



Focus Sheet

Air Pollution Mitigation: Cannabis Industry

ORCAA's Recommended Air Pollution Mitigation Measures for the Cannabis Industry

Cannabis cultivation and processing facilities (Cannabis Facilities) emit air pollution. The types of air pollution produced includes volatile organic compounds (VOC) and particulate matter (PM) pollution that may cause nuisance odors.

Cannabis Facilities are not required to register with the Olympic Region Clean Air Agency (ORCAA), nor do they need air permits. But these facilities are subject to general nuisance odor prohibitions and associated control requirements, which ORCAA enforces. [ORCAA regulations](#) (Rule 8.5) and Washington's General Regulations for Air Pollution Sources ([WAC 173-400-040\(5\)](#)) prohibits nuisance odors. Both rules also require the use of recognized good practices and procedures to reduce odors to a reasonable minimum. Violations of these requirements could result in a Notice of Violation (NOV) and penalties.



To avoid nuisance odor issues and possible enforcement, ORCAA recommends Cannabis Facilities implement the following mitigation measures as applicable:

- **Maximize Buffers** – Grow and production areas and buildings should be situated as far away from neighbors as possible to lessen the likelihood of odor impacts. Outdoor grow operations with repeated nuisance odor violations may need to be either enclosed in approved structures so that odors can be captured and controlled or be relocated far enough away from residences to avoid violations.
- **Approved Buildings and Enclosures** – All buildings and other structures enclosing Cannabis Facility operations must be permitted by the local city or county agency with authority and must comply with all applicable state and local building codes and standards.
- **Air Pollution Control Systems** – Any building where growing, drying, or processing takes place should be equipped with an appropriate air pollution control system, designed, and certified by a licensed mechanical engineer. The air pollution control system must be capable of:
 - Providing exhaust/ventilation sufficient to meet applicable local, state, and national standards, and maintain a negative pressure within the building whenever odors are generated.
 - Exhausting to the outdoor atmosphere above the roof of the building and at a height sufficient to avoid downwash of air emissions on neighboring properties.
 - Filtering all exhaust through appropriately sized Granular Activated Carbon (GAC) filtration units or another type of control system demonstrated to be equally effective. Air ionizers may be used if followed by activated GAC systems. Ozone generators are not acceptable as ozone may cause serious health and environmental problems.



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- **Control System Design Objectives** – GAC and other control systems should be designed and sized to:
 - Provide high enough exhaust air rates to prevent odors from escaping through other doors, windows, and other openings, thereby avoiding capture and control.
 - Effectively control odors during highest odor generation periods (pre-bud and budding periods).
 - Provide continuous odor control. For GAC systems, this can be achieved by using dual GAC canisters in series where the secondary canister provides control after breakthrough of the primary while the saturated canister is replaced.
- **Maintenance** – Odor control systems should be routinely inspected and maintained. If GAC or filter “breakthrough,” clogging, or physical damage is evident, the filter(s) or media should be replaced per manufacturer recommendations. All filters should be tightly seated and operated according to manufacturer recommendations.
- **Tight Buildings** – Extra measures should be taken to provide air-tight buildings in order to prevent odors from escaping or circumventing the odor control system.
- **Waste Materials** – Waste materials should be enclosed in air-tight containers to prevent escape of odors prior to removing them from the production building.
- **Moisture Control** – Cannabis production zone humidity levels and temperatures should be regulated to minimize indoor fungal growth. To effectively regulate humidity, exhaust/ventilation systems should be designed with a dehumidifying system or a controlling interface that monitors airflows and temperature. Generally, humidity below 50-percent minimizes fungal growth.
- **Disposal and Waste Practices** – Cannabis waste material should be disposed of in a manner that prevents odor generation and emissions.
- **Use of Chemicals** – Propagation agents, pesticides, fertilizers, and other chemicals should be used, stored, and disposed of according to manufacturer recommendations and in a manner that prevents odors. Safety Data Sheets must be maintained on-site for all chemicals used.

For more information on siting, building, and/or operating a cannabis facility, please contact your local city or county planning/permitting department(s).