

Huntington Beach Fire Department

Oil Field Gas Fired Appliances – Stationary and Portable

All oil field gas fired/gas burning appliances (shipping heaters, line heaters, thermal oxidizers) and related equipment shall be installed and operated in compliance with the applicable provisions of this City Specification. Appliances/related equipment shall conform to all applicable electrical, plumbing, mechanical, fire and other related codes.

REQUIREMENTS

1. APPLICATION

1.1 New or modified oil field related gas fired appliances are subject to the following:

- A construction permit is required for all fixed and portable oil field appliances regulated by this City Specification.
NOTE: Prior to installation, other City of Huntington Beach departments or regulatory agency permits may be required (e.g., Department of Planning and Building, etc.).
- Design and condition of the appliance;
- Proper installation methods and materials;
- Compatibility with other equipment at the location;
- Compatibility with surrounding area land uses or potential negative impacts on the community;
- Safe operation of the appliance.

1.2 Unless otherwise approved, oil field gas burning appliances should be of a listed type by an approved and recognized testing agency.

- **Approved Testing Agency** – An established and recognized agency regularly engaged in conducting tests or furnishing inspection services.
- **Approved Design of Equipment** – Each appliance shall be approved and comply with nationally recognized standards as evidenced by the listing and label of an approved agency, such as Underwriters Laboratories (UL).

Oil Field Gas Fired Appliances – Stationary and Portable

- **Oil Field Appliance** – A portable or fixed appliance used in conjunction with oil, gas, or other hydrocarbon production which utilizes fuel gas or other forms of energy to produce light, heat or power.
- 1.3 **Unlisted Appliances** – A third party certification shall be utilized from a recognized testing agency to assist in establishing that an appliance is inherently safe and will have a minimal impact to the surrounding area.
- 1.4 **Existing Installations** – Mechanical systems in existence at the time of adoption of this code may have their use, maintenance, or repair continued if in accordance with the original design and location, and if not a hazard to life, health or property.
- 1.5 **Permits** – No appliance regulated by this City Specification shall be installed, repaired, replaced or remodeled unless a permit approval has been obtained from the Department of Planning & Building and the Fire Department. Submission of plans, specifications, drawings and other information, as deemed necessary, may be required.
- Once a particular oil field gas appliance (stationary or portable) equipment operating location is approved, other appliances, equipment or locations may not be substituted without permit reapplication.
- 1.6 **Inspection** – A joint inspection shall be conducted by the Department of Building & Safety and the Fire Department after the appropriate permits are obtained and prior to use. An air test shall be required on all piping systems, including the check valve, if required.
- 1.7 **Maintenance** – All mechanical systems, materials and accessory components, both existing and new, and all parts thereof shall be maintained in proper operating condition. All devices or safeguards, which are required by this code, shall be maintained. The owner or the owner's designated agent shall be responsible for maintenance of the mechanical systems or equipment.

2. DESIGN

- 2.1 **Access** – Oil field gas appliances shall provide a minimum unobstructed working area of 30 inches around the device.
- Set-back and vent termination requirements shall be established and approved for each portable appliance or equipment prior to use (see sections 2.7 and 2.8 below).
- 2.2 **Anchorage of Appliances or Equipment** – Appliances and related equipment shall be securely fastened in place.
- While connected or otherwise in use, appliances shall be restrained from movement with chock blocks or other suitable means.

Oil Field Gas Fired Appliances – Stationary and Portable

- 2.3 **Fuel Input Rate** – Fuel input rate to listed or rated equipment or appliance shall not be modified without the manufacturer's approval.
- 2.4 **Recognized Fuel Source** – Each appliance shall be designed and listed for the type of fuel to which it will be connected, and utilize a recognized fuel source. All dual gas systems or oil production sites with the potential for conversion to a dual gas system shall be provided with back flow protection.
- **Domestic Gas (Dry Gas) Hook-Ups** – Gas supply is obtained from a domestic meter to supply the oil field gas fired appliance. Gas systems shall be located so as to be protected from damage.
 - **Well Gas (Wet Gas) Hook-Ups** – Gas supply is obtained from one or more wellheads to supply the oil field gas fired appliance.
 - **Wellhead Piping** – All medium or high pressure piping connected to the wellhead, prior to the regulator, shall be constructed from approved steel pipe of appropriate size and strength. A high pressure shut-off valve shall be located at the wellhead. Sound oil field design, practices, materials and workmanship shall be utilized.
 - **Gas Scrubber** – Shall be installed and utilized for the purpose of removing liquids from the well gas.
 - **Appliance Piping** – All piping connected from the regulator to the appliance shall be constructed from approved pipe of appropriate size and strength. An additional approved shut-off valve shall be located within 6 feet of the appliance.
 - **Dual Gas Hook-Up (Interjections)** – A combination of well gas (wet gas) and domestic gas (dry gas) system.
 - **System Isolation Equipment** – An approved check valve shall be installed to protect and isolate the domestic (dry) gas system from the intrusion of gas and liquids from the well (wet) gas system. All dual gas systems shall conform to the Huntington Beach Municipal Code (HBMC).
 - **Check Valve** – The check valve shall be located on the gas line leading from the domestic meter. This device may be either a spring-loaded or diaphragm type check valve and shall be capable of withstanding the pressures imposed on it. Check valves shall be of an approved type, such as Circle Seal 232B-8PP-.15, Viton, MIL-R-83248 TP.I.CL.I (AMS 7280), or equivalent.

Oil Field Gas Fired Appliances – Stationary and Portable

- **Dedicated Gas Meter** – A dedicated gas meter shall serve oil leases utilizing a dual gas hook-up. Gas meters servicing a dual gas hook-up should not be manifolded with meters servicing residential, commercial or other buildings.
 - **Fuel Supply to Gas Appliance Connection** – Appliances shall be rigidly connected to the gas supply outlet in an approved manner with approved materials.
 - **Connection Tubing** – An approved, listed, semi-rigid or flexible metal tubing connection may be used to connect a gas appliance or device provided an approved shut-off valve is used between the gas supply and such connector.
 - **Regulators** – All fuel gas supplied to oil field gas appliances shall be regulated to the appropriate working pressure by a gas pressure regulator. Shut-off valves shall not be used to regulate working gas pressure to appliances in place of an appropriate gas pressure regulator.
- 2.5 **Gas Piping Installation and Materials** – All piping and valves shall be of an approved type installed in accordance with the manufacturer recommendations and shall meet all HBMC requirements.
- **Exposed Piping** – Shall be kept at least 6 inches above grade. Piping installed underground shall be buried to a minimum depth of 12 inches and shall be protected by an approved coating or wrapping. Gas piping shall not be strained or bent, nor shall appliances be supported by or develop strain or stress on supply piping.
- 2.6 **Protection** – All appliances, piping and related equipment shall be located, routed, supported, guarded or installed so as to be protected from mechanical damage.
- Exposed moving machinery such as flywheels, fans, belts and hot surfaces shall be guarded.
 - Water lines with elevated temperatures in excess of 140° F shall be buried to a minimum depth of 12 inches or wrapped with approved 1 inch thick outdoor pipe insulation.
- 2.7 **Set-Back Guidelines**
- All portions of an oil field gas fired appliance shall be set-back a minimum of 25 feet from property lines or buildings. Manufacturer recommendations shall be utilized if the distance specified is greater than 25 feet.

Oil Field Gas Fired Appliances – Stationary and Portable

- When it can be demonstrated that the appliance is inherently safe and will have minimal impact to the surrounding area, the set-back to property lines or buildings may be reduced at the discretion of the Fire Code Official.
- Specific consideration shall be given to the existing adjacent land uses, type of buildings, construction features, potential exposures, and the type/size/capacity of the appliance. Large, over-sized, or high volume appliances may require additional set-back distance or other measures.
- Oil field gas fired appliances or other open flame shall not be located closer than 25 feet to a wellhead, oil storage or production tank. *(HBFC Section 3406.3.1.1)*
- The Fire Code Official may require the set-back distance to be increased or other mitigation measures be utilized when it is determined that the heat, noise, odor, exhaust, or vibration produced by an oil field gas fired appliance would be or is detrimental to the health, safety, welfare or peace of the surrounding neighborhood.
- Appliances utilizing well gas that contains higher than normal levels of hydrogen sulfide, sulfur dioxide, or other dangerous gases may require additional set-back distances, detection systems or other safety measures.

2.8 **Venting Termination** – All vent termination shall be in accordance with the Mechanical or Building Code general set-back requirements, but in no case less than 4 feet from property lines or 8 feet from any vertical obstruction or wall.

APPROVED: _____
Patrick McIntosh, Fire Chief

DATE: _____