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January 30, 2001

Mr. David Hsu
Chief Grading Section
City of Los Angeles
Dept. of Building & Safety
201 N. Figueroa Street, 3rd Floor
Los Angeles, CA 90012

Dear Mr. Hsu:

Attached is the Playa Vista Methane Prevention, Detection and Monitoring Program, prepared by Playa Vista in conjunction with Camp Dresser and McKee, Inc., Exploration Technologies Inc. and the Department.

The measures outlined in the Program exceed the Los Angeles Building Code, Division 71 (sections 91.7101 et seq.), Methane Seepage District Regulations and exceed current engineer practices for methane conditions. The Program provides an extra-ordinary level of protection for occupants of the Playa Vista project.

Sincerely,

REGISTERED PROFESSIONAL ENGINEER
JOHN L. SEPICH
NO. C 37509
exp. 6-30-2002
CIVIL
STATE OF CALIFORNIA

John Sepich

PLAYA VISTA METHANE PREVENTION, DETECTION AND MONITORING PROGRAM

Playa Vista will implement or cause to be implemented a comprehensive methane prevention, detection and monitoring system for the properties located at Playa Vista. The primary goals of the methane system are to (i) **prevent** the migration of methane into enclosed building spaces through the use of physical building systems in those areas of Playa Vista where there is a potential for migration of methane into enclosed building areas, (ii) **detect** the existence of methane within enclosed building areas and, if methane is present at levels exceeding 25% of the Lower Explosive Limit ("LEL") (i.e. 12,500 parts per million of volume ("ppmv")), to activate an alarm, and (iii) **monitor** the presence of methane in areas of the Playa Vista property where there is a potential of methane gas migrating into buildings in order to provide for contingencies for changing methane levels at the Playa Vista property.

As set forth in Appendix 1-Methane System Requirements, the Playa Vista Methane Prevention, Detection and Monitoring Programs establishes three levels of system requirements for Playa Vista. In addition, in order to ensure the long-term adequacy of the methane systems at Playa Vista, the methane program will include maintenance, reporting, and system responsibility requirements. These requirements are designed to provide residents at Playa Vista with mechanisms to ensure that prevention, detection and monitoring systems are operating correctly and to provide the appropriate City agencies with a method to ensure compliance with all applicable methane system requirements.

Each of the levels will provide a comprehensive program of prevention, detection and monitoring systems along with a maintenance and testing program. These systems will insure adequate and appropriate safety for all building occupants.

The Department of Building and Safety will review and approve the design and implementation of the methane systems. The Department of Building and Safety may utilize one or more independent experts in methane and methane systems (i.e. a Peer Reviewer) in reviewing and approving the design and implementation of the methane systems.

Playa Vista may request modifications or adjustments to this program and the Methane System Requirements based on additional site information, technology changes or changed conditions, with the written approval of the Department of Building and Safety.

Soil Gas Survey Requirements

A baseline methane soil gas site survey for Playa Vista was conducted by and Camp Dresser & McKee Inc., in consultation with Exploration Technologies, Inc. Attached as Appendix 2 is a baseline methane soil gas site survey prepared by Exploration Technologies, Inc. showing the measured methane soil gas levels at Playa Vista (the "Baseline Survey").

The Baseline Survey should be used to determine the areas of Playa Vista in which building methane prevention systems are required for building sites for which building permits are applied for prior to September 1, 2001.

Individual building sites for which building permit applications are submitted after September 1, 2001 shall provide a methane soil gas site survey for the building site (the "Building Site Survey"). The purpose of the Building Site Survey is to determine, to the satisfaction of the Department of Building and Safety, the applicability of methane prevention and monitoring systems requirements in connection with the construction of buildings on the building site which is the subject of the Building Site Survey. The Building Site Survey shall be conducted by a licensed civil engineer or registered geologist in the State of California.

If a building is to be constructed on a building site where (i) prior to September 1, 2001, the Baseline Survey indicates the presence of methane concentrations or (ii) after September 1, 2001, the Building Site Survey indicates the presence of methane concentrations, building methane detection, prevention and monitoring systems shall be required as provided for in this program.

Detection Systems

All buildings at Playa Vista will be equipped with methane gas detection systems within spaces located in the basement levels of the buildings and data collecting sensors below the lowest floor/basement slab, as set forth on the Methane System Requirements attached as Appendix 1. All buildings at Playa Vista located on building sites where measured soil gas concentrations exceed 100 ppmv, as indicated on the applicable methane soil gas site survey, also shall be equipped with data collecting sensors below the impermeable membrane. Methane System Requirements for building sites at Playa Vista are set forth on Appendix 1.

The detectors and sensors shall be approved by the Department of Building and Safety and the Los Angeles Fire Department and shall meet the specifications of the Department of Building and Safety. The quantity and actual location of the detectors and sensors shall be determined by a qualified methane engineer and approved by the Department of Building and Safety.

The detection and sensor systems will be tested for electrical safety pursuant to the Los Angeles Electric Code and tested and approved pursuant to the Los Angeles Fire Department standards.

The detection system will activate a visual and audible building alarm if methane concentrations are detected at 12,500 ppmv within the building (25% of the LEL) or higher. Concurrent with the building alarm activation, an electronic signal will notify the Los Angeles Fire Department of the building alarm activation.

Within ten (10) calendar days following the activation of an alarm, a written report shall be submitted by the building owner or the property owners' association to the Los Angeles Fire Department and the Department of Building and Safety regarding the alarm activation and the cause of the activation and, if needed, providing recommendations and corrective measures.

Building Methane Prevention Systems

Methane Prevention Systems will be required for all buildings located on building sites where methane gas is detected, as indicated on the applicable methane soil gas site survey.

Building system requirements will be determined based on the highest methane concentrations located beneath the building site as indicated on the applicable methane soil gas site survey.

Building prevention systems shall be installed in buildings in accordance with Appendix 1-Methane System Requirements.

As required by Methane System Requirements (Appendix 1), building prevention system elements shall include, as applicable, (i) a methane detection system coupled with an alarm which will provide an audio and visual alarm if methane concentration levels reach or exceed 12,500 ppmv (25% of the LEL) within the building, (ii) a gravel blanket together with perforated methane collection pipes located below the building designed to collect and vent methane gas (passively and/or actively), (iii) a City of Los Angeles approved methane gas membrane designed to prevent methane gas from migrating into enclosed building areas. Active systems shall provide for mechanical ventilation (e.g. fan or blower to remove or reduce methane concentrations in gas venting pipes and/or basement areas), and (iv) a functional subsurface venting system in Level III areas as designated on Appendix I (Methane System Requirements).

The installation of the building prevention system shall be supervised by a qualified methane engineer. The Department of Building and Safety shall perform inspections of the building prevention system installations.

Building Monitoring Systems

Monitoring of methane concentration levels will be provided for as part of the building prevention systems as provided for in the Methane System Requirements (Appendix 1). The timing and method of monitoring will be based on the methane concentrations as indicated on the applicable methane soil gas site survey.

Areas of Methane Greater Than 100 ppmv

In areas of Playa Vista where methane soil gas concentrations, as indicated on the applicable methane soil gas site survey, are above 100 ppmv, methane concentrations within the building system shall be monitored continuously by an electronic monitoring system. The methane concentration data shall be accessible (read only) over a secure Internet connection to the Los Angeles Fire Department, the Department of Building and Safety and the property owners' homeowner association (or building owner, as applicable). In addition, an annual written report of the data together with any recommendations from a qualified methane engineer will be provided by the property owners' association (or building owner, as applicable) to the Department of Building and Safety and the Los Angeles Fire Department. Copies of the written reports also shall be provided to the Playa Vista Master Association.

If the monitoring data indicates that methane concentrations below the impermeable membrane exceed 37,500 ppmv, the mechanical ventilation system shall be automatically activated. If subsequent monitoring data indicates methane concentrations below 37,500 ppmv; the mechanical ventilation system may be deactivated.

Methane sensors above and below the methane membrane may also be utilized to assist the qualified methane engineer in determining the integrity of the methane membrane. If the qualified methane engineer determines that the methane sensors indicate that the methane

membrane has lost its integrity, in whole or in part, the qualified methane engineer shall submit a report of findings and any required corrective measures to the building owner or the property owners' association and building owner or property owners' association shall submit to the Department of Building and Safety a copy of the findings and any required corrective measures for review and approval prior to any such corrective measures being undertaken. The building owner or property owners' association shall undertake such corrective actions in a timely manner and shall provide a report to the Department of Building and Safety of compliance such corrective measures.

If methane concentrations change over time, methane monitoring may be modified (increased or decreased) based on recommendations of a qualified methane engineer, as approved by the Department of Building and Safety.

Areas of Methane Below 100 ppmv

In areas of Playa Vista where methane concentrations, as indicated in the applicable methane soil gas site survey, are less than 100 ppmv, methane concentrations within the building prevention systems will be manually sampled. Sampling will be conducted quarterly, provided that the methane concentrations remain below 100 ppmv. In addition, an annual written report of the data shall be submitted by the property owners' association (or building owner, as applicable) to the Department of Building and Safety and the Los Angeles Fire Department. Copies of the written reports also shall be provided to the Playa Vista Master Association.

If in any quarter, the monitoring data indicates that methane concentrations exceed 100 ppmv or if the monitoring data is highly variable, the Department of Building and Safety or the qualified methane engineer may require additional manual sampling or electronic monitoring of the methane concentrations. A quarterly written report of the monitoring data shall be provided by the property owners' association (or building owner, as applicable) to the Department of Building and Safety and the Los Angeles Fire Department. Copies of the written report also shall be provided to the Playa Vista Master Association.

Methane sensors above and below the methane membrane may also be utilized to assist the qualified methane engineer in determining the integrity of the methane membrane. If the qualified methane engineer determines that the methane sensors indicate that the methane membrane has lost its integrity, in whole or in part, the qualified methane engineer shall submit a report of findings and any required corrective measures to the building owner or the property owners' association and building owner or property owners' association shall submit to the Department of Building and Safety a copy of the findings and any required corrective measures for review and approval prior to any such corrective measures being undertaken. The building owner or property owners' association shall undertake such corrective actions in a timely manner and shall provide a report to the Department of Building and Safety of compliance with such corrective measures.

If methane concentrations change over time, methane monitoring may be modified (increased or decreased) based on recommendations of a qualified methane engineer, as approved by the Department of Building and Safety.

Maintenance and Reporting

Individual building systems will be tested, maintained, and serviced at least annually by the building owner or property owners' association pursuant to the manufacturer's specifications and to the satisfaction of the Los Angeles Fire Department and the Department of Building and Safety. The building owner or property owners' association, as applicable, shall be responsible for any required repairs of the methane systems, including without limitation any required repairs to the methane membrane, gas vent pipes or ventilation systems.

The property owners' association (or building owners, as applicable) shall maintain records of such service and repair. Copies of all service and repair records shall be sent to the Playa Vista Master Association within thirty (30) calendar days of service.

For buildings that are located on Playa Vista common areas (i.e. not owned or controlled by an individual building owner or property owners' association), the Playa Vista Master Association shall have responsibility for testing, maintenance, repair and service.

Individual building owners and/or property owners' associations shall complete any required service of the systems and shall keep the system in good working order and fully operational. The individual building owners and/or property owners' association shall be responsible for any required repairs and replacements.

On or before July 1 of each calendar year, the building owner or the property owners' association shall submit a certification to the Los Angeles Fire Department and the Department of Building and Safety that the annual testing, maintenance and service has been completed and certifying that the system is operational.

System Responsibility

The developer/builder will have primary responsibility for the design and construction of the building methane prevention systems and the building monitoring systems. The design of the building methane prevention systems and monitoring systems shall be incorporated into the design of the buildings. The design of the systems shall be consistent with this program and shall be subject to review and approval by the Department of Building and Safety. A qualified methane system engineer shall prepare the plans and specifications for the systems.

The systems shall be made operational by the project developer/builder. A report as to its operational status shall be signed by the qualified methane system engineer and submitted to the Department of Building and Safety and the Los Angeles Fire Department. A copy of the report shall be provided to the building owner or the property owners' association and to the Playa Vista Master Association. No certificate of occupancy shall be issued for any building until the methane systems, as required by Methane System Requirements attached as Appendix 1, are operational and a qualified methane engineer has certified the systems to be operational.

Upon the certification of the operational status of the building methane system and monitoring system, the building owner or the property owners' association shall have responsibility for the continued operation, maintenance, repair and replacement of the systems.

The building owner or property owners' association, as applicable, shall develop and submit for approval by the Department of Building and Safety and the Los Angeles Fire

Department an evacuation plan for the building. A copy of the evacuation plan shall be available to residents and tenants.

The building owner or the property owners' association, as applicable, shall have financial responsibility for all costs and expenses associated with the building methane system and the monitoring system, including without limitation all costs associated with testing, maintaining, servicing and repairing the systems and any cost incurred in preparing and submitting required reports to be provided to the City and the Master Association.

Appendix 1

Building Methane Prevention System Requirements

DRAFT METHANE SYSTEM REQUIREMENTS

A baseline soil gas survey shall be conducted for each building site to determine the areas of Playa Vista Phase I in which building methane prevention systems are required.[1]

Mitigation Measure	Methane Concentration Level		
	Level I[2] White: <10ppmv Blue: 10-<30ppmv Lt. Blue: 30-<100ppmv	Level II[2] Green: 100-<1000ppmv Yellow: 1000-<12,500ppmv	Level III[2] Orange: 12,500-<150,000ppmv Red: 150,000ppmv or >
Methane Prevention System[3]			
Passive - Underneath the Building			
• 12" gravel blanket	Required	Required	Required
• gas collection vent pipe	Required	Required	Required
• impermeable membrane	Required	Required	Required
Active - Mechanical Ventilation			
• ventilation triggered with elevated methane concentrations	None	Required[4]	Required[4]
Subsurface Ventilation	None	None	Required
Methane Detection System			
Within the Building			
detectors in spaces located in the basement/lowest level in the building[5]	Required	Required	Required
• audible alarm[6]	Required	Required	Required
• visual alarm[6]	Required	Required	Required
• automatic notification of LAFD[6]	Required	Required	Required
Underneath the Building	None	Required	Required
• data collecting sensors below impermeable membrane[5]	Required	Required	Required
• data collecting sensors between impermeable membrane and lowest floor/basement slab[5]			
Methane Monitoring System			
• manual quarterly assessment	Required[7]	None	None
• continuous methane sampling and data collection accessible by the homeowners' association, LADBS and LAFD via the Internet	None	Required[8]	Required[8]
Maintenance of the Prevention, Detection and Monitoring Systems			
• annual testing to the satisfaction of LADBS and LAFD	Required	Required	Required
• homeowners' association to have financial responsibilities	Required	Required	Required

Contingency Plan			
• when high methane concentration are detected within a building	Required	Required	Required
• when methane system components fail	Required	Required	Required

Footnotes:

1. Projects for which building permit applications were received by LADBS prior to January 1, 2002 may use as baseline methane concentration data the soil gas survey data prepared by CDM/ETI at Appendix 1. After January 1, 2002, all projects shall submit for approval to the satisfaction of LADBS, individual soil gas site assessments that characterize methane soil gas concentrations for the building site.
2. Levels of methane concentrations and corresponding colors on the methane concentration maps are identified in the Appendix 2 or individual building site soil gas assessments.
3. LADBS may reduce on requirements in areas where the methane concentrations in the area of building sites is non-detect.
4. When methane concentrations are detected at 37,500 ppmv by the sensors in the ventilation system below the impervious membrane, a mechanical ventilation system shall be automatically activated.
5. Number, type and location of detectors (or approved equivalents) to be determined by a qualified methane engineer, as approved by LADBS.
6. Audible alarm, visual alarm and notification of LAFD shall be triggered when methane concentrations are detected at 12,500 ppmv.
7. Sampling data reviewed by a qualified methane engineer shall be approved by LADBS. When such data is determined to be highly variable, additional manual sampling or electronic sampling may be required by LADBS. A qualified methane engineer shall submit a report to LADBS with conclusions and recommendations.
8. When the methane concentration data indicates significant changes in methane concentrations below the membrane, then a report by a qualified methane engineer shall be submitted to LADBS characterizing the reasons for such changes.

Appendix 2

Baseline Methane Soil Gas Site Survey