

RE: MISFUELING OF AUTOMOBILES

MUNICIPAL MANAGER'S RECOMMENDATION:

1. THAT the recommendation of the Chief Public Health Inspector be adopted.

* * * * *

TO: MUNICIPAL MANAGER

1984 June 19

FROM: CHIEF PUBLIC HEALTH INSPECTOR

RE: MISFUELING OF AUTOMOBILES

RECOMMENDATION:

1. THAT Council approve the resolution as contained in this report for submission to the Union of British Columbia Municipalities.

SUMMARY:

Following is a report on the extent of the current practice of misfueling of automobiles and the associated effects on the ambient air quality.

REPORT

At the 1984 April 16 meeting of Council, the following resolution respecting the effectiveness of automobile air pollution devices was adopted:

"THAT Council refer to the Ministry of Transport for comment; the practice whereby certain service station owners are exchanging leaded gas pump nozzles for unleaded gas pump nozzles and thereby permitting owners to use leaded fuel in their vehicles, which were initially designed to operate on unleaded fuel, and therefore reducing the effectiveness of the anti-pollution devices which were installed during the manufacturing of these vehicles."

The following reply, dated 1984 June 12, was received from the Minister of Environment, the Honourable Anthony J. Brummet:

"A copy of your April 18, 1984 letter to the Honourable Lloyd Axworthy, concerning automobile misfueling, and a copy of his reply, have been forwarded to my office.

May I say that I wholeheartedly agree with the concern of your Council. The extent to which vehicles are being misfueled was brought to my attention recently and we are currently investigating methods by which we can address the problem.

The issue is a concern to me because automobile misfueling is contributing significantly to ozone levels in the Lower Mainland area which are already too high. We are addressing the ozone problem, and action will be taken shortly on misfueling as part of our strategy for dealing with ozone."

The Environmental Health Division has been discussing the extent of the current problem of misfueling automobiles with representatives of both the Federal and Provincial Governments. A recent survey conducted by the Federal Government has revealed that within the province of British Columbia, of the automobile fueling pumps tested, over 70% have switched nozzles which now permit leaded or regular gasoline to be used in vehicles designed for only non-leaded fuel.

ITEM 6
MANAGER'S REPORT NO. 44
COUNCIL MEETING 1984 06 25

EFFECTS OF LEADED FUEL ON CATALYTIC EXHAUST PURIFIERS

The vast majority of the environmentally objectionable gases found in the exhaust emissions of internal combustion engines result from the incomplete combustion of hydrocarbon fossil fuels. This incomplete combustion results in the formation of carbon monoxide, various hydrocarbons, oxides of nitrogen, carbon and other particulates as well as the carbon dioxide, water vapour, and nitrogen which predominate in more complete combustion processes. In accordance with Federal regulations, all new automobiles sold in Canada are equipped with catalytic exhaust purifiers (catalytic converters) to reduce levels of automobile-generated air pollutants.

The catalytic exhaust purifier supplies a heated catalytic surface (usually platinum) on which these undesirable combustion products are transformed into less environmentally objectionable compounds. The proper functioning of the catalytic exhaust purifier depends upon the maintenance of a clean catalytic surface upon which these purifying reactions may take place. The use of leaded gasoline effectively destroys the catalytic action of the unit through the formation of a lead coating over the catalyst, thus preventing the exhaust gases from contacting the catalytic surface. A catalytic exhaust purifier inactivated by this process is said to have been "poisoned" after approximately six tank refuelings and remains ineffective until the catalyst is either regenerated (usually by removal and burning off the lead coating at high temperature) or replaced.

EFFECTS OF MISFUELING AUTOMOBILES ON LOWER MAINLAND AMBIENT AIR QUALITY

Appearing on the agenda for the 1984 April 23 meeting of Council was the Environmental Health Division's report on air quality in the Lower Mainland. This report detailed concerns with peak ozone concentrations during summer months at the G.V.R.D. air monitoring stations located in North Burnaby, City of Port Moody and municipalities to the east.

Automobiles which are currently being misfueled, thereby eliminating the effectiveness of their catalytic convertor, will contribute significantly to increased emissions of oxides of nitrogen and hydrocarbons and result in a deterioration of ambient air quality through increased levels of ozone.

As the current practice of misfueling automobiles and the resultant deteriorating ambient air quality through levels of ozone is not limited to this municipality, Provincial legislation is required in the form of an appropriate regulation.

The 1984 September 18 to 20 meeting of the Union of British Columbia Municipalities would be an appropriate forum at which to alert elected officials of other cities and municipalities on the current practice of misfueling automobiles and the resultant effects of unsatisfactory automobile air emissions.

PROPOSED UNION OF BRITISH COLUMBIA MUNICIPALITIES RESOLUTION FOR 1984

WHEREAS certain service station owners are exchanging leaded gas pump nozzles for unleaded gas pump nozzles and thereby permitting owners to use leaded fuel in their vehicles;

AND WHEREAS the catalytic-converter anti-pollution devices on automobiles which are being misfueled are being inactivated resulting in environmentally objectionable vehicle exhaust emissions;

THEREFORE BE IT RESOLVED that the Government of British Columbia enact legislation to regulate against the switching of vehicle fueling nozzles.

George V. Harvie

G.V. Harvie, C.P.H.I.(C)
CHIEF PUBLIC HEALTH INSPECTOR

GVH:Ja

cc: Director Administrative & Community Services
Medical Health Office