Monterey Bay Air Resources District

- Monterey, San Benito, and Santa Cruz Counties
Overview

- Outreach
- Permit Requirements
- Examples of Permitted Equipment
- Enforcement
- Unforeseen Issues
Outreach – Focus Monterey County

- Worked with City and County Planning Departments
  - In 2017 and 2019
    - Mailed out advisory to cannabis operations based on local agency permit application information
- Conducted Site Visits
  - Facilities which submitted applications to county/city
- Worked with Monterey County Cannabis Industry Association
Types of Cannabis Operations

- **Dispensary**
  - Not subject to Permit

- **Processing**
  - Subject to District Permitting Requirements
  - Subject to Odor Nuisance Regulation

- **Cultivation** (Indoor and Outdoor)
  - Growing exempt from District Permitting Requirements
  - Associated equipment may need permits
  - Currently do not enforce cannabis odor nuisance
Processing - Potential Emission Points

- **Step 1: Leaf Processing**
  - Dust Control Devices

- **Step 2: Hash-Oil Extraction**
  - Solvent Based (Propane, Butane, Ethanol, etc.)
  - Non-solvent Based
    - CO₂
    - Coconut Oil
    - Use Ethanol For Cleaning (Minor)

- **Step 3: Hash-Oil Processing**
  - Vacuum Oven
  - Distillation
  - Winterization
  - Flavoring
Step 1: Leaf Processing

- Permit required, if equipped with dust/odor filters
Step 2: Hash-Oil Extraction

- Uses solvent (propane, butane, ethanol, etc.)
  - Permit not required if solvent is not a VOC, i.e., CO₂
  - Normally done in a Class 1, Division 1/Division 2, exhausted room
  - Room exhaust passes through a carbon filter/ an air purifier for odor control
Butane/Propane Extraction Systems Examples

Picture References
Hydrocarbon Extraction Systems – Emissions Analysis

*Emission* is calculated as “*lb solvent loss / lb material processed*”

**Cannabis Extraction Equipment & Emission List**

- **MEP**
  - Processing a mix of butane & propane: 0.42 (average)
  - Processing butane only: 0.08 (average)
  - The more percentage of propane in the solvent, the higher solvent loss

- **Bizzybee Mega Beest**
  - Processing a mix of butane & propane: 0.21 (average)
  - The facility uses a secondary solvent recovery system after the first solvent recovery process finishes.

- **Iron Fist EX-40**

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<tr>
<td>Min</td>
<td>0.072</td>
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Ethanol Extraction Systems Examples

Bizzybee BB001

ETH-OS-4

Delta CUP15

Dynamistic Technologies

Capna Fabrication Pilot

Engineering Report

Engineering Report
Professional Grade Closed Loop Extractor – Bizzybee Extractor BB-001, 6/12/2017.


https://www.de ltaseparations.c om/cup-series-2/
Ethanol Extraction Systems – Emissions Analysis

*Emission* is calculated as “*lb solvent loss / lb material processed*”

*Cannabis Extraction Equipment & Emission List*

- ETH-OS-4
- Capna Fab Pilot With Alcohol Recovery Evaporator System
  - Requires a separate device for ethanol recovery - Rotatory Evaporator
Step 3: Hash-Oil Processing

- Short-Path Distillation column
  - Removes terpenes
  - Extract has more active cannabinoids (~68%)
    - THC (tetrahydrocannabinol)
    - CBD (cannabidiol)
Step 3: Hash-Oil Processing

- Winterization
  - Hash-oil extract mixed with ethanol to remove waxes and stored in a freezer.
  - Waxes are filtered (vacuum filter)
  - Ethanol is recovered using a roto-evaporator
## Permit Application Status

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- Two facilities have more than 5 District permits and are looking at purchasing VOC offsets.

- One facility proposed BACT for exceeding threshold of 25 lbs of VOC per day.
Cannabis Processing
Nuisance Complaints

- Received odor complaints from one processing operation in 2017 and early 2018
- Corrective Action - Installed additional exhaust filters
Cultivation
Exempt from District Permitting Requirements

- Greenhouses For Growing (indoor)

- Odor Control Equipment
  - District Rule 201.4.17.14
    “Any abatement device which is used solely to abate equipment that does not require a permit”.

Monterey Bay Air Resources District
Cultivation
Equipment May Need Permits

- Engine-generator sets
- Natural gas heaters / hydronic water boilers
- Gasoline storage tanks
§ 8306. Generator Requirements.

(a) For the purposes of this section, “generator” is defined as a stationary or portable compression ignition engine pursuant to title 17, division 3, chapter 1, subchapter 7.5, section 93115.4 of the California Code of Regulations.

(b) Licensees using generators rated at fifty (50) horsepower and greater shall demonstrate compliance with either, as applicable, the Airborne Toxic Control Measure for stationary engines pursuant to title 17, division 3, chapter 1, subchapter 7.5, sections 93115 through 93115.15 of the California Code of Regulations, or the Airborne Toxic Control Measure for portable engines pursuant to title 17, division 3, chapter 1, subchapter 7.5, sections 93116 through 93116.5 of the California Code of Regulations. Compliance shall be demonstrated by providing a copy of one of the following to the department upon request:

(1) For portable engines, a Portable Equipment Registration Certificate provided by the California Air Resources Board; or

(2) For portable or stationary engines, a Permit to Operate, or other proof of engine registration, obtained from the Local Air District with jurisdiction over the licensed premises.
Cultivation Odor Complaints

- County and City ordinances and “Use Permits” require odor control
  - District provides assistance to City and County Code Enforcement on odor investigations

- Two complaints in the unincorporated area of Monterey

- Complaints in the City of Greenfield in 2018
  - Installed new odor control equipment at the facility
Unforeseen Issues – Monterey County

- Not enough electrical power to serve the greenhouses
  - Facilities awaiting for PG&E “Electrical Upgrade”
  - Use of PERP Engines during interim (Tier 1 and 2)
    - Tier 1 > 750 hp
- PERP Regulation – Section 2453(m)(4)(E)
  - Electrical upgrade operations... do not exceed 90 calendar days...

(E) generators used to provide primary or supplemental power to a building, facility, stationary source, or stationary equipment, except during the following:

3. electrical upgrade operations including-startup, shutdown, and testing-that do not exceed 90 calendar days, or a longer period as authorized in writing by the district.; or
Lessons Learned

- Coordinate with counties/cities
- Assume your advisory was recycled
- Ask questions
- Educate operators – little knowledge of air quality regulations
Questions?

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