CFR 60 factors
 - Both are in Spreadsheet Tool



Stationary RICE – factors and emissions

- If you use the 40 CFR 60 factors you must:
 - Enter the pollutant/factor(s) in SLEIS manually (Process Emissions)
 - Include HAP compliment
 - Use Method Code 8_0
 - Enter throughput with same units as factor(s) (i.e., lb/MMBTU or lb/HP-hr)
 - All pollutants/factors for the process must use the same throughput units, i.e. lb/MMBTU or lb/HP-hr – no mixed units within polls/factors per process



Stationary RICE – factors and emissions

- Enter the following in the Process Unit Comments section (when using 40 CFR 60 factors):
 - Cylinder displacement in liters
 - Horsepower rating
 - Subject to NSPS
 - Year of manufacture
 - Use type (emergency, non-emergency, fire pump, etc.)



Method Code 3 – Material Balance

- Material balance method
- Generally evaporative loss/coatings sources
- Calculations/supporting documentation should be supplied with the inventory



Method Code 1 - CEMS

- Indicates 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 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
 - PM-FIL vs. PM-CON vs. PM-TOT
- Use factor result from most recent source test for entire calendar year
 - Simplified approach vs. previous inventory years
 - Can still average if desired; explain in Supplemental Documentation
- 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 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
 - Preferably, throughput units and factor units must match
 - If they don't, use EF Unit code "Other - Non Standard Units", enter the factor AND your manually calc'd emissions tonnage
 - Use Comment field to give actual factor units and test date
 - Contact Chad Wilbanks if you have questions.



Method Code 2 – Engineering Judgment

- 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



Pitfalls / tips

- Re-check your throughput values especially for fuels
 - Decimal place errors cause big swings in emissions; MCF vs MMCF
- If process has PM-fil, it must also have at least PM10-fil as well, PM2.5-fil also if possible
 - PM2.5-fil should not be $>$ PM10-fil, and PM10-fil should not be $>$ PM-fil
 - Conversely if a process has PM10-fil/PM2.5-fil it must also have PM-fil/PM10-fil
- Total metals in process should be $<$ total PM-fil in process



Pitfalls / tips

- VOC total per process must be equal or greater than sum of all VOC compounds in process
 - Same rule for facility-wide VOCs
- If Insignificant Activity has no regulated pollutants (i.e., water tank, etc.) please let us know so we won't continue to ask about it
- Do "sanity check" on overall emissions to uncover obvious data entry errors
 - Please explain any valid large swings vs. previous inventories
- Please explain/comment processes that are temporarily shutdown vs. permanently shutdown



More thoughts...

- 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 reviewer 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



Wrap Up – don't forget

- Complete submittal:
 - Electronic Signature/Submission completed in SLEIS
 - Supporting Documentation
 - Facility General sheet - mark with any changes or “No Change”
 - List of Insignificant Activities
 - The above three items can be attached electronically in SLEIS (preferred!)
- Inventory submittal not considered complete and on-time unless all have been received by us (or postmarked) by due date: March 31, 2021.



Resources

- EIP Documents, AP-42 and other EPA estimating tools may be accessed at:
 - <http://www.epa.gov/chief>
- BAQ-EI webpage:
 - <https://scdhec.gov/environment/air-quality/compliance-monitoring/emissions-inventory>
- SLEIS Homepage:
 - <https://sleisprod.dhec.sc.gov/sleis>
- SLEIS Training Videos:
 - <https://www.youtube.com/playlist?list=PLqGWmyz3QMps1NO4OioA9-X6QXJVGlUR4>



Resources

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



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Comments/survey

- Email ei_submittals@dhec.sc.gov with comments on webinar
- Thanks!



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