



## CLARK COUNTY FIRE DEPARTMENT - FIRE PREVENTION BUREAU

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### Permit Submittal Guideline

## COMPRESSED GASES

This guide is to assist in the submittal for a permitting process for an annual renewable operational permit for the storage or use of compressed gases. An operational permit is required per section 105.6.3 of the IFC where the compressed gases in use or storage in exceed the table below. A construction permit is required to install, repair damage to, abandon, remove, place temporarily out of service, close or modify a compressed gas system.

PERMITABLE QUATITIES FOR COMPRESSED GASES per CCFC TABLE 105.5.9	
TYPE OF GAS	AMOUNT (cubic feet at NPT)
Carbon dioxide used in carbon dioxide enrichment systems	875 (100 lb.)
Carbon dioxide used in insulated liquid carbon dioxide beverage dispensing applications or theatrical fog effects	875 (100lb.)
Corrosive	200
Flammable (except cryogenics fluids and liquified petroleum gases)	200
Highly Toxic	Any amount
Inert and Simple Asphyxiant	6,000
Oxidizing (including Oxygen)	504
Pyrophoric	Any amount
Toxic	Any amount
See the Permit Guide for Carbon Dioxide for any use of CO2.	
Refer to Med-Gas permit guide for medical gas distribution piping system permits	

### APPLICABLE CODES:

The following codes and standard apply to this permit.

- *International Fire Code*, 2024 edition (IFC)
- *Clark County Fire Code Amendments*, 2024 edition (CCFC)
- *Compressed Gases and Cryogenic Fluids Code*, 2023 Edition NFPA 55

### SUBMITTAL REQUIREMENTS:

The requirements in this guide are not intended to be all inclusive, nor do they entail a limit to the extent of the information, etc., which may be necessary to properly evaluate the submitted plans and documents. Reference IFC Chapter 53 and provide all applicable information that pertains to your permit. Correlate your PDFs and upload them to the PLAN ROOM.

**1. PROJECT INFORMATION:**

- Project name, address, and Assessor's Parcel Number (APN).
- Contractor's/Owner's contact information.
- Include the gases and storage sizes for permit
- Provide a narrative on the use of the compressed gas

**2. SITE PLAN: Provide site plan of the building showing the following locations:**

- Provide overall site and floor plan of the building area and clearly identify the location/type of compressed gas storage; inside or outside, control area(s), gas enclosures, etc.
- Locate building and provide distance between storage areas, distance to lot lines, distance to public streets, alleys or ways, distances to any other building on the property.
- Depending on the type of gas these separation numbers may differ. Refer to Appendix A of this guide for supplemental information on the NFPA 55 separation tables.
- Provide location of the storage gas cylinders, containers, and tanks in comparison to incompatible materials: **20 foot minimum.**
- For flammable gases ensure clearances to combustibles: **10 foot minimum.**
- **Please Note: When clearance cannot be provided. A non-combustible partition without openings or penetrations extending not less than 18 inches wider than storage container can be provided.**

**3. FIRE PROTECTION: Provide information on the building Fire Protection systems**

- Information on the building sprinkler system.
- Information on the Ventilation system, requirements shall meet IFC 5004.3.1
- In lieu of mechanical ventilation, a gas detection system designed per IFC 916 shall be permitted

**4. SIGNS: Provide information on NFPA 704 Hazard Identification Signs at the following locations:**

- On stationary aboveground tanks or containers.
- At the entrances to locations where hazardous materials are stored, dispensed, used, or handled.
- Provide the location of required "No Smoking" signs within 25 feet.

**5. TANK INFORMATION: Provide information on storage gas cylinders, containers, or tank(s):**

- State the gas being stored and provide total storage volume in cubic feet.
- Provide Hazardous Material Inventory Statement (HMIS) for all gases.
- Include quantity, make, model, size, and specification sheet for the tanks.
- Indicate the tank storage method, rack or cabinet, and method of vehicle impact protection if necessary.
- Locate on site plan

Please Note: The Fire Code considers all cylinders full, so both full and empty cylinders. Be sure to provide the maximum amounts with this in mind.

## **APPENDIX A:**

### ***Compressed Gases and Cryogenic Fluids Code, 2016 Edition NFPA 55 Separation Tables***

Reference NFPA 55 for required clearances specific to the gas.

- Separation of Gas Cylinders, containers and tanks; Table 7.1.10.2
- For Non-Bulk Flammable gases: Table 7.6.2
- For Oxidizing gases: Table 7.7.2
- For Pyrophoric gases: Table 7.8.3
- For Highly Toxic gases the distance shall not be within 75 feet of lot lines, streets, alleys, public ways, egress or buildings with such storage or use. with a 2hr fire barrier requirement.
- Provide the Location of Air intakes; ensure 75 feet clearance is provided from storage or use of toxic gases.
- For Corrosive Gases; 20 feet from buildings, lot lines, streets, alleys, public ways.

NFPA 55 can be viewed on the NFPA free access web-site. Click "List of Codes and Standards" after using the following link and find NFPA 55.

<https://www.nfpa.org/Codes-and-Standards/All-Codes-and-Standards/Free-access>