

DATE: August 19, 2024

TO: **Mayor and Council**

NAME AND TITLE: Andy Beesley, Director of Civic Facilities & Events

SUBJECT: Kin Refrigeration and Heat Recovery Budget Amendment

ATTACHMENT(S): None

RECOMMENDATION(S):

That Council APPROVES increasing the additional scope and budget to the Financial Plan for Project #3368 Kin Centre Refrigeration Upgrades/Heat Recovery from \$4,445,000 to \$4,695,000 with the additional \$250,000 to be funded from the BC Hydro CleanBC Incentive, as described in the report to Council dated August 19, 2024 from the Director of Civic Facilities and Events, titled "Kin Refrigeration and Heat Recovery Budget Amendment".

PURPOSE:

This report is to provide Council with information on the Kin Centre/Heat Recovery Upgrades project and to request the addition of \$250,000 of BC Hydro Clean BC funding to amend the project budget. This project is currently 73.33% (\$3,259,519) funded via the Investing in Canada Infrastructure Program (ICIP) grant, and the City of Prince George has committed \$1,185,582 of funding from the Climate Action Reserve Fund.

BACKGROUND:

The Kin Centre Arenas are the city's primary community arena facility located within Exhibition Park; one of our premiere multi-purpose parks located within the centre of the City. Prince George functions as the northern hub for sporting and entertainment events, and the Kin Centre Arena is the region's premiere arena facility for tournament hosting with 3 ice sheets that accommodate various ice sports, as well as off-season community dryland events and City emergency response activities. The Kin Centre Arena refrigeration plant system was near the end of its estimated service life resulting in lower efficiency with higher operating costs and has been replaced. A replacement of the system was also required to meet the current Technical Safety BC regulations for refrigeration plant systems stemming from a BC arena ammonia leak in 2017.

Budget preparations began for this project in 2020 and a project ICIP grant submission was initiated and awarded contribution of 73.33% or \$3,259,518 from the Provincial Clean BC Communities Fund with a total project budget of \$4,445,000. At the time of this report the City of Prince George has received \$2,008,918.74 in funding.

Due to the specialized components for the construction of the ammonia refrigeration plant and heat recovery, the project was divided into (2) contracts; (1) for ammonia refrigeration and (1) for heat recovery.

The ammonia refrigeration was awarded for \$1,497,151. This refrigeration project started in April 2023 and is now complete.

The bidding for the heat recovery construction closed having only one bidder with a proposed cost of \$2,629,257. In 2022 a budget estimate of \$2.6 million for the heat recovery was estimated. The heat recovery construction has started and is approximately 80% complete.

The reasoning for the dramatic increase in cost is attributed to material cost inflation, sub contractor availability, and the realized complexity of the project.

In addition to this inflation, it has been realized since the project approval and start some mechanical issues with the Kin 1 domestic hot water boiler system has occurred. Currently (2) of the hot water boilers that are to be integrated with the heat recovery system have failed. Furthermore, operations personnel have identified that due to the type of existing boiler and the confined space they are located makes the existing style of boilers very difficult to service.

To integrate the existing hot water boilers with the heat recovery system a significant amount of pipe removals and pipe reinstatement is required. To avoid re-work of the piping in the future to replace the failed boilers it is desired to replace the (2) existing failed hot water boilers and the (2) existing near end of life boilers with a new more efficient and serviceable system. To do this work administration is requesting the BC Hydro CleanBC Incentive be added to the current budget.

A BC Hydro CleanBC Greenhouse Gas Emissions Study for the Kin Heat Recovery project was initiated in September 2020. This study showed that by completing the heat recovery project that 375 tonnes of CO<sub>2</sub>e/yr would be the reduced emissions. This emission reduction resulted in a BC Hydro CleanBC Incentive (BCH-08836) offer of \$250,000 that could be used in addition to the ICIP funding provided for the Kin Arenas. This BC Hydro Clean BC Incentive was signed by Administration in January 2023.

#### STRATEGIC PRIORITIES:

The proposal supports the following Council Priorities:

- City Government and Infrastructure
  - Grow the City: *"...that reflect the integration of capital planning, asset management, infrastructure planning...and associated financial commitments."*
- Focus on meaningful communication and relationship development to advance on shared priorities *"Build and maintain the relationships necessary to ensure coordinated advocacy, responsive service delivery, and the acquisition of external funding to meet the diverse needs of all residents."*
  -
- Social Health and Well-Being
  - Maximize the quality of life for all residents
- Environmental Stewardship & Climate Action Priorities
  - Preserve the environment

FINANCIAL CONSIDERATIONS:

<b>Original Council Approved Budget:</b>	\$4,445,000 in 2020
<b>Total Revised Budget</b>	\$ 4,625,000
<b>Funding</b>	
ICIP Grant	\$3,259,519
City of Prince George Commitment	\$1,185,482
<b>Total Additional Budget Requested</b>	<b>\$ 250,000</b>
- (To be funded by BC Hydro Clean BC Incentive.)	
<b>Total Amended Budget</b>	<b>\$4,695,000</b>

SUMMARY AND CONCLUSION:

The proposed application for the Kin Centre Arenas Refrigeration & Heat Recovery Upgrades project includes the replacement of the refrigeration plant system to support ongoing use, recover energy for reduced greenhouse gas (GHG) emissions, reduce water consumption, reduce ammonia charges, and improve the overall safety of arena operations.

Administration is requesting to amend this scope and budget with the BC Hydro CleanBC Incentive to give the Heat Recovery project the ability to include the replacement of the failing Kin 1 hot water boilers that are to be integrated with the heat recovery system.

The proposed amendment to the existing Financial plan for project # 3368 budget and project description is identified below in blue font:

**Title:** #3368 Kin Centre Refrigeration Upgrades

**Description:** Design, supply, and install of the Kin Centre Arenas refrigeration plant system with new ammonia chillers, cooling tower, heat recovery system, and to replace aging infrastructure, achieve energy efficiencies, and meet current safety regulations. Project has received a maximum grant funding contribution of 73.33% or \$3,259,518 from the Provincial Clean BC Communities Fund. Additional scope includes replacement of domestic hot water boiler system covered through BC Hydro Clean BC Incentive Funding.

**Budget:** \$4,695,000 BC Hydro Clean BC Incentive Funding source (\$250,000)

An approved budget of \$4,445,000 was established for the Kin Centre Refrigeration Room and Heat Recovery project. Project Delivery is recommending that council approves proceeding to the successful completion of this project with an approved addition of the BC Hydro CleanBC Incentive \$250,000.

RESPECTFULLY SUBMITTED:

Andy Beesley, Director of Civic Facilities and Events

PREPARED BY: Jim Litzen AScT, Project Manager, Project Delivery

APPROVED:

Walter Babicz, City Manager

Meeting date: 2024/09/09