Item	3
Manager's Report No.	17
Council Meeting	97/06/16

TO : CITY MANAGER DATE: 1997 JUNE 05

FROM : ACTING DIRECTOR RECREATION AND CULTURAL SERVICES

SUBJECT : BURNABY LAKE ARENA REFRIGERATION PLANT

PURPOSE : To request Council to bring forward a bylaw to appropriate $131,000 from the Capital Reserves to finance the replacement of the chiller and related work at the Burnaby Lake Arena.

RECOMMENDATION:

1. THAT a bylaw be brought forward to appropriate $131,000 from the Capital Reserves to finance the replacement of the chiller and related work at the Burnaby Lake Arena.

REPORT

At its meeting of 1997 June 04, the Parks and Recreation Commission received the attached staff report on the above subject and adopted the three recommendations contained therein.

H. Monroe

HUGH MONROE
ACTING DIRECTOR RECREATION
AND CULTURAL SERVICES

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Attachment
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cc: Director Finance

SUBJECT: BURNABY LAKE ARENA REFRIGERATION PLANT

RECOMMENDATIONS:

1. THAT the reallocation of 1997 Capital Budget Expenditures be approved as outlined in this report.

2. THAT the expenditure of $131,000 for replacement of the chiller and related work at Burnaby Lake Arena be approved.

3. THAT Council be requested to bring down a bylaw to appropriate $131,000 from Capital Reserves to finance the project.

REPORT

BACKGROUND

Burnaby Lake Arena has been in operation for 32 winter seasons. Beginning in 1992 leaks started appearing in the refrigerant lines in the floor of the Arena. These leaks were not serious enough to result in cancellation of services and were repaired in July 1992, July 1994, July 1995 and July 1996. The leak that first appeared in January 1997 sealed itself and then reappeared in March 1997 resulting in the cancellation of the final week of the Arena season.

This cancellation resulted in staff concern about the condition of the refrigeration plant components. Accordingly, an assessment was requested for both Burnaby Lake and Kensington Arena's refrigeration systems. This assessment was carried out by R.H. Strong and Associates, Consulting Engineers - Industrial Refrigeration. In addition, brine sample testing was conducted by Atlas Research.

RESULTS

The assessment identified a number of areas to be included in a major maintenance program which will be brought forward through the normal budget process. However, the most urgent concern identified in the assessment is the condition of the brine chiller at Burnaby Lake Arena. The life span of this type of equipment is 16 to 20 years. The chiller at Burnaby Lake is 32 years old. Analysis of brine samples show the system is undergoing a high rate of metal corrosion and the consultant expects the chiller could start leaking during the next operating season. The recommendation from R.H. Strong and Associates is that the chiller be replaced before the start of the 97/98 season.

The chiller components are metal and subject to corrosion whereas the brine lines in the floor are PVC/plastic. These floor lines become brittle with age and develop leaks from contraction and expansion of the Arena floor when cooled and warmed. Replacement of the chiller will not prevent further leaks to the floor.

The replacement of the chiller will require that the refrigeration room be brought up to the current B52-95 Mechanical Refrigeration Code as published by the Canadian Standards Association.

The cost of the chiller replacement and related work is estimated at $156,000 and is summarized as attached.

The current Capital Budget includes $25,000 for asbestos removal and reinsulation from the refrigeration room at Burnaby Lake Arena. This asbestos removal must be done prior to the chiller being replaced and is in progress. The chiller replacement will require additional funding in the amount of $131,000 (inclusive of 7% G.S.T.)

The current Capital Budget includes the McPherson Park Outdoor Pool renovations at a cost of $345,000. The McPherson project is already in the design phase with the construction to begin after the close of the outdoor pool season. Pomeroy Engineering indicates a logical split in the work on this project would be Phase One - piping replacement and deck reinstatement and Phase Two - pool lining and/or repairs. The concept stage cost estimate provided by Pomeroy Engineering for Phase One is within the range of the $184,000 remaining in the McPherson project for 1997. Phasing of McPherson Pool would allow for the chiller replacement at Burnaby Lake Arena. This will enable the work to be done without increasing the Capital Budget amount.

The replacement of the chiller and related work is considered a more urgent need than the complete work on McPherson pool as failure of the chiller will affect the operation of the facility and the public during the upcoming 1997/1998 Arena season. The phasing of the work at McPherson will improve the water loss situation and water quality during the 1998 season, with Phase Two basin improvements being done outside of the summer swimming season in 1998. The scheduling of this will depend on the water table level and weather conditions. The Capital Budget priorities will need to be reviewed to accommodate the second phase of McPherson in 1998.

The Commission is requested to approve the reallocation of 1997 Capital Budget expenditures of $131,000 from the McPherson Park Outdoor Pool project (inclusive of 7% G.S.T.) for the replacement of the brine chiller and related work at Burnaby Lake Arena.

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cc: Director Finance

ATTACHMENT #1

BURNABY LAKE ARENA

CHILLER REPLACEMENT - ESTIMATE

	ITEM	COST
A.	Design Specifications	$ 7,000
B.	Asbestos Removal	25,000
C.	Chiller Replacement	70,000
D.	Refrigeration Code requirements	
	1. Fire rating / emergency evacuation exit	12,500
	2. Compressor relief valves	3,000
	3. Process and instrumentation chart	2,000
	4. Ammonia diffuser relocation	2,000
	5. Exhaust fan, remote switches, shutoff	1,500
E.	Related Equipment Problems	
	1. Isolation valve to arena floor	2,000
	2. Oil pot hydrostatic relief valve	1,500
	3. Discharge line check valve	2,500
F.	Contingency	8,000
G.	Permits, inspection fees, PST, GST	19,000
	TOTAL	$156,000

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