AIR PERMITTING 101
- Reading 310 CMR 7.00
"Air Pollution Control"

MassDEP

Massachusetts Chemistry & Technology Alliance

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Definitions - 310 CMR 7.00

- *Facility* – installation or establishment and associated equipment, located on the same, adjacent or contiguous property, capable of emissions
- *Construction* – physical or operational change which would increase potential emissions
- *Substantial Reconstruction* – physical or operational change which changes amount of emissions

“Definitions” - 310 CMR 7.00 (continued)

- *Alteration* – physical or operational change which would increase potential emissions or ambient air impacts
- *Potential Emissions* – maximum capacity to emit under physical and operational design; limitations must be ENFORCEABLE
- *Plan Approval* – MassDEP’s written approval of a Plan Application

"Definitions" - 310 CMR 7.00 (continued)

- *Emission* – discharge or release of air contaminant to ambient air
- *Ambient Air* – unconfined space occupied by atmosphere above ground including air outside facility
- *Air Contaminant* – substance or man-made physical phenomenon in ambient air, e.g., dust, flyash, gas, fume, mist, odor, smoke, vapor, pollen, microorganism, radioactive material, radiation, heat, sound; combination or decay or reaction product of such

“Definitions” - 310 CMR 7.00 (continued)

- *Criteria air contaminant or Criteria Pollutant* – ozone, PM, SO_2, NO_2, VOC, CO, PB: any subject to NAAQS
- *Hazardous air pollutant (HAP)* – air contaminant regulated under federal Clean Air Act section 112 and 40 CFR part 63
- *Sound* – audible atmospheric pressure waves from 20 to 20,000 hertz
- *Odor* – property of solid, liquid or gaseous material that elicits smell response

..and, by the way,

- “Air toxic” – material species with Ambient Air Limit (AALs) and Threshold Effects Exposure Limits (TELs) listed in MassDEP Ambient Air Toxics Guidelines

"Definitions" - 310 CMR 7.00 (continued)

- *Air pollution* – presence in ambient air of contaminant with concentration and duration to:
  - *Annoy*
  - *Actually or potentially injure human or animal life, vegetation, property*
  - *Unreasonably interfere with comfortable enjoyment of life, property or business*

- *Fuel utilization facility* – e.g., furnace, fuel burning equipment, boiler, space heater (system) to: burn fuel & emit; may be associated with process; not including incinerator or motor vehicle

- *Process* – system of operations to produce something; series of actions, changes or functions to an end or result (*Am. Her.),* i.e., everything else

Concepts underlying definitions

- *Physical change*
  - construction of new facility or process line;
  - construction or substantial reconstruction of existing facility or process line;
  - renovation with equipment replacement or upgrade;
  - new emission unit
  - capital appropriation
  - might necessitate shutdown

Concepts underlying definitions - continued

- *Change in method of operation*
  - alteration of existing facility or process line;
  - reformulation or new chemistry;
  - air contaminant not previously emitted
  - debottlenecking change in related process;
  - business strategy/market change
  - might necessitate shutdown

Concepts underlying definitions - continued

- *Potential – to - emit*
  - nameplate rated capacity of fuel-burning equipment;
  - emission factors from EPA references, applicable emission standards; vendor guarantees;
  - If air contaminants your best revenue opportunity, how much can you squeeze out of your facility?
  - If air contaminants your biggest risk, how best to minimize under an enforceable permit?

Prepare for pre-application meeting

- Design project, including narrative, process schematics, maps, plans, ratings, specifications
- Calculate maximum theoretical hourly and annual emissions
- Air permitting analysis
- Air permitting plan

Step-by-step Air Permitting Analysis

- Emission unit inventory with classification and rating
- Maximum theoretical emissions inventory, by unit and facility-wide
- Short-term rates, annual tonnage
- Regulatory analysis: applicable source categories, exemption criteria, applicability thresholds
- Control technology analysis

Permitting Strategy and Plan

- The price of operating flexibility is emissions control
- Short-term emissions limitations reduce ambient impacts
- Long-term enforceable emissions limitations reduce permitting difficulty and annual fees
- Minimize sound and odor emissions

Exemptions or alternatives to application and approval process

- Exemptions from [Limited] Plan Approval, 310 CMR 7.02(2)
- “Permit-by-rule:” Plan Approval Exemption: Construction Requirements, 310 CMR 7.03
- Environmental Results Program (ERP): Industry Performance Standards, 310 CMR 7.26

Limited Plan Approval
310 CMR 7.02(4)

- Some fuel utilization-related projects remain eligible, most now go ERP
- Primarily used for new process or changes to existing approval with potential non-fuel emissions increase from one ton per year, up to, but not equal, 10 tons per year
- Apply using ePlace
- $645 fee; minimum 72-day timeline

Non-major Comprehensive Plan Approval - 310 CMR 7.02(5)

- ≥ 40 million Btu/hr natural gas or distillate fuel boiler/heater
- Any non-ERP engine or turbine
- Any incinerator
- Any solid fuel boiler/heater ≥ 1 million Btu/hr (hand feed) or 3 million Btu/hr (auto-feed)
- New process or changes with potential emissions increase from 10 tons per year
- Wild-card (condition of air pollution) for proposed or operating facility
- Apply using ePlace
- $2,370 fee; minimum 96-day timeline plus 30 day public comment period on proposed approval

Major Comprehensive Plan Approval - 310 CMR 7.02(5)

- Project triggers New Source Review under 310 CMR 7.00 Appendix A or Prevention of Significant Deterioration (PSD) under 40 CFR section 52.21
- 310 CMR 7.00 Appendix A review incorporated into Major CPA administrative process
- Apply using ePlace
- $24,305 fee; minimum 244-day timeline plus 30 day public comment period on proposed approval
- PSD application, review and approval in parallel, pursuant to 40 CFR part 124; appeal to federal EAB

Operating Permit and Compliance 310 CMR 7.00 Appendix C

- Facility-wide potential emissions at or above "major" thresholds (include all emissions regardless of "7.02" permit applicability):
  - Any individual HAP: 10 tons per year
  - Aggregate HAP: 25 tons per year
  - NOx or VOC: 50 tons per year
  - Other regulated pollutant: 100 tons per year
- Any incinerator
- MSW landfill with 2.5 million Mg and 2.5 million m^3 design capacity

Restricted Emissions Status, 25/50 percent caps

- Establish an enforceable cap on emissions (tons per 12-consecutive-month period) to avoid 310 CMR 7.00 Appendix A or C or PSD applicability: 310 CMR 7.02(9 - 10):
  - EIPAS application. $1,900 fee, minimum 136-day timeline plus 30 day public comment period on proposed approval

-or-

- Limit facility-wide emissions to less than 50 or 25 percent of major thresholds to reduce annual compliance fee from $1,760 to $705 or $315: 310 CMR 7.02(11)
  - EIPAS application, no fee, presumptive approval

Conditions of approval

- Will meet BACT or other applicable state and federal regulatory emissions standards, any other provision of 310 CMR 7.00
- Not to cause ambient pollutant concentrations to exceed NAAQS, AALs or TELs – may require modeling, additional emissions reductions
- Adequate analysis that potentially applicable requirements actually do not apply

Best Available Control Technology (BACT)

- an emission limitation based on the maximum degree of reduction of any regulated air contaminant emitted from or which results from any regulated facility which the Department, on a case-by-case basis taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems and techniques for control of each such contaminant. The best available control technology determination shall not allow emissions in excess of any emission standard established under the New Source Performance Standards, National Emission Standards for Hazardous Air Pollutants or under any other applicable section of 310 CMR 7.00, and may include a design feature, equipment specification, work practice, operating standard, or combination thereof.

Best Available Control Technology (BACT), continued

310 CMR 7.02(8)(a): the most stringent emission limitation of the following, as applicable:

1. Lowest Achievable Emission Rate (LAER) if under Emission Offsets and Nonattainment Review in 310 CMR 7.00: Appendix A.

2. Best Available Control Technology (BACT). no less stringent than any applicable MassDEP or federal emissions limitation. May include design feature, equipment specification, work practice, operating standard or combination thereof. ..Applicants use top-down BACT analysis per Department guidance or propose :

a. a level of control from the most recent plan approval or other action issued by the Department (Top Case BACT).

b. a level of control based on a combination of best management practices, pollution prevention, and a limitation on the hours of operation and/or raw material usage that minimizes emissions to the extent feasible, only available if :

i. Less than 18 tons VOC and HOC combined;

ii. Less than 18 tons of total organic material HAP; and

iii. Less than ten tons of a single organic material HAP.

per 12-month period

c. Department may consider any other information in determining BACT for any given plan application and approval.

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7. Wild Card: sufficient to eliminate the potential to cause a condition of air pollution, even if more stringent than would otherwise be determined to be BACT.

QUESTIONS?

contact

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