Fire Code Workshop For Cannabis

- Senior FPO E. McDowell
  - FPO K. Kwong
  - FPO M. Dutcher
  - FPO J. Gibbs
Objectives

- Identify the purpose of the California Building and Fire Codes
- Identify what is required of the Technical Report
- Understand the different types of inspections conducted by the Fire Department
- Understand how to best prepare for the inspections
Objectives

- Understand what actions may be taken during the inspection
- Understand the purpose of Fire Watch, Stop Work Orders and how to remove them
- Understand the reinspection process
Cannabis Business and the California Fire Code Overview

What is the Fire Code?

- Regulatory code – “Housekeeping code”/maintenance code
  - Maintain building in fire safe manner
- Regulates processes
  - Examples include: Application of Flammable Finishes, Plant Extraction and CO2 Enrichment
- Adopts standards to assist in regulation
- Allows for technical assistance
Cultivation Requirements

- CO2 Enrichment
  - Detection required “where most likely to pool”
    - Grow Rooms with CO2
    - CO2 storage locations
    - Piping locations
      - Any area for a potential leak or pooling.
  - Alarm audible/visual
    - Inside and outside each cultivation room
Alarm Levels

Low Level Alarm

- CO2 Detected 5,000 PPM
  - Audio/Visual Inside
  - Stop Flow
  - Ventilation

High Level Alarm

- CO2 Detected 30,000 PPM
  - Audio/Visual Inside/Out
  - Stop Flow
  - Ventilation
Signage

- “CAUTION: CARBON DIOXIDE GAS Ventilate area before entering a high carbon dioxide gas concentration in this area can cause asphyxiation”
- Required: Posted at room, entrance to room where containers are located
- Sign: 6-inches high by 8-inches wide
Cultivation Requirements

- Compressed Gas Storage
  - Approved racks, chained to wall, or as approved
  - DOT cylinders shall have valve protection cap in place when not in use
  - DOT cylinders shall not be refilled inside
    - Bulk-style tanks with exterior fill port/connection
  - NFPA 704 Placard
- At this time, CO2 burners are not allowed
Tanks

DOT

Bulk

300 lbs

500 lbs

750 lbs
Fumigation

- The Fire Department shall be notified in writing not less than 48 hours before use of any toxic or flammable fumigant.
  - Including Sulphur
- Codeenforcement@sfd.cityofsacramento.org
Fumigation Notification

- Notification shall include:
  - Location of the enclosed space to be fumigated
  - The occupancy
  - The fumigants or insecticides to be used
  - Person or persons responsible
  - Date and time operation will begin
Fumigation Signage

- Warning signs indicating:
  - The danger
  - Type of chemical
  - Necessary precautions
Fumigation Signs Shall Be Posted

- Including
  - Interior Rooms
- Doors and Entrances
- Entry to Area
  - Indicating Duration
- Exterior Main Entry
Fumigation Record of Application

- The pesticide product or chemical used
- The date and time the pesticide was applied
- When the room or area is safe to reoccupy
Cultivation Requirements

- Sulfur
  - Flammable solid
  - When burned, releases toxic gases
  - Currently, “burn”/”melting” pots are not listed for use indoors
  - May be used as a fertilizer as soil enrichment
    - Must follow manufacturer and Agricultural Commission requirements
Cultivation Requirements and General Requirements

- Hazardous Materials
  - Hazardous Materials Inventory Statement
  - Hazardous Materials Management Plan
  - Material Safety Data Sheet Binder
- Secondary Containment
- Spill Kit/Mitigation
- Storage
  - Incompatibles cannot be stored together i.e. pH Up and pH Down
- General Housekeeping
Cultivation Requirements

- Hazardous Materials Storage Cabinets – General
  - Cabinet must be listed for the classification of commodity
  - Don’t use:
    - Filing cabinets
    - Refrigerators that are not approved
    - Homemade cabinets that are not approved
- Use and handling procedures will be reviewed
  - Employees may be questioned about procedures
Requirements for Manufacturing

- Technical Report
  Done by Fire Protection Engineer or Mechanical Engineer

- CO2 or flammable vapor detection

- Production area free from combustibles and orderly

- Household appliances cannot be used
Requirements for Manufacturing

- Refrigerators/freezers must be listed for flammable liquids if using a flammable liquid in the winterization process.
- Ventilation is required for use of flammable and combustible liquids.
  - Ethanol is classified as a flammable liquid.
- Proper classification of electrical.
- Grinding rooms may also require ventilation and classified electrical.
- HMIS, HMMP, MSDS, Storage and handling is all looked at.
Manufacturing Edibles

- Commercial kitchen may be required
  - Production of grease laden vapors will require ventilation and a kitchen hood extinguishing/suppression system
- Ventilation based on processes and type of edibles manufactured
- Tinctures
  - Ventilation and classified electrical may be required
- Some ingredients may be classified as hazardous materials
  - Flavor additives, powders, etc.
Technical Report Requirements

- California Fire Code Section 3804 (2016)
  - 3804. General requirements. Systems and equipment used with the processing and extraction of oils and products from plants shall comply with Sections 3804.2 through 3804.4, 5003.2, other applicable provisions of this code, the California Building Code, and the California Mechanical Code.

- Key Points
  - Systems and Equipment used with Processing and Extraction of Oils from Plant Material
    - Distillation
    - Roto Vaps
Technical Report

- Manufacturer information
- Preparer of record on technical report
- Date of review and report of revision history
- Signature page: A. Author of report; B. Date of report; C. Date and signature of record
- Model number or serial number of item
- Methodology of the review process
- Equipment description – all components
- General schematic/process flow
- Analysis of the vessels if pressurized beyond standard atmospheric pressure
- Structural analysis of frame
- Process safety analysis
- Comprehensive process hazard analysis
- Review of manufacturer’s instructions
- List of references used on analysis
What Shall Be Included

- **ALL** serial numbers
- **ALL** manufacturer specification/cut sheets for materials used
  - Must show compatibility
- Workflow diagram/process schematic
- Site inspection
  - Conducted prior to operation of equipment
  - Engineer of Record is to also provide a report based on site visit
  - Serial number/s will be field verified by engineer
Interlocks, shut-offs and shunts will be tested.

An emergency shut off may be required if utilizing gaseous based hydrocarbon solvents.

Interlock is with gas detection system.

Activation or Failure of gas detection system shall:
- Deactivate heating system.
- Activate mechanical ventilation.
- Cause trouble signal to sound in an approved location.
Gas Detection

Flammable Gas Detection
- No greater than 25% of the LFL of the materials used
- Calibrated to the type of gas/fuel used
- Listed for use

CO2
- 5,000 PPM
- Location of alarm: in area where gas is used/stored
- Audible/visual required
General Do’s and Don’ts

**Do’s**
- Get your construction permits
  - Get your inspections done
- Get your technical report
  - Submit your technical report for review
- Remember you can ask questions during or after the inspection
- Hire a FPE
- Train your employees in safe handling and use of all chemicals on site

**Don’ts**
- Don’t allow unpermitted work
- Don’t change processes
- Don’t change out equipment once approved
- Don’t exceed your MAQ’s
  - A good deal is not your friend…
What to Expect During a Fire Inspection

- Break it down by inspection type
  - New Construction
  - Annual Inspection
  - Complaint Inspection
New Construction Inspection

- Have the following ready:
  - Approved plans
  - Permit envelope aka “card”
  - Approved submittal documents, manufacturer specification sheets, technical reports, etc.

- If you don’t have the above, we can’t do the inspection
New Construction – Re-inspections

If any corrections are required:

- Contractor or Responsible Party is given a correction notice
- Contractor or Responsible Party is to reschedule for reinspection

If changes to plans are required:

- Discuss changes with design professional
- Design professional to make required changes and resubmit for review
Annual Inspections

- Full facility inspection
- Starts with the MSDS Binder and works from there
- What is looked at:
  - General exiting and fire-life safety
  - Inspection, testing and maintenance of required systems
  - Knox Box updates
  - Adherence to policies, SOP’s and requirements
  - General facility layout and have there been any changes
- Correction notice issued detailing corrections
- Ensure site processes are compliant with what was approved
### Annual Inspections

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
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<tbody>
<tr>
<td>Maintenance and Testing</td>
<td>Maintenance and Testing of required fire protection, fire detection and other required detection systems including fire extinguishers.</td>
</tr>
<tr>
<td>Housekeeping</td>
<td>Single action to exit, no special skills, tools or knowledge AKA the two year old requirement.</td>
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<tr>
<td>Exiting</td>
<td>Changes in chemicals used result updating MSDS, HMIS.</td>
</tr>
<tr>
<td>Hazardous Materials Documentation</td>
<td>Changes in chemicals used result updating MSDS, HMIS.</td>
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Hazardous Materials

- Hazardous Materials Inventory Statement
- Hazardous Materials Management Plan
- Material Safety Data Sheet Binder

- Secondary Containment

- Spill Kit/Mitigation

- Storage
  - Incompatibles cannot be stored together i.e. pH Up and pH Down

- General Housekeeping

- Empty containers count as full
Complaint Based

1. May be single reason for visit
2. We are REQUIRED to investigate
3. Not there to “Jam you up” or “Shut you down”
4. If no violation, no issue
Re-Inspection Process

- Return visit to check on progress of required corrections
- May extend beyond one reinpection
- In general, reinpection is based on the correction notice issued, unless something egregious is found
Fire Watch, Now What

Required when:
- Required systems are not functioning or their operability is questionable

Notification of Fire Watch Letter

Third-Party
- Off approved vendor list supplied by SPD
- Can be expensive
- Cannot be your security guard who is already on site
Reporting Fire Watch

All logs to be emailed by 0900 DAILY

Only provided log sheet/patrol log will be accepted

No hash/ditto marks or arrows, each line to be fully filled out

If not received you may be issued an Administrative Penalty
Removal of Fire Watch

01
Removal is granted once the corrective action has been verified
• Proof of correction will be required from a contractor

02
Removal will only come from SFD Fire Prevention personnel
• Removal will be done in writing
• Email counts as writing

03
Your fire watch guard is **not** to be released until you receive confirmation from SFD that you are cleared to release fire watch
Stop Work Order

Issued to stop a hazardous process or an unpermitted process

May also be issued to cease occupancy of a building and/or area

Recension of Stop Work Order

Removal of hazard
May require construction permit/s
• Construction permit/s will need all approvals including final approval
Administrative Penalty

Issued for:
- Failure to comply with a written order
  - Includes Stop Work Orders, Fire Watch and Correction Notices
- Egregious life safety violations
  - Generally exiting

Fine amount
- Up to and including $25,000.00 per day, per violation.
  - Every 24-hours of continued violation constitutes a new violation
For hazardous materials questions, please contact Sacramento County EMD at cannabisemd@saccounty.net

Topics include:
• Reportable quantities
• Hazardous Waste Determination
• Disposal requirements
Thank you for your attention!

Please ask FPO Dutcher any questions you may have