City of Rancho Cucamonga
BUILDING AND SAFETY SERVICES DEPARTMENT
10500 Civic Center Drive | Rancho Cucamonga, CA 91730
Tel: (909) 477-2710 | Fax: (909) 477-2711 | www.CityofRC.us

CNG RESIDENTIAL VEHICLE FUELING APPLIANCE (VFA) PLAN REVIEW CHECKLIST

(NO MINOR DEVELOPMENT REVIEW (MDR) REQUIRED BY PLANNING DEPARTMENT)

Unit is required to be install as per RCFPD standard 22-1

THIS SECTION TO BE COMPLETED AT THE PERMIT COUNTER BY THE INSTALLING CONTRACTOR

Equipment & Project information

Site Address _____
Permit Number _____
Manufacture's Name_____
Unit Serial Number _____
Unit Model Number _____
Installation Contractor _____
Contractor's Contact Information _____
Site plan with location of CNG filling unit _____yes _____no
Manufacturer installation guide is attached to site/floor plan _____yes _____no

Electrical Requirements:

Dedicated Electrical Circuit? _____yes _____no
Minimum Circuit Ampacity Rating? ____ 15 Amps ____ 20 Amps
Disconnect @ least 5 feet away and within sight of unit _____yes _____no

Gas Requirements:

New gas line installed from existing gas meter _____yes _____no
Size ___inch Length ___ ft
Note: All gas connections must be tested
Drip leg/sediment trap installed _____yes _____no
Test port installed (used to measure inlet pressure) _____yes _____no
BTU Requirements_____
Manual Shut off Valve (1/4 turn) _____yes _____no
Remote Gas Detector Installed _____yes _____no
Excess Flow Valve Installed _____yes _____no

Installation Requirements:

Location of Unit _____outdoors _____ indoors
Setback from Property Line _____ft
Unit is protected from rain _____yes _____no
Unit venting is routed to exterior _____yes _____no
Size of Vent _____inches
Vehicle Protection Req'd _____yes _____no
How is protection accomplished? _____
Has signage been installed? _____yes _____no
How indoor venting is accomplished? _____sq. inches

THIS SECTION TO BE COMPLETED IN THE FIELD BY THE INSTALLING CONTRACTOR AND GIVEN TO THE BUILDING INSPECTOR FOR FINAL INSPECTION

NOTE: Before leaving the site, installer must instruct the user in the proper operation of CNG unit.

Unit is installed per the manufacturer's installation guide _____yes _____no
If not, Explain _____

Signature of installer: _____Print Name: _____
License No.:_____

Rancho Cucamonga Fire Protection District
Prevention Bureau Standard

Title: **Residential Fueling Operations – Compressed Natural Gas (CNG)**	
Standard # 22-1	Effective: August 2011
Page 1 of 3	Revised

INTENT

The intent of this standard is to establish consistent regulations for the installation, use, and maintenance of residential fueling equipment operated in single-family and multi-family occupancies. These regulations apply to all installations within the jurisdiction of the Rancho Cucamonga Fire District.

AUTHORITY

This standard is in accordance with RCFPD Ordinance FD50, the 2010 California Fire Code, and National Fire Protection Association (NFPA) Standard 52.

ADOPTED STANDARD

1. General Requirements

a. The plans for the equipment installation must be submitted to the Building and Safety Department for review and approval. The plans must be prepared in accordance with the requirements of the Building Department and the requirements of the Fire District.

b. Fire District requirements are contained within this standard.

c. For Building Department requirements, refer to the Building Department's document titled CNG Residential Vehicle Fueling Appliance Plan Review Checklist.

d. A Fire District operational permit and inspection are required prior to operating residential compressed natural gas fueling equipment.

e. The capacity of residential compressed natural gas fueling equipment shall not exceed five scf/min of natural gas.

f. Storage of compressed natural gas other than fuel stored in a vehicle's fuel supply container is prohibited.

2. System Component Qualifications

System components not part of a listed vehicle fueling appliance shall be listed and comply with the appropriate provisions in NFPA 52.

3. General Safety Requirements

a. All equipment related to the installation of residential compressed natural gas fueling equipment shall be protected to minimize the possibility of physical damage and vandalism. The equipment shall be installed within the property where it can be locked to prevent public access.

b. Vehicle impact protection shall be provided and shall be in accordance with the Fire Code. Guard posts (bollards) shall be concrete filled steel posts with a minimum diameter of four inches.

c. Vehicles containing fuel-fired equipment (e.g. recreational vehicles) shall be considered a source of ignition unless this equipment is shut off completely before entering an area in which ignition sources are not permitted.

d. Where more than one vehicle fueling appliance is located in a common area, spacing between the appliances shall not be less than three feet unless permitted by the manufacturer's listing.

4. Installation

a. General

i. All residential compressed natural gas fueling equipment shall be installed in accordance with the equipment manufacturer's instructions.

ii. The residential compressed natural gas fueling equipment shall have a nameplate marked with minimum and maximum gas inlet pressures and flow rates, gas outlet maximum pressure, and electrical requirements.

b. Indoor Installations

i. Where it is necessary to install the compression unit and fueling connections indoors, the compression unit shall be mounted or otherwise located such that the compression unit is vented outdoors.

ii. Where the residential compressed natural gas fueling equipment or the vehicle being fueled is located indoors, a gas detector set to operate at one-fifth the lower flammable limit (LFL) of natural gas shall be installed in the room. The detector shall be located within six inches of the ceiling or the highest point in the room.

iii. A residential compressed natural gas fueling system that is listed shall be permitted to utilize a combination of ventilation with a gas detector to ensure that the room is maintained at a level below one-fifth of the lower flammable limit of natural gas. This shall be deemed equivalent to a gas detector located within six inches of the ceiling or the highest point in the room.

iv. The detector shall be installed such that activation of the detector will stop the compressor and operate an audible or a visual alarm.

c. Outdoor Installations

Residential compressed natural gas fueling equipment shall be installed on a firm, non-combustible support to prevent undue stress on piping and conduit.

d. **Pressure Control and Relief**
   i. Pressure relief valves shall have pressure relief device vents or vent lines to convey escaping gas to the outdoors and then upward to a safe area to prevent impinging on buildings, other equipment, or areas open to the public (e.g. sidewalks).

   ii. Residential compressed natural gas fueling equipment shall be equipped to stop fuel flow automatically when the container(s) reaches the temperature-corrected fill pressure.

e. **Piping and Hose**
   i. All piping and hose from the outlet of the compressor shall be supplied as part of the residential compressed natural gas fueling equipment.

   ii. All gas piping to the residential compressed natural gas fueling equipment shall be installed in accordance with the California Plumbing and Mechanical codes.

   iii. The use of hose in an installation shall be restricted to the following:
      A. Fueling hose shall be limited to a maximum length of 25 feet and shall be supported above the floor/ground level or otherwise protected from mechanical damage from abrasion and being driven over by a vehicle.

      B. A maximum of three feet in length where used to prevent abrasion damage resulting from vibration on the inlet, outlet, or both.

      C. Bleed connections shall lead to a safe point of discharge.

f. **Emergency Shut Down Equipment**
   i. Residential compressed natural gas fueling equipment shall be equipped with emergency manual shutdown of the gas supply and electric power.

   ii. The emergency electrical disconnect switch shall be at least five feet from the residential compressed natural gas fueling equipment and in view of the fueling equipment.

   iii. Breakaway protection shall be provided in a manner so that, in the event of a pull away with the fueling hose attached, natural gas ceases to flow.

5. Testing

All piping and tubing shall be tested after assembly to be proven free of leaks at a pressure equal to the maximum service pressure of that portion of the system.

6. Operation

a. Residential compressed natural gas fueling equipment shall be operated in accordance with the manufacturer's instructions.

b. When compressed natural gas is being transferred to the motor vehicle, the engine shall be turned off.

7. Maintenance and Inspection

All residential compressed natural gas fueling equipment shall be inspected and maintained in accordance with the manufacturer's instructions.