

ITEM	7
MANAGER'S REPORT NO.	55
COUNCIL MEETING	93/09/20

TO: CITY MANAGER 1993 SEPTEMBER 14

FROM: MEDICAL HEALTH OFFICER

SUBJECT: SHORT TERM STORAGE OF ST. PAUL'S HOSPITAL'S
DECOMMISSIONED P.C.B. LIGHT BALLASTS ON B.C. HYDRO'S
APPROVED FACILITY AT 3750 EAST 1ST AVENUE,
BURNABY, B.C.

- PURPOSES: TO PROVIDE COUNCIL WITH INFORMATION ON:
- (A) ST. PAUL'S HOSPITAL'S PLAN TO TEMPORARILY STORE
THEIR DECOMMISSIONED P.C.B. LIGHT BALLASTS AT B.C.
HYDRO'S APPROVED FACILITY IN BURNABY; AND
 - (B) COUNCIL'S QUERY REGARDING THE DISPOSAL OF LIGHT
BALLASTS FROM HOUSEHOLDS AND BUSINESSES IN THE
G.V.R.D. AREA.

RECOMMENDATION:

1. THAT a copy of this report be forwarded to:
 - (a) Mr. Warren Hart, Director, Environmental
Services, St. Paul's Hospital,
1081 Burrard Street, Vancouver, B.C., V6Z 1Y6.

REPORT

1.0 INTRODUCTION

At the regular Council Meeting on 1993 September 07, correspondence was received from Mr. Warren Hart, Director, Environmental Services, St. Paul's Hospital, Vancouver, B.C.

The said correspondence advised Mayor and Council that St. Paul's Hospital had entered into a contractual agreement with B.C. Hydro to store their decommissioned P.C.B. light ballasts on B.C. Hydro's Burnaby facility at 3750 East 1st Avenue on a short term basis.

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Upon reviewing the correspondence, Council requested a report from staff on this issue. In addition, Council requested information on what happens to the light ballasts that are being disposed from households and businesses in the G.V.R.D. area.

2.0 SHORT TERM STORAGE OF DECOMMISSIONED P.C.B. LIGHT BALLASTS FROM ST. PAUL'S HOSPITAL AT B.C. HYDRO'S APPROVED FACILITY IN BURNABY.

Due to extensive renovations of some older facilities in St. Paul's Hospital, the hospital has an accumulation of decommissioned P.C.B. light ballasts. It is estimated that three drums containing approximately 300 light ballasts will require temporary storage until a facility capable of treating and/or disposing P.C.B. containing wastes is available in B.C. Based on the Fact Sheet provided by the BCMOELP on P.C.B.s (see Attachment #1), the total estimated volume of P.C.B.s in this case is 300 fluid ounces or 1.9 imperial gallons.

Since St. Paul's Hospital does not have an approved storage facility for P.C.B.s, they contracted to have their decommissioned P.C.B. light ballasts stored temporarily at B.C. Hydro's Burnaby facility.

B.C. Hydro has recently implemented a program to assist Hospitals and Schools in storing their decommissioned P.C.B. containing wastes on a short term basis. Under this program, the waste generator maintains ownership of the waste stored at B.C. Hydro's facilities.

In Burnaby, B.C. Hydro's site at 3750 East 1st Avenue is permitted by the BCMOELP (see Attachment #2). The contract between St. Paul's Hospital and B.C. Hydro stipulates short term storage for a period of five years. St. Paul's Hospital plans to move the aforementioned light ballasts to B.C. Hydro's facility by 1993 September 30.

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3.0. DISPOSAL OF LIGHT BALLASTS FROM HOUSEHOLDS AND BUSINESSES IN THE G.V.R.D. AREA.

At this time, the BCMOELP accepts P.C.B. light ballasts from residents during Household Hazardous Waste Collection Events. Businesses that have decommissioned P.C.B. light ballasts are required to obtain a short term storage permit from the BCMOELP.

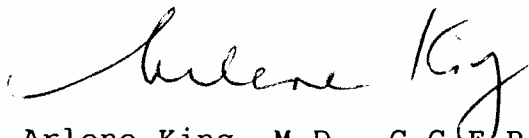
In order to answer Council's specific query of what happens to light ballasts being disposed from households and businesses in the G.V.R.D. area, a letter will be forwarded to the Regional District for their direct response.

4.0 CONCLUSION

With respect to St. Paul's plan to temporarily store decommissioned P.C.B. light ballasts at B.C. Hydro's Burnaby facility, staff have no specific concerns pertaining to this project.

In terms of the need for a facility capable of treating and/or disposing P.C.B. containing wastes in B.C., staff have contacted Ms. Dorothy Caddell, B.C. Waste Reduction Commissioner, to ensure that the disposal of toxic wastes will be addressed in her report. Council will be informed when the provincial strategy for the management of toxic wastes recommended by Ms. Caddell is released.

With respect to the issue of disposal of light ballasts from households and businesses in the G.V.R.D. area, staff will be requesting a response from the Regional District and inform Council accordingly.



Arlene King, M.D., C.C.E.P., M.H.Sc., F.R.C.P.(C)
MEDICAL HEALTH OFFICER

TS/AK/js

Attachments

cc: () Director Administrative &
Community Services
() Chief Environmental Health Officer

Province of
British ColumbiaMinistry of
Environment

FACT SHEET

SPECIAL WASTES

HANDLING WASTE PCB BALLASTS FROM FLUORESCENT LIGHT FIXTURES

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Until about 1980, ballasts in fluorescent light fixtures were made with polychlorinated biphenyls (PCBs). While the quantity of PCBs in each is small, because there have been so many fluorescent light ballasts manufactured, they pose a problem collectively. There are a variety of human and environmental health hazards associated with PCBs, so it is important to ensure that wastes containing these chemicals are given proper care.

PCBs REVIEW

PCBs belong to a family of several hundred chemical compounds containing carbon, hydrogen and chlorine. They range in appearance from oily liquids to white crystalline solids and are particularly good heat transfer agents and electrical insulators. As well, they are stable within a wide range of temperatures, so have often been used as coolants in electrical transformers and capacitors.

But because PCBs are so stable and inert, if introduced into the environment, they usually decompose very slowly. PCBs can also bioaccumulate, leading to a situation where humans, who are at the top of the food web, can accumulate significant quantities of these substances. This is why PCBs are classified by the Federal government as "environmental contaminants".

Usually PCBs are not considered acutely toxic. Also, several scientific studies have shown that few serious adverse health effects arise from long term, low level exposure of workers to these substances. It has not yet been established conclusively whether PCBs cause cancer or reproductive changes in humans. Nevertheless, there is cause for concern because of evidence that PCBs cause cancer in some animals, and because high doses of PCBs ingested by humans have affected the skin, liver, blood, and nervous and respiratory systems.

FLUORESCENT LIGHT BALLASTS

A fluorescent light consists of a fixture, fluorescent tubes, and what is technically known as a ballast resistor. The purpose of the ballast is to compensate for variations in the voltage of the electrical supply.

A ballast typically contains a reactor (an electrical core and coil assembly), a thermal protector to prevent overheating, and a sealed metal capacitor. The latter contains a dielectric (electrical insulating) fluid which may contain PCBs. For typical residential and commercial fluorescent light fixtures, the outer heavy steel ballast case has dimensions 216 mm x 58 mm x 40 mm and is coloured black. The space not occupied by electrical components is filled with a substance similar to asphalt. If the ballast was made with PCBs, for most double tube fixtures a volume of 26.5 ml (about one ounce) was used in the capacitor. Much of this material is absorbed by several layers of paper contained inside the capacitor. A more complete description of these units is provided in the Federal Environmental Protection Service's "Report on Manufacturing and Identification of PCB-Filled Fluorescent Lamp Ballasts."

POTENTIAL FOR LEAKAGE

Under normal operating conditions there is little likelihood of large amounts of PCBs leaking from fluorescent light ballasts. First, there is a safety system built into many ballasts which automatically disconnects the electrical circuit when the hottest internal temperature reaches 105°C. This prevents overheating, subsequent expansion of the contents and rupture of the unit. However some ballasts have this cutoff temperature set at 120°C, and if this higher temperature is reached, a small amount of asphalt may soften and leak from the outer case. This black material sometimes is mistaken for PCBs.

indicates the ballast was made on Wednesday.

Phillips uses a second scheme with a three or a four digit number, for example "276" or "1075". In this case the last two digits indicate the year of manufacture and the first digit shows the month. Thus "276" indicates manufacture in the second month, February, of 1976 (76), while "1075" shows it was made in October (10), 1975 (75).

Sola (Canada)

Sola (Canada) identifies the dielectric material contained in fluorescent light ballasts with a sequence of three letters followed by three numbers, for example "ACA 393" or "ACB 468". Ballasts labelled with "ACA" for the three letter part of the code contain PCBs, while those labelled with "ACB" do not. In the examples above, the ballast marked with "ACA 393" contains PCBs while that showing the code "ACB 468" does not.

Sola (USA)

Sola (USA) stopped using PCBs in the dielectric fluid of fluorescent light ballasts in 1979. Using identification codes like "61F311EG", the first two numbers show the production year. In this example, it was 1961 because the first two digits are "61". The letter in the third position indicates the month the unit was made, with January being labelled "A". Thus the ballast with the identification code "61F311EG" was made in June (F) 1961. This ballast should contain PCBs because it was made before 1979.

Universal Manufacturing Co.

Although Universal Manufacturing stopped placing PCBs in their ballasts in 1978, it is unnecessary to consult the date code stamped on the ballast case. This is because the ballast label will clearly indicate that the unit has a PCB or non-PCB capacitor.

Westinghouse Canada Inc.

Westinghouse ballasts have been manufactured in Canada by Canadian General Electric, so the method described for Canadian General Electric should be followed.

WHAT IF A BALLAST HAS PCBs?

What steps are taken next depends on whether PCBs are suspected or determined to be contained in a fluorescent light ballast. If conclusively shown that a unit does not have PCBs, then it may be left in service, or if no longer operational, it may be discarded in the municipal refuse system.

A ballast containing PCBs, however, should be managed differently. If operational and intact, it is up to the discretion of the owner to decide

whether to coil
fluorescent lig
may wish to re

use in food and drink storage, handling and preparation areas or in health institutions. If the owner wishes to discard a PCB-containing ballast, whether or not it has leaked or stopped functioning properly, special steps should be taken.

OPTIONS FOR HANDLING WASTE PCB BALLASTS

Removal and Safety Precautions

When PCB ballasts are removed, certain safety measures should be observed. First, the electrical supply to the fixture should be turned off and steps should be taken to ensure that the power will not be turned on during removal. Second, the ballast should be visually inspected for leaks. If any are detected, usually they will appear as black asphalt-type material, which is the packing contained within the ballast. Third, if a householder is removing one or two ballasts, wearing rubber gloves is recommended. Any leaked material should be wiped off using a rag and a hydrocarbon solvent such as paint thinner. Finally, if leaking PCBs or contaminated asphalt contacts the skin, wash the contacted area thoroughly with soap and water.

Storage

Once removed, waste PCB ballasts should be stored temporarily in a plastic bag and sealed with a twist tie. Any items such as rubber gloves and cleanup rags which come into contact with leaking material should also be sealed and stored in plastic bags.

There are no disposal facilities currently available in Canada for wastes containing PCBs. Also the American border is closed to PCB shipments, so Canadians do not have the option of disposing of their PCB wastes in the United States. The best management option is presently secure storage, until proper disposal facilities become available.

From time to time a householder may deliver an unwanted fluorescent light ballast to a Ministry of Environment Regional Special Waste Storage Facility. During office hours arrangements may be made by calling the nearest Regional Waste Management Office. These are listed in local telephone directories for Nanaimo, Surrey, Kamloops, Penticton, Nelson, Prince George, Smithers, Victoria and Williams Lake.

Generators of larger numbers of ballasts requiring disposal, such as public institutions and commercial operations, should make arrangements for secure storage of the wastes

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Attachment #2

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MINISTRY OF ENVIRONMENT, LANDS AND PARKS

PERMIT

Under the Provisions of the Waste Management Act

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

970 Burrard Street

Vancouver, British Columbia

V6Z 1Y3

is hereby authorized to operate

a Short Term Special Waste Storage Facility

located at 3750 East First Avenue, Burnaby, British Columbia

This Permit has been issued under the terms and conditions prescribed in the attached appendices:

01, A-1, B-1 and C-1.

This Permit will expire on July 31, 2002.

L. Ouellet

L. Ouellet
Assistant Regional Waste Manager

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