INTRODUCTION

PLEASE READ THESE INSTRUCTIONS BEFORE UPDATING YOUR INVENTORY.

All submittals are to be made via AES*Online.

No extensions for the submittal of this year's Allegheny County Emissions Inventory will be granted.

If the Department requests revisions, be sure your <u>certifying official</u> resubmits completed revisions within fifteen (15) business days of receiving the AES*Online e-mail indicating a submittal has been rejected. Failure to comply may result in enforcement action.

Changes made to the inventory may NOT be saved unless the user saves the changes. Be sure to save all changes before ending your AES*Online session and/or submitting the inventory.

Background

This inventory is intended to incorporate a number of emission reporting requirements within one package. The information gathered is used for compliance purposes, general information concerning air emissions in the County, and meeting legal requirements under County, State, and Federal law.

Submitted information is entered into an AES*Online web-based data system by the user. The County Health Department's Air Quality Program (AQP) reviews the submitted information and accepts it after all information is received as requested. This will be used in future years to simplify the reporting of the needed inventory information. The Department also prefers to have consistency between the inventory system and sources included in Title V and "Synthetic Minor" permits.

AES*Online emission information accepted by the County Health Department is transferred to the PA Department of Environmental Protection's Air Information Management System (AIMS).

Facilities Included in this Inventory

The facilities included in this inventory, at a minimum, are:

- Title V facilities;

- Synthetic Minor facilities; and

- Facilities that emit any criteria pollutant in amounts equal to or greater than 25 tons per year unless they have been exempted from this report based on previous reports of actual emissions consistently below potential levels .

Please note exemption from the emission invnetory report does not exempt a source from submitting other reports required by their permits such as semi-annual reports and compliance certifications.

Facilities that receive this package must respond to the data request to comply with the requirements of the Clean Air Act.

 Annual emission inventories in Allegheny County must be submitted by March 15th easch year . If the fifteenth falls on a weekend then the emission inventory is due on the first busineess day following the weekend.

Assistance Resources

The 1990 amendments to the Clean Air Act placed new requirements on smaller facilities. The PA Small Business Development Center's Environmental Management Assistance Program (EMAP) provides free and confidential environmental regulatory assistance to small businesses in Pennsylvania. The services include:

- **Toll-Free Hot Line 1-877-ASK-EMAP (1-800-275-3627);**
- **Email - questions@askemap.org;**
- **Website - http://www.askemap.org/;**
- Brochures and pamphlets;
- Site visits to help determine the regulations that might apply to your facility;
- Review of permit applications for completeness and accuracy; and
- Small Business Ombudsman to help locate sources of funding for compliance with air pollution regulations.

Emission Sources to Include in the Inventory

Please include all air emission sources at the facility. This includes air pollution sources, control equipment, and stack emission points. Sources that were included in earlier emission inventories and, if Title V requirements are applicable, emission components listed in the Title V application/permit should also be included in this inventory. Emission sources that are exempt from permitting requirements are still reportable in the annual emission inventory. An example would be space heaters If a process or piece of equipment has actual emissions of at least 0.1 tpy of hazardous air pollutant, it must be included in the annual emissions inventory. In Allegheny County actual emissions of criteria emissions must be reported down to the lowest limit available in AES Online.

Fugitive emissions include both plant and vehicle fugitive emissions. Vehicle fugitive emissions originate from travel over roads on the premises. Vehicle emissions from facility dedicated vehicles that do not operate on public roads or exit plant property must be reported as point source emissions from the facility. This applies to emissions from travel over the firm's property by site dedicated vehicles.Supporting calculations should be included with supporting documentation (see steps 5.7 and 6.4).

Tailpipe emissions from site dedicated vehicles are included in the On Road and Off Road Mobile Inventory and are not to be reported in the point source inventory for Allegheny County.

A listing of mobile and area combustion sources is located on the ACHD, Air Quality, Emission Inventory website for reference; see Non Road Users Guide SCC and Source Type appendb.pdf. Sources shown on this table should not be reported in the point source inventory.

Aggregation of sources:

Individual sources need to be identified. However, some small sources can be aggregated in the emissions system. The aggregating of sources should be consistent with that required for the permit requirements for Title V and synthetic minor sources. In some cases, an acceptable aggregation of sources may not be available until a Title V permit has been issued. Synthetic minor sources will need to be reported consistent with information provided in their synthetic minor application/permit. **An example of aggregation of sources would be tanks of the same design and size used to store the same materials.**

Breakdown Emissions formerly Accidental Releases

Unplanned unintentional releases of air emissions must be reported in this inventory. These releases have been reported as miscellaneous emissions in previous years (see Section 6.0). Starting with reporting year 2017 , accidental or miscallaneous emissions must be labeled breakdown emissions in spreadsheets and miscellaneous emissions in AES Online.They must be included in the annual inventory. As with emissions generated by facility processes verifiable calculations of breakdown emissions must be included in excel spreadsheets with equations for each cell where emissions results are displayed,

Reporting Hazardous Air Pollutants (HAP) Emissions for the National Toxics Inventory

The EPA continues to demand a high level of detail for the reporting of HAPs in emissions inventories. Where state and local agencies are unable to supply HAP emission inventory data, the EPA will prepare default emissions inventory data for the National Toxics Inventory (NTI). Sources should report emissions not only of specific compounds categorized as HAPs but also for pollutants within compound groups such as glycol ethers, metal compounds, and polycyclic organic matter also categorized as HAPs. The EPA is making all emissions inventory data available on the internet. Therefore, the Air Quality Program believes it is in the best interest of every source to comply to the extent practicable with the instructions in this document. Furthermore, all firms should be aware that the Air Quality Program compares the data submitted in their emissions inventory to that submitted in the same firm's Toxic Release Inventory for consistency and accuracy.

The Emission Inventory Instructions are divided into the following sections:

1.0 **Accessing AES*Online**: This section provides information to access AES*Online and how to obtain account information for first-time users.

2.0 **General Facility/SubFacility Information**: This section provides details for completing General Facility and SubFacility information.

3.0 **SubFacility Fuel**: The section provides information on entering fuel details.

4.0 **SubFacility Operating Schedule**: This section provides information on entering operating schedules.

5.0 **SubFacility Emissions**: This section provides information on entering emissions.

6.0 **Miscellaneous Emissions**: This section provides information on entering miscellaneous emissions.

7.0 **Pollutant Summary**: This section provides information on completing the Pollutant Summary.

8.0 **Fuel Usage Summary**: This section provides information on completing the Fuel Usage Summary.

9.0 **Submission**: This section provides information on submitting the emissions inventory.

10.0 <u>Revision(s) and Resubmission(s)</u>: This section provides information on revising and resubmitting the emissions inventory.

11.0 <u>Acceptance</u>: This section provides information on the Department accepting emissions inventory submissions.

<div align="center"><u>**Tables and Appendices**</u>:</div>

<u>**Appendix A**</u>   Hazardous Air Pollutant Reporting

<u>**Appendix B**</u>   Calculation of Tank Emissions below Roof Supports

<u>**Appendix C**</u>   Material Balance Explanation

<u>**Appendix D**</u>   ACHD Completion Checklist

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Section 1.0

<u>**Accessing AES*Online**</u>

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This section provides information on accessing AES*Online and obtaining account information for first-time users.

<u>1.1 First-Time User:</u> If accessing AES*Online for the first time, an AES*Online account will need to be created. To create an account electronically, access the DEP Greenport site (www.depgreenport.state.pa.us) and click the "Click here to self-register" button. Follow the subsequent steps. Once completed, an email with the username and password will be received. This is the information needed to log in to DEP Greenport. A copy of this email should be stored for future use.

Accounts can also be created by completing and submitting the "Request for Security Access/Portal Account" form provided on the Allegheny County Health Department's Air Quality Program website (http://www.achd.net/air/ind.html).

Be sure the certifying official (submitter of the emissions inventory) has the security role of "Submitter" in order to be able to view, edit, and submit the emissions inventory to the Department. Other users can have the role of "Reader" (only view the inventory but not edit) or "Editor" (can view/edit data). Each facility can only have one submitter but up to five readers/editors.

Questions regarding account access or obtaining forgotten passwords can be directed to: Robert Bihl (717-772-3950, rbihl@pa.gov) .

<u>1.2 Existing Users</u>: To access AES*Online, access the DEP Greenport site (www.depgreenport.state.pa.us). Enter the username and password and click the "Log into DEPGreenPort" button. Click the "AES" button on the following screen.

The subsequent screen will provide the Trading Partner Agreement. This screen appears each time the user logs into AES*Online. Read the agreement and click the "I agree" button. The Emission Inventory Production Report screen will appear listing the facility(-ies) the user has access to. Under the Option heading, click the "Edit" link to access the facility of interest.

Section 2.0

General Facility/SubFacility Information

This section provides details for completing AES*Online General Facility and SubFacilities details.

2.1 Facility: Click "Facility Details" on the left-hand navigation pane to access general facility details such as tax ID, PF ID, county, SIC, NAICS, contacts, and site location. If any of this information has changed, please add a note to AES*Online explaining the change(s) and update AES Online with all new information. Notes can be added to AES*Online by clicking the "New Note" link in the upper right-hand corner, entering the appropriate information, and clicking the "OK" button.

The work done in AES*Online is not saved until the user saves the work. Be sure to save after each update.

2.2 SubFacility/SCCs: The SCC Codes (SCCs) are building blocks upon which the national depository of point source emissions data is structured. Each SCC represents a unique process or function within a source category logically associated with a group of air pollution emissions.

Any operation causing air pollution can be represented by one or more of these SCCs. SCC is a critical data element since, without an appropriate SCC, a process cannot be properly identified for data entry or data retrieval purposes, nor can emissions be properly calculated when using the associated emission factors.

It is advisable for your facility to compare its AES*Online SCCs with the EPA's WebFIRE database (http://cfpub.epa.gov/webfire/) to identify SCC differences. It is the facility's responsibility to contact the Department to request such changes at least 10 business days before the deadline for submittal of the annual report.

To access the subfacility and SCC status for a facility, click "Sub Facility/SCC Status" on the left-hand navigation pane to access the SCC Status Change Request screen. If any SCC status is incorrect, click the change box for each subfacility SCC status to be changed. These changes will not take effect until the following day. The system requires 24 hours to refresh.

Notes can also be added by the user as needed. To add a note, click the "New Note" link in the upper right-hand corner of the screen. Enter the appropriate information in the pop-up window, and click the "OK" button.

Section 3.0

SubFacility Fuel

This section provides details for entering fuel tests.

3.1 Accessing the Fuel Test: Click "Sub Facilities" in the left-hand navigation pane. Click the subfacility of interest. In the Sub Facility Details screen, click the SCC of interest in the "SCCs Used" column. The following screen will be the SCC summary where the fuel test(s) can be added and entered. Fuel test information can be obtained from the supplier.

3.2 Date Collected: Enter the fuel test date.

3.3 Percent Ash: Enter the ash content associated with the fuel test date in step 3.2. **Reporting of ash content for coal and fuel oil is mandatory.** It is not necessary to provide this information for Natural Gas and Propane because the ash content of these fuels is negligible.

3.4 Percent Sulfur: Enter the sulfur content associated the fuel test date in step 3.2. **Reporting of sulfur content for coal and fuel oil is mandatory.** It is not necessary to provide this information for Natural Gas and Propane because the sulfur content of these fuels is negligible.

3.5 BTU (lb/gal/cu ft): Enter the heat content associated with the fuel test date in step 3.2. Click the "Save" button.

3.6 Additional fuel tests: Repeat steps 3.1 to 3.5 for each additional fuel test. **Again, it is mandatory to include the sulfur and ash contents for coal and fuel oil.** Be sure to save all work as needed.

Section 4.0

SubFacility Operating Schedule

This section provides details for entering operating schedules.

4.1 Accessing the Operating Schedule: Click "Sub Facilities" in the left-hand navigation pane. Click the subfacility of interest. In the Sub Facility Details screen, click the SCC of interest in the "SCCs Used" column. The following screen will be the SCC summary where the operating schedules can be added and entered.

4.2 Date Effective: Enter the subfacility start date for the reporting period.

4.3 Date End: Enter the subfacility end date for the reporting period.

4.4 Total Days: Enter the total days the subfacility operated during the reporting period.

4.5 Total Hours: Enter the total hours (not hours per week) the subfacility operated during the reporting period.

4.6 Days Per Week: Enter the days per week the subfacility operated during the reporting period. If not known, leave blank and AES*Online will calculate.

4.7 Throughput Units: Select the appropriate units from the drop-down menu using the [button image] button. If emissions factors are used to estimate emissions, the units for the above data elements must be consistent with the emission factor units.

4.8 Monthly Throughputs: Enter the monthly throughputs for the reporting period in the fields. If monthly throughputs are unknown, divide the annual throughput by 12, and enter this value in each monthly field. Remember to save all work.

4.9 Additional SubFacilities, SCCs, and/or Operating Schedules: Repeat steps 4.1 to 4.8 as needed.

Section 5.0

SubFacility Emissions

This section provides details for entering emissions. A separate entry for each criteria pollutant and each HAP is necessary whether the HAP is a VOC or not. Title V sources must provide information on emissions of HAPs at the process emission level. The cut-off for reporting of HAP emissions is at the process emission level. Appendix A provides further information on hazardous air pollutant reporting

For any single pollutant, an amount equal to 0.1 ton or greater must be reported at the individual process level. However, some pollutants of special concern are to be reported as follows:

- Polychlorobiphenols (PCB)   -   0.01 TPY
- Lead (Pb)   -   0.01 TPY
- Polycyclic Organic Mater (POM)   -   0.01 TPY
- Dioxins (submit Lbs/Yr only)   -   0.02 Lbs/Yr
- Furans (submit Lbs/Yr only)   -   0.02 Lbs/Yr
- Mercury (Hg) from coal fired electric generating units (EGU)   -   0.0001 TPY
- Mercury (Hg) from Non-coal fired EGUs   -   0.0005 TPY
- Mercury (Hg) from all other subfacilities   -   0.01 TPY

5.1 Accessing the Manual Emissions: Click "Sub Facilities" in the left-hand navigation pane. Click the subfacility of interest. In the Sub Facility Details screen, click the "Manual Emissions" link under the "SCCs Used" column. The following screen will be the Manual Emissions summary where pollutants and emissions can be added and entered.

5.2 Criteria Pollutants: Emissions for each of these pollutants must be reported. See the following sections for further information.

5.2.1 NH3 Ammonia: Ammonia is a precursor for PM2.5. Emissions for this pollutant must be reported.

5.2.2 CO Carbon Monoxide: Carbon monoxide is usually the result of incomplete combustion for fuel burning equipment, such as boilers and process heaters, but can also be the result of some non-combustion processes.

5.2.3 Pb Lead: Lead is a commonly known pollutant that has emission factors associated with many SCCs.

5.2.4 NOx Nitrogen Oxides: Nitrogen oxides are usually produced by combustion. Atmospheric nitrogen and nitrogen compounds in fuels are oxidized. Some non-combustion processes may also produce nitrogen oxides.

5.2.5 PM10 Particulate Matter (< 10 microns in diameter, PM10): Report the total (collective) amount of particulate matter less than ten microns in aerodynamic diameter, other than water, emitted for each process at each point. AP-42 (and other references) may provide emissions factors for total particulates, condensables, and filterables. Be sure to use the correct emission factor. **Be sure to report only filterable particulate matter**. If facility-specific information is used (such as site testing), be sure the PM10 emission factor used is only for filterable.

5.2.5a Special Instructions for Coke Plants PM10: Report cyanide compounds, coke oven emissions and any heavy hydrocarbons (including 7-PAH as a group) separately and add these emissions to the PM10 to ensure that reported PM10 is greater than or equal to the sum of the reported PM10 HAPs. The Department will adjust the billing so emissions of these pollutants are not double counted.

5.2.6 PM2.5 Particulate Matter (< 2.5 microns in diameter, PM2.5) Report the total (collective) filterable amount of particulate matter less than 2.5 microns in aerodynamic diameter, other than water, emitted for each process at each point. If no factor is available, use the PM10 emission factor for determining PM2.5 emissions.

5.2.6a Condensable Particulate: Condensable Particulate, "PM-CON",was added as a pollutant to AES Online in 2012. Please use this pollutant code to report condensable particulate emissions**. It is required**. To maintain consistency with Pennsylvania DEP policy, the Department requires all sources to report PM-CON for all processes with the potential to generate it. Starting in 2013 PM-CON emissions became billable. All major sources must pay emissions fees on all emissions of PM-CON.

5.2.7 SOx Sulfur Oxides: Sulfur dioxide is a commonly known pollutant that has emission factors associated with many SCCs. Some SOx emission factors are dependent on the sulfur content of the fuel so be sure sulfur content entered in AES*Online fuel test(s) is correct.

5.2.8 VOC Total Volatile Organic Compound: An organic compound that participates in atmospheric photochemical reactions; that is, an organic compound other than those which the Administrator of the EPA designates as having negligible photochemical reactivity.

5.3 Non-Criteria Pollutants: Other hazardous pollutants should be included with the submission. Hexane is such a pollutant. **Hexane is a product of natural gas combustion and is to be reported for all sources that burn natural gas.** Appendix A provides additional information and recommendations regarding how to report hazardous air pollutants. A list of hazardous air pollutants can be found at the link below:

http://www.achd.net/airqual/pubs/pdf/Art21_polctrl2010.pdf

If a pollutant is not shown on the Manual Emissions screen, it can be added using the drop-down menu at the bottom of the screen. Remember to add additional pollutants as needed to ensure all pollutants are reported in the current inventory that were reported in previous years as well as any pollutants that may be emitted for the first time due to new processes or raw material changes.

Please note many scc's are associated in AP-42 and Webfire with emission factors for elements and compounds that are of an order of magnitude which will result in emissions below the reporting thresholds of AESOnline. These chemicals will appear on the list of pollutants on the process emissions screen in AES Online. They can be ignored.

5.4 Greenhouse Gases and Miscellaneous Alkanes:

 Do **NOT** report miscellaneous alkanes such as ethane, propane and butane except for hexane. Hexane must be reported since it is a product of natural gas combustion and a HAP. Greenhouse gases are reported to conform to PA DEP policy.

5.5 Emission Factors: Emission factors for some pollutants may be available in AES*Online. These factors should be used with caution as they are "standard" for SCCs. Facilities may have different emission factors depending on such items as stack testing, manufacturer specifications, etc. Others may be found in AP-42 or databases such as WebFIRE. WebFIRE and AP-42 can be found at the EPA Emission Factor Inventory site. The links are below:

https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emission-factors#5thed

https://cfpub.epa.gov/webfire/

To access the list of AES*Online emission factors for the subfacility of interest, click the "View Factors" link in the upper right-hand corner of the screen. This list can also be accessed by clicking the "View Factors" link in the left-hand navigation pane under the subfacility. Please be advised some DEP factors may be out of date Webfire and AP-42 should be checked to insure the DEP factor available in AES online is still current.

All tank emissions are to be calculated using the EPA TANKS Program Version 4.09d (except emissions from the emptying of internal/external floating roof tanks below roof supports). The EPA TANKS Program can be downloaded from: http://www.epa.gov/ttn/chief/software/tanks/index.html. Calculation of emissions from the emptying of internal/external floating roof tanks below roof supports is provided in Appendix B. **Both VOC and HAP emissions from tanks are entered into AES*Online. Tank emissions should be reported by attaching a zip file to the AES submittal containing both Tanks 4.09d mdb files, the same way spreadsheet files are attached.**

PDF printouts from tank reports are acceptable since EPA no longer supports Tanks and users may encounter multiple issues trying to satisfy this requirement.. The Tanks Program MDB files are to be submitted in a zip file.

5.6 Calculation Method: Select the appropriate calculation method for each pollutant using the drop-down menu associated with that pollutant. If the "See Comment" method is selected, the user must add a comment to AES*Online explaining the basis for calculating emissions. Comments can be added by clicking the "New Note" link in the upper right-hand corner, entering the information in the pop-up window, and clicking "OK".

5.7 Emission Amount: Enter the emissions in **tons per year** for each pollutant in its respective field under the Emission Amount column. Repeat this step for each pollutant.

If the user prefers to have AES*Online calculate the emissions for a hazardous air pollutant, select the Calculation Method "Dep Factor Used by Dep" and click the "Use Factor" box under the "Use Factor" column. If using this method, the user should check if AP-42 or WebFIRE has updated emission factors for the DEP emission factors used. AES*Online emission factors may not be the most current version available.

5.8 Support Documentation: Complete documentation must accompany each emission estimate. **If stack test results are used, an emission factor must be calculated from the stack test results in pounds per unit of throughput. The emission factor must be provided in the supporting calculations with the date of the stack test.** If a stack test report giving the emission factors to be used in the inventory along with sample calculations has been submitted to the Department, it is sufficient to reference the date of the test, the unit(s) tested, and the date of submittal of the test report. If additional calculations are required to modify, convert, or otherwise manipulate the stack test results, these should be provided in spreadsheet format. **If a test report has not previously been provided to the Department's Air Quality Program, such as for a diagnostic test, the following should be attached to the emission inventory:**

      1) A full test report (in .pdf format);

      2) Summary calculations in live spreadsheet format (Excel); and

      3) Documentation showing the representativeness of test data to actual operation during the inventory year.

Acceptance of stack test data is at the discretion of the Department.

A stack test or measurement must be performed according to a method acceptable to EPA. If a material balance is used, you must show the calculations in an active excel spreadsheet. PDF's are not acceptable. See Appendix C for illustration. In addition, documentation for wind erosion emissions must be provided, even if the facility is using the methodology presented in AP-42 Ch. 13.2.5.

ZIP files containing both Tank 4.09d mdb files should be attached to the submittal if storage tank emissions are calculated using TANKS.If additional calculations were used to calculate tank emissions from emptying below roof supports, those spreadsheet files must be included as well. **Spreadsheet files must be active not converted to pdf.**

All supporting documentation can be attached to the AES*Online submission using the Document Attachment feature of AES*Online. To attach documents, click the "Document Attachments" link on the left-hand navigation pane. Complete the fields in the new window and click "Attach File". Repeat for each additional file.

All documentation must be submitted electronically. Hardcopy submissions will not be accepted.

5.9 Tank Emissions: All tank emissions are to be reported using the EPA Tanks Program Version 4.09d. The emissions are to be attached to an AES Online submittal by attaching a zip file to the submittal containing both the client and tank mdb files from the EPA tanks program. Prinouts from the tanks program in pdf format are not acceptable.

Section 6.0

Miscellaneous Emissions or Breakdown Emissions

This section provides information on entering miscellaneous emissions.

6.1 Accessing Miscellaneous Emissions: Click "Misc. Emissions" in the left-hand navigation pane.

6.2 Entering Emissions: In the Miscellaneous Emissions details screen, complete the fields for each pollutant available. Be sure to save the changes. If additional pollutants and/or miscellaneous emission entries need to be added, use the "Add a New Record" feature for each additional item.

6.3 Types of Miscellaneous Emissions: Users should check that the AES*Online subfacilities account for sources in the previous emissions inventory submittal, previous summary template, and/or air permit(s). If the user finds subfacilities not accounted for in AES*Online, he/she should inform the Department to add/activate those subfacilities. Types of subfacilities can include unpaved/paved road fugitives and tank emissions.

Emissions from underground tanks used to store fuel oil need not be reported in AES Online starting with the 2016 Emission Inventory Report.. Further emissions from vertical fixed roof storage tanks used to store fuel oil with a capacity of less than 15,000 gallons do not need to report emissions from these tanks in AES Online starting with the 2016 inventory.

If any subfacilities shown in AES*Online are not in operation, it is the user's responsibility to inform the Department that the subfacility is not in operation and what date the source became inoperable. The Department will then have the option of deactivating the subfacility or contacting the user for further information.

If the Department changes subfacilities, AES*Online will show such changes the following day after the system's 24-hour refresh.

6.4 Support Documentation: **Supporting calculations in a live Excel spreadsheet are required for all subfacilities.** Be sure to include support calculations for miscellaneous emissions in a live Excel spreadsheet as was previously mentioned for other subfacilities in step 5.7.   Revised spreadsheets and other pertinent files are required to be submitted with revised AES Online submittals. See step 5.7 for information on support documentation and Section 10.0 for information on revisions. Also check that calculations reflect current versions of guidances and software programs being used. For example, AP-42 Ch. 13.2.1 guidance for calculating paved road fugitive emissions was updated in January, 2011.

Section 7.0

Pollutant Summary

This section provides details on entering Pollutant Summary emissions.

7.1 Accessing Site Pollutant Summary: Click "Pollutant Summary" in the left-hand navigation pane.

7.2 Entering Emissions: Enter the emissions for each pollutant in the Facility Estimate fields. Be sure the facility estimate for each pollutant matches each pollutant sum (sub fac. total and misc. emissions). If emissions within AES*Online are changed, pollutant sums in the Pollutant Summary may change. In such cases, check that the facility estimate for each pollutant sum matches each revised pollutant sum and change the facility estimates if needed.

Section 8.0

Fuel Usage Summary

This section provides details on completing the Fuel Usage Summary.

8.1 Accessing Fuel Usage Summary: Click "Fuel Usage Summary" in the left-hand navigation pane.

8.2 Entering Fuel Usages: For each fuel listed, enter the usage and select the appropriate units of measure from the drop-down menu. To add new fuel usages, use the "Add New Fuel" feature at the bottom of the screen.

8.3 Manual Check: Click "SCC Fuel Usage" in the upper right-hand corner to access the usage summary screen. Check that the total usage for each fuel matches the manual usage totals entered by the user. If there are differences, revise the manual fuel usages so they match.

Section 9.0

Submission

This section provides details on submitting the emissions inventory. All submissions must be received electronically. Be sure all changes are saved prior to submitting the emissions inventory.

9.1 Submitting the Inventory: From the facility's emission inventory home page, click "Start Submission" on the left-hand navigation pane to being the submission process. Follow the subsequent steps to submit the inventory. Once the inventory is submitted, a notification window will appear informing the user the inventory has been submitted. **If the submitter does not have the role as the certifying official, the status of the submittal will be complete, and the certifying official will still need to submit the inventory. Once the certifying official submits the inventory, AES*Online will show the report status as submitted.**

9.2 Completion Checklist: During the submission process, a completion checklist window will appear. If the checklist is complete and the user has the AES*Online account authorization of "Submitter", a "Continue" button will appear at the bottom of the checklist. If the user only has "Reader" or "Editor" status, he/she will not see the "Continue" button.

The submitter clicks the "Continue" button to proceed with the submission. If the "Continue" button is not shown at the bottom of the checklist, review the checklist for incomplete items. Incomplete items will not have a green checkmark to the left of them. Once these items are addressed, restart the submission process. If all items have been addressed, the checklist should be completed, and the user should then have access to the "Continue" button.

A completion checklist is also provided in Appendix D to help the user check if items are addressed prior to submission. The checklist in Appendix D is not the same as the completion checklist AES*Online shows during the submission; however it does provide several important items to review before submitting.

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Section 10.0

Revision(s) and Resubmission(s)

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This section provides information on revising and resubmitting the emissions inventory. The revised inventory must be resubmitted within fifteen (15) business days of receiving the AES*Online e-mail indicating a submittal has been rejected. In cases where a facility does not resubmit within the 15 business days alotted for revisions, the inventory may be considered incomplete and regulatory action, such as penalties, may be enforced.

Be sure all changes are saved prior to submitting the revised emissions inventory.

10.1 What is a Revision: The Department may return the inventory to the submitter for revision for reasons such as inaccurate operating schedules, lack of support documentation, incorrect emissions, incorrect emission factors, and not including emissions from all subfacilities and miscellaneous emissions. If the inventory is returned for revision, an email will be sent to those with AES*Online accounts for the facility notifying them the inventory has been returned for revision.

10.2 Accessing the Revision: See step 1.2 for accessing the revision.

10.3 Addressing Revision Items: All items flagged by the Department for revision have the following icon: . Placing the cursor over this icon will allow the user to see if the Department has any comments regarding why a particular item was flagged. If the user changes a revision item, the icon will be changed to indicating the item in question was changed. If the user does not change a revision item, the user must click on the icon to change it to . This icon acknowledges the item was reviewed and the user read the Deparment's comment.

To address the revisions, the user must change all icons to or . In addition, any new notes added by the Department must be read before the user can resubmit the revision. To read any new notes, click on the "Notes" link in the left-hand navigation pane, and then click all notes in bold type to read the comments.

As mentioned in previous sections, be sure to check that the following items have been addressed prior to submitting revisions:

- Pollutant Summary – Be sure the facility estimate for each pollutant matches each pollutant sum (sub fac. total and misc. emissions). If the facility estimates do not, revise them to match their respective sums;

- Fuel Usage Summary – Check that the total usage for each fuel matches the manual usage totals entered by the user. If there are differences, revise the manual fuel usages so they match; and

- ACHD Completion Checklist (Appendix D) items have been addressed.

10.4 Submitting the Revision: As was done for previous submission(s), the <u>certifying official</u> will have to repeat the AES*Online submittal process for the Department to receive the revision(s). See Section 9.0 for further information.

10.5 Multiple Revisions: The Department can return the inventory for revision several times. To resubmit, follow steps 10.1 to 10.4 for each resubmission. The user must resubmit each time the emissions inventory has been returned for revision in accordance with Department requirements. Again, the revised inventory must be resubmitted within fifteen (15) business days of receiving the AES*Online e-mail indicating a submittal has been rejected. In cases where a facility does not cooperate with the Department until the submission is accepted, the inventory may be considered incomplete and regulatory action, such as penalties, may be enforced.

<div align="center">

Section 11.0

<u>Acceptance</u>

</div>

This section provides details regarding the Department accepting emissions inventory submissions.

11.1 Notification: Once the Department accepts a submission or resubmission, AES*Online will send an email to users associated with the facility's inventory that the inventory has been accepted. The status of the emissions inventory in AES*Online will then show "Accepted".

11.2 Changes after Acceptance: Only the Department has access to make changes to accepted inventories. If a user finds an accepted emissions inventory may need to be revised, he/she will need to contact the Department. However, revisions are not made to any invnetory after 12/31 of the year in which it was submitted.

11.3 Records Maintenance: AES*Online account, emissions inventory support, and submittal information as well as any information the user may need if the Department should further question their inventory should be retained. This information will also be helpful in preparing emissions inventories for future reporting years.

APPENDIX A
HAZARDOUS AIR POLLUTANT REPORTING

Hazardous Air Pollutant Reporting Levels

The ACHD Air Quality Program uses a base of 200 pounds per year or 0.1 ton for each pollutant for each point source sub-facility as the reporting threshold for all hazardous air pollutants with the exception of those discussed below.

Any facility that emits any HAP in an amount equal to or greater than 0.1 ton at the process level must report the total emissions for each HAP. Title V and synthetic minor sources must also report the information at the process level.

To report much of the total risk from HAPs, several HAP compounds will be reported at lower rates. The following compounds will be reported down to de minimis levels on a process basis:

- Chromium Compounds
- Mercury Compounds
- Polycyclic Organic Matter Compounds.

For these compounds, manual methods will be used to report lesser values:

- Dioxin Compounds
- Furan Compounds

ACHD recommends all sources review their MSDS's to determine if any of these compounds are at their facilities. Review AP-42 to determine if any of your processes generate them. AP-42 and Factor Information Retrieval System (FIRE) do list factors for these compounds for many processes. Be sure you use the latest version of WebFIRE. WebFIRE as well as AP-42 can be found at the EPA Emission Factor Inventory site (http://www.epa.gov/ttn/chief/efpac/index.html).

https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emission-factors#5thed

https://cfpub.epa.gov/webfire/

EPA Reporting Recommendations/Strategies in Order of Preference

For pollutant groups, only one reporting strategy per HAP group per source should be used. Use of more than one reporting strategy can result in the same emission being counted twice. An example would be reporting both individual chromium compounds and total chromium for the same source.

Metals and Cyanide Groups

1. Separate emissions of metals from those of metal compounds.

   Example: Arsenic - CAS# - amount emitted

   Lead Arsenate - CAS# - amount emitted

2. All individual compounds should be reported as mass of the total compounds not just the metal within the compound.

3. Report two forms of the toxic material of widely - varying toxicity. This alternative method is especially applicable to chromium, lead, mercury and nickel.

4. Report only the mass emissions of the metal not the entire metal compound

   Example: Trivalent Chromium- CAS# 16065831

   Hexavalent Chromium- CAS# 18540299

5. Separate lead compounds into organic and inorganic species.

6. Separate mercury compounds into organic (CAS# 22967926) and inorganic (CAS# 7439976)

7. Separate nickel compounds into nickel subsulfide (CAS# 12035722) and other nickel (CAS#7440020)

8. For all other metal and cyanide groups, report total emissions in terms of the mass of the metal or cyanide alone under the CAS# of the metal or cyanide.

Polycyclic Organic Matter Compounds

1. Identify and report as many individual POM compounds with associated CAS numbers as possible. It is especially important to differentiate the seven PAH compounds from POM. The seven PAH compounds are: benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a, h)anthracene, and indeno(1,2,3-cd)pyrene. The POM compounds (in addition to 7-PAH) for which ACHD has cancer assessments are: carbazole, dibenz[a,h]acridine, dibenz[af]acridine, 7H-dibenzo[cg]carbazole, dibenzo[a,e]pyrene, dibenzo[a,f]pyrene, 7,12-dimethylbenz[a]anthracene, 1,6-dinitropyrene, 1,8-dinitropyrene, 3-methylcholanthrene, 5-methylchrysene, 5-nitroacenaphthene, 6-nitrochrysene, 2-nitrofluorene, 2-nitrofluorene, I–nitropyrene, and 4-nitropyrene. The 7-PAH compounds should be reported individually if at all possible as well as the POM compounds for which cancer assessments are available. Clearly identify what is being inventoried as POM.

2. If individual PAH's cannot be reported, then report 7-PAH as a subgroup.

3. Naphthalene is a HAP and should be reported individually rather than being reported in total POM. However, if it is a component of total POM and a source reports total POM, then naphthalene from the source of total POM does not need to be reported individually.

4. If it is not possible to report emissions of 7-PAH, then report emissions as total POM.

Dioxins/Furans

1. Report mass emissions and the associated CAS#'s of all individual congeners of chlorinated dibenzodioxins (CDDs) and chlorinated dibenzofurans (CDFs).

2. If it is not possible to identify individual congeners, then report dioxins and furans as 2,3,7,8-Tetrachlorodibenzodioxin (TCDD) toxic equivalents (TEQ) under the HAP name "dioxins/furans as TEQ". **Do not report dioxins/furans with POM emissions.**

3. Report emissions as total dioxins or total furans where it is not possible to report individual congeners.

Xylenes and Cresols

1. Report emissions for individual xylene and cresol isomers with their associated CAS #'s if speciated.

2. If you cannot report individual emissions of isomers of xylene and cresol, then report total emissions of xylenes under CAS# 1330207 or the CAS# for cresols/cresylic acid**.**

Glycol Ethers

1. Report emissions for individual glycol ethers with their associated CAS#'s. Use the Toxic Release Inventory (TRI) guidance on glycol ethers to identify compounds that are actually glycol ethers. **This document also contains a table listing industrial products containing glycol ethers used by a variety of industries.** This guidance is available at the following URL:

2. http://www.epa.gov/tri/guide_docs/pdf/2000/glycol2000.pdf

3. It is acceptable, where impossible to report individual glycol ethers, to report total emissions of glycol ethers as a group under "glycol ethers".

APPENDIX B

CALCULATION OF TANK EMISSIONS BELOW ROOF SUPPORTS

Calculation of emissions from the emptying of internal/external floating roof tanks below roof supports is explained in this appendix. For more detail, please refer to Chapter 7 of AP-42.

Please note these emissions cannot be calculated using the EPA Tanks Program. They must be calculated, using the equations provided, in spreadsheets. Emission calculated from the emptying of internal/external floating roof tanks must be added to the breathing/working emissions calculated by the EPA Tanks Program and the total reported in AES Online.

The total loss from floating roof tanks during a roof landing is the sum of the standing idle losses and the filling losses.

$$L_{TL} = L_{SL} + L_{FL}$$

L_{TL}=total losses during roof landing, pounds per landing episode.

L_{SL}= standing idle losses during a roof landing, pounds per landing episode.

L_{FL}= filling losses during roof landing, pounds per landing episode.

Internal Floating Roof Tank with Liquid Heel:

Standing Idle Loss Equation:

$$L_{SL\,max} = \left(\frac{\pi}{4}\right) D^2 \ h_{le} \ W_l \ (7.48)$$

$$L_{SL\,max} = 5.9 \ D^2 \ h_{le} \ W_l$$

$$
\begin{aligned}
L_{SLmax} &= \text{limit on standing idle loss, lb per landing episode} \\
7.48 &= \text{volume conversion factor, gal/ft}^3 \\
D &= \text{diameter of the tank, feet} \\
h_{le} &= \text{effective height of the stock liquid, feet} \\
W_l &= \text{density of the liquid inside the tank, lb/gal}
\end{aligned}
$$

Filling Loss Equation:

$$L_{FL} = \left(\frac{P V_V}{R T}\right) M_V \; S$$

L_{FL} = filling loss during roof landing, lb
P = true vapor pressure of the liquid within the tank, psia
V_V = volume of the vapor space, ft³
R = ideal gas constant, 10.731 psia-ft³/(lb-mole-°R)
T = average temperature of the vapor and liquid below the floating roof, °R
M_V = stock vapor molecular weight, lb/lb-mole
S = filling saturation factor, dimension less (0.60 for a full liquid heel; 0.50 for a partial liquid heel).

External Floating Roof Tanks:

Standing Idle Loss Equation:

$$L_{SL} = 0.57 \, n_d \; D \; P^* \; M_V$$

$$L_{SL} \leq 5.9 \, D^2 \; h_{le} \; W_l$$

Filling Loss Equation:

$$L_{FL} = \left(\frac{P V_V}{R T}\right) M_V \left(C_{sf} \; S\right)$$

| Filling Saturation Factor (S) | S = 0.60 for a full liquid heel | **(for both types of tanks)** |
| | S = 0.50 for a partial liquid heel | |

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APPENDIX C
MATERIAL BALANCE EXPLANATION

If source test data is not available, the facility can, in some cases, use the material balance method to estimate emissions. For some sources, material balance is the only practical method to estimate VOC emissions accurately. VOC emissions from solvent evaporation sources are commonly determined by use of material balance.

The use of material balance involves the examination of a process to determine if emissions can be estimated solely based on knowledge of specific operating parameters and material composition. In estimating the VOC emissions, a material balance is generally used for solvent evaporation sources. The simplest method of material balance is to assume that all the solvent consumed by a source's process(es) will evaporate during the process(es). It is a reasonable assumption in a coating operation that all solvents in the coating evaporate to the atmosphere as part of the process.

For processes that employ a non-destructive control device such as a condenser or absorber, the solvent captured by the control device must be taken into account in the material balance. If the captured solvent is returned to the process, then the total amount of solvent entering the process equals the amount of captured solvent plus the amount of new solvent added to the process. The amount of new solvent added to the process is called "make-up-solvent" because it is added to replace the amount of solvent that evaporates during the process (assuming all solvent loss is due to evaporation). The emissions from this type of process are equal to the amount of make-up solvent added to the process, not the total amount of solvent entering the process as defined above. In addition to the use of condensers and absorbers, waste solvent reclamation by distillation is another example of a technique for which this type of material balance may apply.

In the above discussions, the material balance is simplified because the assumption is that all of the solvent used evaporated and is emitted to the atmosphere. Situations exist where this assumption is not always reasonable. For example, if a destructive control device such as an afterburner, incinerator, or catalytic oxidation unit is employed on a process exhaust, any VOC emissions will be either destroyed or so altered that one could not reasonably assume, without testing the exhaust stream of the device, the characteristics and quantities of any remaining VOC material. The capture efficiency of the exhaust system for the control device is an important consideration. In addition, degreasing emissions will not equal solvent consumption if the waste solvent is sent to a commercial re-processor. In such cases, emissions will be the difference between solvent consumed and solvent in the waste sent to the re-processor.

Material balance cannot be employed in some evaporation processes because the amount of material lost is too small to be determined accurately by conventional procedures. An example of this would be applying material balance to petroleum storage tanks, because breathing loss and working loss are too small relative to capacity and throughput. In this case, the use of the EPA Tanks Program is preferred.

Example # 1: Material Balance Estimation of VOC Emissions and Overall Control Efficiency Process Data:

450 tons solvent per year (toluene or other non-halogenated solvent) used.

90% Capture efficiency of process solvent emissions. This is the percent of solvent captured by the collection system and sent to the control device.

95% Primary control device removal efficiency

1. Solvent Captured = 450 tons per year x 0.9 = 405 tons captured (45 tons are fugitives)

2. Solvent Removed by Control Device = 405 x 0.95 = 384.75 tons solvent

3. Fugitives (Solvent not Captured) = 450 - 405 = 45 tons per year

4. Stack Emissions = 405 - 384.75 = 20.25 tons per year

5. Total Estimated = 20.25 + 45 tons = 65.25 tons toluene emission

6. Second way to calculate: Total Estimated = 450[1- (0.9x0.95)] = 65.25 tons toluene emissions

7. Overall Control Efficiency =(0.9)x(0.95) =0.855

Example # 2: Calculation for Overall Control Efficiency for VOC's

- Sources with fugitive emissions (for example, VOC emissions from a partially enclosed printing operation equipped with a catalytic incinerator and an afterburner):

  1. Capture Efficiency (enclosure) = 90%

  2. Primary Control Device Efficiency (incinerator) = 95%

  3. Secondary Control Device Efficiency (afterburner) = 50%

  4. Overall Control Efficiency including capture efficiency, primary control device, and secondary control device:

  $$0.90 \text{ x } (1-[(1-0.95)\text{x}(1-0.50)])$$

  $$= (0.90) \text{ x } (1-[(0.05) \text{ x } (0.50)])$$

  $$= (0.90)\text{x}[1-(0.025)]$$

  $$= (0.90) \text{ x } (0.975) = 0.8775 \text{ or } 87.75\% \text{ overall Control Efficiency}$$

  Note in this case, 10% of the total emissions were released to the atmosphere without controls. Both controlled and uncontrolled emissions are reported.

- Sources with no fugitive emissions (for example, particulate emissions form a sewage sludge incinerator equipped with an electrostatic precipitator (ESP) and wet scrubber):

1. Primary Control (ESP) = 95%

2. Secondary Control Device (scrubber) = 50%

3. Overall Control Efficiency including primary and secondary control devices:

$$1- [(1-.95) \text{ x } (1-.50)] = 0.975 \text{ or } 97.5\% \text{ Overall Control Efficiency}$$

APPENDIX D

ACHD COMPLETION CHECKLIST

Were all items in these instructions reviewed?	Yes / No
All active subfacilities from previous permits, inventory submissions, and calculations template are included in current AES*Online inventory.	Yes / No
Fuel Test: Is date collected, percent ash (if needed), percent sulfur (if needed), and BTU content completed for all fuel tests?	Yes / No
Operating Schedule: Is this complete and accurate for all subfacilities? Are throughput units correct for each subfacility? It is best to use the same units as those associated with the selected SCC.	Yes / No
Manual Emission Amounts: Are all criteria pollutants (including ammonia) and non-criteria hazardous air pollutants (including hexane) reported for each subfacility?	Yes / No
PM10 and PM2.5: Both reported for all subfacilities. Only filterable PM10 and PM2.5 is reported.	Yes / No
PmCon : Reportable for all sub-facilities	Yes / No
Calculation Method: Correct for each pollutant in each subfacility.	Yes / No
Emission Factors: Are all emission factors correct? Is appropriate reference documentation attached (such as stack testing results)?	Yes / No
Tank Emissions: Was TANKS 4.09d used to calculate storage tank emissions? If applicable, was Appendix B calculation information used to calculate tank emissions from emptying floating roof tanks below roof supports? Is support documentation attached?	Yes / No
Miscellaneous Emissions or Breakdown Emissions reported as Miscellaneous Emissions.: All fields complete and accurate.	Yes / No
Supporting Documentation: Live Excel spreadsheets, TANKS results mdb files or pdf in attached zip files, and other information used for calculations included in AES*Online submission.	Yes / No
EACH pollutant in **Pollutant Summary:** facility estimate = sub. fac. estimate + misc. emissions	Yes / No
Fuel Usage Summary: Manual entries for each fuel match SCC Fuel Usage	Yes / No
Have all notes been read? All corrective actions addressed?	Yes / No
Is your emissions inventory submission completely documented with attachments, notes, spreadsheets, and 4.09d tank reports.	Yes / No