DEC 18 2007

LOS ANGELES FIRE DEPARTMENT

DOUGLAS L. BARRY
FIRE CHIEF

BOARD OF FIRE COMMISSIONERS
FILE NO. 07-146

December 11, 2007

TO: Board of Fire Commissioners

FROM: Douglas L. Barry, Fire Chief DLB

SUBJECT: PLAYA VISTA

FOR INFORMATION ONLY:	_____ Approved	_____ Approved w/Corrections	_____ Withdrawn
	_____ Denied	_____ Received & Filed	_____ Other

For Information Only

On November 20, 2007, in response to public comment, the Board of Fire Commissioners directed the Fire Department to address concerns about Methane Mitigation and the Fire Department response in the development known as Playa Vista.

The Bureau of Fire Prevention and Public Safety has been actively involved with the Playa Vista project in a variety of ways including:

- Collaboration in the development of the Methane Mitigation Program guidelines.
- Inspections during phases of the construction to ensure methane detection systems and other mechanical mitigation systems have been subject to acceptance testing protocol prior to approval.
- Development of an annual testing and maintenance program for all detectors, alarms and mechanical venting system.
- Review and approval of Methane Evacuation Plan.

As a result of a June 2007, City Controllers Audit titled, "City's Oversight of Playa Vista 1," (Attachment 1) the Fire Department was directed to address several issues dealing with clarifying the requirements for methane mitigation and the responsibility, authority, and roles for their enforcement. On July 30, 2007, the Los Angeles Fire Department (LAFD), the Department of Building and Safety (LADBS), and the Department of City Planning, jointly responded to the Controller's Audit. In that response, we provided an action plan that outlined the actions and time lines necessary to address each of the recommendations (Attachment 2).

On September 12, 2007, a Memorandum of Understanding (Attachment 3) was signed by the heads of the General Managers of LAFD and LADBS that delineated the responsibilities of each Department in dealing with the following methane mitigation systems:

- Playa Vista Phase I Methane Mitigation Guidelines.
- Village at Playa Vista Building Methane Mitigation Guidelines.
- City Methane Ordinance.

As a result of the hard work of the members of the Bureau of Fire Prevention and Public Safety's Technical Section, especially Inspector Michael Ng and Captain Robert Holloway, the LAFD has done its due diligence in assuring safety for residents of the Playa Vista Community.

Background:

The Playa Vista Project is a large mixed-use project located in West Los Angeles, adjacent to Marina Del Rey and Loyola Marymount University, and has been under various stages of development for over 15 years.

The Playa Vista Project development consists of two phases:

Phase I development consists of approximately 433 acres with 3,246 residential units, approximately 3,000,000 square feet of commercial and light industrial, 35,000 square feet of retail, additional area for community services uses, and 46.4 acres of park and open space. The residential construction portion of Playa Vista Phase I is nearly complete and the light industrial portion has yet to start.

Playa Vista Project Phase II, also known as "The Village," consists of a 111 acre mixed-use community with approximately 2,600 residential units, 150,000 square feet of retail spaces, 175,000 square feet of office, 40,000 square feet of community service uses, and 29 acres of park and open space. Playa Vista Phase II. Except for tract grading, building construction has not yet commenced.

When completed, Playa Vista will provide approximately 5,800 residential units, over 3,000,000 square feet of office, commercial and industrial uses, over 160,000 square feet of community services (fire stations, libraries, and community centers), contain 185,000 square feet or retail uses, and 75 acres of parks and open spaces in the west side of Los Angeles. The Playa Vista Project is one of the single largest developments in the history of the City of Los Angeles.

Methane gas, which is lighter than air, is naturally occurring and is prevalent in various concentrations throughout most of the Los Angeles Basin including Venice, Westwood, Park La Brea, and Downtown Los Angeles. These areas are typically near naturally occurring oil fields, which underlie much of the Los Angeles Basin. Methane is found in significant concentrations in Torrance, Wilmington, and Hawthorne.

Methane gas is flammable, non-toxic, and lighter than air. Methane gas must be reach concentrations of 52,000 ppmv (parts per million by volume) in combination with air and a source of ignition in order to be flammable. Methane disperses rapidly outside of confined spaces.

In the mid-1980's, some buildings in the Fairfax area of Los Angeles caught fire as a result of trapped accumulating methane gas. A high concentration of naturally occurring methane gas was allowed to accumulate, and prevented from venting, resulting in a flammable concentration level of methane gas, which caught fire. This fire started in confined, unventilated portions of some buildings. As a result of the Fairfax area fire, City ordinances were revised in August of 1986 to require mitigation of methane gas hazards for all new buildings in the Fairfax area.

Experts developing the 1986 methane ordinance required a barrier and vent pipes that prevent methane gas from entering the building and safely redirect the gas away from building interiors. As a secondary safeguard, building interiors were outfitted with methane gas detectors and alarms. Methane gas concentrations detected within the buildings above the threshold level activate alarms and fans to safely remove the methane gas from building interiors.

The mitigation requirements of the 1986 ordinance have been effective as evidenced by the lack of subsequent methane related building fires and gas explosions in the Fairfax area.

In the Playa Vista studies mentioned above, the 2001 CLA Report required methane mitigation for all buildings at the Playa Vista project. Playa Vista contains state-of-the-art methane mitigation systems developed after numerous site-specific studies of the methane concentrations and gas levels that were done in collaboration with methane technical experts, LADBS, and the LAFD. The methane mitigation requirements used in the Playa Vista Phase I are the most rigorous in use anywhere in the United States.

As a result of lessons learned and new technologies in methane mitigation measures used in the Playa Vista project and concerns for methane hazards that may be found in other parts of the City, the City adopted the 2004 City-wide methane ordinance. Today, new construction in more than 20 percent of the City is afforded protection resulting from the Playa Vista studies.

It should be emphasized that the methane gas mitigation measures used in Playa Vista Phase I substantially exceeds those used by other cities and counties for construction. The measures are more conservative than the requirements mandated by the 2004 City-wide Methane Ordinance.

Conclusion:

The Bureau of Fire Prevention and Public Safety is well aware of the needs and safety concerns of the residents of Playa Vista and the have worked diligently to meet their needs and expectations. The LAFD has been and will remain in the forefront to provide leadership and to assure for the public safety regarding Methane Mitigation throughout the City of Los Angeles.

Board report prepared by Craig A. Fry, Assistant Chief, Office of the Fire Marshal.

Attachments

OFFICE OF
CONTROLLER

LAURA N. CHICK
CONTROLLER

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www.lacity.org/ctr

June 5, 2007

Honorable Antonio R. Villaraigosa, Mayor
Honorable Rockard J. Delgadillo, City Attorney
Honorable Members of the City Council
of the City of Los Angeles

SUBJECT: CITY'S OVERSIGHT OF PLAYA VISTA PHASE I DEVELOPMENT

My Audit Division conducted a review of the City's oversight responsibilities for the Playa Vista-Phase I Residential Development Project. The primary objectives were to determine if the responsible City Departments adequately ensured the guidelines established by the Chief Legislative Analyst (CLA) were followed.

Background

Playa Vista is a large commercial and residential development project in West Los Angeles. The site has varying concentration levels of methane gas and other possible contaminants in the soil and underground. In 2000, the CLA convened a working group consisting of the Department of Building and Safety (DBS), the Department of City Planning (Planning), the Department of Public Works Bureau of Engineering (BOE), and sought input from other City Departments and contracted peer reviewers to perform studies of the land and offer recommendations. After an extensive study, the CLA prepared a report entitled "City Investigation of Potential Issues of Concern for Community Facilities District No. 4 Playa Vista Development Project." The report included methane mitigation guidelines prepared by a Playa Vista-hired consultant, Sepich Associates Methane Specialists, in conjunction with other expert consultants and DBS. The CLA Report was presented to the Council in May 2001. Though not mandated by City ordinance until February 2004, the CLA Report became the accepted authoritative guidelines by all City Departments involved, for methane mitigation at Playa Vista – Phase I.

DBS, LAFD and Planning had significant oversight responsibilities with regards to ensuring compliance with the 2001 CLA Report. Some of these responsibilities

required Departments to expand from their traditional jurisdictions in order meet the challenges posed by this large-scale, technologically advanced project.

The scope of this review was limited to Departmental oversight of residential developments of Playa Vista-Phase I. It should be noted that a large portion of Playa Vista has yet to be developed. Groundbreaking for a 64-acre area zoned for Phase I commercial development commenced in April 2007. The City Council has also approved a second phase of development, "The Village at Playa Vista," which will include an additional 2,600 residential units, retail stores, restaurants and parks. The anticipated groundbreaking for Playa Vista Phase II is in 2008.

Summary of Review Results

Based on our review, we found that the required inspections, testing and approvals related to the installation of methane mitigation systems were performed for multi-family dwellings. However, the CLA Report did not make a distinction between single-family dwellings and multi-family or other commercial developments. In addition, it did not address potential conflicts over City departmental jurisdictions or professional qualifications when assigning oversight responsibilities. The vagueness of the CLA Report led to conflicting interpretations of the guidelines by DBS and LAFD. As a result, we found that there was inconsistent installation and acceptance testing of detection systems in some single-family homes.

We noted issues that must be addressed to ensure consistent protocols are followed relative to any and all City construction projects. City departments with oversight responsibilities must be provided with clearer lines of authority for the design, installation and testing of methane systems. The lack of clear authority resulted in poor coordination among City departments during Phase I. In addition, our review noted poor record-keeping by DBS that resulted in inconsistent documentation of the permit approval process. Significant issues and related recommendations are presented here for your consideration.

The Phase I guidelines were inadequate by not clearly defining the requirements for different types of properties.

The 2001 CLA Report contains a set of guidelines called the "Playa Vista Methane Prevention, Detection and Monitoring Program." The guidelines state that a methane system, including prevention, detection and monitoring systems, will be implemented for properties located at Playa Vista. However, no

distinction was made between commercial or residential properties, or different types of residential projects, such as single-family and multi-family homes.

Our review noted that all properties included a methane prevention system, and all but one, a development of single-family homes located in a lower level methane area, also included detection systems.

- DBS approved building plans without the inclusion of a methane detection system for these homes citing a footnote (#5) to the guidelines, which states that the number, type, and location of detectors or "approved equivalents" can be determined by a qualified methane engineer. DBS considered the elimination of a detection system, as endorsed by a qualified methane engineer citing the adequacy of prevention systems for these homes, as an "approved equivalent".

- The guidelines also state that all buildings will be equipped with methane detection systems and that the detectors will be approved by DBS and LAFD. Another footnote (#6) states that when methane is detected, audio and visual alarms and automatic notification of LAFD shall be triggered. The interpretation made by DBS to eliminate methane detectors under footnote #5 appears to contradict the requirements stated in footnote #6, since without methane detectors, alarms could never be activated, nor could LAFD be notified.

In addition, the guidelines state that detection systems will be tested and approved pursuant to LAFD standards. The guidelines do not, however, take into consideration what those LAFD standards consist of and who is given the authority and responsibility to perform testing to LAFD standards.

- The LAFD does not have a certification program that allows anyone outside of the LAFD to perform this type of testing, nor does the LAFD have the authority to perform testing of single-family homes at Playa Vista.

As a result of the guidelines' vagueness, which were subject to interpretation by both DBS and LAFD, one single-family home development has no methane detection system installed, and tests of detection systems at other single-family dwellings were performed on an inconsistent basis.

Recommendations

1. *Mayor and City Council should direct participating Departments to establish an agreed-upon set of guidelines which clearly define methane mitigation requirements for both multi-family and single-family homes in Playa Vista Phase II.*

2. *Ensure that guidelines do not conflict with any City ordinances, administrative codes or laws.*

3. *Request that the City Council adopt the guidelines.*

A lack of clear direction regarding their roles and responsibilities resulted in poor coordination among City Departments.

In June 2001, the City Council directed the Department of City Planning (Planning) to oversee the implementation of methane mitigation measures by all agencies constructing facilities at Playa Vista. In addition, City departments were directed to coordinate with Planning regarding methane mitigation measure implementation, including taking enforcement actions as appropriate. However, there is no mention in the CLA guidelines of Planning's role over the project.

- Participating department representatives, led by Planning, developed a comprehensive document known as the "matrix" to specify each department's oversight responsibility and to ensure that all activities had received appropriate authorization. However, the document has never been finalized and remains in draft format. DBS and Planning also have varying interpretations of the primary purpose of the matrix, and of the importance it plays in ensuring compliance with the CLA guidelines.

- Planning is not ordinarily included as an approver of a Temporary Certificate of Occupancy (TCO), since their oversight does not include life-safety issues. However, based on inter-departmental discussions, and in the absence of clear delegation of authority, Planning perceived their role to become, in effect, the final reviewer prior to the issuance of TCOs and COs, in order to ensure that all Departments' respective oversight responsibilities had been fulfilled.

- During a 2005 site visit, Planning discovered that one development was given TCO authorization by DBS, and residents had moved into their

homes without final certification from LAFD or Planning. Planning management stated that they lacked the authority to hold approval of TCOs.

The CLA Report states that DBS has the responsibility to approve the design and implementation of methane systems and that methane detection systems will be tested and approved pursuant to LAFD standards.

- DBS inspectors must ensure that systems have been installed according to the stated building plans; however, we noted that DBS relied on non-City engineers, consultants and Deputy Inspectors to assure that the systems were operational. We also noted that the City has no certification program for Deputy Methane Inspectors; instead, DBS required the manufacturers of the methane systems to certify the deputy methane inspectors.

- The LAFD performs acceptance testing of the methane detection systems to ensure that they meet all of the required detection and emergency alert standards. However, since LAFD's typical jurisdiction includes only commercial buildings and multi-unit residential structures, single-family homes were not required to be inspected by LAFD.

- LAFD did perform acceptance tests for some single family homes to ensure that their systems operated appropriately. However, in 2005 the testing ceased based on an agreement signed by DBS and LAFD management stating that "testing and approval of methane systems shall be certified by the installer and engineer of record or someone certified by LAFD," however, the LAFD also did not have a methane certification program. As a result, the testing was performed by contracted installers who provided only a certification that the system was installed, calibrated, and functional, instead of being independently tested by LAFD to its standards.

- This lack of clearly defined responsibilities continued during our review, when DBS and LAFD entered into a second written agreement in February 2007, requiring that all methane detection systems in single-family dwellings be tested and approved using LAFD standards and procedures, and that acceptance testing be conducted by LAFD inspectors.

As a result of the Report's unclear jurisdictional authority, testing of methane detection systems for single-family homes was performed on an inconsistent basis. In addition, LAFD and Planning did not approve Temporary Certificates of Occupancy for one single-family home development, since LAFD inspectors had not completed acceptance testing.

Recommendations

4. *The Mayor and City Council should designate a City Department which has the responsibility, expertise and authority to lead the Playa Vista Phase II project*

5. *Mayor and Council should more clearly define the roles, responsibilities and jurisdictional authority of DBS and LAFD regarding the standards pertaining to the installation, inspection and testing of methane systems for all structures at Playa Vista.*

6. *DBS and LAFD management should require more formalized methane training for all staff with oversight responsibilities over inspection and approval of methane systems, and develop a certification program for Deputy Inspectors and others who perform methane-related inspections and testing on behalf of the City.*

DBS' poor record-keeping resulted in inconsistencies over project documentation and the permit approval process.

DBS inspection documents had to be individually retrieved from each field inspector because there is no centralized record-keeping system organized by site location. DBS also stated they could not guarantee that all the requested documents had been retrieved, and that certain documents may no longer exist.

While the completeness of the files varied and not all individual permits for the sites had adequate documentation to substantiate appropriate approval, we focused on those documents that provided assurance that methane mitigation systems were inspected according to approved plans.

- DBS explained that there is no uniform process for crosschecking or following up on specific open permits by an assigned inspector or for a given site location.

- During our review, DBS consolidated Playa Vista inspection reports and discovered that many permits were never closed on projects where Certificates of Occupancy had been issued. DBS subsequently closed these permits as part of their "housekeeping" procedures.

Although DBS exhibited poor record-keeping and had many permits that remained open for Playa Vista properties, nothing came to our attention to indicate that required inspections relating to methane mitigation, or the project as a whole, were not performed.

Recommendation

7. *DBS management should improve internal record-keeping procedures to ensure the approval of open permits prior to the issuance of certificates of occupancy.*

We would like to thank the management and staff of DBS, LAFD and Planning for fully cooperating with our review. If you have any questions, please contact Rushmore D. Cervantes, Chief Deputy Controller, at (213) 978-7323.

Sincerely,

Laura N. Chick

LAURA N. CHICK
City Controller

cc: Andrew A. Adelman, General Manager, Department of Building and Safety
Chief Douglas Barry, Los Angeles Fire Department
S. Gail Goldberg, General Manager, Department of City Planning

MAY 15 2007

LOS ANGELES FIRE DEPARTMENT

DOUGLAS L. BARRY
INTERIM FIRE CHIEF

MAY 08 2007

BOARD OF FIRE COMMISSIONERS
FILE NO. 07-031

TO: Board of Fire Commissioners DLB

FROM: Douglas L. Barry, Interim Fire Chief

SUBJECT: PROPOSAL TO CHARGE FEES FOR THE PLAN CHECK, INSPECTION, AND CERTIFICATION OF TESTERS OF METHANE GAS DETECTION SYSTEMS

FINAL ACTION:			
	____ Approved	____ Approved w/Corrections	____ Withdrawn
	____ Denied	____ Received & Filed	____ Other

Recommendations: That the Board:

1. Approve the findings in support of collecting fees for:
   a) the plan check and final acceptance inspection of methane gas detection systems, and
   b) the certification program for testers of methane gas detection systems.

2. Approve the proposed fees for methane gas detection system plan check, final acceptance inspection, and certification program.

3. Direct the Commission Executive Assistant II to forward this report to the City Council and Mayor for consideration and approval.

4. Subject to the approval of the City Council and Mayor, request the City Council to instruct the City Attorney to draft revisions to certain sections of the Los Angeles Municipal Code (L.A.M.C.), Chapter 5, Article 7, (as detailed in the summary of this report) to include provisions for the collection of fees for methane gas detection system plan check and final acceptance inspection, certification program, and for the establishment of the fees by the most current cost-recovery schedule as provided under L.A.M.C. 57.04.12C (Attachment 1).

5. Request the City Attorney to report back to the City Council within 30 days with an amendment revising the L.A.M.C., Chapter 5, Article 7, per the recommendations in this report.

6. Request City Council to direct the Department of Building and Safety to collect the fees for the plan check and final acceptance inspection of methane gas systems on behalf of the Fire Department.

Summary:

The Los Angeles Municipal Code, Chapter IX, Building Regulations, Article 1, Division 71, Methane Seepage Regulations, amended on March 29, 2004 (Attachment 2), requires construction projects located within the Methane Zone or Methane Buffer Zone to comply with the Methane Mitigation Standards, and for all persons performing testing, maintenance, and servicing of gas detection systems to be certified. The Fire Department and the Department of Building and Safety (LADBS) are the authorized departments for enforcing the methane gas mitigation system requirements.

The LADBS charges fees for installing methane detection systems (building, electrical, mechanical, and grading permits).

The Fire Department approves and determines the compatibility of component parts of the methane detection system; ensures the proper operation of the entire system, including the correct placement of devices; and oversees the maintenance and testing of these systems through plan check and final acceptance inspection, which includes checking the methane sensors, control panel, alarms, strobes, back-up emergency power, and methane ventilation system. The final acceptance inspection is conducted prior to building occupancy. Once the systems are installed, they require calibration on a periodic basis including an annual systems test.

The Fire Department performs the above services currently without charge. To recover costs for Fire Department services in accordance with the City's financial policies, it is proposed that the Fire Department begin charging fees for plan check and final acceptance inspection of methane gas detection systems.

In addition, it is proposed that a certification program be implemented to certify persons performing methane gas detection system testing and fees be charged for the certification process. The certification process would ensure that persons performing such critical life safety functions meet minimum competency requirements. The Fire Department proposes to implement the certification process by using the requirements in Division 6, Certificate of Fitness, of the Fire Code, a system that is already in place and is being used to test and certify persons in the business of testing and servicing fire and life safety systems.

To recover the costs of services, two fees are proposed: 1) methane gas plan check and final acceptance inspection fee, and 2) the methane gas detection system certification fee under Division 6, Certificate of Fitness, of the Fire Code. Based on current inspection standards, the plan-check review takes approximately two hours while the final field acceptance test takes another two hours, for a total of four hours. Given current experience for other Certificate of Fitness exams, the time necessary for documentation and certifying testers through the written, oral, and practical exam takes approximately two hours for each phase, for a total of six hours.

The fees collected for these services depend on the number of methane gas detection systems being inspected and the number of persons being certified monthly. Currently, there are approximately ten methane system plans that are being submitted monthly for plan check. Using the current hourly rate of $135 per hour, this amounts to an annual collection of $64,000 (120 plan checks yearly x $ 540 per plan check and inspection). A conservative estimate of approximately four methane gas testers being certified each month would amount to $38,880 (48 yearly x $810 per certification). The total revenue is estimated to be $102,880 yearly.

The fees for plan check and final acceptance inspection would be collected by the LADBS on behalf of the Fire Department in the same manner as is currently practiced for all Fire Department construction related projects processed through the One Stop - Construction Service Centers.

The fees for the certification of methane gas detection system testers would be collected by the Fire Department Construction Services Unit-Reg. 4, the same manner in which all other L.A.M.C., Chapter 5, Article 7, Division 6, Certificate of Fitness Programs within the Fire Department are collected.

In order to implement the proposed changes, the following revisions to the L.A.M.C., Chapter 5, Article 7, are recommended:

a) L.A.M.C. 57.01.35 B.
Add No. 8 to read:
8. Gas Detection System

b) L.A.M.C. 57.02.02
Add definition to read:
Gas Detection System – (Refer to LA Building Code 91.7102)

c) L.A.M.C. 57.05.20 A.
Add No. 19 to read:
19. Gas Detection System

d) L.A.M.C. 57.05.31 A.

Add No. 20 to read:
20. Gas Detection System

e) L.A.M.C. 57.06.01.
Add G. to read:
G. No person shall, without a valid Certificate of Fitness as required by this article, test or certify any gas detection system.

f) L.A.M.C. 57.06.15 A.
Add No. 7 to read:
Gas Detection System

Fiscal Impact:

Revenue generated from the implementation of the plan check and final acceptance inspection of methane gas detection systems and the certification program for methane gas testers are estimated to be $102,880 yearly. No additional resources are required to implement this program.

Conclusion:

Implementation of a certification program for testers of methane gas detection systems is necessary to ensure that persons performing these tests meet minimum competency requirements and are qualified to perform critical fire/life safety services.

Amending the L.A.M.C. to authorize the collection of fees for plan check and final acceptance inspection of methane gas detection systems and certification fees for methane gas detection system testers will allow the Fire Department to recover costs for special services, ensure continuation of the fire/life safety functions of the Fire Department, and is consistent with the City's financial policy of full cost recovery.

Board report prepared by Rosemarie Barraza, Senior Management Analyst I, Bureau of Fire Prevention and Public Safety, and Muriel Gee, Senior Management Analyst I, Administrative Services Bureau.

Attachments

rb:MethaneReport-final.doc

14. Automatic sprinkler systems.

15. Standpipe systems.

16. Gas detection systems.

B. Installation, alteration, maintenance, and repair of the items listed in this subsection shall be performed under the provisions of Section 57.05.20 of this article and the supervision and control of the Chief.

1. Central station signaling systems.

2. Fire protective signaling systems.

3. Appliances, equipment, and devices used for storing, handling, processing, producing, transporting, or dispensing of hazardous materials.

4. Liquefied flammable gas cylinders, hose, vaporizers, heat exchangers, pumps, and pertinent equipment.

5. Portable fire extinguishers.

6. Automatic fire extinguishing systems except automatic sprinkler systems as set forth in Subsection A.

7. Spray booths, spray tunnels, dip tanks, drying ovens, flow coaters, powder coating apparatus and electrostatic painting equipment.

C. If at any time the items listed in Subsections A and B of this section are not operational, the Chief shall have the authority to issue notices to the owner of the building or premises where said items are located, or such other person having control of said building or premises, to make said items operational.

The Chief has the authority to require that periodic inspections and tests be made to determine whether the items listed in Subsections A and B of this section, including any water supply, are operational. All such inspections and tests shall be made at intervals to be determined by the Chief. Tests at shorter intervals may be required when an inspection by the Chief indicates there is a substantial reason to believe that the system or device would fail to operate properly in an emergency.

The inspections and test shall be made in accordance with the rules and regulations established by the Board.

D. No person owning or having charge or control of any items listed in Subsections A and B of this section shall maintain said items in defective condition or in a state of disrepair, or install or maintain such in a manner that endangers life or creates a fire or explosion hazard. No person shall violate an order of the Chief to require periodic inspections as required by Subsection C.

E. The failure of any person owning or having control of any items in Subsections A and B of this section to properly maintain said items at all times, or the failure of any person owning or having control of those items to conduct a test to determine that the systems referred to in A and B are operational, or the failure to obey any order of the Chief issued pursuant to this section, subjects that person to a penalty of a mandatory minimum fine of $500.00, up to and not exceeding $1,000.00 or by imprisonment in the County Jail for a period of not more than six (6) months, or by both such fine and imprisonment. Each person shall be guilty of a separate offense for each and every day, or portion thereof, during which a violation of any provision of this code is committed, continued or permitted by such person and shall be punishable accordingly.

SEC. 57.01.36. AUTHORITY TO CONDEMN.

A. The Chief shall have the authority to condemn the use of any appliance, device, equipment, system, or material regulated by this article which creates a hazard to life or property, or which fails to provide the protection for which it was intended.

B. The Chief shall have the authority to prohibit the manufacture, sale, or offering for sale, of any appliance, device, equipment, system or material regulated by this article which may create a hazard to life or property, or which fails to provide the protection for which it is intended. No person shall remove, alter, destroy, mutilate, or deface any Condemnation Tag affixed to any appliance, device, equipment, system or material, pursuant to the authority of the Chief, until such time as the hazardous condition is corrected to the satisfaction of the Chief.

SEC. 57.01.37. AUTHORITY TO ISSUE PASSES AND CREDENTIALS.

A. The Board is authorized to issue approved passes entitling the holders thereof to pass Fire Department barriers. Such passes shall bear a number and a statement of the purpose of issuance, together with the words **"Los Angeles Fire Department"**.

ARTICLE 7, DIVISION 2

GENERAL DEFINITIONS AND ABBREVIATIONS

Section
57.02.01 Scope.
57.02.02 General Definitions.
57.02.03 Abbreviations.

SEC. 57.02.01. SCOPE.

The provisions of this division set forth definitions of words, phrases, and abbreviations found elsewhere in this article.

SEC. 57.02.02. GENERAL DEFINITIONS.

The following words and phrases, whenever used in this article, shall be construed as defined in this section unless the context within individual divisions of this article clearly indicates otherwise.

Aerosol (Flammable) – A material which is dispensed from its container as a mist, spray, or foam by propellant under pressure, and which is required to be labeled "Flammable" under the U.S. Federal Hazardous Substances Act.

Aircraft – A device that is used or intended to be used for flight in the air.

Aircraft Factory – Any building or structure used partly or entirely for the manufacturing or assembling of aircraft.

Aircraft Fueling Station – That portion of a premises where flammable or combustible liquids are dispensed into the fuel tanks of aircraft.

Aircraft Fueling System – An arrangement of aviation fuel storage tanks, pumps, piping, and associated equipment installed at an airport and designed to service aircraft at fixed positions.

Aircraft Loading Walkway – An aboveground device which is essentially mobile in nature and which folds, telescopes or pivots from a fixed point at the finger of the airport terminal building and is used to provide a means of ingress and/or egress between a point in a finger of an airport terminal building and an aircraft.

Aircraft Fuel Servicing Tank Vehicle – Any tank vehicle used for the transferring of flammable or combustible liquids to or from fuel tanks or compartments of aircraft.

Airport – An area of land or water, including all associated land and facilities, that is used or intended to be used for the landing and takeoff of aircraft.

Air-Reactive Material – Any material which will ignite spontaneously in contact with air.

Aisle – A passageway of at least three feet in width which provides access to required exits, fire protection equipment, or separation for a storage area.

Alter or Alteration – Any change, addition, or modification of any approved appliance, device, system, equipment, process, occupancy, or building. "Alter" shall not be deemed to include replacement of existing approved parts.

Ambulatory Person – Any person other than a nonambulatory person as defined herein.

Apartment House – Any building or portion thereof which contains three or more dwelling units or space thereof, regardless of form or ownership.

Approved – Approved by the Chief

Approved Film Container – A film container conforming to D.O.T. regulations or otherwise approved by the Department.

Approved Testing Agency – An established and recognized agency or laboratory regularly conducting tests or furnishing inspection services when such agency has been approved by the Department. Agencies shall include, but not be limited to Underwriter's Laboratories, Factory Mutual

C. Fee exempt General Approvals, without the payment of the fees prescribed pursuant to Section 57.04.12-C, shall be issued to the following: City of Los Angeles, County of Los Angeles, Los Angeles City School Districts, Los Angeles Community College District or any municipal corporation, department, or office thereof.

SEC. 57.05.16. GENERAL APPROVALS - REVOCATION OR SUSPENSION.

The Chief may suspend or revoke any General Approval if it is found that the material or method of construction is not in compliance with any of the conditions upon which it is based, or is not a quality or workmanship equivalent to that required by the Municipal Code, or for any of the reasons set forth in Section 57.03.11 of this article.

PERMITS

SEC. 57.05.20. PERMITS - REQUIRED.

No person, firm, or corporation shall engage in any specific action or project for which a Permit is required by this section without first having obtained a valid Permit from the Department. Permits shall be required for the following:

A. Erect, install or relocate any appliance, device, or system listed in this subsection when such equipment is to be used in connection with hazardous materials, hazardous waste, or hazardous plastics.

1. Atmospheric tank exceeding 60 gallons capacity.

2. Low pressure tank exceeding 60 gallons water capacity.

3. Pressure vessel exceeding 60 gallons water capacity.

4. Special vessel.

5. Gas holder exceeding 3,000 standard cubic feet.

6. Spray booth or spray tunnel with any dimension greater than three feet.

7. Dip tank more than 150 gallons capacity or more than five square feet of surface area.

8. Flow coat machine.

9. Drying oven.

10. Industrial oven or furnace, not otherwise specified.

11. Industrial proceeding equipment, not otherwise specified.

12. Fumigation chamber

13. Automatic fire extinguishing system except automatic sprinkler system.

14. Compressed or liquefied gas manifold (stationary).

15. Dual collecting systems.

16. Dry cleaning equipment, not otherwise specified.

17. Drill or redrill any oil well.

18. Asbestos Abatement. **(Added by Ord. No. 168,176, Eff. 9/20/92.)**

B. Add to or alter any item, including ducting or piping connected thereto, as set forth in Subsection A of this section.

C. Conduct any of the following operations.

1. Fireworks display.

2. Blasting operation.

3. Exhibit, show, circus, or carnival on any parcel of land or premises other than those for which a Permit is required by Section 57.04.03 of this article. When such exhibit, show, circus, or carnival is conducted within a tent, the fees required by Section 57.05.31 of this article shall be deemed to include the use of such tent as a place of assemblage.

4. Transfer flammable gas, liquefied flammable gas, flammable liquids or combustible

1. City of Los Angeles, County of Los Angeles, Los Angeles Unified School District, Los Angeles Community College District, or any municipal corporation, department, or office thereof.

2. Any religious, charitable, educational, or other nonprofit benevolent institution operating or conducting a carnival or similar activity when the net proceeds of the carnival or similar activity are to be used exclusively for religious, charitable, benevolent, educational, or civic purposes and the institution has applied for and obtained a tax exempt registration certificate pursuant to the provisions of Section 21.75 of the Municipal Code.

SEC. 57.05.31. FEES.
(Amended by Ord. No. 163,071, Eff. 1/30/88.)

A. Before accepting an application for any Permit required by this division, the Department shall collect the fees required therefor established by the most current cost recovery schedule published as provided by Section 57.04.12 C and applicable thereto. Upon payment of said fees the Department shall cause them to be deposited with the City Treasurer.

Fees established by the procedure set forth in Section 57.04.12-C of this article shall apply to Permits for the following:

1. Atmospheric tank or low pressure tank:

(a) Shop built tank.

(b) Field erected tank not more than 3,000 barrels.

(c) Field erected tank, more than 3,000 barrels.

No fee shall be charged for the issuance of a permit for the installation, closure, addition to or alteration of an atmospheric underground tank or tank system.

2. Pressure Vessel:

a. Shop built vessel.

b. Field erected vessel.

3. Special Vessel:

a. Shop built vessel.

b. Field erected vessel.

4. Gas Holder:

a. Shop built gas holder.

b. Field erected gas holder.

5. Spray Booth or Spray Tunnel.

6. Dip Tank:

a. Not more than 500 gallons capacity.

b. More than 500 gallons capacity.

7. Flow Coat Machine.

8. Drying Oven.

9. Industrial Oven or Furnace not otherwise specified.

10. Industrial Proceeding Equipment not otherwise specified.

11. Fumigation Chamber.

12. Automatic Fire Extinguishing System other than automatic sprinkler system.

13. Compressed or Liquefied - Gas Manifold:

14. Install, alter or relocate Fire Hydrants on private property:

a. For the first hydrant.

b. For each additional hydrant.

15. Central Station Signaling System.

16. Dust Collecting System.

17. Dry Cleaning Equipment not otherwise specified.

18. Drill oil well or redrill oil well.

19. Asbestos Abatement. **(Added by Ord. No. 168,176, Eff. 8/20/92.)**

ARTICLE 7, DIVISION 6

CERTIFICATES OF FITNESS

SEC. 57.06.01. CERTIFICATES OF FITNESS REQUIRED.

A. No person shall, without a valid Certificate of Registration as required by Title 19, California Administrative Code, or Certificate Fitness as required by this article, recharge or service any portable fire extinguisher.

A Certificate of Fitness to recharge or service portable fire extinguishers shall only be required of those employees of firms or corporations who are not certified by the State Fire Marshal and who test or service portable fire extinguishers at the place of business.

B. No person shall, without a valid Certificate of Fitness as required by this article, conduct any blasting operation.

C. No person shall, without a valid Certificate of Fitness as required by this article, conduct any test or certify the following fire protection equipment or systems:

1. Automatic sprinkler systems

2. Class I standpipe systems

3. Class II standpipe systems

4. Class III standpipe systems

5. Combined standpipe systems

6. Automatic elevators

7. Automatic fire assemblies

8. Emergency power systems (generators and battery systems)

9. Fire escapes

10. Fire protective signaling systems (alarm, notification, and communication systems)

11. Fire pumps

12. Smoke control systems

EXCEPTIONS:

1. The Chief may allow persons who are employees of the firm or corporation where the fire protection equipment or systems are to be tested to perform required tests provided such tests are performed in accordance with Regulation No. 4, "Testing of Fire Protection Equipment."

2. Members of the Department of Building and Safety.

3. Uniformed members of the Fire Department.

D. No person other than a uniformed member of the Department assigned to the Bureau of Fire Prevention and Public Safety shall without a valid Certificate of Fitness as required by this article, perform as a fire safety officer.

E. No person shall, without a valid Certificate of Fitness as required by this article, perform as a health care facility instructor.

EXCEPTION:

Fire Safety Director representing building management.

F. No person shall, without a valid Certificate of Fitness as required by this article, perform as a high-rise life/safety service.

EXCEPTION:

Fire Safety Director representing building management.

SEC. 57.06.02. CERTIFICATES OF FITNESS - APPLICATIONS.

All applications for Certificates of Fitness shall be filed in the office of the Bureau of Fire Prevention and Public Safety upon forms provided by the Department.

SEC. 57.06.03. CERTIFICATES OF FITNESS - VALIDITY.

Certificates of Fitness shall be valid only for the person designated on the Certificate.

SEC. 57.06.04. CERTIFICATES OF FITNESS - INFORMATION REQUIRED.

A. Applicants for a Certificate of Fitness to recharge or service portable fire extinguishers shall furnish satisfactory proof to the Chief that they are competent to install, service, and test portable fire extinguishers in accordance with L.A.F.D. Standard No. 1.

B. Applicants for a Certificate of Fitness to conduct blasting operations shall furnish such information as may be required by the Chief to establish competency with and adequate knowledge of explosive materials, equipment, techniques, and safety precautions necessary to conduct safe blasting operations.

C. Applicants for a Certificate of Fitness to conduct any test as specified in Regulation No. 4 shall furnish such information as may be required by the Chief to establish competency with and knowledge of the materials, formulas, equipment, techniques, standards, ordinances, and recognized good practices pertaining to the Certificate of Fitness for which they are applying.

D. Applicants for a Certificate of Fitness to perform as a fire safety officer shall furnish such information as may be required by the Chief to establish familiarity with, and possession of a thorough knowledge of applicable fire prevention procedures, the Los Angeles Fire Code, State Fire Marshal's Rules and Regulations as contained in Title 19 of the California Administrative Code, and other applicable regulations dealing with fire, explosion, and life safety.

E. Applicants for a Certificate of Fitness to perform as a health care facility instructor shall furnish such information as may be required by the Chief to establish the possession of a thorough knowledge of the Health Care Facility requirements contained in the Los Angeles Fire Code, the California Administrative Code, and the California Health and Safety Code, and the necessary qualifications to instruct others in Health Care Facility requirements.

F. Applicants for a Certificate of Fitness to perform as a high-rise life/safety service shall furnish such information as may be required by the Chief to establish qualification to instruct and possession of a thorough knowledge of the Los Angeles Fire Code and other applicable regulations with regard to developing and/or conducting training in emergency planning, evacuation procedures, and the use of first-aid fire equipment in high-rise buildings in the City of Los Angeles.

SEC. 57.06.05. CERTIFICATES OF FITNESS - INVESTIGATION AND EXAMINATION.

A. The Chief shall examine each applicant for competence to perform the duties required for the particular Certificate of Fitness for which they have applied. The applicant shall:

1. Submit a written resume stating experience and training qualifications.

2. When required, appear before the Chief for a personal interview.

3. When required, satisfactorily complete a written and/or practical test pertaining to the Certificate of Fitness.

B. The Chief may require additional information as necessary to process any application for a Certificate of Fitness.

C. When the Chief determines the applicant for a Certificate of Fitness conforms to all the requirements of this article, the Chief shall issue the Certificate of Fitness.

SEC. 57.06.06. CERTIFICATES OF FITNESS - VALIDITY.

Every Certificate of Fitness issued in accordance with the provisions of this division shall be valid for a period of three years from the date of issuance, and may be renewed for additional three-year periods at the discretion of the Chief as set forth below.

SEC. 57.06.07. CERTIFICATES OF FITNESS - RENEWAL.

A. Applications for renewal of a Certificate of Fitness shall be filed in the same manner as for an original Certificate of Fitness.

B. Applications shall be accompanied by a renewal fee. Whenever the application for renewal is filed prior to the expiration date of the Certificate of Fitness, the renewal fee shall be 50 percent of the fee for a new Certificate of Fitness. Whenever the application for renewal is filed after the expiration date of the Certificate of Fitness, the renewal fee shall be the same as for a new Certificate of Fitness.

C. The granting of a renewal of a Certificate of Fitness shall be processed in the same manner as for an original Certificate of Fitness.

SEC. 57.06.08. CERTIFICATES OF FITNESS - REVOCATION OR SUSPENSION.

The Chief shall have the power to suspend or revoke any Certificate of Fitness in accordance with the provisions of Division 3 of this article.

SEC. 57.06.11. CERTIFICATES OF FITNESS - CHANGE OF ADDRESS.

Each person holding a Certificate of Fitness shall notify the Department in writing of any change of his business, residential, or notification address within 10 days after such change. Failure on the part of said person to give such notification shall constitute grounds for revocation of said Certificate.

SEC. 57.06.12. CERTIFICATES OF FITNESS - FORM.

The Certificate of Fitness issued by the Chief shall be in the form of an identification card which shall:

A. State the purpose for which it has been issued;

B. State the date it is issued and the date of expiration;

C. Contain such information as may be necessary to identify the person to whom it is issued;

D. Have affixed one print of a photograph of the person to whom it is issued;

E. Have the signature of the person to whom it is issued;

F. Have the signature of the Fire Marshal;

G. Have printed thereon in bold type the following: "THIS CERTIFICATE IDENTIFIES, BUT DOES NOT RECOMMEND THE BEARER:" and

H. Contain additional information which the Chief considers necessary and proper to effect the purpose of this article.

SEC. 57.06.13. CERTIFICATES OF FITNESS - DUTY TO DISPLAY.

Any person having been certified as required by this article shall, upon request, display their identification and Certificate of Fitness to any person to whom they may seek to render service or to the Chief.

SEC. 57.06.14. CERTIFICATES OF FITNESS - FAILURE OF THE EXAMINATION.

Any applicant who takes the examination and fails may not re-apply within 30 days, and in no event shall the examination be given to the same person more than twice in any one-year period.

SEC. 57.06.15. FEES.

A. **(Amended by Ord. No. 170,954, Eff. 4/16/96.)** Before accepting an application for a Certificate of Fitness

required by this Division, the Department shall collect the fees required therefor as set forth in the most current cost recovery schedule published as provided by Section 57.04.12-C and applicable thereto.

1. Recharge or Service Portable Fire Extinguishers.

EXCEPTION:

When applicant shows proof of Certificate of Registration by the State Fire Marshal, this fee shall be waived.

2. Conduct blasting operations.

3. Conduct any test or certify the following categories of fire protection equipment, systems, or devices:

a. Automatic sprinkler systems

b. Class I standpipe systems

c. Class II standpipe systems

d. Class III standpipe systems

e. Combined standpipe systems

f. Automatic elevators

g. Automatic fire assemblies

h. Emergency power systems (generators and battery systems)

i. Fire escapes

j. Fire protective signaling systems (alarm, notification, and communication systems)

k. Fire pumps

l. Smoke control systems

4. Fire Safety Officer.

5. Health Care Facility Instructor.

6. High-rise Life/Safety Service.

B. Whenever an applicant fails an examination and takes a second examination within 90 days of such failure, the fee for the second examination shall be 50 percent of the fees set forth in Subsection A of this section.

SEC. 57.06.16. FEE EXEMPT CERTIFICATE OF FITNESS.

Fee exempt Certificate of Fitness, without the payment of prescribed by this division shall be issued to the following: City of Angeles, County of Los Angeles, Los Angeles City School Districts, Los Angeles Community College District, or any municipal corporation, department, or office thereof.

ARTICLE 1, DIVISION 71

METHANE SEEPAGE REGULATIONS

(Amended in Entirety by Ord. No. 175,790, Eff. 3/29/04.)

SEC. 91.7101. PURPOSE.

This division 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.

SEC. 91.7102. DEFINITIONS.

For the purpose of this division, certain words and phrases are defined as follows:

Alarm System shall mean a group of interacting elements consisting of components and circuits arranged to monitor and annunciate the status of gas concentration levels or supervisory signal-initiating devices and to initiate the appropriate response to those signals.

Buildings with Raised Floor Construction shall mean a building with the bottom of the floor system raised above grade where the clearance for each of the following items shall be at least: 12 inches for the girder, 18 inches for the floor joist and 24 inches for the structural floors.

Cable or Conduit Seal Fitting shall mean an approved fitting provided in a cable or conduit system to prevent the passage of gases, vapors, or flames through electrical cable or conduit.

Design Methane Concentration shall mean the highest concentration of methane gas found during site testing.

Design Methane Pressure shall mean the highest pressure of methane gas found during site testing.

De-watering System shall mean a permanent water removal system, consisting of perforated pipes, gravel, sump pumps and pits, designed to permanently maintain the ground water level one foot below the sub-slab vent system.

Gas Detection System shall mean one or more electrical devices that measure the methane gas concentration and communicate the information to the occupants, building management, central station or alarm company with audible or visual signals.

Gravel Blanket shall mean a layer of gravel, sand, or approved material designed to transmit gas to the vent riser without obstructing the venting system.

Impervious Membrane shall mean a continuous gas barrier made of material approved by the Department and installed beneath a building for the purpose of impeding methane migration to the interior of the building.

Mechanical Extraction System shall mean a system operated by a machine which is designed to remove methane gas from below the impervious membrane through the use of fans, blowers, or other powered devices.

Mechanical Ventilation shall mean a fan, blower or other similar group of interacting elements operated by a machine within the building, which introduce and/or remove air from an enclosed space.

Narrow Building shall mean a building that has a width less than 50 feet, a footprint of less than 50,000 square feet and having a minimum 2-foot wide landscaped area immediately adjacent to the exterior wall for at least 50 percent of the perimeter of the building.

Oil Well shall mean a deep hole or shaft sunk into the earth for the exploration of oil or gas; or which is on lands producing or reasonably presumed to contain oil or gas; or which is drilled for the purpose of injecting fluids or gas for stimulating oil recovery, re-pressurizing or pressure maintenance of oil or gas, or disposing of waste fluids from an oil or gas field.

Perforated Horizontal Pipe shall mean an approved pipe which contains a series of small holes or narrow openings placed equidistant along the length of the approved pipe, which is placed horizontally beneath the foundation of a building, for the purpose of venting accumulated methane gas and preventing the development of elevated gas pressures, or for drainage of ground water to an approved location.

PPMV shall mean Parts per Million by Volume.

Pressure Sensor shall mean a device that measures and communicates surrounding gas pressure to an alarm or control system.

Single Station Gas Detector shall mean a device consisting of electrical components capable of measuring methane gas concentration and initiating an alarm.

Trench Dam shall mean an approved subsurface barrier installed within a furrow or ditch adjacent to the foundation of a building, for the purpose of preventing the migration of methane gas beneath that foundation.

Unobstructed Opening shall mean a permanent clearing or gap in the walls, floors or roof-ceiling assemblies without windows, doors, skylights or other solid barriers that may restrict the flow of air.

Vent Riser shall mean an approved pipe which is placed vertically with joints and fittings connected to Perforated Horizontal Pipes to convey and discharge the gas to the atmosphere.

SEC. 91.7103. GENERAL METHANE MITIGATION REQUIREMENTS.

All new buildings and paved areas located in a Methane Zone or Methane Buffer Zone shall comply with these requirements and the Methane Mitigation Standards established by the Superintendent of Building. The Methane Mitigation Standards provide information describing the installation procedures, design parameters and test protocols for the methane gas mitigation system, which are not set forth in the provisions of this division.

Boundaries of the Methane Zones and Methane Buffer Zones are shown on the "Methane and Methane Buffer Zones Map" designated as Map number A-20960, dated September 21, 2003, which is attached to Council File No. 01-1305.

SEC. 91.7104. GENERAL METHANE REQUIREMENTS.

91.7104.1. Site Testing. Site testing of subsurface geological formations shall be conducted in accordance with the Methane Mitigation Standards. The site testing shall be conducted under the supervision of a licensed Architect or registered Engineer or Geologist and shall be performed by a testing agency approved by the Department.

The licensed Architect, registered Engineer or Geologist shall indicate in a report to the Department, the testing procedure, the testing instruments used to measure the concentration and pressure of the methane gas. The measurements of the concentration and pressure of the methane gas shall be used to determine the Design Methane Concentration and the Design Methane Pressure. The Design Methane Concentration and the Design Methane Pressure shall determine the Site Design Level of Table 71.

EXCEPTION: Site testing is not required for buildings designed to the requirements of Site Design Level V as described in Table 71, or for buildings designed using the exceptions set forth in Sections 91.7104.3.2 or 91.7104.3.3.

91.7104.2. Methane Mitigation Systems. All buildings located in the Methane Zone and Methane Buffer Zone shall provide a methane mitigation system as required by Table 71 based on the appropriate Site Design Level. The Superintendent of Building may approve an equivalent methane mitigation system designed by an Architect, Engineer or Geologist.

Table 71 prescribes the minimum methane mitigation systems, such as, the passive, active and miscellaneous systems, depending on the concentration and pressure of the methane present at the site. Each component of the passive, active and miscellaneous systems shall be constructed of an approved material and shall be installed in accordance with the Methane Mitigation Standards.

91.7104.2.1. Passive System. The passive system is a methane mitigation system installed beneath or near the building. The components of the passive system may consist of a de-watering system, the sub-slab vent system, and impervious membrane. The sub-slab vent system shall consist of Perforated Horizontal Pipes, Vent Risers, and Gravel Blankets for the purpose of collecting and conveying methane from the soil underneath the building to the atmosphere.

91.7104.2.1.1. De-watering System. The de-watering system is used to lower the ground water table to a level more than 12 inches below the bottom of the Perforated Horizontal Pipes. The de-watering system shall conduct ground water to an approved location.

91.7104.2.2. Active System. The components of the active system shall consist of one or more of the following, sub-slab system, gas detection system, mechanical ventilation, alarm system and control panel. All components shall be constructed of an approved material, installed in accordance with the Methane Mitigation Standards.

91.7104.2.3. Miscellaneous System. The components of the miscellaneous system may consist of Trench Dam, Cable or Conduit Seal Fitting, or Additional Vent Risers. The component of the miscellaneous system shall be a material approved by the Department and shall be installed in accordance with the Methane Mitigation Standards.

91.7104.3. Exceptions to Table 71. The provisions of this section are exceptions to the construction requirements of Table 71.

91.7104.3.1. Narrow Buildings. Narrow Buildings may substitute Pressure Sensors below the Impervious Membrane in lieu of the Gas Detection System and Mechanical Ventilation, if the installation of the Pressure Sensors below the Impervious Membrane is not required per Table 71 and the Narrow Building is constructed with a minimum two feet wide landscaped area covering at least 50 percent of the ground immediately adjacent to the exterior building walls.

91.7104.3.2. Buildings with Raised Floor Construction. If a Building with Raised Floor Construction has underfloor ventilation construction in accordance with the standards below, then the utilities shall be installed with Trench Dams and Cable or Conduit Seal Fittings and a four inch thick gravel blanket shall be installed under and around the elevator pits.

Underfloor ventilation shall be provided by an approved mechanical ventilation system capable of exhausting underfloor air an equivalent of every 20 minutes, or by openings in the underfloor area complying with the following:

A. The top of the openings shall be located not more than 12 inches below the bottom of the floor joists.

B. The openings shall be distributed approximately equally and located to provide cross ventilation, for example, by locating the opening along the length of at least two opposite sides of the building.

C. The openings shall be the larger of:

1. Openings of not less than 1.5 square feet for each 25 linear feet or fraction of exterior wall; or

2. Openings shall be equal to 1 percent of underfloor area.

D. The openings may be covered with corrosion-resistant wire mesh with mesh openings of greater than ¼ inch and less than ½ inch in dimension.

91.7104.3.3. Buildings with Natural Ventilation. A building with natural ventilation is a building constructed with the following:

A. The Unobstructed Openings shall exchange outside air.

B. The size of the Unobstructed Opening shall be the larger of:

1. Opening equal to at least 25 percent of the total perimeter wall area of the lowest level of the building, or

2. Opening equal to at least 25 percent of the floor area of the lowest level of the building.

C. The Unobstructed Openings shall be evenly distributed and located within the upper portion of at least two opposite exterior walls of the lowest level of the building.

Buildings with natural ventilation that are constructed as described above, shall have the utilities constructed with Trench Dams and Cable or Conduit Seal Fittings. If there is an enclosed room or space less than 150 square feet within the building, then the enclosed room or space shall be constructed with vent openings that comply with the requirements of Section 91.7104.3.4.

91.7104.3.4. Enclosed Room or Space within Building. Individual enclosed rooms or enclosed spaces with floor area less than 2,000 square feet may be exempt from providing the Active System as required by Table 71, provided the vent openings comply with all of the following:

1. Vent openings are Unobstructed Openings, except screens made with at least ¼ inch mesh or wind driven turbines on the roof shall be permitted.

2. The aggregate size of vent openings shall be the larger of either five percent of the total floor area of the room or the area of enclosed space, or ten percent of the area of walls on the perimeter of the room or enclosed space.

3. The vent openings shall be located to prevent the accumulation of methane gases within the room or enclosed space.

4. The top of the vent opening shall be located not more than 12 inches below roof joists or ceiling joists if located in a wall of a building.

5. The vent openings shall be located on either two opposite walls or two adjacent walls of the room or enclosed space if located in a wall of a building.

6. The vent openings shall be located no more than 50 feet from any point within the room or enclosed space.

7. When using wind driven turbine, the area of the vent opening shall be calculated by the area of the opening at the attachment of the wind driven turbine at the roof.

8. When the vent opening is located in a wall of an adjoining room, then the adjoining room shall be constructed of either an Active System, or have Natural Ventilation as described in Section 91.7104.3.3.

91.7104.3.5. Single Family Dwelling. Single Family Dwellings and buildings accessory to single family dwellings shall comply with all the Methane Mitigation requirements of Table 71, except that the following mitigation system may be substituted:

A. Pressure Sensors below Impervious Membrane may be installed in lieu of Gas Detection System when Pressure Sensors below Impervious Membrane is not required; or

B. Single Station Gas Detectors with battery back-up may be installed in lieu of Alarm System and Gas Detection System; or

C. 6 mil thick Visquene may be used in lieu of Impervious Membrane, when the Site Design Levels are I or II; or

D. Additional Vent Risers or Mechanical Ventilation may be omitted for buildings with width less than 50 feet and footprint less than 6,000 square feet in area; or

E. Vent Risers may be substituted in lieu of Mechanical Extraction System, provided the Vent Risers are designed at a rate twice that established by the Methane Mitigation Standards.

91.7104.3.6. Buildings Located in the Methane Buffer Zone. A building, located entirely or partially in the Methane Buffer Zone, shall be designed to the requirements of the Methane Buffer Zone. Buildings located in the Methane Buffer Zone shall not be required to provide any methane mitigation system, if the Design Methane Pressure is less than or equal to two inches of water pressure and is either of the following:

A. Areas which qualify as Site Design Level I or II; or

B. Areas which qualify as Site Design Level III and the utilities are installed with Trench Dams and Cable or Conduit Seal Fitting.

91.7104.3.7. De-watering System. A De-watering system is not required for either of the following:

A. If during the site testing, the groundwater level is deeper than 10 feet below the Perforated Horizontal Pipes, or

B. If the soil investigation or analysis, as approved by the Department, reveals the groundwater level is more than 12 inches below the bottom of the Perforated Horizontal Pipes.

91.7104.3.8. Buildings Located in the First Phase Playa Vista Project. The First Phase Playa Vista project, as approved by the City on September 21, 1993 and December 8, 1995, shall comply with the methane mitigation program as required by the Department pursuant to the Methane Prevention, Detection and Monitoring Program approved by the Department on January 31, 2001, in lieu of the requirements of this division.

91.7104.4. Paved Areas. Paved areas that are over 5,000 square feet in area and within 15 feet of the exterior wall of a commercial, industrial, institutional or residential building, shall be vented in accordance with the Methane Mitigation Standards.

EXCEPTION: Paved areas located in the Methane Buffer Zone and which qualify for Site Design Levels I, II or III.

SEC. 91.7105. EXISTING BUILDINGS.

Additions, alterations, repairs, changes of use or changes of occupancy to existing buildings shall comply with the methane mitigation requirements of Sections 91.7104.1 and 91.7104.2, when required by Divisions 34, 81 or 82 of this Code.

Approved methane mitigation systems in existing buildings shall be maintained in accordance with Section 91.7106.

SEC. 91.7106. TESTING, MAINTENANCE AND SERVICE OF GAS-DETECTION AND MECHANICAL VENTILATION SYSTEMS.

All gas detection and mechanical ventilation systems shall be maintained and serviced in proper working condition and meet all requirements of the Electrical and Mechanical Code. The testing, maintenance and service procedure for each gas-detection and mechanical ventilation systems shall be performed in accordance with the manufacturer's current written instructions and the following:

A. **Fire Department.** The manufacturer's instructions shall be approved by the Fire Department. Testing and servicing of each system shall be performed by a person certified by the Fire Department.

B. **Notification Placard.** A permanent notification placard shall be posted and maintained at the front entrance of a building that is constructed with Impervious Membrane, except in residential buildings. The placard shall indicate the presence of the Impervious Membrane.

SEC. 91.7107. EMERGENCY PROCEDURES.

With the exception of single-family dwellings, all buildings required by this division to have a gas-detection system or sub-slab vent system shall, subject to Fire Department approval, have established emergency procedures that include, but are not limited to, the following:

A. Assignment of a responsible person as safety director to work with the Fire Department in the establishment, implementation and maintenance of an emergency plan.

B. Conspicuous posting of the Fire Department's telephone number in areas designated by the Fire Department.

C. Conspicuous posting of emergency plan procedures approved by the Fire Department.

SEC. 91.7108. APPLICATION OF METHANE SEEPAGE REGULATIONS TO LOCATIONS OR AREAS OUTSIDE THE METHANE ZONE AND METHANE BUFFER ZONE 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 91.7103 of this Code, the Department of Building and Safety and the Fire Department may enforce any or all of the requirements of Division 71 of this Code as required to preclude potential fire or explosion from methane concentration.

SEC. 91.7109. ADDITIONAL REMEDIAL MEASURES.

91.7109.1. General Remedial Measures. In the event the concentration of methane gas in any building located in a Methane Zone or Methane Buffer 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 an engineer to investigate, recommend and implement mitigating measures. These measures shall be subject to approval of this Department and the Fire Department.

91.7109.2. Abandoned Oil Well. Any abandoned oil well encountered during construction shall be evaluated by the Fire Department and may be required to be re-abandoned in accordance with applicable rules and regulations of the Division of Oil, Gas and Geothermal Resources of the State of California. Buildings shall comply with these provisions and the requirements of Section 91.6105 of this Code, whichever is more restrictive.

TABLE 71. MINIMUM METHANE MITIGATION REQUIREMENTS

Site Design Level			LEVEL I		LEVEL II		LEVEL III		LEVEL IV		LEVEL V
Design Methane Concentration (ppmv)			0-100		101-1,000		1,001-5,000		5,001-12,500		>12,500
Design Methane Pressure (inches of water pressure)			≤2	>2	≤2	>2	≤2	>2	≤2	>2	All Pressures
PASSIVE SYSTEM	De-watering System [1]		X	X	X	X	X	X	X	X	X
	Sub-Slab Vent System	Perforated Horizontal Pipes	X	X	X	X	X	X	X	X	X
		Gravel Blanket Thickness Under Impervious Membrane	2"	2"	2"	3"	2"	3"	2"	4"	4"
		Gravel Thickness Surrounding Perforated Horizontal Pipes	2"	2"	2"	3"	2"	3"	2"	4"	4"
		Vent Risers	X	X	X	X	X	X	X	X	X
	Impervious Membrane		X	X	X	X	X	X	X	X	X
ACTIVE SYSTEM	Sub-Slab System	Pressure Sensors Below Impervious Membrane								X	X
		Mechanical Extraction System [2]								X	X
	Lowest Occupied Space System	Gas Detection System [3]		X		X	X	X	X	X	X
		Mechanical Ventilation [3, 4, 5]		X		X	X	X	X	X	X
		Alarm System		X		X	X	X	X	X	X
	Control Panel			X		X	X	X	X	X	X
MISC. SYSTEM	Trench Dam		X	X	X	X	X	X	X	X	X
	Conduit or Cable Seal Fitting		X	X	X	X	X	X	X	X	X
	Additional Vent Risers [6]										X

X = Indicates a Required Mitigation Component

1. See Section 91.7104.3.7 for exception.
2. The Mechanical Extraction System shall be capable of providing an equivalent of a complete change of air every 20 minutes of the total volume of the Gravel Blanket.
3. See Section 91.7104.3.1 for Narrow Buildings.
4. The Mechanical Ventilation systems shall be capable of providing an equivalent of one complete change of the lowest occupied space air every 15 minutes.
5. Vent opening complying with Section 91.7104.3.4 may be used in lieu of mechanical ventilation.
6. The total quantity of installed Vent Risers shall be increased to double the rate for the Passive System.

CITY OF LOS ANGELES
CALIFORNIA

ANTONIO R. VILLARAIGOSA
MAYOR

September 12, 2007

MEMORANDUM OF UNDERSTANDING (MOU)

Methane Mitigation Enforcement Responsibilities of Los Angles Department of Building and Safety and Los Angeles Fire Department

This Memorandum of Understanding delineates the enforcement responsibilities of the Los Angeles Department of Building and Safety (LADBS) and the Los Angeles Fire Department (LAFD) of the requirements for the following methane mitigation systems:

1. Playa Vista Phase I Methane Mitigation Guidelines - stipulated in the "Report on the Playa Vista Development Project Site," by the Chief Legislative Analyst dated June 23, 2001

2. Village at Playa Vista Building Methane Mitigation Guidelines - stipulated in the "Environmental Impact Report (EIR) for the Second Phase Playa Vista Project," EIR No. ENV-2002-6129-EIR, State Clearinghouse No. 2002111065, April, 2004

3. Citywide Methane Ordinance - Ordinance No. 175790, passed by the Los Angeles City Council on February 14, 2004

The responsibilities of LAFD and LADBS for conducting the required plan checks, inspections and testing of the aforementioned methane mitigation systems are clarified in the attached tables titled, "**Playa Vista Phase I Methane Mitigation Systems**," "**Playa Vista Village Methane Mitigation Systems**," and "**Citywide Methane Mitigation Systems**."

This MOU also clarifies and supercedes the methane mitigation systems enforcement responsibilities described in the joint memo of the LADBS and LAFD dated February 22, 2007.

The LADBS and the LAFD hereby agree to the assigned responsibilities outlined on the attached matrix with regard to each department's inspection, plan check and testing responsibilities.

ANDREW A. ADELMAN, P.E.
General Manager
Department of Building and Safety

DOUGLAS L. BARRY
Fire Chief
Los Angeles Fire Department

PLAYA VISTA - PHASE I METHANE MITIGATION SYSTEMS

Plan Check and Inspection Responsibilities Between Department of Building and Safety (LADBS) and Fire Department (LAFD)

METHANE MITIGATION COMPONENTS	PLAN CHECK (PC)		INSPECTION (Insp)		
	LADBS (Design Review)	LAFD (Design Review)	LADBS (Installation)		LAFD (Testing)
	All Buildings	All Buildings	One-family and Two- family	Multi-Family and Commercial	All Buildings
METHANE PREVENTION SYSTEMS					
Passive Prevention System - Underneath the Building					
De-watering System	Plumbing PC	N/A	Building Mechanical (Bldg-Mech) Insp	Plumbing Insp	N/A
12" Gravel Blanket	Building PC	N/A	Deputy Insp & Bldg-Mech Insp (Monitor inspection)	Deputy Insp & Building Insp (Monitor inspection)	N/A
Gas Collection Vent Pipe	Plumbing PC	N/A	Bldg-Mech Insp	Plumbing Insp	N/A
Impermeable Membrane	Building PC	N/A	Deputy Insp & Bldg-Mech Insp (Monitor inspection)	Deputy Insp & Building Insp (Monitor inspection)	N/A
Active Prevention System - Mechanical Ventilation					
Ventilation Triggered w/ Elevated Methane Concentration	Mechanical PC	Engineering Unit	Bldg-Mech Insp	Electrical, Plumbing & Mechanical Insp	Construction Services (Acceptance Test)
Deep Vent Well	Building PC	N/A	Bldg-Mech Insp	Building Insp	N/A
METHANE DETECTION SYSTEM					
Detection System Within the Building					
Detectors in all Lowest Level Spaces Including Garage	Building PC & Electrical PC	Engineering Unit	Bldg-Mech Insp	Electrical Insp	Construction Services (Acceptance Test)
Audible and Visible Alarm	Building PC & Electrical PC	Engineering Unit	Bldg-Mech Insp	Electrical Insp	Construction Services (Acceptance Test)
Automatic Notification of LAFD **See Note # 1**	Building PC	Engineering Unit	Bldg-Mech Insp	Electrical Insp	Construction Services (Acceptance Test)
Detection System Underneath the Building					
Methane Data-collecting Sensors below Impermeable Membrane	Building PC & Electrical PC	N/A	Bldg-Mech Insp	Building Insp & Electrical Insp	Construction Services (Functional Test)
Methane Data-collecting Sensors Between Membrane and Slab	Building PC & Electrical PC	N/A	Bldg-Mech Insp	Building Insp & Electrical Insp	Construction Services (Functional Test)
METHANE MONITORING SYSTEM					
Manual Methane Assessment Quarterly Report	Building PC (Review report)	N/A	N/A	N/A	N/A
Methane Data Collection Accessible via Internet	N/A	N/A	Bldg-Mech Insp (Ensure accessibility)	Building Insp (Ensure accessibility)	N/A
MAINTENANCE OF THE PREVENTION, DETECTION AND MONITORING SYSTEMS					
Annual Testing and Reporting	**See Note # 2**				
Homeowners' Assoc Responsibility for Maintenance of Systems	Building PC (Review affidavit)	N/A	N/A	N/A	N/A

NOTES: 1. The LAFD is responsible for responding to and investigating incidents when high methane concentrations are detected or when methane systems fail.

2. The Los Angeles Chief's Regulation #4 Testing shall be accepted as the annual maintenance and testing report as administered by the LAFD Fire Prevention Bureau, Reg #4 Unit.

PLAYA VISTA VILLAGE METHANE MITIGATION SYSTEMS
Plan Check and Inspection Responsibilities Between Department of Building and Safety (LADBS) and Fire Department (LAFD)

METHANE MITIGATION COMPONENTS	PLAN CHECK (PC)		INSPECTION (Insp)		
	LADBS (Design Review)	LAFD (Design Review)	LADBS (Installation)		LAFD (Testing)
	All Buildings	All Buildings	One-family and Two- family	Multi-Family and Commercial	All Buildings
METHANE PREVENTION SYSTEMS					
Passive Prevention System - Underneath the Building					
De-watering System	Plumbing PC	N/A	Building Mechanical (Bldg-Mech) Insp	Plumbing Insp	N/A
Gravel Blanket	Building PC	N/A	Deputy Insp & Bldg-Mech Insp (Monitor inspection)	Deputy Insp & Building Insp (Monitor inspection)	N/A
Gas Collection Vent Pipe	Plumbing PC	N/A	Bldg-Mech Insp	Plumbing Insp	N/A
Impermeable Membrane	Building PC	N/A	Deputy Insp & Bldg-Mech Insp (Monitor inspection)	Deputy Insp & Building Insp (Monitor inspection)	N/A
Deep Vent Wells	Building PC	N/A	Bldg-Mech Insp	Building Insp	N/A
Active Prevention System - Mechanical Ventilation					
Ventilation Triggered w/ Elevated Methane Concentration	Mechanical PC	Engineering Unit	Bldg-Mech Insp	Electrical, Plumbing & Mechanical Insp	Construction Services (Acceptance Testing - when required)
METHANE DETECTION SYSTEM					
Detection System Within the Building					
Detectors in all Lowest Level Spaces Including Garage	Building PC & Electrical PC	Engineering Unit	Bldg-Mech Insp	Electrical Insp	Construction Services (Acceptance Testing - when required)
Audible and Visible Alarm **See Note #1**	Building PC & Electrical PC	Engineering Unit	Bldg-Mech Insp	Electrical Insp	Construction Services (Acceptance Testing - when required)
Detection System Underneath the Building					
Pressure Sensors below Impermeable Membrane	Building PC & Electrical PC	N/A	Bldg-Mech Insp	Building Insp & Electrical Insp	N/A
MAINTENANCE OF THE PREVENTION AND DETECTION SYSTEMS					
Testing and Servicing	See **Note #2**				

NOTES:

1. The LAFD is responsible for responding to and investigating incidents when high methane concentrations are detected or when methane systems fail.
2. The Los Angeles Chief's Regulation #4 Testing shall be accepted as the annual maintenance and testing report as administered by the LAFD Fire Prevention Bureau, Reg #4 Unit.

CITY WIDE METHANE MITIGATION SYSTEMS
Plan Check and Inspection Responsibilities Between Department of Building and Safety (LADBS) and Fire Department (LAFD)

METHANE MITIGATION COMPONENTS	PLAN CHECK (PC)		INSPECTION (Insp)		
	LADBS (Design Review)	LAFD (Design Review)	LADBS (Installation)		LAFD (Testing)
	All Buildings	All Buildings	One-family and Two- family	Multi-Family and Commercial	All Buildings
METHANE PREVENTION SYSTEMS					
Passive Prevention System - Underneath the Building					
De-watering System	Plumbing PC	N/A	Building Mechanical (Bldg-Mech) Insp	Plumbing Insp	N/A
Gravel Blanket	Building PC	N/A	Deputy Insp & Bldg-Mech Insp (Monitor inspection)	Deputy Insp & Building Insp (Monitor inspection)	N/A
Gas Collection Vent Pipe	Plumbing PC	N/A	Bldg-Mech Insp	Plumbing Insp	N/A
Impermeable Membrane	Building PC	N/A	Deputy Insp & Bldg-Mech Insp (Monitor inspection)	Deputy Insp & Building Insp (Monitor inspection)	N/A
Active Prevention System - Mechanical Ventilation					
Ventilation Triggered w/ Elevated Methane Concentration	Mechanical PC	Engineering Unit	Bldg-Mech Insp	Electrical, Plumbing & Mechanical Insp	Construction Services (Acceptance Testing - when required)
METHANE DETECTION SYSTEM					
Detection System Within the Building					
Detectors in all Lowest Level Spaces Including Garage	Building PC & Electrical PC	Engineering Unit	Bldg-Mech Insp	Electrical Insp	Construction Services (Acceptance Testing - when required)
Audible and Visible Alarm **See Note #1**	Building PC & Electrical PC	Engineering Unit	Bldg-Mech Insp	Electrical Insp	Construction Services (Acceptance Testing - when required)
Detection System Underneath the Building					
Pressure Sensors below Impermeable Membrane	Building PC & Electrical PC	N/A	Bldg-Mech Insp	Building Insp & Electrical Insp	N/A
MAINTENANCE OF THE PREVENTION AND DETECTION SYSTEMS					
Testing and Servicing	See Note #2				

NOTES:

1. The LAFD is responsible for responding to and investigating incidents when high methane concentrations are detected or when methane systems fail.
2. The Los Angeles Chief's Regulation #4 Testing shall be accepted as the annual maintenance and testing report as administered by the LAFD Fire Prevention Bureau, Reg #4 Unit.