

N.J.A.C. 7:27-21

Emission Statements

Program Update

March 6, 2007

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Topics

- Overview of the Emission Statement Program
- Summary of the 2005 Data
- 2006 Season Expectations
- Q & A

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What is an Emission Statement

- Annual report required for facilities with Potential-To-Emit (PTE) that meet the reporting threshold under N.J.A.C. 7:27-21 (revised in 2003).
- Air contaminants required include CO, NO_x, VOC, Pb, SO₂, PM₁₀, PM_{2.5}, TSP, ammonia, greenhouse gases (CO₂ and methane), and 36 toxic air pollutants (TAP's) as listed in the Rule.
- Data is submitted using the RADIUS software.

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Air Contaminant Applicability Thresholds

- Emission Statement reporting applies if a facility has a Potential To Emit (PTE) of:
 - 5 tons or greater Pb
 - 10 tons or greater VOC
 - 25 tons or greater NO_x
 - 100 tons or greater of CO, SO₂, PM₁₀, PM_{2.5}, TSP, or ammonia

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36 Toxic Air Pollutants

- | | |
|---------------------------|---|
| • Acetaldehyde | • Formaldehyde |
| • Acrolein | • Hexachlorobenzene |
| • Acrylonitrile | • Hydrazine |
| • Arsenic and compounds | • Hydrochloric acid |
| • Benzene | • Manganese and compounds |
| • Beryllium and compounds | • Mercury and compounds |
| • 1,3-Butadiene | • Methylene chloride |
| • Cadmium and compounds | • Nickel and compounds |
| • Carbon tetrachloride | • Polychlorinated biphenyls (PCBs) |
| • Chloroform | • Polycyclic organic matter |
| • Chromium and compounds | • Propylene dichloride |
| • 1,3-Dichloropropene | • Quinoline |
| • 1,4-Dioxane | • 1,1,2,2-Tetrachloroethane |
| • Dioxins | • Tetrachloroethylene |
| • Ethylene dibromide | • 1,1,1-Trichloroethane (Methyl chloroform) |
| • Ethylene dichloride | • 1,1,2-Trichloroethane |
| • Ethylenimine | • Trichloroethylene |
| • Ethylene oxide | • Vinyl chloride |

The reporting thresholds for these chemicals are in N.J.A.C. 7:27-8, Appendix 1, Table B.

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Potential To Emit

- The maximum aggregate capacity of a source operation or of a facility to emit an air contaminant under its physical or operation design
- Permit conditions can limit the design or maximum capacity if the limitation is "federally enforceable"
- Permitted Sources have a PTE equal to their permit allowable emissions and unpermitted (grandfathered, insignificant, fugitive, etc.) sources are assumed to operate at their maximum capacity for 8,760 hours per year

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What is Defined as a VOC?

- A Volatile Organic Compound (VOC) is defined (in 40CFR 51.100(s)(1)) as all organic compounds “which participate in atmospheric photochemical reactions or which are measured by a reference method (40 CFR, Part 60.2).”
- Excluded are a list of compounds that do not participate in photochemical reactions.

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List of Excluded VOC

- Methane (required to be reported in Emission Statement as greenhouse gas),
- Ethane,
- Acetone,
- Methyl Acetate,
- Methylene Chloride,
- Methyl Chloroform,
- Perchloroethylene, and
- Many other compounds including CFC’s and HCFC’s (See the list in 40 CFR 51.100 (s)(1)).

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Which Pollutants Do I Have to Report?

- PTE for VOC is 10 tpy or above
 - CO, NOx, and VOC
 - TAPs starting with the 2005 Emission Statement
- PTE for VOC is 25 tpy or above
 - CO, NOx, VOC, SO2, Pb, PM2.5, PM10, TSP, and ammonia
 - Greenhouse gases (CO2 and methane)
 - TAPs
- PTE for any of the other pollutant(s) is at or above the Applicability Threshold
 - CO, NOx, VOC, SO2, Pb, PM2.5, PM10, TSP, and ammonia
 - Greenhouse gases (CO2 and methane)
 - TAPs

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Terminology Used

- Significant piece of Equipment (E)
- Equipment Set (ES)
- Emission Point (PT)
- Emission Point Set (PS)
- Control Device (CD)
- Control Device Set (CS)

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Terminology Used

- Emission Unit (U): A permitting method that describes one or more significant component operations. Stand-alone pieces of equipment will make up an emission unit. Pieces of equipment with physical commonalities (such as common exhaust systems) making collective data presentation easier to understand also may constitute an emission unit.
- Operating Scenario (OS): Describes a particular manufacturing operation or process. The description identifies the relationship of a piece of equipment, a control device(s) (optional), and an emission point(s). An operating scenario may describe only one piece of equipment.

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Terminology Used

- Batch Process (BP): A method of permitting that describes manufacturing operations (normally related to the chemical or pharmaceutical industries) that involve multiple components (sets) and multiple manufacturing operations (steps).
- Operating Scenario (OS): Describes a process line in a batch process. We refer to the unit operations within the process line as steps. Therefore, naming the operating scenario within a batch process and the step identifies a unit operation.
- Step (ST): An unit operation within the process line.

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Terminology Used

- Insignificant Source (IS): permit not required
- Non-Source Fugitive (FG): classic definition of “fugitive”
- Subject Item Group (GR): Grouping of emission units, batch processes, insignificant sources, non-source fugitives, and/or pieces of significant equipment
- Facility (FC)

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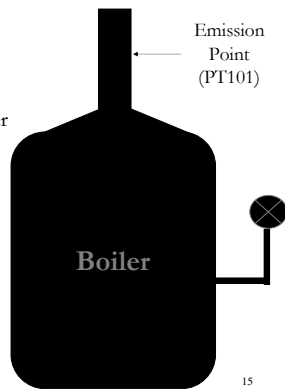
Terminology Used

- SCC: Standard Classification Code (source level)
- SIC: Standard Industrial Classification (facility level)
- NAICS: North American Industrial Classification System (facility level)
 - use 2002

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Emission Unit : U100 - Boiler
 Operating Scenario:
 OS101 - Natural Gas
 OS102 - #2 Fuel Oil
 OS103 - #6 Fuel Oil

Equipment
 E101 - Boiler

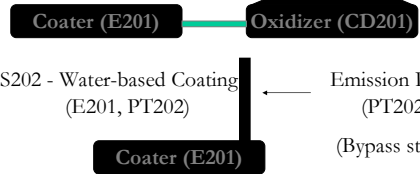


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Emission Unit : U200 - Coater
 Operating Scenarios:

OS201 - VOC Coating
 (E201, CD201, PT201)

OS202 - Water-based Coating
 (E201, PT202)



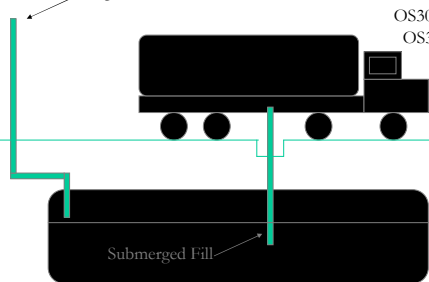
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TRUCK LOADING TO UST

Vapor Vent Line

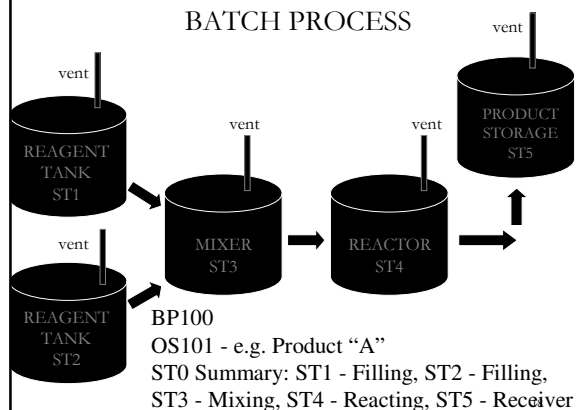
Emission Unit: U300
 E301
 OS301 = Gasoline
 OS302 = Diesel

Submerged Fill



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BATCH PROCESS



What is in an Emission Statement - Administrative Information

- Facility Profile (General)
 - Facility information
 - Contact information
- Facility Profile (Planning)
 - Facility type
 - # of employees
 - Estimates of future emissions

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What is in an Emission Statement - Inventories

- Non-Source Fugitive Emissions
- Insignificant Source Emissions
- Equipment Inventory
- Control Device Inventory
- Emission Point Inventory
- Emission Unit/Batch Process Inventory
- Subject Item Group

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What is in an Emission Statement - Emissions Information

- Emission Statement
 - General
 - Quarterly throughputs
 - Source Status
 - Process
 - Process amounts
 - Operating time
 - Emissions
 - Emission factors
 - Control operations
 - Source details

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Consistency With Numbers

- Emission Statement reporting must be consistent with permits
- How you structure your permits decides if you can report in an easier fashion
- The nature and variability of your operation decides if easier reporting can occur
- There are a few instances where the Emission Statement structure may be different from those in the permits such as a thermal oxidizer must be reported as a piece of equipment

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Control Device Efficiency

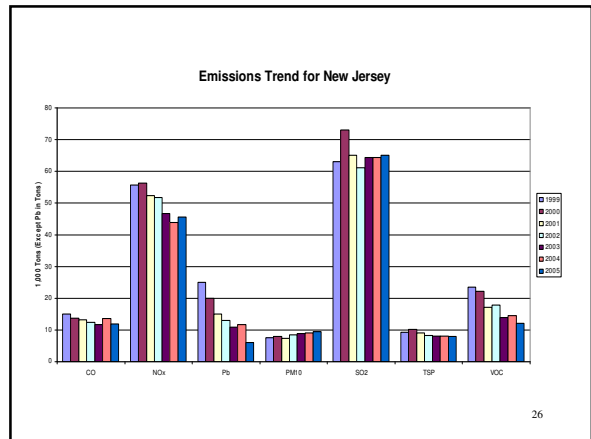
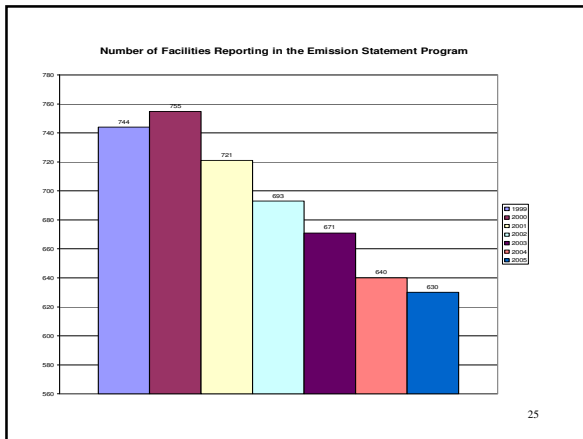
- Operating Time (OT)
- Capture Efficiency (CE)
- Removal Efficiency (RE)
- Overall Efficiency = $OT \times CE \times RE$
- Use of Design Efficiency
- Rule Effectiveness

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ES 2005

- Title V facilities had to report PM2.5, ammonia, greenhouse gases
- Everyone had to report
 - TAP's
 - NOx tons/season for 5/1-9/30
 - NAICS
- Mandatory electronic submittal via RADIUS (except for "hardship" waiver)
- 630 Emission Statements submitted (100% electronic)

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- Common Issues for Reasonableness Letter in ES 2005**
- Structure of the Emission Statement
 - Mirror permit(s)
 - Correctly link the equipment, emission point, and control device in the Emission Unit/Batch Process Inventory
 - Correctly identifying the Equipment Type
 - Create new equipment/operating scenario for control devices that burn fuel
 - Delete sources that are no longer at the facility
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- Cont.**
- Process & Emissions Screens:
 - Report fuel usage for combustion sources
 - Report amount of coating/ink/solution for coating/printing operations
 - CO2 in 1000 tons/yr and TAP's in lbs/yr
 - NOx for 5/1-9/30 in tons/season
 - PM2.5 at source level for sources of particulates
 - Ammonia at source level
 - Emission factors except for CEM and material balance
 - Source Details and Control Operations
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- Cont.**
- Things to remember about RADIUS:
 - Correctly use the check boxes on the General screen
 - Select pollutants from drop-down list
 - “Sum Facility Emissions” before creating file
 - Use the Submit function in RADIUS
 - Use Save As Different Year under the Tools drop-down menu, not under the File drop-down menu
 - RADIUS only calculates emissions for boilers and coating/printing processes
 - Autocalculate does not calculate emissions for the NOx tons/season (5/1-9/30) nor emissions for PM2.5, ammonia, CO2, methane, and TAP's
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- Cont.**
- Other Miscellaneous Issues:
 - Missing NAICS
 - Use of proper SCC
 - Use of proper AP-42 emission factors
 - Include condensable as part of PM
 - Checklist for reviewing the emission statements
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ES 2006

- Reporting requirements same as ES 2005
- Use the “Save As Different Year” function to create file for 2005
- Use latest version of RADIUS (3.02)
 - <http://www.nj.gov/dep/aqpp/radius.html>
- 2005 Addendum to the 2003 Guidance Document
- Submit function does not send file to DEP
- Original and revisions must be electronically certified or accompanied with paper certification

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Where to Start

- Start with Emission Statement from previous year
 - Include any permit modifications
- Title V Facilities that never submitted an Emission Statement using RADIUS
 - Convert the Title V permit/application in an Emission Statement
- Non-Title V Facilities that never submitted an Emission Statement using RADIUS
 - Request the Department to create a file from all permits
 - Or, merge all existing permit and convert the resulting file into an Emission Statement

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Certification of Emission Statement

- Email electronically certified Emission Statements to Emis_Statement@dep.state.nj.us.
 - When certifying with PINs, please enter all letters in CAPs
- If you used a paper certification form, you must mail the certification form with your diskette to DEP
- If you prepared your Emission Statement using paper forms, you must mail the forms to DEP

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Important Dates

- Non-Applicability requests due February 1, 2007
- Hardship waiver request for paper submittal due March 1, 2007
- Paper submittals due April 15, 2007
- RADIUS submittals due May 15, 2007
- Post-marked
- Next business day if due date falls on a weekend or holiday

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Emission Statement Web Page

- www.nj.gov/dep/baqp (Bureau of Air Quality Planning)
- Important Dates
- Guidance Document, Addendum, and other forms
- General ES Info
- Listserv Instructions
- Contact Information
- FAQ's
- Useful Links (USEPA, NAICS, etc.)

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Questions???

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