

Re: CONSTRUCTION OF AN INTERIM REPLACEMENT STACK
SHELLBURN REFINERY

Following is a report from the Director of Planning on a proposal for construction of an interim replacement stack at Shellburn Refinery.

This is for the information of Council.

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PLANNING DEPARTMENT
1978 APRIL 04

TO: MUNICIPAL MANAGER
FROM: DIRECTOR OF PLANNING
SUBJECT: INTERIM REPLACEMENT STACK - SHELLBURN REFINERY

The Planning Department is in receipt of an application for Preliminary Plan Approval for a freestanding steel stack intended as an interim replacement for the existing concrete stack serving certain boilers and the sulphur plant at the Shellburn Refinery.

We are advised by refinery officials that the existing concrete stack is now showing evidence of deterioration, and as a result it is necessary to remove the stack from service and demolish it. As the refinery's ultimate stack requirements have not yet been established, pending a study of Shellburn's future operations and air permit requirements (currently before the Air Quality Control Section, GVRD) the refinery proposes to replace the present stack with an interim replacement for an intended service period estimated at this time to be up to 3 years. The existing concrete stack is 200' high and approximately 15' in diameter at the base. The proposed interim replacement would be a steel stack 150' high x 5' in diameter, on a reinforced concrete base.

The existing 200' stack is to be demolished, and the debris is to be disposed within the boundaries of the present Shell site.

In order to advise Council of the ramifications of this proposal, we have contacted the Air Quality Control Section of the GVRD, the Pollution Control Branch, and the Chief Public Health Inspector to obtain their comments on both impact of this proposal on air quality, and the possible impact of disposal of the demolition material on the site, as there is the possibility that the demolition material is contaminated to some extent with sulphur products.


The Pollution Control Officer of the GVRD advises that the effect of the lower height of the proposed new stack will be offset by the greater discharge velocity resulting from this reduced diameter,

thereby providing a dispersion effect that is considered to be fairly comparable. It is further noted that the incremental impact of the new stack on air quality is of course largely dependent on meteorological factors. Stagnant weather conditions are more conducive to the ambient build-up of contaminants but it is under these conditions that the effective heights of the 2 stacks are fairly comparable. As the wind speed increases, the difference between the 2 effective heights becomes more noticeable. Higher wind speeds, however, also effectively prevent the local build-up of contaminants. 108

With reference to the disposal of demolition materials, the situation has been discussed and stated by Environmental Health Department staff together with an Engineer from the Pollution Control Branch, who advised that the disposal of the demolition material at the designated site on refinery property would be acceptable provided that perimeter ditching of the disposal area is installed. We would propose to make such perimeter ditching a condition of Preliminary Plan Approval.

In view of the fact that an application for an Air Emission Permit from Shell Canada Limited is under consideration by the GVRD at this time, that the present proposal is intended as an interim replacement only, and that any ultimate solution will be determined by the results of the Air Pollution Permit examination, we are proposing to issue Preliminary Plan Approval for the proposed stack as an interim replacement for the existing concrete facility, subject to adherence by Shell Canada Limited to the terms of any Permit or Order issued by the GVRD Air Quality Control Section and subject to the provision of perimeter ditching to the disposal site to the satisfaction of the Chief Public Health Inspector and the Pollution Control Branch. Unless otherwise directed by Council, approval is intended to be given on this basis.

This is for the information of Council.


A. L. Parr,
DIRECTOR OF PLANNING.

DGS:cm

c.c. Municipal Engineer
Chief Public Health Inspector