

# STAFF REPORT TO COUNCIL

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**DATE:** February 17, 2023

**TO:** MAYOR AND COUNCIL

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

**SUBJECT:** Green and Inclusive Community Buildings Application for Elksentre Arena Refrigeration, Heat Recovery & Dehumidification Upgrades Project

**ATTACHMENT(S):** None

## RECOMMENDATION:

That Council:

- a. *DIRECTS* Administration to submit a grant funding application for the Elksentre Arena Refrigeration, Heat Recovery & Dehumidification Upgrade project through the Green and Inclusive Community Buildings (GICB) program.
- b. *AUTHORIZES* the City of Prince George Financial Officer and City Manager to sign grant application documents and any resulting contract documents should grant approval be received.

## PURPOSE:

Administration requests Council's authorization to apply for grant funding from the Green and Inclusive Community Buildings (GICB) program for the Elksentre Arena Refrigeration, Heat Recovery & Dehumidification Upgrade project located at 4833 Heather Rd. Should the grant application be successful, Administration would return a report to Council at that time to request a resolution and to amend the financial plan.

## BACKGROUND:

The Elksentre Arena constructed in 1976, is the city's primary community arena facility located within the Hart Community. Prince George functions as the northern hub for sporting and entertainment events, and the Elksentre Arena is the Hart's only arena facility in the Hart for tournament hosting with 1 ice sheet that accommodate various ice sports, including an annual Indigenous youth hockey tournament.

The Elksentre Arena refrigeration plant system requires replacement as it is near the end of its service life, resulting in lower efficiency and higher operating costs. A replacement of the system is also required to meet the current Technical Safety BC (TSBC) regulations for refrigeration plant systems stemming from a BC arena ammonia leak in 2017.

#### DISCUSSION:

The intake of the GICB program has been made available with an application deadline of February 28, 2023. The GICB federal grant funding is offered through Infrastructure Canada as part of Canada's strengthened climate plan to improve energy efficiencies, reduce greenhouse gas (GHG) emissions and enhance the climate resilience of community buildings. This grant provides an opportunity to advance reinvestment in aging infrastructure and improve safety, while also achieving the City of Prince George 2020 Climate Change Mitigation Plan actions for buildings.

The GICB grant program identifies that a Resolution of Council is required prior to the execution of a grant contribution agreement. Administration can submit the GICB grant application and identify that it is contingent on the City of Prince George securing their portion of the funding.

The proposed GICB application for the Elksentre Arena Refrigeration, Heat Recovery & Dehumidification Upgrade project includes the replacement of the refrigeration plant system to support ongoing use, recover heat from the refrigeration process, reduce GHG emissions, water consumption, and ammonia charge, as well as improve the overall safety of arena operations. If successful, this project will be planned for scheduled for construction during the Elksentre arena shutdown in Spring 2025.

The proposed project includes:

- Replacement and upgrades of the ammonia refrigeration plant replacements;
- Installation of a heat recovery system to divert ammonia refrigeration plant heat for the building;
- Replacement of the existing dehumidification system; and
- Updated system controls.

This project will provide benefits that include:

- Replacing aging Chillers with a longer expected service life for the assets;
- Meeting current safety recommendations set out by TSBC for ammonia refrigeration plant equipment;
- Reducing the ammonia charge by approximately 60% accurate to +/- 20%;
- Adding a heat recovery system to capture and divert waste heat back into the facility that would offset the facility's natural gas consumption by an estimated 57%. (Accurate to +/- 20%) or \$17,050 annually;
- Reducing GHG emissions by an estimated 104 tCO<sub>2</sub>e annually 55% (accurate to within +/- 20% of current facility emissions);
- Reducing water consumption by an estimated 201,366 US gallons equivalent to half an Olympic sized pool or \$1,070 annually;
- Maintaining good air quality while controlling humidity levels; and
- Providing a safe, healthy, and clean community for all.

The proposed Elksentre Arena Refrigeration, Heat Recovery & Dehumidification Upgrade project achieves the GICB grant program outcome for *increased energy efficiency of buildings*. If the project is approved for funding, Infrastructure Canada would initiate a funding contribution agreement for signature. Administration would return a report to Council requesting a resolution for the required financial plan amendment for the City's portion of the funding contribution agreement.

Should the project not receive grant funding approval, the Elksentre refrigeration upgrade and dehumidification portion would be brought forward for Council consideration in the Capital Plan.

#### 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."*
- Social Health and Well-Being
  - Maximize the quality of life for all residents
- Environmental Stewardship & Climate Action
  - Preserve the environment: *"Implement local government actions that advance environmental protection including climate change and adaptation"*
    - City of Prince George Climate Change Mitigation Plan 2020

#### FINANCIAL CONSIDERATIONS:

The total estimated cost for the Prince George Elksentre Arena Chiller Replacement, Heat Recovery, and Dehumidification Upgrade project is \$3,975,000. Under the GICB grant program, the City of Prince George would request \$2,376,000 (59.8%) in grant funding the project. The City's portion of the project cost, \$1,599,000 (40.2%), would need to be committed upon entering into a funding agreement with the GICB grant program.

#### SUMMARY AND CONCLUSION:

Administration is requesting Council's authorization to apply for grant funding to the Green and Inclusive Community Buildings (GICB) program for the Elksentre Arena Refrigeration, Heat Recovery & Dehumidification project. This project includes the replacement of the aging refrigeration plant system to support ongoing use, recover heat for reduced greenhouse gas (GHG) emissions, ammonia charges, and water consumption, as well as meet Technical Safety BC standards for safe arena refrigeration operations.

A successful GICB application would net provincial and federal funding in the order of \$2,376,000 (59.8%) of the total project costs, while the City of Prince George would need to secure a funding source for the remaining \$1,599,000 (40.2%) portion. Administration would return to Council with a resolution for a financial plan budget amendment as well as to authorize the City of Prince George Financial Officer and City Manager to sign GICB grant application documents and any resulting contract documents.

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

#### RESPECTFULLY SUBMITTED & APPROVED:

Andy Beesley, Acting City Manager

Meeting Date: 2022/02/27