Operational Permit Application

Fruit and Crop Ripening

CITY OF Vancouver WASHINGTON

www.cityofvancouver.us/departments/fire-department

International Fire Code as adopted by VMC 16.04 (Washington State Fire Code)

Permitting Requirements

Fruit and crop ripening is the process where fruit undergoes physiological changes that make it more palatable for consumption and where the process of maturation of crops is cultivated for food, feed, fiber, or fuel.

An **operational permit** is required to operate a fruit- or crop-ripening facility or conduct a fruit-ripening process using ethylene gas as regulated by WSFC 105.5.20.

Project Information

Site Address		Owner Name	
Type of Ripening Business	☑ Fruit Ripening Facility: ☐ Ethylene gas ☑ Other gas (specify): _____	☐ Crop Ripening Facility: ☑ Ethylene gas ☐ Other gas (specify): _____	
Other			

Applicant Information

Company Name			Address		
Contact Name					
Office Phone		Cellular		Email	

Contractor

Company Name			Address		
Contact Name					
Office Phone		Cellular		Email	
Related Permits:	MPE_____	CMI_____	DEF_____	MPE_____	

Description of Work

Electronic Plan Standards

File Naming Standards:
Electronic plans and documents shall be named as specified in the City of Vancouver ePLANS system: https://www.cityofvancouver.us/business/permits-licenses-and-inspections/eplans/

Acceptable File Types:
Plans, calculations, specifications and supporting documents shall be uploaded as a PDF file.

Plan Sheet Standards:
All plans shall be drawn to scale, as identified in the checklist, and each sheet shall state the scale and show a measurable scale on the page for measurement calibrations.

Document Orientation:
All plans must be uploaded in "Landscape" format in the horizontal position with a north indicator. All other documents can be in "Portrait" format.

Stamped:
Where documentation contains a code analysis or engineering calculations, such documents shall be stamped by the design professional.

Minimum Submittal Checklist for Upload to ePLANS

- ☐ Completed Fire Installation Permit Application – Fruit and Cop Ripening (this document) Check all *Permit Conditions* checkboxes that are applicable to your project
- ☐ Supporting documents listed below (See *Document Details* below)
- ☐ Site plans and floor plans (see *Plan Details* below)

Document Details

HMMP Guide: https://www.cityofvancouver.us/wp-content/uploads/2023/10/Hazardous-Materials-Management-Plan.pdf
See Vancouver Fire Department HMMP Guide for direction on completing required HMMP and/or supplemental forms

- ☐ Completed Facility Information Forms, Hazardous Materials Inventory Statement (HMIS), Site Map, and Storage Plan (see HMMP Guide linked above for direction on these forms)
- ☐ Listing documents for all proposed equipment to be used for fruit and crop ripening operations
- ☐ Documentation that heating is by indirect means utilizing low-pressure steam, hot water, or warm air.
- ☐ Documentation of ethylene generators that are listed and labeled by an approved testing laboratory.
- ☐ List type of grounding and bonding for dispensing fixtures.
- ☐ A separate permit application is required for the storage and use of compressed gasses. Provide a copy of the permit or reference the separate application form in a narrative document.

Plan Details

The following is a list of information required on all plan submittals for review of a fruit and crop ripening permit. The plan shall be drawn to 1/8" = 1'-0" minimum scale. The applicant is required to submit all applicable information so an accurate and timely review may be completed:

General:

- ☐ Site plan to include a north arrow, a measurable scale for calibration purposes, fire hydrants, emergency access lanes and doors, vehicle gates, fire department connection, facility evacuation meeting point locations, sprinkler riser, fire alarm control panel, Knox Box, and roof access (if provided).
- ☐ Life safety plans to include building layout, exit routes, travel distance measurements, occupant load calculations, egress capacity, portable fire extinguisher locations, refuge areas, and fire-resistance-rated construction.
- ☐ Fire alarm and fire sprinkler plans (where provided)
- ☐ Floor plan/site plan showing location of fruit and crop ripening activities.

- ☐ Location of discharge of ethylene gas.
- ☐ Identify locations of the valve controlling discharge of ethylene providing positive and fail-closed control of flow and are set to limit the concentration of gas in air below 1,000 parts per million (ppm).
- ☐ Identify how and where the sources of ignition are controlled or protected.
- ☐ Identify how containers, piping and equipment used to dispense ethylene are bonded and grounded to prevent the discharge of static sparks or arcs.

Permit Conditions

The following is a list of WSFC Chapter 25 requirements related to fruit and crop ripening. Use this form to confirm that all applicable requirements are met. Non-applicable requirements can be left blank.

General:

- ☐ Ripening processes where ethylene gas is introduced into a room to promote ripening of fruits, vegetables and other crops shall comply with WSFC 2501 (WSFC 2501.1).
  Exception: Mixtures of ethylene and one or more inert gases in concentrations that prevent the gas from reaching greater than 25 percent of the lower flammability limit when released into the atmosphere.
- ☐ Empty boxes, cartons, pallets, and other combustible waste shall be removed from ripening rooms or enclosures and disposed of at regular intervals in accordance with WSFC Chapter 3 (WSFC 2505.1).
- ☐ Ethylene generators shall be listed and labeled by an approved testing laboratory and used only in approved rooms in accordance with the ethylene generator manufacturer's instructions. The listing evaluation shall include documentation that the concentration of ethylene gas does not exceed 25 percent of the lower explosive limit (WSFC 2506.1).
- ☐ Ethylene generators shall be used in rooms having a volume of not less than 1,000 cubic feet. Rooms shall have air circulation to ensure even distribution of ethylene gas and shall be free from sparks, open flames, or other ignition sources (WSFC 2506.2).
- ☐ Approved warning signs indicating the danger involved and necessary precautions shall be posted on all doors and entrances to the premises (WSFC 2507.1).

Ethylene Gas:

- ☐ Ethylene gas shall be discharged only into permitted rooms or enclosures designed and constructed for this purpose (WSFC 2503.1).
- ☐ Valves controlling discharge of ethylene shall provide positive and fail-closed control of flow and shall be set to limit the concentration of gas in air below 1,000 ppm (WSFC 2503.2)

Sources of Ignition:

- ☐ Sources of ignition shall be controlled or protected in accordance with WSFC Chapter 3 along with this section (WSFC 2504.1).
- ☐ Electrical wiring and equipment, including luminaires, shall be allowed for use in Class I, Division 2, Group C hazardous (classified) locations (WSFC 2504.2)
- ☐ Containers, piping and equipment used to dispense ethylene shall be bonded and grounded to prevent the discharge of static sparks or arcs (WSFC 2504.3).
- ☐ Lighting shall be approved electric lamps or luminaires only (WSFC 2504.4).
- ☐ Heating shall be by indirect means utilizing low-pressure steam, hot water, or warm air (WSFC 2504.5).
  Exception: Electric or fuel-fired heaters approved for use in hazardous (classified) locations and that are installed and operated in accordance with the applicable provisions of NFPA 70, the International Mechanical Code of the International Fuel Gas Code.

NOTE: *This is not intended to be an all-inclusive list. The WSFC requirements listed are intended to ensure that we have adequate information to begin a review of the application. Additional information may be required.*

I understand that all applicable codes apply and that other regulatory codes may also apply. Errors and/or omissions on the plans and corrections from field inspections are the responsibility of the owner/contractor. All work is subject to compliance with City of Vancouver ordinances and laws of the State of Washington.

APPLICANT NAME:_____APPLICATION DATE: _____

APPLICANT SIGNATURE: _____