

ITEM
MANAGER'S REPORT NO. 4
COUNCIL MEETING 1983 01 04 1

RE: REPORT OF THE RAILWAY TRANSPORT COMMITTEE ON:

- (a) RAILROAD TRANSPORT OF DANGEROUS GOODS IN THE GREATER VANCOUVER AREA; AND
 - (b) OPERATIONS AT SPECIFIC SITES INCLUDING TRANS MOUNTAIN OIL PIPELINE CO. LTD., WESTRIDGE TERMINAL
- (ITEM 12, REPORT NO. 49, 1982 SEPTEMBER 07)
(ITEM 3, REPORT NO. 53, 1982 OCTOBER 04)

ACTING MUNICIPAL MANAGER'S RECOMMENDATION:

1. THAT the recommendation of the Director-Fire Services be adopted.

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FIRE DEPARTMENT
1982 DECEMBER 20

TO: MUNICIPAL MANAGER
FROM: DIRECTOR-FIRE SERVICES
SUBJECT: REPORT OF THE RAILWAY TRANSPORT COMMITTEE ON:
a) RAILROAD TRANSPORT OF DANGEROUS GOODS IN THE GREATER VANCOUVER AREA; AND
b) OPERATIONS AT SPECIFIC SITES INCLUDING TRANS MOUNTAIN OIL PIPELINE CO. LTD., WESTRIDGE TERMINAL

RECOMMENDATION:

That Council receive the following report for their information.

BACKGROUND:

Council at their regular meeting held 1982 October 04, lifted from the Table Item 12 Report No.49 dated 1982 September 07, arising from which a motion was adopted requiring the Director-Fire Services to report back to the Municipal Council in three months describing the potential danger and what action would be taken in the event of a fire or major incident taking place at the Westridge Terminal of Trans Mountain Oil Pipeline Company Ltd.

REPORT

To allow for an appreciation of the potential danger at the Westridge Terminal of Trans Mountain Oil Pipeline Co. Ltd., the following properties of Liquefied Propane Gas (LPG) are appended:

Ignition Temperature	- 842 ⁰ F
Explosive Range	- 2.2% - 9.5%
Vapour Density	- 1.6 (Air = 1)
Expansion Ratio Liquid to Vapour	- 250 - 1
Boiling point	- -44 ⁰ F
Water Soluble	- NO
Percentage Increase in Volume per 100 ⁰ F Temperature Rise	- 16.8
Total Heat of Combustion	- 21,646 BTU per lb

Storage Capacity and Approximate Quantities Held:

Two double-walled insulated tanks each with a capacity of 175,000 barrels, giving a total capacity in excess of 12 million gallons LPG.

Fourteen tank cars with a combined capacity of 350,000 gallons LPG.

In addition, a transport vessel (capacity approximately 8 million gallons LPG) calls once per month, at which time it is moored at the Terminal for approximately 24 hours while being loaded from the double-walled insulated tanks located across the main railway tracks.

Action In Case of Fire or Major Incident:

Action in case of fire or a major incident would be predicated on the initial size-up by the responding senior Fire Officer. As such I envisage he would have three options:-

- 1) Direct attack on the tank or container involved, to provide for a quick knock-down with the accompanying closure of the appropriate control valves.
- 2) Cover the exposures with heavy streams, and allow the LPG to burn off if the control valves are not operable.
- 3) Immediate evacuation of the population up to approximately three-quarters of a mile if a boiling liquid expanding vapour explosion (BLEVE) appears imminent or if the main storage tanks are ruptured.

In the case of (3) above, the Burnaby Emergency Measures Plan and the G.V.R.D. Fire Services Mutual Aid Program would be activated to allow for the following:-

Public Safety - Emergency Measures Plan

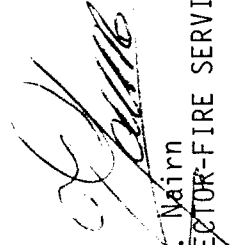
- a. Evacuation;
- b. Reception - Accommodation - Information;
- c. Traffic control;
- d. Prevention of looting;
- e. Rehabilitation.

G.V.R.D. Fire Services Mutual Aid

- a. Water relay - Monitors - Deluge units;
- b. Patrolling property at risk - (residential homes);
- c. Fire Boat (if appropriate), estimated cost \$22,000 per hour;
- d. Liaison with Harbour Master to remove ocean-going vessel from the Terminal, if necessary.

CONCLUSION:

In the event of occurrence (3) above, real or apprehended, the Community would be subjected to a major disruption with the potential for large loss of life and major property damage. As such it cannot be over-emphasized there is a most pressing need to implement those requirements requested by The Corporation of Burnaby, as with the findings of the Pacific Region Railway Transport Committee, in their report to Dr. John Heads, Executive Director, Railway Transport Committee, Canadian Transport Commission.


T.G. Vairn
DIRECTOR-FIRE SERVICES

TGN:mc