APPENDIX J-5:
CITY OF LOS ANGELES, LOS ANGELES MUNICIPAL CODE, CHAPTER IX, ARTICLE 1 (BUILDING CODE), DIVISION 71, "METHANE SEEPAGE DISTRICT REGULATIONS," ORDINANCE NO. 170,953, EFFECTIVE MARCH 17, 1996

Chapter 71
METHANE SEEPAGE DISTRICT REGULATIONS

SECTION 7101 — PURPOSE

This chapter sets forth the minimum requirements of the City of Los Angeles for control of methane intrusion emanating from geologic formations. The requirements do not regulate flammable vapor that may originate in and propagate from other sources which include, but are not limited to, ruptured hazardous material transmission lines, underground atmospheric tanks or similar installations.

(Note: The provisions of this chapter were formerly found in Chapter 15.)

SECTION 7102 — DEFINITIONS

For purposes of this chapter, certain words and phrases are defined as follows:

ADEQUATE VENTILATION shall mean the mechanical ventilation of a structure corresponding to a minimum of four air changes per hour.

FLAMMABLE GAS shall mean any gaseous substance capable of sustaining combustion or explosion.

GAS-DETECTION SYSTEM shall mean one or more electrical devices capable of continuous monitoring for the presence of flammable gas and containing an audible alarm capable of alerting occupants that a hazardous atmosphere exists. The system and any device which is part of the system shall be subject to Department of Building and Safety and fire department approval.

MULTIPLE RESIDENTIAL shall mean a use occupancy by more than two families.

QUALIFIED ENGINEER shall mean a civil engineer currently registered in the state of California who possesses experience in the design of subsurface gas-control systems.

SINGLE FAMILY shall mean a use occupancy by two families or less.

UNENCLOSED BUILDING shall mean a roofed structure where exterior walls have openings equal to at least 25 percent of the total perimeter wall area.

VENT SYSTEM shall mean a series of perforated pipes composed of acceptable materials, suitably designed and installed above the water table to collect and disperse flammable gas.

SECTION 7103 — BOUNDARIES

Boundaries of zones set forth herein are measured from center line to center line of named streets unless otherwise described, and are more specifically designated graphically by the copy of the map designated Plate 4 attached to Council File No. 85-0563-S3, the original of which map is on file with the Department of Building and Safety of the city. East, south, north, west and similar directions are general only.

7103.1 High Potential Methane Zone Boundaries. High potential methane zone boundaries are as follows:

Detroit Street south from Third Street to Fourth Street, east to La Brea Avenue, south to Sixth Street, west to Detroit Street, south to Wilshire Boulevard, west to Cloverdale Avenue, south to Olympic Boulevard, west to Stanley Avenue, north to Eighth Street, west to San Diego Way, north to Warner Drive, west to McCarthy Vista, north to Wilshire Boulevard, west to La Jolla Avenue, north to Orange Street, west to Sweetzer Avenue, north to Blackburn Avenue, east to La Jolla Avenue, north to First Street, east to Fairfax Avenue, southeast on a line to a point 250 feet (76 200 mm)

north of Third Street and approximately 250 feet (76 200 mm) west of the center line of Gardner Avenue, south to Third Street and east to Detroit Street.

7103.2 Potential Methane Zone Boundaries. Potential methane zone boundaries are as follows:

Rossmore Avenue south from Melrose Avenue to Eighth Street, west to La Brea Avenue, south to Olympic Boulevard, west to San Vicente Boulevard, northwest along San Vicente Boulevard to Third Street, west to Robertson Boulevard, north to Beverly Boulevard, east to La Cienega Boulevard, north to Oakwood Avenue, east to La Brea Avenue, north to Melrose Avenue and east to Rossmore Avenue.

SECTION 7104 — HIGH POTENTIAL METHANE ZONE REQUIREMENTS

7104.1 Existing Construction.

7104.1.1 All commercial, industrial and institutional buildings shall have an approved methane control system, which shall include the following minimum requirements: a vent system and a gas-detection system, installed in the basement or lowest floor level on grade, and within the underfloor space in buildings with raised foundations. The gas-detection system shall be designed to automatically activate the vent system when an action level equal to 25 percent of the Lower Explosive Limit (LEL) methane concentration is detected within those areas.

7104.1.2 All multiple residential buildings shall have adequate ventilation as defined in Section 7102 of this code or a gas-detection system installed in the basement or on the lowest floor level on grade, and within the underfloor space in buildings with raised foundations.

7104.1.3 Paved areas over 5,000 square feet (465 m^2) and within 15 feet (4572 mm) of the exterior wall of commercial, industrial, institutional or multiple residential buildings shall be vented.

7104.1.4 All single-family dwellings with basements shall have a gas-detection system which is periodically calibrated and maintained in proper operating condition in accordance with manufacturer's installation and maintenance specifications.

EXCEPTION: Dwellings on raised foundations having basements open above ground level on at least three sides to a suitably ventilated underfloor area.

7104.1.5 Any building located within both the high potential methane zone and the potential methane zone shall comply with the more restrictive provisions of the high potential methane zone.

7104.1.6 Unenclosed buildings are exempt from this section. Enclosed rooms located within an unenclosed building shall comply with the requirements of this section.

7104.2 New Construction.

7104.2.1 All commercial, industrial, institutional and multiple residential buildings shall be shielded between the building and the earth by a sealing layer of oil-resistant materials approved by the department.

7104.2.2 All commercial, industrial, institutional and multiple residential buildings over 50 feet (15 240 mm) in width shall be provided with an approved vent system located under the shielding to provide venting to areas outside the building.

7104.2.3 All commercial, industrial, and institutional buildings shall be provided with an approved methane control system, which shall include these minimum requirements: a vent system and gas-detection system which shall be installed in the basements or the lowest floor level on grade, and within underfloor space of buildings with raised foundations. The gas-detection system shall be designed to automatically activate the vent system when an action level equal to 25 percent of the LEL methane concentration is detected within those areas.

7104.2.4 All multiple residential buildings shall have adequate ventilation as required by this code or a gas-detection system installed in basements or the lowest floor level on grade, and within the underfloor space of buildings with raised foundations.

7104.2.5 Paved areas over 5,000 square feet (465 m^2) and within 15 feet (4572 mm) of the exterior wall of commercial, industrial, institutional or multiple residential buildings shall be vented.

7104.2.6 All commercial, industrial, institutional and multiple residential buildings covering over 50,000 square feet (4645 m^2) of lot area or with more than one level of basement shall be independently analyzed by a qualified engineer, as defined in Section 7102, hired by the building owner. The engineer shall investigate and recommend mitigating measures which will prevent or retard potential methane gas seepage into the building. In addition to the other items listed in this section, the owner shall implement the engineer's design recommendations subject to Department of Building and Safety and fire department approval.

7104.2.7 All single-family dwellings with concrete slab floors on grade shall be shielded between the building and the earth by a sealing layer of oil-resistant materials approved by the department. An approved vent system shall be provided under the shielding to provide venting to areas outside the building.

7104.2.8 All single-family dwellings with basements shall have a gas-detection system which is periodically calibrated and maintained in proper operating condition as set forth in the manufacturing specifications.

7104.2.9 Swimming pools shall be permitted only where it can be demonstrated through engineering geological studies that the pool will be located above the high oil and ground water levels for this area.

7104.2.10 Unenclosed buildings are exempt from this section. Enclosed rooms located within an unenclosed building shall comply with the requirements of this section.

SECTION 7105 — POTENTIAL METHANE ZONE REQUIREMENTS

7105.1 Existing Construction.

7105.1.1 All commercial, industrial, institutional and multiple residential buildings shall have adequate ventilation or a gas-detection system installed in basements or the lowest floor level on grade, and within the underfloor space of buildings with raised foundations.

7105.1.2 When gas is detected on the site, paved areas over 5,000 square feet (465 m^2) and within 15 feet (4572 mm) of the exterior wall of commercial, industrial, institutional or multiple residential buildings shall be vented.

7105.1.3 All single-family dwellings with basements shall have a gas-detection system which is periodically calibrated and maintained in proper operating condition in accordance with manufacturer's installation and maintenance specifications.

EXCEPTION: Dwellings on raised foundations having basements open above ground level on at least three sides to a suitably ventilated underfloor area.

7105.1.4 Any building located within both the high potential methane zone and the potential methane zone shall comply with the more restrictive provisions of the high potential methane zone.

7105.1.5 Unenclosed buildings are exempt from this section. Any rooms located within an unenclosed building shall comply with the requirements of this section.

7105.2 New Construction.

7105.2.1 All commercial, industrial, institutional and multiple residential buildings shall be shielded between the building and the earth by a sealing layer of oil-resistant materials approved by the department.

7105.2.2 All commercial, industrial, institutional and multiple residential buildings covering over 50,000 square feet (4645 m^2) of lot area or with more than one level of basement shall be indepen-

dently analyzed by a qualified engineer, hired by the building owner. The engineer shall investigate and recommend mitigating measures which will prevent or retard potential methane gas seepage into the building. In addition to the other items listed in this section, the owner shall implement the engineer's design recommendations subject to Department of Building and Safety and fire department approval.

7105.2.3 All commercial, industrial, institutional and multiple residential buildings shall have adequate ventilation or a gas-detection system installed in basements or the lowest floor level on grade, and within the underfloor space of buildings with raised foundations.

7105.2.4 When gas is detected during soil exploration or foundation preparation, paved areas over 5,000 square feet (465 m^2) and within 15 feet (4572 mm) of the exterior wall of commercial, industrial, institutional or multiple residential buildings shall be vented.

7105.2.5 When gas is detected during soil exploration or foundation preparation, all commercial, industrial, institutional and multiple residential buildings over 50 feet (15 240 mm) in width shall be provided with an approved vent system located under the shielding to provide venting to areas outside the building.

7105.2.6 All single-family dwellings with basements shall have a gas-detection system which is periodically calibrated and maintained in proper operating condition as set forth in the manufacturer's specifications.

7105.2.7. Unenclosed buildings are exempt from this section. Enclosed rooms located within the unenclosed building shall comply with the requirements of this section.

7105.3 Any building located within both the high potential methane zone and the potential methane zone shall comply with the more restrictive provisions of the high potential methane zone.

SECTION 7106 — TESTING, MAINTENANCE AND SERVICE OF GAS-DETECTION SYSTEM

The testing, maintenance and service procedure for each gas-detection system shall be performed in accordance with the manufacturer's current written instructions. These instructions shall be approved and on file with the fire department. Testing and service shall be performed by a person approved by the fire department. Notwithstanding the manufacturer's instructions regarding frequency of the testing and service procedure, testing and service of each system shall be performed at least once annually.

SECTION 7107 — EMERGENCY PROCEDURES

With the exception of single-family dwellings, all buildings required by this chapter to have a gas-detection system or vent system shall, subject to fire department approval, have established emergency procedures which include, but are not limited to, the following:

1. Assignment of a responsible person as safety director to work with the fire department in the establishment, implementation and maintenance of an emergency plan.

2. Conspicuous posting of the fire department's telephone number in areas designated by the fire department.

3. Conspicuous posting of emergency plan procedures approved by the fire department.

SECTION 7108 — APPLICATION OF METHANE SEEPAGE DISTRICT REGULATIONS TO LOCATIONS OR AREAS OUTSIDE THE SECTION 7103 BOUNDARIES

Upon a determination by the Department of Building and Safety that a hazard may exist from methane intrusion at a geographical location or in an area outside the boundaries established in Section

7103, the Department of Building and Safety and the fire department may enforce any or all of the requirements of this chapter as required to preclude potential fire or explosion from methane concentration.

SECTION 7109 — ADDITIONAL REMEDIAL MEASURES

7109.1 In the event the concentration of methane gas in any building located in the high potential methane zone or in the potential methane zone reaches or exceeds 25 percent of the minimum concentration of gas that will form an ignitable mixture with air at ambient temperature and pressure, the owner shall hire a qualified engineer to investigate, recommend and implement mitigating measures. Such measures shall be subject to the approval of the Department of Building and Safety and the fire department.

7109.2 Any abandoned oil well encountered during construction shall be evaluated by the fire department and may be required to be reabandoned in accordance with applicable rules and regulations of the Division of Oil and Gas of the state of California.