

ITEM 7
MANAGER'S REPORT NO. 70
COUNCIL MEETING 91/12/09

TO: MUNICIPAL MANAGER 1991 December 04
FROM: DIRECTOR PLANNING AND BUILDING Our Files: 13.250
02.240

SUBJECT: PROPOSED AMENDMENT TO M3 AND M7a ZONES TO
REVISE THE REGULATIONS FOR THE MANUFACTURING,
PROCESSING AND/OR STORAGE OF LIQUEFIED PETROLEUM GAS

PURPOSE: To provide Council with information in support of a recommen-
dation to revise the M3 and M7a zoning district regulations
to limit the volume of Liquefied Petroleum Gas manufactured,
processed and/or stored to quantities required to service
local retail outlets.

RECOMMENDATION:

1. THAT a bylaw be prepared providing for amendments to
the M3 and M7a regulations of the Burnaby Zoning Bylaw
1965 limiting the volume of Liquefied Petroleum Gas
manufactured, processed and/or stored to quantities
required to service local retail outlets as follows:

a) The repeal of Section 403.1(11)(f) and the
substitution of the following:

*"Petroleum products (excluding liquefied
petroleum gas in fixed storage structures with
a combined capacity in excess of 100,000 U.S.
gallons)."*

(b) The repeal of Section 407.1(12) and the
substitution of the following:

*"The storage of petroleum products (excluding
liquefied petroleum gas in fixed storage
structures with a combined capacity in excess
of 100,000 U.S. gallons) in areas having an
M7a designation, provided that such use is
located 61m (200.13 feet) or more from the
zoning boundary of an A2, R or RM District."*

and THAT this Bylaw be advanced to First Reading on
1992 February 03 and to a Public Hearing on 1992
February 25 at 7:30 p.m.

SUMMARY

The following report notes that current zoning Bylaw regulations simply
provide for the manufacturing, processing and/or storage of petroleum
products. No distinction is made for liquefied petroleum gas (LPG) which
has the potential to present a significant risk to adjacent neighbour-
hoods in the event of fire or other incident. An example is cited where
one major facility which was initially designed to handle crude oil was
redesigned to accommodate LPG. This particular facility has not handled
LPG since 1985 and it is concluded that it is appropriate to introduce
bylaw amendments to preclude this or any other facility from being
reactivated or redesigned to handle very large quantities of LPG.

It is intended to permit the storage of LPG in quantities sufficient to
service local retail outlets.

R E P O R T

1.0 BACKGROUND

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The M3 Heavy Industrial District [Section 403.1(11)(f)] provides for the accommodation of special types of industry and heavy industrial activities including the manufacturing, processing and storage of petroleum products. The M7a Marine District 2 [Section 407.1(12)] provides for the regulation and location of water-oriented uses and related activities in proper relationship to surrounding development and includes the storage of petroleum products. No distinction is made with regard to the specific types of petroleum products. This situation gives rise to the potential for liquefied petroleum gas to be handled in situations which could pose a significant risk to adjacent properties.

For example, Trans Mountain Pipe Line's Westridge Terminal on Burrard Inlet was originally designed and operated for loading tankers with crude oil for off-shore delivery. In 1966 this facility was redesigned to receive LPG by railway car for temporary storage and loading aboard refrigerated tankers. Very large quantities were involved and the exposure was significant. At any given time there may have been 14 tank cars with a combined capacity of 350,000 gallons of LPG being unloaded. The two storage tanks on site could accommodate in excess of 12 million gallons. Transport vessels had a capacity of some 8 million gallons. When a tanker was being loaded, a flow rate in excess of 350,000 gallons per hour over the CPR tracks could occur (this is equivalent to 14 tank cars per hour).

Given the fact that the Westridge Terminal abuts a residential area as well as the Shellburn Refinery, the potential existed for loss of life and major property damage in the event of a fire, explosion or a major incident.

In recognition of the foregoing, Trans Mountain upgraded its terminal facility in 1984/85 as follows:

1. A second emergency access was constructed from the foot of Cliff Avenue.
2. Additional security fencing was installed along the water side of the property.
3. A water deluge system was installed to replace water monitors over the entire length of track where tank cars are unloaded. Provision was also made by the Company for additional water capacity to the site.
4. The supporting structures for the overhead pipeline crossing the railway were eliminated within 50 feet of the centre line of the main CPR tracks and a Jordan Guard Rail was installed to keep tank cars that may be derailed in an upright position.
5. The Company also purchased a foam fire tanker truck for use at its Westridge Terminal and the tank farm on Underhill Avenue.

Certainly these actions reduced the risk associated with handling LPG at this site. The basic fact remains, however, that there is a potential for a highly dangerous product to be stored and transferred in close proximity to a residential area at this and other terminals.

Trans Mountain's propane terminalling agreement came to an end on 1985 April 03. On 1986 June 10, Trans Mountain entered into a 10 year agreement to receive up to 250,000 cubic metres of jet fuel by barge per year. The jet fuel is delivered by barge, off-loaded to 1 of the 2 tanks and delivered by pipeline to the Vancouver International Airport. The other tank is used for the storage of crude oil for shipment by tanker.

2.0 EXISTING SITUATION

The foregoing illustrates the potential which exists under current bylaw provisions to handle very large amounts of a hazardous petroleum product which presents significant dangers to nearby residents and properties.

In 1991 June the Vancouver Port Corporation completed a risk analysis which included recommendations to make the Port safer. While Council was of the opinion that this analysis did not fully address the issue of defining a sustainable level of tanker traffic in the Port, an opportunity is available in the subject case to implement direct action at the municipal level which will reduce the risks associated with the transshipment of a very dangerous cargo. It is therefore considered appropriate to review the bylaw regulations governing the manufacturing, processing and storage of this product with a view towards restricting the quantities involved to that which is necessary to service local retail outlets.

2.1 Storage of LPG to Service Local Needs

While staff is of the view that a compelling argument can be made to preclude the manufacturing, processing and/or storage of LPG in very large quantities for transshipment to other locales (including destinations overseas), provision needs to be retained within the Bylaw regulations to service local commercial outlets.

At present, there are 4 such facilities in Burnaby handling various quantities as follows:

- | | | |
|----|--|---------------------|
| a) | I.G.C. Propane
3191 Thunderbird Crescent | 60,000 U.S. gallons |
| b) | A.1. Industrial Propane
5888 Marine Drive | 30,000 U.S. gallons |
| c) | Superior Propane
4738 Lougheed Highway | 8,000 U.S. gallons |
| d) | Premier Propane
4888 Still Creek Avenue | 58,000 U.S. gallons |

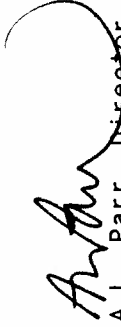
It should be noted that the quantities listed above are stored in permanent, fixed tanks. Additional quantities can be found on site in tanker trucks which are used to deliver the product to individual retail outlets. For example, Premier Propane has 3 such trucks with a 30,000 U.S. gallon capacity. If all 3 are full and on site at the same time, a further 90,000 U.S. gallons are actually on site for a total of some 148,000 U.S. gallons.

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3.0 CONCLUSION

In staff's view, it is not appropriate to permit the manufacturing, processing or storage of LPG in urban areas other than to service the local distribution outlets. It is, therefore, proposed to limit the quantities stored in permanent, fixed storage structures to 100,000 U.S. gallons. This proposal has been reviewed by the Fire Chief and the Acting Chief Public Health Inspector, both of whom concur with the limits proposed.

Given the potential impact of the proposed bylaw amendments, it is proposed that a letter be forwarded to the existing petrochemical companies on Burrard Inlet (Trans Mountain, Petro Canada, Shell Canada and Chevron Canada), as well as the distribution companies noted herein, advising them of the proposed bylaw amendments in order that they have an opportunity to provide input at the Public Hearing.


A.L. Parr, Director
PLANNING AND BUILDING

PB/mm

cc: Director Administrative & Community Services
Fire Chief
Acting Chief Public Health Inspector
Municipal Solicitor
Director Engineering
Emergency Program Coordinator