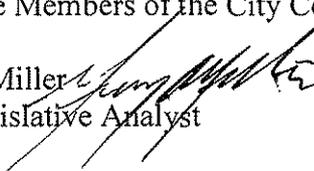


**REPORT OF THE
CHIEF LEGISLATIVE ANALYST**

DATE: February 19, 2013

TO: Honorable Members of the City Council

FROM: Gerry F. Miller 
Chief Legislative Analyst Council Files: 11-1813, 11-1813-S1
Assignment No: 13-01-0065

Safety Regulations and Precautions at Liquefied Petroleum Gas (LPG) Facilities

Summary

On June 27, 2012, the Public Safety Committee held a special off-site meeting in San Pedro to consider two motions:

- Motion (Perry—Krekorian) which instructed the Fire Department, Emergency Management Department, Department of Building and Safety, and City Attorney to report on the safety issues raised by San Pedro residents regarding the Amerigas/Rancho LPG storage tank facility at 2110 North Gaffey Street in San Pedro. (Council File 11-1813)
- Motion (Buscaino—Perry—Englander) which moved that the Public Safety Committee hold a special meeting in the Harbor Area and request the pertinent regulatory and enforcement agencies at the local, state, and federal level to provide a presentation regarding the permitting and safety requirements for liquid bulk storage facilities. (Council File 11-1813-S1)

At the Committee meeting, there were several agencies represented which have some level of oversight at facilities such as the Rancho LPG facility. Los Angeles City Departments represented at the meeting were the Fire Department (LAFD); Department of Building and Safety (LADBS); Police Department (LAPD); Emergency Management Department; City Attorney; Planning Department; Bureau of Sanitation; and Port of Los Angeles. Non-City agencies represented at the meeting were the United States Environmental Protection Agency (EPA); United States Defense Logistics Agency; United States Department of Labor, Occupational Safety & Health Administration (OSHA); California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA); and the South Coast Air Quality Management District (AQMD).

The aforementioned agencies each presented an overview of their oversight roles at the facility, including the types and frequency of inspections at the facility, and other safety measures and precautions required by law. After presentations and testimony from the various agencies, and

additional questions and comments from Committee members, a public comment period was provided for members of the community to address the Committee on this issue.

At the conclusion of the Public Safety Committee meeting, this Office was instructed to convene meetings and work with various City departments to identify recommendations to improve safety and hazard mitigation measures of liquid bulk storage (LBS) facilities, including Rancho LPG. The Committee also directed this Office to compile a list of similar facilities in the Harbor area. LAFD has compiled a list of facilities which will be transmitted separately from this report.

Recommendations

1. Instruct the Fire Department to develop potential options for a community outreach effort and preparedness exercise with City departments and stakeholders in the San Pedro area, including the facility operator, local Neighborhood Councils, homeowner groups, and other community based organizations.
2. Instruct the Fire Department and Department of Building and Safety, with the assistance of the Chief Legislative Analyst, to report back with a list of inspections conducted by non-City agencies at liquid bulk storage facilities that would benefit City agencies by receiving automatic notification of inspection deficiencies.

Background

The facility at 2110 North Gaffey Street in San Pedro is operated by Rancho LPG on privately-owned land. The site has two storage tanks of refrigerated butane with 12.6 million gallons of capacity, approximately 110 feet in height and 175 feet in diameter. Additionally, there are smaller horizontal tanks that store butane and propane, each with a capacity of 60,000 gallons. The storage of liquid chemicals and other sensitive materials has been referred to as liquid bulk storage (LBS). More specifically, butane and propane are both types of *liquefied* petroleum gas (LPG).

The Rancho LPG facility has been at this site since its construction in 1978. There has been extensive research and analysis conducted in the past relative to the site and its permitted uses. Further background information on these topics is available in reports issued in 2005 and 2006 from the Offices of the Chief Legislative Analyst and City Administrative Officer, City Planning Department and Port of Los Angeles (Council File 04-1645).

The two largest tanks on site store liquid butane. Prior scientific reviews of the facility have described the nature of butane as an LPG substance, as follows:

Butane at room temperature and pressure is a gas, and butane is liquefied in order to decrease its volume to make it easier to store and ship. There are multiple approaches to storing butane as a liquid. One approach is to store butane in a high pressure vessel which exerts adequate pressure on the butane to maintain it in liquid form at room

temperature. Another approach is to refrigerate the butane to keep the temperature below its normal boiling point. Since the refrigeration, not the pressure, maintains the butane as a liquid, the butane liquid can be stored in a low pressure vessel.

To mitigate the impacts of a storage breach, using refrigeration is more advantageous since the storage vessel pressure is much lower, resulting in a lower discharge of liquid. With refrigerated butane, lesser amounts of butane will flash into vapor as it reaches a warmer ground surface temperature, which results in more butane remaining as a liquid in the containment pool. The consequences of using refrigeration are less than using higher pressure because the rate at which butane vapor is produced will be less, resulting in a smaller vapor cloud than with tanks that have higher pressure.

At the Rancho LPG facility, a containment basin exists a short distance from the storage vessels to collect and contain any liquid that is discharged during an emergency situation. Liquid butane that leaks out of the storage vessel is drained into the containment basin away from the storage vessels. Prior reviews of the facility have indicated that the containment basin is important for mitigating the risk of the storage tanks being directly exposed to a fire, in the event that any leaked butane catches on fire. In addition, the containment basin reduces the surface area of a potential pool of leaked butane, which lessens the evaporation rate of the butane under such a scenario.

Responsibilities of City Departments

Following the Public Safety Committee meeting, this Office worked in conjunction with the Offices of Councilmember Buscaino and Councilmember Perry to develop specific questions directed to City departments regarding safety oversight at Rancho LPG and LBS facilities. This Office received information and/or held follow-up meetings with the following City Departments: LAFD, LADBS, LAPD, Emergency Management, Port of Los Angeles, City Attorney, and Planning Department.

From a safety standpoint, the main City agencies responsible for oversight at LBS facilities are LAFD and LADBS. LAFD, as a Certified Unified Program Agency (CUPA), is responsible for regulatory oversight pursuant to the Los Angeles Municipal Code (LAMC) and applicable state requirements (described further below). Similarly, LADBS performs inspections pursuant to LAMC regulations and inspections required by state law. The LAPD, Hazardous Materials Division, is responsible for assisting LAFD in the event of an emergency incident at the facility which is deemed to be suspicious or criminal in nature.

LAFD's CUPA Section oversees the following regulations: Hazardous Materials Disclosure and Business Plan; Underground Storage Tank Program; Aboveground Petroleum Storage Act (APSA) Program; Aboveground Storage Tank Spill Prevention Control and Countermeasure (SPCC) Plan; Hazardous Waste Generator Program; and California Accidental Release Prevention (CalARP) Program.

At LBS facilities such as Rancho LPG, LAFD performs inspections pursuant to the City's Fire Code (contained in the LAMC) and two of the CUPA programs mandated by State law: CalARP and APSA. These regulations cover inspections associated with facility access, location of tanks, fire protection systems, fire hydrants containment areas, gas/liquid monitoring, inventory and separation of process/stored substances, emergency planning, and facility security. While the Rancho LPG facility is the primary focus of this review, LAFD has indicated that 49 other facilities in the City of Los Angeles are also subject to these regulations.

LADBS performs inspections required by the State of California Title 8 Pressure Vessel Safety Code and the City of Los Angeles Pressure Vessel Code (LAMC Article 7, Chapter IX). Inspections pursuant to the City's LAMC requirements occur on an annual basis. Inspections conducted by State of California inspectors occur once every three to five years; however, since LADBS inspectors are authorized ("cross-deputized") by the State, LADBS inspectors also perform the State-required inspections on an annual basis. Relative to the two largest tanks at the Rancho facility, which are maintained at an operating pressure of approximately 1.5 pounds per square inch (psi), LADBS indicated that Pressure Vessel inspection requirements only apply to storage tanks with operating pressure greater than 15 psi.

Emergency Plans and Safety Considerations

The CalARP Program covers "Regulated Substances" such as flammable gases, and toxic gases and liquids. CalARP regulations are designed to prevent releases and accidents for the protection of public safety. CalARP regulations require a facility operator to conduct hazard assessment and hazard analysis studies, and submit a Risk Management Plan (RMP) to the LAFD and EPA. The operator is required to implement all applicable elements of the prevention program. LAFD reviews all submitted RMPs for completeness, technical accuracy, and the appropriate level of detail. LAFD inspects every stationary source of Regulated Substances registered pursuant to CalARP at least once every three years to determine compliance with the regulations.

CalARP regulations also require the facility operator to have an emergency plan which is made available to LAFD CUPA and other inspection agencies. The emergency plan must be reviewed and/or updated every three years, and any changes to the plan require notification to LAFD. The emergency plan requires certification of periodic training of individual plan components, including the date, types of training, and personnel involved. Separate from the facility operator's emergency plan, LAFD has indicated that its training program includes preparing for, and responding to, accidents at LBS facilities and other facilities with sensitive materials. For emergencies requiring an evacuation, LAFD and LAPD work in coordination using established policies and procedures.

Safety Improvements

Relative to potential safety improvements, there are two initiatives that have been identified in consultation with the City's primary safety inspection agencies, LAFD and LADBS. One

initiative focuses on conducting an emergency exercise to further enhance the preparedness efforts of City first responders and to better engage community stakeholders. A second initiative would explore the specific levels of coordination between City and non-City inspection agencies to determine the feasibility and benefits of automatic cross-notification of inspections by these agencies.

LAFD has indicated that an initiative to engage community stakeholders through a preparedness exercise would be beneficial to the issue of ensuring adequate safety precautions at facilities such as the Rancho LPG facility. Such an effort would increase the awareness of safety regulations, and could potentially lead to the identification of new protocols or requirements to strengthen existing regulations. Additionally, community stakeholders and residents may have more direct insight of the protocols used by both first responder agencies and the facility operator, in the event of a real emergency situation on site. In the past, LAFD has conducted similar efforts to increase awareness of why safety regulations are in effect and how they are used to protect the public.

In addition, since there are several agencies and jurisdictions involved in regulating and inspecting LBS facilities, cross-coordination among agencies is crucial to ensure that facility operators are consistently in compliance with all applicable laws. LAFD and LADBS have indicated that not all inspections conducted by non-City agencies are subject to automatic notification to City agencies in the event corrective orders have been issued or deficiencies identified. A process that provides more timely notification may enable City agencies to better observe the ongoing compliance of facilities with all applicable laws. Similarly, enabling summary information of regulatory compliance to be posted online may be beneficial to all concerned stakeholders.

Given the variety and technical nature of the inspections performed on site, it is recommended that LAFD and LADBS be instructed to report back with a list of these inspections performed by non-City agencies and determine which inspections should be subject to automatic notification. If there are inspection types that would benefit City agencies by receiving automatic notification in the event of a deficiency, it may be appropriate to pursue changes to the applicable laws and regulations that govern these inspections. However, it should be noted that the City of Los Angeles can only make changes to laws under its jurisdiction; separate efforts would also need to be pursued at the state and federal level.


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