

# Clean Air Act Requirements Impacting Hospitals

U.S. Environmental Protection Agency  
Region II



# CAA Regulations Impacting Hospitals

- Title V Operating Permit/State Air Permits
- Boilers
- Asbestos
- Air conditioning and refrigeration
- Risk Management Plans
- Medical Waste Incinerators
- Other (spray paint booths, degreasers)



# Title V State Operating Permits

- Applies to major sources
  - NO<sub>x</sub> 100 TPY, VOC 50 TPY, SO<sub>2</sub> 100 TPY, CO 100 TPY, PM/PM<sub>10</sub> 100 TPY, HAPs 10/25 TPY
  - NYC Metropolitan Area and Philadelphia Metropolitan Area: Nox/VOC 25 TPY
- Five year permits
- Must address all emission points at facility
- Fees based on tons of emissions

# Title V Permits



- Compliance Issues:
  - Annual Compliance Certifications not being sent to EPA (only the State) and many are incomplete
    - certify compliance for each individual term or condition (continuous or intermittent)
    - identify monitoring method(s) and other means used
  - Failure to submit timely Title V permit applications



# Failure to Obtain Title V Permit

- \$15,000 (Doctor's Office on Staten Island)
- \$39,000 (Staten Island Hospital)
- \$46,000 (NY Presbyterian Hospital)

# Boilers

- New Source Performance Standards (NSPS) for  $\text{SO}_2$ ,  $\text{NO}_x$  and PM: 40 CFR Part 60: Subpart Db or DC
- Specific Regulations Depend on:
  - Size of Unit (MMBTU/hr)
  - Date of Construction/Modification/Reconstruction



# “Larger” Boilers - Subpart Db

- Construction, Modification, or Reconstruction After June 19, 1984
- Design Heat Input Capacity Greater than 29 MW (100 million BTU/hr)



# "Small" Boilers - Subpart Dc

- Construction, Modification, or Reconstruction after June 8, 1989
- Design Heat Input Capacity:
  - > or = 2.9 MW (10 million BTU/hr) and
  - < 29 MW (100 million BTU/hr)





# Boilers

- Emission Standards for Sulfur Dioxide ( $\text{SO}_2$ ), Nitrogen Oxides ( $\text{NO}_x$ ) and Particulate Matter (PM)
  - Type of Fuel (coal, coal refuse, oil, wood)
  - Heat Capacity of Unit
- Opacity Limit of 20% for Boilers that have a design heat input capacity greater than 30 million BTU/hr



# Boilers

- Performance Testing
- Emissions Monitoring for Nox, SO<sub>2</sub> and Opacity
- Recordkeeping and Reporting



# Boilers



- Compliance Issues:
  - Reporting Inadequacies
  - Failure to Monitor Fuel for Sulfur Content
  - Opacity Monitors Not Installed/Not Working
  - Exceed Allowable Steam Production
  - Failure to Obtain Permits for Emergency Generators



# Non-compliance with NSPS

- Puerto Rico Medical Center
  - 2 boilers; Subpart Dc; fired on No. 6 Fuel Oil
  - One boiler was a new boiler, second one was reconstructed.
  - Did not install opacity monitor; did not performance test; did not monitor sulfur content on an as fed basis.
  - Settled for \$ 175,000

# Non-Compliance with NSPS

- Maimonides Medical Center in Brooklyn
  - Installed a 50 MMBTU/HR boiler without completing a new source review analysis and failed to comply with the notification and performance testing requirements of the NSPS.
  - Settled for \$35,000 with NYSDEC

# Asbestos

- National Emission Standard for Hazardous Air Pollutant (NESHAP) 40 CFR Part 61, Subpart M
- Work Practices to Reduce Release During Demolition or Renovation
- Regulated Asbestos-Containing Material (RACM) Includes Friable and Non-Friable Forms



# Asbestos

- One must notify EPA and the State that you are removing asbestos if the area being renovated  $\geq 160$  sq. feet (260 Linear Feet or 35 Cu. Ft)
- One must notify EPA of all demolition jobs regardless if there is asbestos or not.



# Asbestos Notification Includes:

- Description of facility
- Name of facility owner
- Name of Asbestos Contractor
- Start/End Dates
- Description of how the waste is being disposed of and by whom;





# Asbestos

- You must have a licensed contractor to remove the asbestos and each person working for the contractor must have individual asbestos certifications.
- Must keep documentation that all asbestos waste has been properly disposed of



# Asbestos



- Compliance Issues:
  - Inventory
  - Work Practices / Management Issues
  - Notification / Reporting
  - Documentation / Recordkeeping
  - Training



# Air Conditioning and Refrigeration

- Regulations found at 40 CFR Part 82 Subpart B for motor vehicle air conditioners and 40 CFR Part 82 Subpart F for other air conditioning and refrigeration equipment.
- Minimize releases of refrigerants into the environment during the servicing and disposal of air conditioning and refrigeration equipment
- No requirement to phase-out the use of ozone-depleting refrigerants only their production/importation.



# Air Conditioning and Refrigeration

- Technician Certification
- Certified Recovery/Recycling Equipment
- Sales Restrictions
- Recordkeeping

# Air Conditioning and Refrigeration

- Leak Repair is only required for equipment with more than 50 lbs of refrigerant and the following annual leak rates are exceeded:
  - 35% for commercial (cold storage) or industrial process refrigeration
  - 15% for other appliances (air conditioners, refrigerators, chillers, or freezers)



# Ozone-Depleting Substances

- Leak Repairs --must be completed within 30 days to ensure leak rate is below the above criteria, unless plan to retrofit/retire the piece of equipment.
- Retrofit or Retirement Plans
  - Must be filed within 30 days, and sources have up to 1 year to replace/retrofit unit
  - keep dated copy of plan on-site



# Air Conditioning and Refrigeration



- Compliance Issues:
  - Proper Recovery/Recycling Equipment and Personnel
  - Equipment with more than 50 lbs of refrigerant



# Risk Management Plan Goals

- “.....is to prevent accidental releases of substances that can cause serious harm to the public and the environment from short-term exposures and to mitigate the severity of releases that do occur.”



# Risk Management Plans

- Section 112(r) Reinforces EPCRA Provisions; Regulations at 40 CFR Part 68 Subpart G.
- Affected Facilities Submit Risk Management Plan by June 21, 1999
- Applicability Depends on Storage Thresholds for 140 Regulated Substances
  - 500 - 20,000 lbs. for Acutely Toxic
  - 10,000 lbs. for Flammables



# RMPs....

- May affect Hospitals if they
  - Have refrigeration systems that have more than 10,000 pounds of ammonia
  - Have disinfecting systems that use more than 2,500 pounds of chlorine



# Medical Waste Incinerators

- New Emissions Standards: September 15, 1997
  - Mercury, Lead, Cadmium
  - Sulfur Dioxide, Hydrogen Chloride, Nitrogen Oxides, Carbon Monoxide, Dioxins
  - PM, Opacity, Fugitive Fly Ash/Bottom Ash



# Incinerators

- New Sources (Built after 6/20/96)
  - initial compliance test by 3/16/98 or 180 days after start up
  - Standards located: 40 CFR Part 60 Subpart Ec
- Existing Sources (Built before 6/20/96)
  - Within 1 year of approval of State Plan (New York approved August 1999, Puerto Rico approved July 2002)
  - Federal Plan Published in Federal Register on 8/15/00 (effective date 9/14/00) -- See 40 CFR Part 62 Subpart HHH



# Incinerators

- Three Size Classes:

(Based on Max. Design Charge Rate per Hour or per Day):

- “Large” > 500 lbs/hr *or* 4,000 lbs/day
- “Medium” > 200 and 500 lbs/hr *or* 1,600-4,000 lbs/day
- “Small” < 200 lbs/hr *or* 1,600 lbs/day or less

- Small Rural Incinerators Criteria

- > 50 Miles from Standard Metropolitan Statistical Area
- < 2000 lb/wk



# Incinerators

- Monitoring & Reporting
- Operator Training & Qualifications
- Waste Management Plans
- Inspections for Existing Incinerators (small, rural)
- Siting Restrictions for New Incinerators



# Incinerators



- Compliance Issues:
  - CEM and COM
  - Stack Testing
  - Monitoring, Recordkeeping and Reporting
  - Synthetic Minor / Title V Issues



# End

- Questions ???
- Contact :
  - Harish Patel
  - Patel.harish@epa.gov
  - Air Compliance Branch
  - (212) 637-4046
  - (212) 637-3998 (Fax)

