



Air Quality Nuisance Complaints: Odor, Dust and Noise

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MassDEP Regulations

- Odor and Dust Control Regulation
 - 310 CMR 7.09
- Noise Control Regulation – 310 CMR 7.10
 - Regulations adopted under the authority of M.G.L. Chapter 111, Section § 142B and § 142D and can be enforced by local officials under 310 CMR 7.52.



310 CMR 7.52 Enforcement Provisions

- Any police department, fire department, board of health official acting within his/her jurisdictional area is authorized by the Department to enforce any regulation in which specific reference to 310 CMR 7.52 is cited.



Role of MassDEP in Complaint Response

- In most cases when MassDEP gets a complaint, we will contact the Board of Health or Health Agent (in some cases, the Fire Dept) first.
 - To obtain background information
 - To foster faster response time
- MassDEP can provide technical support & guidance to the community.
 - MassDEP may take a greater role if the issue is technically complex or if it involves an industrial facility.
 - MassDEP may have a greater role if state permitting is required.



Local Health Regulations Review

- Oversight of local air pollution control regulations adopted under Section 111, Chapter 31C
- MassDEP Review:
 - No less stringent than state regulation
 - Regulations are reasonable
- Local regulations effective after MassDEP approval and publication



What is an Air Contaminant per 310 CMR 7.00?

- **Air Contaminant** - means any substance or man-made physical phenomenon in the ambient air space and includes, but is not limited to **dust**, fly-ash, gas, fume, **odor**, **smoke**, vapor, pollen, microorganism, radioactive material, radiation, heat, **sound**, any combination, or any decay or reaction production thereof. *(See 310 CMR 7.00)*



Definition of Air Pollution

- Air Pollution - means the presence in the outdoor air of one or more air contaminants thereof in such **concentrations** and of such **duration** as to:



Air Pollution Definition - Continued

- A. Cause a nuisance;
- B. Be injurious, or to be on the basis of current information, potentially injurious, to human or animal life, to vegetation, or to property; or
- C. Unreasonably interfere with the comfortable enjoyment of life and property or the conduct of business.



Odor



310 CMR 7.09(1) – U Dust, Odor, Construction and Demolition

- (1) No person having control of any dust or odor generating operations such as, but not limited to asphalt batching plants, asphalt roofing materials manufacturing plants, asphalt blowing plants, foundries, chemical products manufacturing plants, incinerators, fuel utilization facilities, petroleum products manufacturing plants, aggregate manufacturing plants, food preparation or processing facilities, wood products plants, dry cleaning establishments, paint and varnish manufacturing plants, paper manufacturing plants, leather manufacturing plants, concrete batching plants, metal coating and treating plants, land clearing operations, construction work, dump operations, agricultural operations and street sweeping shall permit emissions therefrom which cause or contribute to a condition of air pollution.



Investigating Odor Complaints

- Note the weather condition.
- Determine if the odor can be detected on the complainant's property. Note the intensity level, frequency, duration and type of the odor.
- If an odor problem is determined, try to trace the odor back to its origin.



Investigating Odor Complaints

- Do an inspection to determine what is causing the odor.
- For Industrial Operations inquire about process schedules or timing of activities to determine if they match with the time of odor detection by complainants.



Investigating Odor Complaints

- Determine if the odor is unreasonably interfering with the private enjoyment of that person's property.



Odor Intensity Determination

- 0 – Odor not detectable
- 1- **Very Light**- odor detectable but not distinguishable
- 2- **Light**- Odor detectable but not objectionable in short durations
- 3- **Moderate**- Odor detectable, clearly distinguishable and may be objectionable or irritating
- 4- **Strong**- Odor present objectionable
- 5- **Very Strong**- Odor present and overpowering-intolerable for any length of time



Common Sources of Odor Complaints

- Industrial Operations
 - Paint Spraying
- Outdoor Wood Fired Boilers
- Composting
- Fumes from Idling Vehicles



Industrial Operations

- Many Industrial operations are regulated and permitted by MassDEP: Sources of Odor could include:
- **Process Upset**
- **Lack of Good Housekeeping**
 - Containers of volatile organic compounds (VOCs) must be kept closed when not in use.
 - Rags with solvent must be kept in tightly closed containers.

It never hurts to call the company in question and inquire or report an unusual or excessive odor



Spray Painting Don'ts

No Spraying Outside

**No Spraying in Garbage Bag
Garages or other
Inappropriate Structures**



Paint Spray Booths

Paint spray booths are regulated by MassDEP under 310 CMR 7.03(16). Some requirements:

- Good Housekeeping
- Spray guns – high volume/low pressure (HVLP) or electrostatic
- Enclosed gun washing/cleaning
- Particulate control filters
- Stacks which vent vertically, 10 feet above roof level



Outdoor Hydronic Heaters (OHHs)/ Outdoor Wood Fired Boilers (OWBs)



OHH/OWB Key Dates

- **December 26, 2008** – MassDEP regulations went into effect – 310 CMR 7.26(50) – (54)
- **March 1, 2009** – Existing units that do not meet stack height requirements must comply.
- **As of December 26, 2008** – Only Phase II units may be installed - Manufacturers must submit certification that demonstrates new units comply with regulation.



No Rain Caps per 310 CMR 7.26(52)(h)



Vegetation can impede proper dispersion of exhaust gases



Existing Unit – Stack too short



Wood Stoves



Best Burn Practices

- Burn clean dry firewood only.
- Don't let the fire smolder.
- Clean ashes & dispose of safely.
- Keep the chimney clean.
- Follow manufacturer's instructions.
- Upgrade to cleaner equipment.
- Choose the right-sized appliance.



MassDEP Technical Assistance with Odor Complaints

- Excessive odors from wastewater treatment plants
 - Bureau of Resource Protection
- Excessive odors from composting operations or solid waste landfills
 - Bureau of Waste Prevention, Solid Waste Section
- Excessive odors from industrial facilities
 - Bureau of Waste Prevention, Compliance & Enforcement Section



310 CMR 7.11: U Transportation Media

- **Car/Truck & Bus Idling**
 - > 5 min of unnecessary operation.
 - Does not apply to
 - Operating for repair or inspection
 - Loading/ unloading by engine power
 - Engine power needed for ancillary operation other than movement.
 - No substitute available



Transportation Media (*continued*)

- **Diesel Train Idling**
 - > 30 min of “unnecessary foreseeable idling”
 - Does not apply to
 - Operating for repairs
 - Safety



Dust



Investigating Dust Complaints

- Conduct an inspection
- Note the weather condition
- Determine if visible particulate emissions can be detected blowing onto the complainant's property or across sidewalks or road-ways. Note the intensity level and frequency of the dust emissions.
- Observe and record the source of the dust.



Investigating Dust Complaints

- Is the dust unreasonably interfering with the private enjoyment of a person's property, causing discomfort to pedestrians, or causing a safety hazard for drivers?



Examples of Potential Sources with Excessive Particulate Emissions

- Sandblasting
- Mechanical street-sweeping
- Sand and gravel operations
- Construction sites
- Building Demolition



Sandblasting

- Dust can not leave property while cleaning/ removing paint from stone/brick/metal buildings.
 - Need a containment structure that is properly vented.
 - Need to be aware of lead paint – before the 1970s lead based paint was commonly used.
 - **CAUTION!** Asbestos-containing siding must not be sand blasted or power washed!



Street Sweeping – 310 CMR

7.09(6)

- Equipment must be operated with a suitable dust collection or dust suppression system which is maintained in good operating condition.



Street Sweeping – No Water



Leaf Blowers are NOT Supposed to be Used as Dust Blowers



Sand and Gravel Operations – 310 CMR 7.09(4)

- Handling of Material
 - must be covered or wet while going through conveyors or crushers
- Storage of Material
 - located to avoid nuisance or,
 - piles must be covered, wetted, or otherwise treated
- Transportation
 - dirt roads should be either paved, wet or treated and material covered while in transit



Construction Sites

- Per 310 CMR 7.09(3) - Responsible to seed, pave, cover, wet or otherwise treat the area to prevent excessive particulate emissions. Reducing the speed limit on sites with dirt roads may also help reduce particulate emissions.



Examples of Chemical Dust Suppressants

- Chloride Salts
 - Calcium Chloride
 - Magnesium Chloride
- Oils
 - Petroleum based dust suppressants
 - Ex. – PennzSuppressD
 - Soybean based dust suppressants
 - Ex. - Dustkill, Soykill, Dust Lock



Building Demolition

- Notification **MUST** be provided to MassDEP per 310 CMR 7.09 – 10 days prior to commencing demolition
 - *The ten day period can be waived for emergencies*
- Per 310 CMR 7.09(3) - Responsible to cover, wet or otherwise treat the area to prevent excessive particulate emissions during demolition.
- All asbestos containing material must be removed by a licensed contractor and per 310 CMR 7.10 requirements prior to demolition.



Noise



310 CMR 7.10(1) - Noise

- “No person owning, leasing or controlling a source of sound shall willfully, negligently, or through failure to provide necessary equipment, service or maintenance or to take necessary precautions cause, suffer, allow, or permit unnecessary emissions from said source of sound that may cause noise.”



DEP Noise Policy #90-001

- A source of sound will be considered to be violating the DEP noise regulation if the source:
 1. Increases the broadband level by more than 10 dB(A) above ambient, or
 2. Produces a “pure tone” condition - when any octave band center frequency sound pressure level exceeds the two adjacent center frequency sound pressure levels by 3 decibels or more.



Complaints

- City/Town first line of defense
- MassDEP Provides BoH Guidance
- MassDEP loans out sound meters and provides training
- Compliance determined with a short term attended study



Some Common Sources of Noise Complaints

- **Chillers**
- **Amplified Sound**
- **Gun Ranges**
- **Power Vents**
- **Wind Turbines**



Chillers

Chillers should be equipped with sound attenuating material and/or baffled with a noise barrier.



Chillers with Noise Barrier



Gas Station TV

- Volume can be adjusted and turned off at night if sensitive receptors are close.



Amplified Sound - Drive Thrus

- More difficult to mitigate noise – as the amplified sound is turned down, the customer thinks the employee can't hear and speaks even louder.
- Noise barrier might help in certain situations.



Gun Ranges

M.G.L. Chapter 214: Section 7B. Noise pollution; shooting ranges; exemption from liability; hours of operation – essentially exempts older ranges as long as they are not operating between 10 p.m. and 8 a.m.



Power Vents

- Not appropriate for dense residential neighborhoods.
- Difficult to mitigate noise after installation.



Rock Crusher

- If short-term use planned, facility could try to locate equipment away from sensitive receptors and limit operations to day-light hours.
- If long-term use planned, facility needs to have a plan to ensure compliance with Noise Policy.



Wind Turbine Sound

- More Complex/ New Sound Issues to consider:
 - Wind-speed- and season-specific background determination
 - Amplitude modulation
 - Low Frequency and Infrasound
 - Very low ambient sound
 - at some project sites
 - Higher sound levels with higher wind speeds (and higher background)



MassDEP Activity

- Six Communities have raised Wind Turbine Noise Issues (Falmouth, Fairhaven, Kingston, Scituate, Monroe/Florida).
- MassDEP has recommended post-construction sound studies to confirm compliance with Noise Policy.
- MassDEP will support Towns to review pre-sampling protocol and post-sampling results.



MassDEP Activity

- In some cases, the post construction sound sampling is being done by MassDEP (case-by-case decision)
- MassDEP is not currently addressing complaints for conditions that we do not regulate including:
 - Flicker/ shadow
 - Pressure
 - Infrasound and low frequency sound



Additional Research

- MassCEC has contracted to conduct a scientific study of sound from Wind Turbines
 - Sampling to begin in February 2013
 - Single and Multi-turbine sites to be included
 - Looking at a range of variables relative to sound from Wind Turbines including distance, directionality, meteorological conditions, wind sheer, low frequency sound and infrasound.



The Best Solution is Prevention!



Preventative Measures

- New / Expanded Facilities
 - Identify possible noise, dust and odor potential.
 - Require a predictive sound study.
 - Look at stack height.
 - Identify sensitive receptors.
 - Require mitigation to be part of design

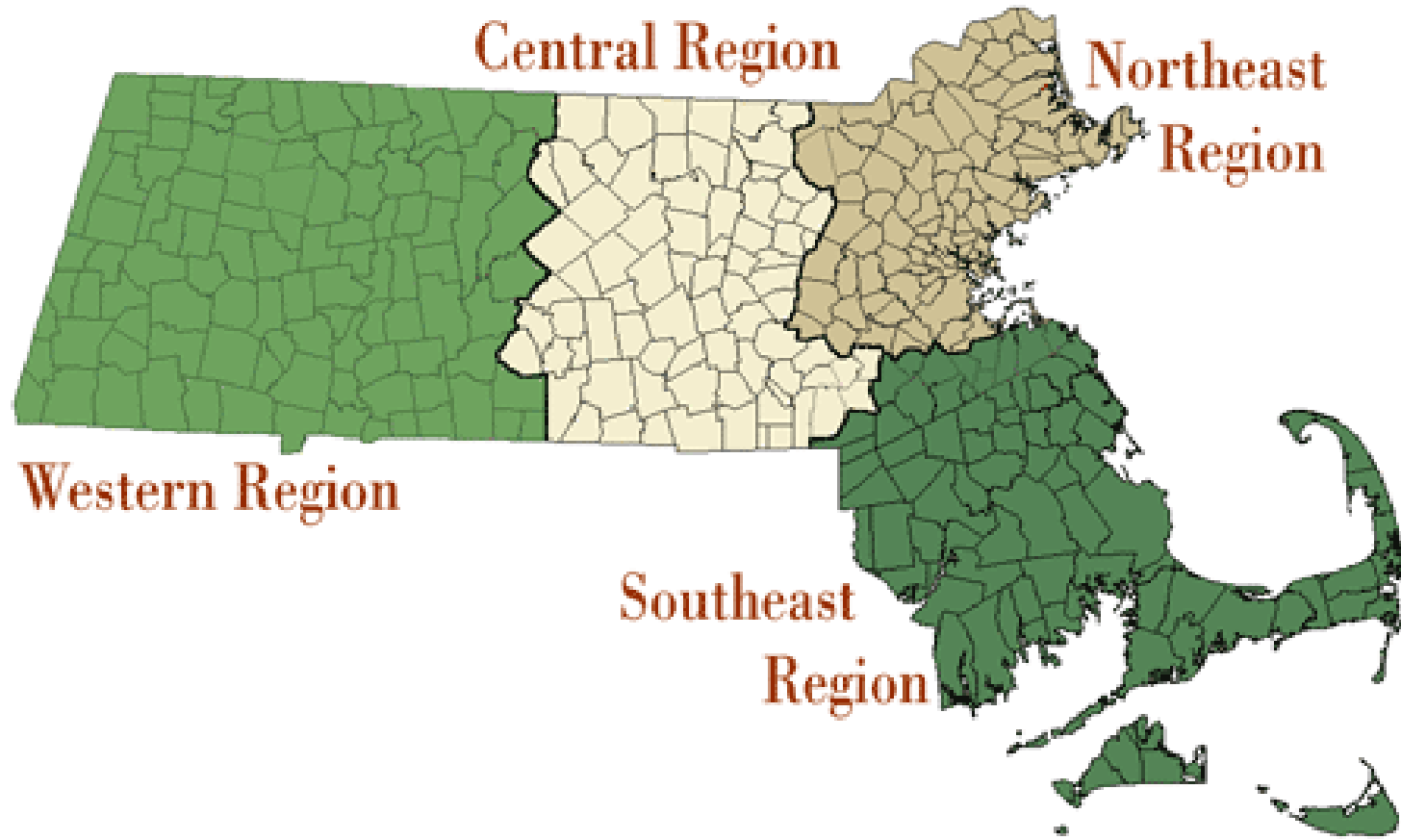


Preventative Measures

- Large Construction / Demolition Projects
 - Before commencement, require a dust control and noise mitigation plan.
 - Some towns have by-laws limiting construction to certain hours during the weekdays and Saturdays and further limiting or prohibiting commercial construction on Sundays.



MassDEP Regions





Contacts for AQ Nuisances

- Northeast Region – Tom Natario, 978-694-3269, thomas.natario@state.ma.us
- Central Region – Michelle Delemarre, 508-767-2777, michelle.delemarre@state.ma.us
- Southeast Region & Cape Cod – Complaint Line, 508-946-2817
- Western Region – Main Phone Number, (413) 784-1100