

ITEM	14
MANAGER'S REPORT NO.	76
COUNCIL MEETING	1978 10 30

RE: LETTER FROM MR. AND MRS. W. J. PARKER ET AL WHICH  
APPEARED ON THE AGENDA FOR THE 1978 OCTOBER 23 MEETING  
OF COUNCIL (ITEM 4b)  
HOLDING TANKS AT THE CHEVRON REFINERY

Appearing on last week's agenda was a letter from Mr. and Mrs. W. J. Parker and others regarding propane tanks at the Chevron Refinery. Following is a report from the Director of Planning on this matter. A report from the Director of Fire Services is attached.

RECOMMENDATIONS:

1. THAT the recommendations of the Director of Planning and Director of Fire Services be adopted.

\* \* \* \* \*

TO: MUNICIPAL MANAGER 1978 OCTOBER 25  
FROM: DIRECTOR OF PLANNING  
SUBJECT: PETITION FROM RESIDENTS OF NORTH BURNABY — CONCERN REGARDING  
APPARENT FUEL LEAK - CHEVRON TANK FARM

RECOMMENDATIONS

1. THAT this report be received for information purposes; and,
2. THAT a copy of this report be forwarded to Mr. and Mrs. W.J. Parker, 4280 McGill Street, Burnaby, B.C. V5C 1M9

REPORT

Appearing on the Agenda for the 1978 October 23 meeting of Council was a petition signed by residents of seven addresses in the vicinity of the Chevron (Canada) Limited tank farm, commenting on the propane tanks contained within the tank farm area, and expressing the need for immediate attention to what was considered to be an apparent leak in one of the holding tanks situated within the tank farm.

The Director - Fire Services has presented his report on the matter of the apparent leak, and further advises that the installation of the propane tanks at this site was carried out in accordance with the Provincial Fire Marshal's regulations and complies with the pertinent requirements.

With reference to the subject of removal of the propane (LPG) storage tanks, we are able to confirm that relocation of the LPG cylinders was proposed in the 1973 Master Plan submitted by the oil company in its proposal to expand and modernize the refinery operation.

The Planning Director's report which advanced Chevron's Master Plan for Council consideration (Item #29, Manager's Report #88, 1973 November 26) contained the following statements:

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"Fire Prevention and Fire Fighting Program

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The proposal contains a brief section on Fire Protection. This topic has been discussed in detail with authorities of the Provincial Fire Marshal's Office and the Burnaby Fire Department's Fire Prevention Office. Agreement has been reached on the general provisions and practices to be followed (as recommended by both the American Petroleum Institute and the National Fire Protection Association) and on specifics related to actual devices and methods in connection with facilities proposed in the expansion plans. Certain features of the proposal, including removal of all LPG storage from the tank farm area to an isolated location and provision of the new LPG loading facility, are a direct result of fire safety considerations.

Both fire protection authorities mentioned have expressed their general satisfaction with the proposal, subject to specific details that have been discussed and agreed to by the Company."

A copy of that portion of Chevron's submission dealing with Fire Protection was included as an attachment to a 1975 report to Council (Item #16, Manager's Report #39, 1975 May 26, attached). As noted in the report, the Chief Fire Prevention Officer was satisfied at that time as to progress in instituting the agreed-upon fire protection improvements.

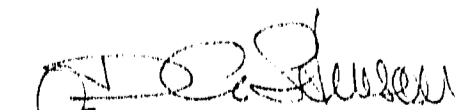
In a subsequent status report received by Council (Item #24, Manager's Report #51, 1977 July 18), the following references were made to the subject of LPG storage facilities:

<u>Item</u>	<u>Status</u>	<u>Comments</u>
LPG Storage Spheres	Not yet constructed - existing LPG storage in existing tank field conforms to <b>NFPA</b> standards and is acceptable to Fire Prevention Office.	The specialty feed stocks for the new plant are essentially debutanized. The production of LPG for sale has decreased with the operation of new facilities allowing deferment of the new storage facility. If production increases, refinery would install low profile cylinders in Area II at a screened location as per Master Plan to replace existing containers in Area I.
Removal of LPG Cylinders	As noted in Section 3.2.1 above, the LPG cylinders have not to date been removed from the tank farm area.	Deferred due to lack of requirement for additional LPG storage; present situation is acceptable to the Fire Prevention Office."

No application has been received from the oil company to date for development of additional LPG storage containers; under Council's continuing directive to staff, a report would be submitted to Council for information and direction upon receipt of a PPA application for any new production or storage facilities in connection with the refinery.

In summary, we understand that the present LPG storage installations continue to conform to prevailing regulations and standards, and there is at the present time no requirement to relocate the containers from a fire safety point of view.

ADP  
DGS/ds  
cc Director - Fire Services  
att.

  
A. L. Parr  
DIRECTOR OF PLANNING

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ITEM 16  
MANAGER'S REPORT NO. 39  
COUNCIL MEETING May 26/75

Re: Fire Precautions Included in the Chevron Modernization Program  
(Item 9, Report No. 33, May 5, 1975)

Council, at its meeting of May 5, 1975, received the above-noted report and requested that staff report on a number of comments and enquiries raised in connection with the report.

Council, at its meeting of May 12, 1975, received a letter dated May 7, 1975 from Mr. Frank Babish, 35 Canberra Avenue, expressing concern with regard to provision of an adequate buffer zone between homes in the area and Chevron's open loading zone.

Following is the Planning Director's report in response to Council's enquiry, and Mr. Babish's expressed concern, regarding precautions that are being observed in conjunction with Chevron's expansion and modernization program presently underway.

The Fire Chief is currently preparing a report on the balance of items raised by Council on May 5, 1975 and it is anticipated that this report will be submitted to Council on June 9, 1975.

RECOMMENDATION:

1. THAT a copy of this report be provided to Mr. Frank Babish.

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PLANNING DEPARTMENT  
MAY 22, 1975

TO: MUNICIPAL MANAGER  
FROM: DIRECTOR OF PLANNING  
SUBJECT: FIRE PRECAUTIONS INCLUDED IN THE CHEVRON  
MODERNIZATION PROGRAM

BACKGROUND:

At the May 5 meeting of Council, a Manager's Report Item (Item 9, Manager's Report No. 33) was submitted, concerning the recent fire which occurred at the tank truck loading rack at the Chevron refinery site. At that time, an enquiry was made as to the precautions that are being observed in conjunction with the expansion and modernization program that is presently underway.

Among the conditions attached to the approval in principle granted by Council on January 14, 1974 for the Chevron expansion program are the following:

- "1. (gg) With respect to fire prevention and protection, it is understood that a program undertaken in accordance with recommendations of the Fire Chief and Chief Fire Prevention Officer is being implemented and is to be phased with construction of the proposed expansion project."
- "1. (hh) All new facilities are to be designed, installed, and operated in accordance with best recommended practices and in compliance with both local and provincial requirements. Design, installation, and practices as recommended by both the A.P.I. and the N.F.P.A. are to be followed."
- "2. The fulfillment of all relevant Bylaw requirements, and the following specific matters:
  - (h) Compliance with the provisions of Bylaw #6323, a Bylaw to amend Bylaw #5096, being the 'Burnaby Fire Prevention Bylaw 1968', adopted November 5, 1973."

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Additionally, the proposal submitted to Council by the oil company in support of its request for approval of the expansion contained a section devoted to Fire Protection. Attached to this report is a photocopy of the relevant passages from that proposal. In the Planning Department's report which accompanied the company's Proposal, the following statements were included regarding liaison with local authorities in developing suitable fire prevention and protection measures:

"Fire Prevention and Fire Fighting Program

The proposal contains a brief section on Fire Protection. This topic has been discussed in detail with authorities of the Provincial Fire Marshal's Office and the Burnaby Fire Department's Fire Prevention Office. Agreement has been reached on the general provisions and practices to be followed (as recommended by both the American Petroleum Institute and the National Fire Protection Association) and on specifics related to actual devices and methods in connection with facilities proposed in the expansion plans. Certain features of the proposal, including removal of all LPG storage from the tank farm area to an isolated location and provision of the new LPG loading facility, are a direct result of fire safety considerations.

Both fire protection authorities mentioned have expressed their general satisfaction with the proposal, subject to specific details that have been discussed and agreed to by the Company."

PRESENT STATUS:

Since the date of Council's approval in principle, Chevron has been engaged in implementation of the expansion scheme in line with the terms of the approval. Recent discussions with both the Fire Chief and the Chief Fire Prevention Officer indicate that both are completely satisfied with the progress that is being made in instituting the fire protection improvements as agreed. The Fire Chief advises that the refinery has spent \$213,000 up to date on fire prevention and protection measures under this program, and a further \$500,000 is to be spent in the next eighteen months in completing this aspect of the project. Included in the measures being used are new hydrants, specialized fire fighting equipment, a new fire engine for the plant, and an improved water supply mains system to serve the site.

In addition to meeting the A.P.I. and N.F.P.A. standards as mentioned above, any new construction must be approved under the prevailing Building Code and National Fire Code and process and storage facilities must receive the approval of both the Burnaby Fire Prevention Office and the Provincial Fire Marshal.

TANK TRUCK LOADING RACK FACILITY

At the Council meeting of May 12, 1975, a letter was received from Mr. Frank Babish, 35 Canberra Avenue, regarding the relationship between the refinery and his property at 4411 Cambridge Street.

In his letter, Mr. Babish has expressed the concern that while efforts are being made to maintain a safe distance between storage tanks and residential areas, the distance between the refinery's tank truck loading rack and adjacent residential properties beyond the proposed buffer is minimal.

Without doubt, experience in recent years at two tank truck loading facilities in Burnaby has demonstrated that significant fire hazards exist at such locations, significant even in relative terms when compared with other parts of the refinery/tank farm complex. The dispensing of liquid petroleum products into vehicles for shipment is the last phase in the production process and is therefore considered to be an accessory use, ancillary to the principal use of manufacturing, processing, and storage of petroleum products.

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The principal use is specifically listed as a permitted use in the M3 Heavy Industrial District under Section 403.1(11)(f) of the Burnaby Zoning Bylaw; the tank truck loading facility as an accessory use is permitted under Section 403.1(16).

Although the former, the principal use, is subject to the 200-foot setback limitation with respect to adjacent A2, R, or RM Districts, set out in Section 403.2(2), accessory uses under Section 403.1(16) are not specifically restricted by the setback provision.

However, due to the hazards and the potential for environmental nuisance which are present at the site of 'accessory' use operations such as bulk loading facilities in such a plant, it is clear that the same concern for protection of adjacent residential areas which manifests itself in the 200-foot setback provision, needs to be acknowledged and respected in the treatment of such facilities.

At the Chevron Canada Limited facility, the existing loading rack is located within an M1 Manufacturing District zone which extends 165 feet north of the centre line of Eton Street in the 4400-block (see attached zoning sketch). As such it is considered to be legally non-conforming, and the Department has taken the position that approval of future loading rack development will be given only within the conforming M3-zoned portion of the site.

At this present time, the Company is involved in preliminary engineering studies on its proposal to introduce a vapour-recovery system and bottom loading (as opposed to the conventional 'top loading') to its tank truck loading facility. There are both safety and environmental advantages to these new systems, and the approval of such conversions may be supported in principle as a result. However, due to the non-conforming aspect, it is imperative that any new facility extensions and structural development be to the north of the M3/M1 boundary, in the M3 District. Simple equipment conversions and piping changes within the existing facility which are required to effect this worthwhile conversion of existing facilities would not entail Preliminary Plan Approval and hence may be permitted, subject to the normal Building, Fire Prevention Office, and Provincial Fire Marshal's Office regulations.

In consequence, it may be seen that safety improvements are to be implemented within the existing facility, which is located over 269 feet north of the Cambridge Street properties to which Mr. Babish has referred, and that any additional tank truck loading facility development must be at least 340 feet north of the same properties.

In the light of the foregoing, this Department would observe that although it is proposed that there be a distance of approximately 122 feet between the Cambridge Street properties and the proposed ultimate site boundary, in fact the tank truck loading facility's separation from those properties will be maintained at a minimum of 269', and any new construction must in fact be considerably more distant, to the north. Moreover, the equipment conversions which are being contemplated as part of the improvement program will make the process inherently safer and less prone to create nuisance or hazard.

This report is provided for the information of Council.

  
J.A. L. Parr,  
DIRECTOR OF PLANNING.

DGS:cm  
Attach.

FIRE PROTECTION

ITEM 16  
 MANAGER'S REPORT NO. 39  
 COUNCIL MEETING May 26/75

Fire prevention is the principal objective of our continuing refinery Fire Protection Program. In order to achieve this objective, the elements of design, operation, training, inspection, and maintenance are incorporated into all aspects of our refinery operation. The practices and installations involving these elements are derived not only from Provincial Fire Marshal Regulations, but also from experience gained by both the Industry and the Company. Reference sources are contained in publications by the American Petroleum Institute (A.P.I.), National Fire Protection Association (N.F.P.A.), and the SOCAL Fire Protection Manual. The parent Company's Chief Fire Protection Engineer serves on the committee of the A.P.I. and N.F.P.A. responsible for the constant upgrading of the Industry's fire protection program. It is usually without exception, therefore, that our practices are more stringent than those laid down by government authorities.

Our refinery facilities are subject to an annual fire loss prevention survey. This survey is carried out by senior fire protection engineers from our parent Company in consultation with local management. This survey covers all plant equipment, fire equipment, operating practices and fire training. The direct benefit of such surveys is that our fire protection program is being continually upgraded and improved. In this regard, we are proud of the record we have achieved over the 37 years our Burnaby Refinery has been in operation. Undoubtedly, such programs have contributed to the excellent safety record of the refinery as evidenced by the following schedule of rates published by the Workmen's Compensation Board for the petroleum industry as a whole:

Oil Refineries	\$0.60 per \$100 of payroll
Sawmills	\$3.80 per \$100 of payroll
Breweries	\$1.00 per \$100 of payroll
Bakeries	\$0.90 per \$100 of payroll

A fire protection survey in February 1971 resulted in a further updating of our Fire Protection Program. These improvements were outlined in a letter dated September 21, 1971 to the Fire Prevention Division of the Burnaby Fire Department. In addition to these surveys, the Fire Department, with whom we have maintained a close liaison over the years, conduct their own independent inspections periodically, and make recommendations regarding improvements in existing fire protection facilities. An inspection, which took place on November 10, 1971, confirmed that all storage tanks at the refinery are located in accordance with N.F.P.A. standards as far as spacing, etc., is concerned. During this inspection, the officials considered the fire protection and fire fighting capability within the refinery with regard to the increased production capacity as envisaged by the proposed refinery expansion program. As a consequence, the officials prepared a list of recommendations for future improvements, proposing that we provide a mobile foam truck and pump, additional water lines, monitors, road access and emergency lighting.

These were reviewed and discussed in a meeting with the Fire Chief, and the Chief Fire Prevention Officer, the parent Company's Chief Fire Protection Engineer, and our local Fire and Safety Engineer. A program has been undertaken in accordance with these recommendations. This program is still in the process of implementation and will be phased with the construction of our proposed expansion project.

Consistent with Company policy, all new facilities not only will be designed, installed and operated in accordance with the best recommended practices, but also will be in compliance with both local and provincial ordinances.

In addition, the fire protection capability of the overall refinery will be enhanced in accordance with our continuing program for the upgrading and improvement of the relevant facilities. This program will be carried out consistent with up-to-date design and phased with the construction of the expansion project.

Confirming our discussions with local fire officials, design and installation practices as recommended by both the A.P.I. and the N.F.P.A. will be followed.

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1978 OCTOBER 19

FIRE DEPARTMENT

TO: MUNICIPAL MANAGER  
 FROM: DIRECTOR-FIRE SERVICES  
 SUBJECT: PETITION FROM RESIDENTS OF NORTH BURNABY EXPRESSING CONCERN FOR APPARENT FUEL LEAK AT THE CHEVRON TANK FARM

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RECOMMENDATION

1. That this report be received for information purposes.
2. That a copy of this report be forwarded to Mr. and Mrs. W.J. Parker, 4280 McGill Street, Burnaby, B.C., V5C 1M9.

REPORT

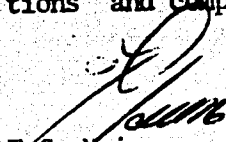
An investigation was carried out by the Burnaby Fire Prevention Bureau into the complaint that a holding tank (No. 81 - Gasoline) was apparently leaking at the Chevron Tank Farm, North Burnaby.

This investigation which was carried out at 355 North Willingdon, on 1978 October 18, denotes the following:

The discolouration which gives the appearance of a leak stems from an old weld bleeding through the paint with a resultant rust stain running down the tank.

Enquiries to Chevron Canada denotes this tank was inspected by Inspector Lamonte Haldecing of the G.V.R.D. Environmental Department, 78 October 5 or 6.

A review of the propane tanks located at Chevron Canada confirms this installation was carried out in accordance with the Provincial Fire Marshal regulations and complies with their requirements.

  
 T.G. Nairn  
 DIRECTOR-FIRE SERVICES

cc: Director of Planning

TGN/jlm