City of Bellevue Fire Department
P.O. Box 90012
Bellevue, WA 98009

Operational Permit Application

Carbon Dioxide (CO_2) Systems Used In Beverage Dispensing

Work or activity requiring a permit shall not commence until such work or activity has been inspected and authorized with a valid permit. Violation of this condition may result in additional permit or inspection fees.

GENERAL INFORMATION (*to be completed by the permit applicant* (PLEASE PRINT)

Business Name:		
Address:		
City:	State:	Zip:
Contact Person:	Phone No.	
Email Address:		

LOCATION OF PERMITTED ACTIVITY (*if different than above* (PLEASE PRINT)

Business Name:		
Address:		
City:	State:	Zip:

PERMIT BILLING (*if different than above* (PLEASE PRINT) *(Permits will be invoiced by the City of Bellevue)*

Business Name:		
Address:		
City:	State:	Zip:
Contact Person:	Phone No.	
Email Address:		

Permit fee: Please refer to the website for the permit fee amount, which will be invoiced by the City of Bellevue in the following manner:

- Temporary use permits are invoiced within 30 days of permit issuance.
- Until revoked permits are invoiced January each year.
- All permits are subject to a late fee if not paid within 30 days of receipt.

Governmental or non-profit organizations are exempt from permit fees. If non-profit, please provide IRS documentation for non-profit status.

_____ _____

Applicant Signature Date

FIRE PREVENTION OFFICE USE ONLY:

Specific Permit Conditions:		
Application Disposition: ☐ Approved ☐ Denied		
Reason for Denial:		
Reviewed / Inspected By:		Date:

City of Bellevue
Post Office Box 90012 • Bellevue, Washington • 98009 9012

PERMIT CONDITIONS

Carbon Dioxide (CO_2) Systems Used In Beverage Dispensing

The following conditions shall be adhered to at all times for the permit to be valid.

1. An operational permit is required for carbon dioxide systems used in beverage dispensing applications having more than 100 pounds of carbon dioxide.

2. The storage, use, and handling of liquid carbon dioxide shall be in accordance with all of the following and the applicable requirements of NFPA 55 - Chapter 13. Insulated liquid carbon dioxide systems shall have pressure relief devices vented in accordance with NFPA 55 and/or (Section 6) below.

3. Carbon dioxide systems shall be installed so the storage tanks, cylinders, piping and fittings are protected from damage by occupants or equipment during normal facility operations.

4. Where carbon dioxide storage tanks, cylinders, piping and equipment are located indoors, where a leak can collect, these areas shall be provided with either ventilation in accordance with (Section 4.1), or an emergency alarm system in accordance with (Section 4.2) below.

    4.1 **Ventilation**. Mechanical ventilation shall be in accordance with the International Mechanical Code and shall comply with all of the following:

        a. Mechanical ventilation in the room or area shall be at a rate of not less than 1 cubic foot per minute per square foot.

        b. Exhaust shall be taken from a point within 12 inches of the floor.

        c. The ventilation system shall be designed to operate at a negative pressure in relation to the surrounding area.

    4.2 **Emergency alarm system.** An emergency alarm system shall comply with all of the following:

        a. A construction permit is required for the installation of or modification to detection systems and related equipment.

        b. Continuous gas detection shall be provided to monitor areas where carbon dioxide can accumulate.

        c. The threshold for activation of an alarm shall not exceed 5,000 parts per million.

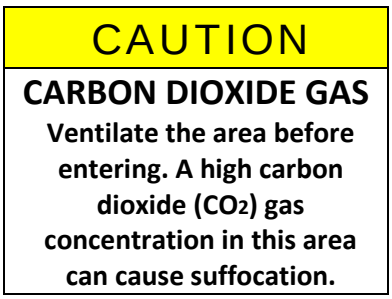
d. Activation of the emergency alarm system shall initiate a local alarm within the room or area in which the system is installed.

e. Gas detection equipment shall be installed, calibrated, maintained and replaced in accordance with the manufacturer's instructions. The manufacturer's instructions together with calibration and maintenance records shall be posted in the immediate vicinity of the gas detection equipment.

5. A warning sign shall be posted at the entrance to the building, room, enclosure, or confined area where the container is located.

   The warning sign shall be at least 8 inches wide and 6 inches high and state the following: **"CAUTION — CARBON DIOXIDE GAS**. Ventilate the area before entering. A high carbon dioxide (CO_2) gas concentration in this area can cause suffocation."

   Example:



6. Pressure relief devices shall be piped to the outdoors where the discharge will not impinge on the structure, personnel, or means of egress and will not create a hazardous concentration of carbon dioxide.

   Vent piping systems serving pressure relief devices shall be protected from water intrusion to prevent moisture or solid carbon dioxide from collecting and freezing and interfering with the operation of the pressure relief device.

   Carbon dioxide can form dry ice, which can accumulate and block the vent line. Chances of this can be enhanced if a pressure relief device is located too close to the container.

7. Containers, cylinders, and tanks shall be provided with a pressure gauge and a level gauge or device for indicating the quantity of liquid carbon dioxide.

   These devices shall be designed for the temperatures and pressures associated with liquid carbon dioxide service.

   Where containers, cylinders, and tanks are in locations remote from the filling connection, a means to determine when the containers have been filled to their design capacity shall be provided and shall be verifiable from the filling connection.